Consciousness, intuition and sentience: What is an author?

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Abstract: Today, the belief in there being a "singularity", or a point in human history when machines surpass human capabilities (Ray Kurzweil), is held as an object of serious and ponderous theoretical and philosophical inquiry and discussion (David Chalmers). Yet, in light of recent advances in human scientific understanding of consciousness (Stuart Hameroff and Sir Roger Penrose), this mode of thought is considered to be unhelpful and, in fact, misleading to earnest searchers and seekers of Truth, Reality, and Ultimate Consciousness. Rather, consciousness, in this paper, is viewed as being non-material and beyond physical constructs (P.S. Satsangi, Subhash Kak). Specifically, the area of human authored literary textual creation (literature: novels, poetry, plays etc.) versus the computer generated authorless narrative or text is examined. Focusing on the concept of computer generated authorless narratives and texts, the question of "What is an author?" is revisited, as it relates to human creativity and writing, exploring the necessity of consciousness, intuition and sentience as requisites to the creation of meaningful literary texts.

Keywords: consciousness, intuition, sentience, human author, literary textual creation, computer generated authorless narratives, duality, unity

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> "Let me speak very briefly about this creation and in this context present certain axioms to you. The spirit force is the one which possesses prime energy and that all other forces of nature have been evolved by the association of this energy with media of different kinds."
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> "The second axiom which is by far the most important is that the Supreme Creator or Being is an infinite spiritual source or reservoir. Just as we have sources of electricity, sources of mechanical power, we have sources of hydraulic power or energy, we have sources of economic power if you wish, so we have a source of spiritual power and that Fountainhead of spirituality, which is the infinite spiritual source or reservoir is known as the Supreme Creator or Being and it has the features of Supreme Intelligence, bliss and energy and also luminosity. It does not have any form. It does not have any shape. It is all energy, intelligence, bliss and luminosity" (Satsangi, P.S., "Reality and Truth vis-vis Wisdom (via Apara Vidya and Para Vidya)").

Introduction

Relevant to the focus of this paper, taking the above statements as axiomatic, supports the idea of machines surpassing human wisdom, intuition, sentience and consciousness as being invalid. Rather, the materialist stance of machines superseding humans does not satisfyingly answer the still-unsolved mystery of the non-material subjectivity of consciousness or first-person subjective experience and all that it entails.

Furthermore, while there is no real argument against technology, as we already live in a technology-assisted world and will, most likely, continue to do so, the idea (i.e. the Singularity) of there being a moment when technology will surpass human intelligence (consciousness), however, is questionable.

Professor Prem Saran Satsangi, under whose mentorship scientific investigations into the area of consciousness studies at Dayalbagh are being recognized as important contributions to this important field of study, puts forth the axioms stated above. As a brief introduction and background: Professor Satsangi is the present spiritual leader of the Radhasoami faith (Dayalbagh), and founder of the Systems Society of India; he held various distinguished academic and administrative positions at IIT-Delhi; he is Director (Vice-Chancellor), Dayalbagh Educational Institute (Deemed University) and Chairman, Advisory Committee on Education (ACE), Dayalbagh, Agra *(International Journal of General Systems)*.

Through participation in and sponsorship of numerous international conferences on consciousness (TSC), Dayalbagh has invited renowned scientists like Sir Roger Penrose, Stuart Hameroff, Rocco J. Gennaro, Donald D. Price and James J. Barrell among others at the forefront of investigations, research and theorizing into the nature of consciousness, to engage in lively and thought-provoking interactions and exchanges on the nature of consciousness.

Satsangi has built a model of consciousness along the lines of physical systems theory (*International Journal of General Systems) (*See Appendix A*).* He explains this model in the Vision Talk, East-West Forum, he delivered at the recent TSC 2015 (Helsinki) as having been built for consciousness along similar lines as any physical theory, i.e. physical systems theory:

> We have certain fundamental axioms, certain fundamental postulates and then based on these, there are model predictions which are tested against observations and so long as the model stands the test of observations, i.e. its predictions hold true, the model is valid, otherwise the modelling theory is modified. So with a similar scientific approach, we have built the consciousness systems modelling theory…. There also, we have some additional axiom and postulates. This (Spiritual Systems Modelling Theory) has also been around since 2004 and over the last 11 years, we have not found any evidence which would show this to be invalid but as and when we discover such a thing, we would be ready to modify our modelling theory.

And further,

> The Eastern Philosophical aphorism "Sat (the truth of love or inseparability) Chit (the conscious knowing (the reality of immortal existence)) Anand (Bliss of love (experiencing the joy of unity consciousness))" captures the triad of consciousness of the grand macro/ micro-cosmology ranging from the ephemeral physical / material reality of science of outer experience at the tertiary level, through the semi-abstract (real / abstract) cognitive science (transcendental meditation) of outer-inner experience at the secondary level, to the eternal abstract spiritual science (ultra-transcendental meditation) of ultimate inner experience at the primary level. The central idea is that system modelling is important for the study of consciousness as rhythms or frequencies of oscillation, both in the macrocosmic universe as well as in the human microcosm (considered to be a perfect analog of macrocosm). We refer to

it as O-Theory (Omni-Quantum Theory-based system modelling of consciousness in cosmology).

