

Blurring of the Human and the Artificial: A Conceptual Clarification [†]

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Abstract: Due to certain progress made in Artificial Intelligence (AI) and related fields, there is a common agreement that we are facing a blurring of the human and the artificial. This presentation will argue that this agreement is rather one that pertains to anthropomorphic notations when dealing with computers and computer-based devices, as opposed to one that is justified by engineering results. In fact, the language used to describe mechanic functions hides what ontologically occurs, and how the autonomy of humans can be endangered. The clarification intended here uses the philosophical distinction between agents and patients and translates it into the systems theoretical distinction between self-organising systems and non-self-organising entities.

Keywords: AI (Artificial Intelligence); ontology; self-organisation; Oswald Wiener; man–machine models; physical systems; living systems; social systems; reduction; projection; disjunction; integration; techno-social systems

1. Introduction

Oswald Wiener, Austrian cyberneticist, avant-gardist writer, musician, linguist and others, blames the Silicon Valley for merely simulating [1]. They rush into talking of “learning” and “intelligence”, although all current AI machines do not go beyond “flat formalisms”, he says. Those machines outclass humans in computation, but they are a “surrogate of intelligence” only. They are stupid on a high level. “The heterarchically ordered depth of human rationality cannot be realised in such a way.” Humans are incapable of following a straight algorithm. The recognition process is rather a “recursive process”, in which data are permanently matched with given knowledge in the background. Thinking is dependent on sensuality.

2. Discussion

These recent statements of Wiener set the stage for a conceptual clarification of the ontological relation of the human and the artificial. The ontological difference between the human and the artificial is discussed here from a complex systems view. First, the human and the artificial are compared so as to explore what differs on the basis of what they have in common. Second, fallacies in theorising the human and the artificial in relation to each other are presented.

2.1. A Complex Systems Comparison: Humans and Society vs. Machine

Ontologically, humans and society are the product of physical, biotic and social evolution; the machine is a product of humans and society.

2.1.1. The Physical Aspect

Humans and society, on the one hand, and machines, on the other, share the fact that they are entities, and embrace processes that belong to the physical realm. However, they differ essentially with regards to the specifics of their being physical and behaving physically. After Rafael Capurro, humans and society are an *agens*, whereas a machine is a *patiens* [2], which is indicated by the following:

- Humans and society are able to organise themselves, that is, to build up order by using free energy and dissipating used-up energy, whereas machines cannot self-organise;
- Humans and society are made up of elements that produce organisational relations that constrain and enable synergy effects and they can constitute superordinate systemic entities, whereas machines are made up of modules that are connected in a mechanical way;
- Humans and society function on the basis of less-than-strict determinacy, which yields emergence and contingency, whereas machines are strictly deterministic and cannot behave in an emergent or contingent manner.

2.1.2. The Biotic Aspect

Humans and society are physical entities and activate processes that belong to the biotic realm. Machines may, but do not need to, have parts that belong to the biotic realm. Even in cases where they do so, they differ essentially in quality. Humans and society are autonomous agents [3], whereas machines are heteronomous mechanisms that cannot show any degree of autonomy, as follows:

- As with any living system, humans and society are able to maintain their organisational relations by the active provision of free energy, whereas machines cannot maintain themselves;
- As any living system, humans and society are able to make choices according to their embodiment, their embedding in a natural environment and the network of conspecifics, whereas machines cannot choose;
- As any living system, humans and society are able to control other systems by catching up with the complexity of the challenges they are faced with by the other systems, whereas machines cannot catch up with complexity and are under control by organisms.

2.1.3. The Social Aspect

Humans and society are not only physical and biotic, they are the only physical and biotic systems on Earth that belong to a specific, the social realm, too. They are, essentially, social agents: that is, actors. Machines are artefacts, made by actors, but do not possess the agency of actors by themselves, as follows:

- Humans in society constitute—by action, interaction and co-action with other actors—social agency that reproduces and transforms the social relations that, in turn, enable and constrain social agency, whereas machines do not partake in the constitution of society but support the action, interaction and co-action of actors;
- Humans in society reflect upon the social relations, whereas machines do not deliberate but support the thought functions of actors;
- Humans in society are the driving force of social evolution, whereas machines are driven by social evolution.

2.2. A Complex Systems Review: Human/Society-Machine Models

The relationship between humans/society and the machine is modelled either on the basis of ontological identity, or the difference, or identity and difference, of their degrees of complexity.

2.2.1. Identity of Human and Machine

The first of the three alternatives builds on monism: humans/society and mechanisms are considered identical inasmuch as they share the same degree of complexity. Monism comes in two varieties: a reductive one and a projective one. The reductive one holds that the human/social is as complex as a mechanism (technomorphism). The projective one holds, in turn, that any mechanism is as complex as the human/social (anthropomorphism). Both varieties conflate the distinction of human and machine.

2.2.2. Difference of Human and Machine

The second alternative rests on dualism: it contends that humans/society and mechanisms are genuine complex entities. This comes in three varieties. Anthropocentrism is the first: the complexity of the human/social is hypostatized. Technocentrism is the second: the complexity of mechanisms is hypostatized. Interactionism is another variety: the human/social and mechanisms are claimed to interact as if they were of the same degree of complexity. All three varieties disjoin the human and the machine.

2.2.3. Identity and Difference of Human and Machine

The third alternative is grounded in dialectics: it suggests that humans/society and mechanisms are evolutionary products of different kind. This can be called techno-social systemism: techno-social systems are social systems that emerge as soon as a mechanism is nested in the social system to improve its functioning. Hereby, the mechanism mediates the fulfilment of social functions in order to raise effectivity and efficiency. The mechanism itself works by strictly deterministic means to achieve the goals set by the social system actors. The social system as a whole boosts its self-organisation. This alternative integrates the machine with the human such that the digitised social system stays in command, and AI serves as a tool for humane purposes.

3. Conclusions

If an ontological difference between the human and the artificial is accepted, one important question is how the “coupling” of self-organising systems with non-self-organising entities can be conceptualised. It was argued that the “merger” will not provide a new quality beyond humans (social systems) and machines, but a new quality within the scope of the first only. It is, in principle, a social system that differs by the usage of technology. However, if designed the wrong way, the qualitative change can be detrimental to the whole social system. This is the case when the artificial restricts the autonomous capability of the human.

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