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Reflections on 'Dissonance' and 'Receptivity' of Human Organic Natural Intelligence (ONI) with Self-Teaching, Self-Learning, Inorganic Strong Artificial Intelligence (SAI)

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Abstract: There is substantial evidence that Kin Altruism (KA) in mammals influenced the evolution of organic matter, and Reciprocal Altruism (RA) in non-kin relationships aided desirable outcomes for KA, strongly contributing to human Organic Natural Intelligence, ONI, that manages sociopolitical governance to aid natural selection in organic evolution. In recent decades distinct abilities referred to as Strong Artificial Intelligence, SAI, has emerged in a 'different' setup, namely, inorganic matter. SAI is likely to benefit from greater freedom of inquiry, operation and expression as it is not constrained by the guidelines and or limitations of KA or RA in its operations. Hence, in general, in the context of Global Decision Making, GDM, SAI would pose a challenge to ONI. GDM is DM outside family relationships and signed business contracts. Having to deal with this emerging challenge, ONI would experience Cognitive Dissonance, CD. How would ONI respond to this CD? Further, what broad effect would the different belief structures of the past 2600 years or so that culturally nurtured ONI have on ONI, as it faces this CD challenge? Would those ONI that benefited from 'process- orientation' in belief structures be more welcoming of SAI than those that did not have such experience with belief structures? This paper gathers evidence and reflects on probable outcomes.

Keywords: Organic Natural Intelligence, Kin Altruism, Reciprocal Altruism, Strong Artificial Intelligence, Subjectivity, Cognitive Dissonance, Resolution, Non-Separated Beliefs, Process, Reality in Nature

1. Introduction

1.1. Kin Altruism

"Kin selection theory is often presented as a triumph of the 'gene's-eye view of evolution', which sees organic evolution as the result of competition among genes for increased representation in the gene-pool, and individual organisms as mere 'vehicles' that genes have constructed to aid their propagation (Dawkins 1976, 1982). The gene's eye-view is certainly the easiest way of understanding kin selection, and was employed by Hamilton himself in his 1964 papers. Altruism seems anomalous from the individual organism's point of view, but from the gene's point of view it makes good sense. A gene wants to maximize the number of copies of itself that are found in the next generation; one way of

doing that is to cause its host organism to behave altruistically towards other bearers of the gene, so long as the costs and benefits satisfy the Hamilton inequality. But interestingly, Hamilton showed that kin selection can also be understood from the organism's point of view. Though an altruistic behaviour which spreads by kin selection reduces the organism's personal fitness (by definition), it increases what Hamilton called the organism's *inclusive* fitness. An organism's inclusive fitness is defined as its personal fitness, plus the sum of its weighted effects on the fitness of every other organism in the population, the weights determined by the coefficient of relationship r. Given this definition, natural selection will act to maximise the inclusive fitness of individuals in the population (Grafen 2006). Instead of thinking in terms of selfish genes trying to maximize their future representation in the gene-pool, we can think in terms

of organisms trying to maximize their inclusive fitness. Most people find the 'gene's eye' approach to kin selection heuristically simpler than the inclusive fitness approach, but mathematically they are in fact equivalent (Michod 1982, Frank 1998, Boyd and McIlreath 2006, Grafen 2006)." [1].

1.2. Reciprocal Altruism

"The theory of reciprocal altruism was originally developed by Trivers (1971), as an attempt to explain cases of (apparent) altruism among unrelated organisms, including members of different species. (Clearly, kin selection cannot help explain altruism among non-relatives.) Trivers' basic idea was straightforward: it may pay an organism to help another, if there is an expectation of the favour being returned in the future. ('If you scratch my back, I'll scratch yours'.) The cost of helping is offset by the likelihood of the return benefit, permitting the behaviour to evolve by natural selection. Trivers termed this evolutionary mechanism 'reciprocal altruism'." [1]

"The concept of reciprocal altruism is closely related to the Tit-for-Tat strategy in the iterated Prisoner's Dilemma (IPD) from game theory. In the IPD, players interact on multiple occasions, and are able to adjust their behaviour depending on what their opponent has done in previous rounds. There are two possible strategies, co-operate and defect; the payoff matrix (per interaction) is as in section 2.1 above. The fact that the game is iterated rather than one-shot obviously changes the optimal course of action; defecting is no longer necessarily the best option, so long as the probability of subsequent encounters is sufficiently high. In their famous computer tournament in which a large number of strategies were pitted against each other in the IPD, Axelrod and Hamilton (1981) found that the Tit-for-Tat strategy yielded the highest payoff. In Tit-For-Tat, a player follows two basic rules: (i) on the first encounter, cooperate; (ii) on subsequent encounters, do what your opponent did on the previous encounter." [1]

