Beginning to Live Poetically in a World of Near-Cognitive Organisations

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ABSTRACT: *The 20th century saw extraordinary developments in the related fields of mathematical logic, computer science and philosophy. Gottlob Frege, who introduced the highly successful system of Predicate Calculus and a workable notion of mathematical proof, believed his Predicate Calculus to be an arithmetical language of concepts and pure thought. Martin Heidegger developed grave reservations about the pervasiveness of Frege's method in the world, believing that it inexorably leads to a bleeding out of meaning from human activities and a diminished understanding of the poetical complexity of the human being. He coined the phrase "technicity" to describe the culture of our modern world which attempts to objectify everything in it and manipulate it logistically. Although Heidegger believed that "only a God can save us", we will be focusing here on efforts to employ theatricality to address the deadening influences of the tools of modern technology on the poetical possibilities of the modern human being.*

1. Introduction

Frege's book [1], "A formula language, modeled upon that for Arithmetic, for Pure Thought", introduced predicate Logic in the late nineteenth century. While Frege's formula language contributed greatly to the mathematical discoveries of the 19thto the 21stcenturies, it also threw up many questions in both philosophy as well as mathematics. We will look at Frege's achievement through the lens of Cognitonics [2], a new science of the human being in the digital world. We will focus on what is lost in the logical process, sometimes deliberately; and how the results of such activity can occasionally be misleading, again, sometimes deliberately. We will also look at interactions with nontrivial intelligence[3],[4] in complex tools of human organisation.

To do that we will focus on two issues: a type of being –somewhere between an operational tool and a cognitive entity, and a type of thinking, not human thought but pervaded by human thought and perhaps constructed by many humans.

2. A TYPE of Being

Frege was keen to dismiss any notion that his language could not be used to do useful reasoning in the real-world. Frege particularly attacked the notion of logical systems reasoning being dependent on psychology, a philosophical position described as "psychologism". His work inspired many philosophers, but notably Husserl[5] to systematically reject psychologism and to focus upon valuable real-world applications of Frege's logic by developing the philosophical theory of "phenomenology".

In Heidegger[6], we see a form of phenomenology that rejects a Kantian transcendalism and a meditative method of contemplation and predication – for Heidegger, the world is real, and is populated by beings, which are of different ontic and ontological natures. Heidegger presents three kinds of being:

1. "The being of the inner worldly beings initially encountered."These are innate abilities of consciousness, following after Husserl's claim that "all consciousness is consciousness of something";

2. "The being *of* beings, that is found and determined by discovering them in their own right, and going through beings initially encountered" . He talks of the being of objects and people as being revealed over time.

3. "The being of the ontic condition of the possibility of discovering inner worldly beings in general, the worldliness of the world." He describes a being that is capable of discovering inner worldly beings that describe consciousness, which he calls Dasein.

The most prevalent form of Dasein is the human being, but it is thought artificial intelligences will achieve this state, and perhaps artificial persons: business organisations. Organisations [7] have independent parallel cognitive abilities to call upon for pursuing work, addressing issues and reacting with their environment. By employing separated, disjunctive cognitive processes as well as different staging areas and multiple cognitive goals, an organization can act in many different ways concurrently at different points of agency, with different goals on different stages, and can theatrically bring all of these actions together at appropriate points in time to focus on core activities, strategies and behaviours.

In exploring organisations as cognitive, or near-cognitive beings, we start to explore the point where a tool of people is systematically using people and nature as tools to achieve its own business objectives. This form of organisational intelligence could be considered as a form of artificial intelligence. Heidegger asks that we recognize organisations of people as beings in the world: tools first of all, existent in time, but sitting uncomfortably somewhere between ontic and ontological (level 2 and level 3, above) beings.

3. A TYPE of Thinking

If Frege's formula language is a way of manipulating thought, and if a computer is able to go through with this process, then a computer can justifiably be said to be able to think. And yet, even from the first printing of Frege's book, there was a known paradox with the logical system, Russell's famous barber paradox:

In a town, all men either shave themselves, and if they do not, they are shaved by the barber. The barber only shaves those men who do not shave themselves. The question is – does the barber, shave himself? If he does, he shaves a man who does not shave himself. If he does not, then he does, because he would need to go to the barber: himself.

Uses of Frege's formula language for thought require that real-world realities can be adequately represented in the logical schema of the formula language. The receiving schema is emptied of all meanings before absorbing the salient elements of the real-world situation. The inner representation then undergoes allowable manipulation of the logical elements using syntactic rules. Eventually, a conclusion is reached within the system, or by stopping all processing. The final act of the logical "thought" process, sees the resultant logical symbols re-interpreted back into the real-world and attached to real-world issues.