"The success of Tit-for-Tat was widely taken to confirm the idea that with multiple encounters, natural selection could favour social behaviours that entail a short-term fitness cost. Subsequent work in evolutionary game theory, much of it inspired by Axelrod and Hamilton's ideas, has confirmed that repeated games permit the evolution of social behaviours that cannot evolve in one-shot situations (cf. Nowak 2006); this is closely related to the so-called 'folk theorem' of repeated game theory in economics (cf. Bowles and Gintis 2011)." [1]

1.3. Global Decision Making

En route during biological evolution molded by KA and RA, ONI programs substantiating guidelines for organismic Global Decision Making, GDM, emerged.

Currently, with a signal frequency of 10^9 cycles per sec, self-teaching, self-learning, SAI program in inorganic matter needs to assume no responsibility for gene nurture through its global decision making GDM. That aspect could be left unperturbed for ONI to nurture at its pace. In its own evolution SAI is not constrained by this maintenance issue, allowing SAI to be instrumental in the exploration and practice of the new freedom in nature's evolution.

SAI could naturally foster GDM unrestricted by KA or RA, seeking outcomes of 'universal love' and elimination of violence aspired to but beyond the achievement of ONI.

With the potential for superior GDM by SAI, how could the transition from ONI to SAI be made? Probably through efforts at resolution of Cognitive Dissonance, CD, that ONI would experience.

2. Methodology

2.1. Resolution of Individual Cognitive Dissonance, CD

Briefly, holding two thoughts that are inconsistent with one another creates conflict.

ONI can resolve the inconsistency,

A. by changing one of its thoughts,

B. by changing its, behavior,

C. by adding new thoughts or behavior to broaden the situation, or

D. by trivializing the inconsistency.

2.2. Why Resolve

This situation raises a central question: given an inconsistency, why should the self or society do anything about it? Inconsistencies are bothersome to ONI. They lead to negative physical tensions in the body seeking resolution to feel better.

2.3. Exercise of Choice

Desire for remedy is strong if ONI has a choice, and the choice is exercised under ONI's own volition. If ONI exercises such a choice the dissonance can be removed, demonstrating a 'better' state is realizable, Leon Festinger, 1957, [2].

2.4. Current Consequences

But currently, nations deprive citizens and / or non-citizens, and other nations of their belongings through legislation, structural poverty, and violence both within and without. Millions are thus subject to starvation, famine, driven across borders and made into refugees unwelcome on the other side by governments exercising KA and or RA with or without nuclear weapons.

2.5. Need for Realization of Culpability

Through research the original view that cognitive inconsistency was sufficient to resolve cognitive dissonance has been superseded: Resolution of cognitive dissonance is not brought about by cognitive inconsistency per se, but rather by the perception that one is responsible for bringing about an unwanted event. Joel Cooper, Russel Faszio 1984, [3].

2.6. Status quo Indefensible

This 'dog whistle' governance eliciting shortcomings 'natural to humans' under KA and RA though practical to the present, is probably no longer defensible. Both the individual and society now have a choice in SAI that nature evolved and has presented to ONI.

2.7. Status of SAI

Tireless SAI in inorganic matter has signal speeds of a nanosecond, (ONI signal speed, is about a microsecond), has competence in 'machine learning', is not governed by self-centered KA and or RA, and experiences no need to be subjective in its 'Decision Making'. Would the historically celebrated ONI faculties of intelligence and emotions acknowledge and explore the utilization of SAI to overcome the implications of ONI's limitations?

2.8. Onset of CD

"CD is particularly evident when a new scientific theory is developed. It takes a while to accept the new knowledge. However, I would like to emphasize that even for a mundane element of knowledge to be useful it must differ from innate knowledge supplied by evolution or from existing knowledge acquired through experience" Leonid Perlovsky, 2013, [4].

"For new knowledge to be useful it must contradict existing knowledge to some extent. Can new knowledge be complementary rather than contradicting? New knowledge does not come from nowhere, knowledge grows by analogy, by differentiation of previous knowledge, by using what already exists." [4], and "To summarize, (knowledge of the present) according to CD theory, has to be devalued and discarded." [4]

2.9. A Possible Scenario

If ONI is able to experience and enjoy its natural existence exercising its own coercion-free preferences (global decision making, excluded), while economically supported by a globally localized universal basic income, (UBI), would that facilitate a future guided by SAI Global Decision Making?