Heidegger highlighted, a kind of "psychologism" within logical systems – adherence to incomplete, curtailed and even manipulated materials. As well as conclusions, used logistically, when knowingly not the full truth. Heidegger introduced the term

"technicity" to describe the logistical thinking of systems that manipulate incomplete descriptions of the world, for technologically intelligent purposes. This technicity could be considered a form of artificial intelligence. Heidegger believed our world to be in a technological age dangerously in thrall to such systems that see people and resources as logistical units of commerce to be engaged as required.

To return to the Barber paradox, the removal of all nuances from the worlds of the town and the barber, might remove such important issues as the fact that the barber does not work for himself…he works part-time for the baker and is paid an hourly wage. And so, is only a barber while he is working. He may also be a part-time undertaker, so he could reasonably escape from the paradox by saying that he is not keen to be wholly identified as a barber, and he would certainly not agree to pay the baker every time he shaves himself. All that aside, he could happily argue that he shaved himself as part of his job of being a part-time undertaker. Wittgenstein[8] was famously keen on breaking down systems but at the same time using Frege's logical system for those things it is good for, and avoiding the use of the system in places where it gets itself into troubles.

In the early 21st century, we find ourselves surrounded by extraordinarily complex manifestations of organizational reasoning, technicity and traditional artificial intelligence. Organizations, which are societal tools, are now furnished with supra-human cognitive capabilities, via their employees and their in-house software systems. It is estimated that by 2045[9] a point of Singularity will occur, beyond which artificial intelligences will perform all cognitive tasks better and quicker than human intelligence and will no longer need input from human intelligences to develop systems. If the point of Singularity does arrive in 2045, it is very likely that some organizations will be solely governed by artificial intelligences. Living in a world of such a possibility should give us pause, and make us aware of our interactions with and the importance of how we engage with large organizations and large, artificial intelligences.

4. World as Stage, and Agency

Modern life sees us interacting with organizations in staged settings, such as via computer screens, by appointment at professional offices, and via other bureaucratic means. Staging and setting have played an important role in the philosophy of mind from the time of David Hume[10], who saw the mind "as a kind of theatre where successive perceptions make their appearance; pass, re-pass, glide away, and mingle in an infinite variety of postures and situations." Hume observed closely the contents of his own mind, and concluded "they are successive perceptions only, that constitute the mind, nor have we the most distant notion of the place, where these materials are represented, or of the materials, of which it is composed."

Wittgenstein[11] felt it impossible to describe human behavior in isolation from the world, because of the embeddedness of each act and actor in the complexity of the world: "How could human behavior be described? Surely only by sketching the actions of a variety of humans, as they are all mixed up together. What determines our judgment, our concepts and reactions, is not what one man is doing now, an individual action, but the whole hurly-burly of human actions, the background against which we see any action." Note three activities of staging and agency that are open to a natural person in relation to an artificial person:

• A person temporarily give up the rights of self determination to become a representative of an artificial person, taking upon themselves a prescribed role and becoming a part of the artificial person.

• A member of an artificial person can, with sufficient authority, delegate, into the artificial person the responsibility for solving particular problems, and, can expect the solutions to be delivered (as for example, in assigning tasks in a hierarchical organisation). The artificial person now has human elements across which to recurse.

• Any person represents some presenting of each artificial person in which they are embedded and active, and can, in any act or thought, instantaneously wormhole between artificial persons and roles. Poetically speaking, an action of a natural person may be calculated to operate on behalf of multiple artificial persons at the same time.

Two recent developments in Philosophy are of particular interest in this space between the individual assertion and the collective assertion. Firstly, Clark's [12] idea of extended-mind – that tools external to our human frame, such as personal organizers, are a part of our mind. If they are shared with others, as is the case with organizations, they are also a shared mental space. Secondly, Dennett's notion of a "feral" neuron [13], or a selfish neuron, working within systems, and then dramatically overriding systems to impose its own compelling narrative, thus changing the staging in which the systems work. Investigating

such questions asks us to explore organizational matters as close as we can to their own environment.

4.1 This Wide and Universal Theatre

Shakespeare's *As You Like It*[14], deals with enormous amounts of subterfuge, and hiddenness in nobility as well as ignobility. We join it briefly, for one of Shakespeare's most famous of all speeches, which is delivered to a duke and his entourage who are hidden in a forest for safety, on the arrival of an aggressive, and yet noticeably goodhearted young man who has a tale to tell. In receiving his guest, the duke speaks of the strange way in which issues and stories come before us, in the "wide and universal theatre" that is the world. Of that world, one of his entourage famously declares:

All the world's a stage,
And all the men and women merely players;
They have their exits and their entrances,
And one man in his time plays many parts,
His acts being seven ages. At first, the infant,
Mewling and puking in the nurse's arms.
Then the whining schoolboy, with his satchel
And shining morning face, creeping like snail
Unwillingly to school. And then the lover,
Sighing like furnace, with a woeful ballad
Made to his mistress' eyebrow. Then a soldier,
Full of strange oaths and bearded like the pard,
Jealous in honor, sudden and quick in quarrel,
Seeking the bubble reputation
Even in the cannon's mouth. And then the justice,
In fair round belly with good capon lined,
With eyes severe and beard of formal cut,
Full of wise saws and modern instances;
And so he plays his part. The sixth age shifts
Into the lean and slippered pantaloon,
With spectacles on nose and pouch on side;
His youthful hose, well saved, a world too wide
For his shrunk shank, and his big manly voice,
Turning again toward childish treble, pipes
And whistles in his sound. Last scene of all,
That ends this strange eventful history,
Is second childishness and mere oblivion,
Sans teeth, sans eyes, sans taste, sans everything.

Shakespeare shows us a person in different age stages of consciousness, with a stage-setting for each "act" of anyone man, and also the agency which is open to the man in each act (mewling, whining, creeping, sighing, etc.).

The task here is to view an artificial person as a Shakespearean world, one that supports a stage. And if we use apply an "All the World's A Stage" (ATWAS) interpretation, to derive a means of separating out people from roles from agency and dramatic actions, which need to be understood. All of an organization's interior parts, or wholly sister organizations, can be considered worlds with the world, or worlds in relation to the world, and can be (possibly recursively) defined accordingly.

1. The first line of the speech gives us "the world", the complete space and its range of possible activities in time. Perhaps the whole world, perhaps a society, perhaps an organization, perhaps a department, perhaps a logical system, perhaps an individual – but a world environment.

2. The second line tells us the roles people can play, and the actual people take each role in performance.

3. The third line tells us of scripted exits and entrances between scenes, where agency is applied and consequences are derived in local activities and larger dramatic stories.

4. The fourth line introduces us to "seven ages" lifecycle of man – the detailed roles he plays (Infancy, Early Life, Engagement with Life, Bravery in Life, Philosopher and Wise in Life, In a new age, old, whistling, Into dissolution). In an organization, these would be roles of engagement as a representative of the organization.

This paper suggests that the being of an organization - its dramatic movements in time, its ability to recurse in story telling- to execute plays within plays, its various lifecycles (its own lifecycle, and the lifecycle of any part of itself that can be seen as a world in its own right) must be considered alongside its organizational reasoning. And furthermore, that any logical activity represented in any kind of a Frege calculus is a play with an ATWAS aspect.

4.2 Staging and Agency within an Artificial Person
If we take the East India Company (which was established when *As You Like It* was written) as an example artificial person, and apply ATWAS methodology to its history [15], we may derive the following ATWAS analysis:

1. A Company that ranged across the world.

2. Running the company was a governor, and 24 directors, who reported to the court of the proprietors. An arrangement of roles of employment were developed over the years, each fulfilled at any one time by a particular person.

3. The scope of each role was designed: along with how it related to the others, and its designated way of contributing to the work of the company.

Seven stages of life for the East India Company, may be:

Infancy – In 1600 (around the time that *As You Like It* was written), Queen Elizabeth of England established the charter of the company, which was funded by wealthy business people across England.

Early Life – The company was directed to make a profit and to get a foothold in the spice trade. Three ships set out from England to explore the Far East.

Engagement with Life – Establishment of a factory in India saw large profits come in to England. The Company was allowed to represent the Crown's interest in trading in the Far East, so long as they continued to return a profit.

Bravery in Life. This included: ruling large parts of India, engaging in military campaigns around the country, and administering large parts of the country, as a government would. From 1757 onwards, the company ran the whole of India on behalf of the British Parliament. Many of its activities in this time, although profitable, were questionable, and even criminal.

Philosopher and Wise in Life: Over time a philosophy developed that the company was doing India nothing but good – installing railways, linking cities, providing employment and bringing law and order and the English language in such a way as to bring India together as a country that could for the first time communicate with itself.

Old, in a new age, Whistling: Following a rebellion against the rule of the company in 1857, the company needed British support, and saw that its task in India could overwhelm it.

Into dissolution: The British Government dissolved the company, and took over its operations. The British Government ruled India for another 90 years.

The ATWAS method offers us a means of describing an organization as a near cognitive being and allows us to focus on the staging being used for all of its interactions.

5. Conclusion

This paper has suggested that organizational intelligence and technicity are both forms of artificial intelligence that need to be explored. The ATWAS model has been introduced: as a framework for encapsulating the person like qualities of artificial persons; a means of understanding the play-within-a-play aspects of organizations; and to help us contemplate more clearly world-play inter relationships and staged interactions between natural persons and artificial persons.

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