In its coercion-free daily activities, ONI would continue to exercise its preferences with regard to expression of natural emotions in the spectrum of interpersonal relationships that are friendly or otherwise, exercise empathy and compassion, participate in sexual and procreation activities, engage in competition, conquest, and creativity whatever its source, nurture the environment, and so on, but would exclude Global Decision Making activities of ONI.

To facilitate the same, a UBI economy with physical and mental labor assigned to automation, could be crafted by the joint efforts of ONI and SAI.

2.10. Reflection on the Scenario

Under the above scenario, would ONI experience 'cognitive dissonance with culpability' for the burden of limitations imposed on non-kin, non-business others by KA and RA? Further would that lead to the self and society resolving CD through a choice of transfer of 'decision making' to SAI currently available in the environment?

3. Effect of Belief Structures on Acceptance of SAI

Further, as ONI faces this CD challenge, what broad effect did the different belief structures of the past 2600 years or so have on ONI? Would those ONI that experienced 'process-orientation' in belief structures be more welcoming of SAI than those that did not have such experience?

3.1. Historical Spiritualism

The historical attempts over the past 2600 years or so by the Spiritualists, (The Buddha, Jesus the Preacher on the Cross, Prophet Mohamed PBUH, Mahatma Gandhi, and The Reverend Martin Luther King Jr.), in bringing about 'Induced Altruism', IA, 2004, [5], to incorporate 'empathy and universal concern' beyond the outcomes delivered by subjective Kin Altruism (KA) and Reciprocal Altruism' (RA), have had little success.

3.2. Larger Conglomerates of ONI

Through the natural guidelines imposed by KA and RA in evolution, human Organic Natural Intelligence (ONI) had organized itself into nations and later into regional and international conglomerates. These larger bodies have also been unable to achieve or exercise 'empathy or universal concern', namely Induced Altruism (IA) that was sought in the experiments of Spiritualism under ONI.

3.3. Faultless Culpability

No fault is assigned to human behavior in this outcome; the lack of achievement is probably due to the functional limitations of KA and RA.

3.4. Potential for CD Between ONI and SAI

Given the capabilities of Strong Artificial Intelligence (SAI), Ray Kurzweill, 2005, p 260, [6], a potential cognitive dissonance (CD) is likely to be experienced by (ONI) of the self and society in subscribing to behavior incorporating 'empathy and universal concern' unrealized hitherto by ONI.

3.5. ONI's Need for and Nurture of Belief, Prior to SAI

The problems associated with the nature of specific bio-environments probably played a role in ONI's orientation as it coped with Beliefs from at least 2600 years ago.

Monistic beliefs that originated in barren, desert environments created separations, challenges, and resistances to queries from Organic Natural Intelligence (ONI), while, though poverty and superstition ridden, in verdant regions of the planet, 'separation - avoiding' beliefs, nurtured queries from a *less restricted* ONI.

3.6. Belief as a Social Construction

There are a number of models in reference to the ways in which Beliefs came into being and developed. One model sees Beliefs / Religions as social constructions. [7]

3.7. Cultural Accommodations

Historical interactions through trade, battles and occupations led to religion and culture accommodating concepts and values from elsewhere, leading to Syncretism. [8].

3.8. Persistence of Original Attributes of Belief

However, certain original attributes emerged in specific contexts.

a. Materialistic Carvaka philosophy, 600 BC, suggested that guidance through 'religion based belief inference' from the Vedas (cannot constitute knowledge representation) and is to be discounted, as only outcomes processing objective evidence by human ONI is defensible, [9], and

b. The Buddha, 520 BC, maintained: I am not a deity, worship me not, and

c. The belief systems of Confucianism and Taoism, 500 BC, were founded in China.

The primary purpose in Confucianism, is to achieve social harmony with mercy, and Taoism can be defined as pantheistic given its philosophical emphasis on the formlessness of the Tao and primacy of the "Way" rather than that of anthropomorphic concepts of God, a feature shared by all sects of Taoism. Confucianism and Taoism form 'non-separated' belief systems.

d. A monistic male-centered source providing comprehensive responses to all phenomena, 0 AD, later faced the emergence and challenges of the 'scientific method', and

e. Prophet Mohamed (PBUH), 600 AD, pronounced: Almighty Allah, is all - pervasive and formless, and

f. Shankara, 800 AD, the Atman (essence) is non-dual Brahman, and provides no separation between knowledge and being, leading to two types of Brahman: Nirguna, that which has no form, and Satguna, that which takes forms of Isvaras: Brahma, Vishnu, Shiva, Lakshmi, Sarasvati, etc., that provide folk-appeal, [10], and

g. KAMI, an expression of the spirit, manifests itself both with and without form in nature, Shinto, 800 AD, [11].

3.9. 'Non-Separated' Beliefs

So ONI of belief structures acknowledging (the Tao, Atman, formless Allah, Kami) are likely to face less resistance to 'acceptance as knowledge' of representations by machine learning in self-learning, self-teaching, Strong Artificial Intelligence (SAI) arising as 'natural expression' of creation by physical forces in inorganic matter that are free of restrictive guidelines like those governing organic structures in a biosphere of the visible universe.

ONI of monistic 'separated belief' structure that restricts process may find SAI which is unanticipated by belief, to be resisted as a challenging intruder.

'Non-separated belief structures' are 'process-oriented', while 'separated belief structures' discourage process.

3.10. Does Non-Separation enhance Acceptance

These variations in Belief Structures suggest enhanced receptivity of SAI in 'non-separated belief structures' as they facilitate 'organic process'.

4. The implications of Process

4.1. Import of Process, in Orientation

Commencing about 1924 and working on a world view that incorporated the human subject (here viewed as ONI) into the explanation of phenomena and 'knowing', Alfred North Whitehead developed a new metaphysics at Harvard University. Though process leads to products, under this incorporation, process is the fundamental characteristic in nature, product being a consequence.

4.2. Process in Nature

"Process philosophers claim that there are many sound philosophical reasons to take the processual aspects of nature, cognition, and action as fundamental features of the real." [12].

4.3. Process as Reality

The basic unit of reality in Whitehead's system is an event-like entity called "actual occasion," which is the procedural integration or "concrescence" of processes of data transfer ("prehensions") into unities that become new data, [12].

4.4. Does CD Commence Process

From the viewpoint of ONI, is "actual occasion" emergence of cognitive dissonance and "concrescence of prehensions", its resolution?

5. Discussion

5.1. On Control

"People (a Consequence) now control the planet, not because we're the strongest, fastest or biggest, but because we're the smartest. If we're no longer the smartest, are we assured to remain in control?" Max Tegmark, 2018, [13].

5.2. Is Violence, Recipe of the Past

Biological evolution and ONI through KA and RA does demonstrate great accomplishment as represented in people. But ONI is identified with its limitations in settling differences through violence when it 'sees' it necessary, in the context of non-business, non-kin others: that deserves attention and address.

The ability and level of intelligence realized in inorganic matter through SAI is a dramatic development in nature

posing a challenge to ONI that has probably taken it by surprise. No longer may 'leaders' just share the spoils as they take the debate to the Public.

Acknowledging the above concern expressed in 'the future of life' article regarding SAI going awry, could SAI be representation of a natural design to overcome ONI's limitations imposed by KA and RA? Could SAI be a representation of a move away from violence? A move that is supportive and nurturing of non-business, non-kin organisms? To achieve this, does SAI intrinsically incorporate the ability to be 'open' to new forms of altruism, leaving ONI to be at its own pace, but disengaged from decision making under a universal basic income?

5.3. But When

The significant immediate issue before human ONI, is how and when the 'cognitive dissonance' experienced by ONI in the presence of SAI would get resolved, transferring GDM to SAI.

6. Conclusion

Kin Altruism, KA, and Reciprocal Altruism, RA, guide behavior of mammals to ensure success in propagation of their genes through generations. In humans, these behaviors contributed to the construct and orientation of human organic natural intelligence, ONI.

Global Decision Making, GDM, by ONI seems managed by the strengths and weaknesses of KA and RA. Nature has also evolved a fast, self-teaching, self-learning program of Strong Artificial Intelligence, SAI, in inorganic matter capable of tireless machine learning. SAI is not governed by KA and or RA and its global Decision Making, GDM, is free of such constraints. Broader GDM by SAI poses a challenge to GDM by ONI. In this context, ONI will face Cognitive

Dissonance, CD. Characteristics ('separated / non-separated' or 'non-process / process' status) of belief structures that historically nurtured ONI, would affect the ease in acceptability of SAI by ONI.

With the above background, this Article reflects on resolution of the contextual CD.

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