- However, in the purely spiritual region, the quantum spiritual force-field is a special type which may be aptly described as the Omni Quantum Spiritual Force Field whose distinguishing characteristic is that while it exhibits duality at will, it displays no accompanying uncertainty.
- *Adwait* as well as *Dwait* <u>at will</u>
  (Unity) & (Duality)

The triad-cosmology of outer/ outer-inner/ inner experience along with the concepts of unity (Adwait) and Duality (Dwait) that Satsangi explains go beyond what ancient Vedic texts state. The concept of unity, as explained in ancient Vedic literature and presented by Subhash Kak, who has written extensively on Vedic cognitive science and consciousness, is that

> in the *Rigveda* there is reference to the yoking of horses to the chariot of Indra, Ashvins, or Agni; and we are told elsewhere that these gods represent the essential mind. The same metaphor of the chariot for a person is encountered in *Katha Upanishad* and the *Bhagavad Gita*; this chariot is pulled in different directions by the horses, representing senses, which are yoked to it. The mind is the driver who holds the reins to these horses; but next to the mind sits the true observer, the self, who represents a universal unity. Without this self no coherent behaviour is possible (3).

The concept of unity as Kak represents it in the ancient Vedas-- "Knowledge is classified in two ways: the lower or dual; and the higher or unified"-- is further expanded in Satsangi"s systemic consciousness model where unity (adwait) and duality (dwait) are present and *co-existent*. He explains the ability for the self or spirit to merge in the ultimate source of consciousness and at will disengage itself individually (unity and duality at will) thus:

> I have already dwelt upon this concept of duality at will, so this is what our model predicts, that individual spirit forces have this possibility of standing separate from the united status with the Supreme or Ultimate Source of Consciousness. They can have their individual consciousness about the ultimate source of consciousness and that is permissible, but this is at will, otherwise there is unity ("Vision Talk," TSC 2015).

Daniel Meyer-Dinkgräfe, in his work *Observing Theatre: Spirituality and Subjectivity in the Performing Arts*, presents a similar idea in Hans Binder"s writing on spiritual development and its principles. Binder states, "in the beginning was unity, which became, as the origin of holistic playfulness of nature, duality, and evolved from there to the infinite complexity we see around us today" with the individual self "… evolving with the ultimate aim of returning to unity," (107) while, at the same time, able to maintain its individuality when it should so will ("Vision Talk," TSC 2015).

Machines versus the Conscious Self

Regarding unity of *human* consciousness (Immanuel Kant), William James presents an example that is relevant to recent debates on the question of machine "intelligence" surpassing human intelligence,

> Take a sentence of a dozen words, and take twelve men and tell to each one word. Then stand the men in a row or jam them in a bunch, and let each think of his word as intently as he will; nowhere will there be a consciousness of the whole sentence (*The Principles of Psychology 160)*.

In other words, when individuals perceive otherwise discrete objects (here, words) without recourse to the complete and final meaningful whole, they are unable to combine the individual words into one meaningful sentence. However, if those individual persons are given all the words of the sentence in a jumbled order, they are able to connect them into a coherent, rational sentence full of meaning because the end is perceived within the joining of the individual parts/units (here, words)—Kant"s Transcendental Deduction where "the crucial steps in this reasoning are claims to the effect that a sub-conclusion or conclusion is a presupposition and necessary condition of a premise" and synthesis (for Kant) as "the act of putting different representations together, and grasping what is manifold in them in one cognition" which is a process that "gathers the elements for cognition, and unites them to form a certain content" *(Stanford Encyclopedia of Philosophy).* This is related to Rocco J. Gennaro"s HOT-thesis (Higher Order Thinking thesis), that a subject possesses a higher-order thought which, depending on the ability of the subject, is applied to first-order states, to identify the main properties or features of a concept. When an intuitively sentient, conscious self, organizes those discrete parts, they are transformed into a connected, unified, meaningful whole (i.e. "the whole is greater than the sum of its parts" vide Aristotle/ General Systems Theory). Matter as such without any real measure of consciousness is simply that, as is material machine "intelligence". So, even if a computer could be directed or programmed to combine unrelated words to form intelligible sentences and further combine them into paragraphs, and finally, into some sort of narrative, what about intuition, reverie, creativity, imagination, beauty, subjectivity… a unified, central conscious self?

David Chalmers, in his philosophical essay "The Singularity: A Philosophical Analysis" asks the question right at the outset, "What happens when machines become more intelligent than humans?" (1) Chalmers continues, "One view is that this event will be followed by an explosion to ever-greater levels of intelligence, as each generation of machines creates more intelligent machines in turn, resulting in a "singularity"" (1). As Chalmers further explains, this happening was first outlined by statistician I. J. Good in his 1965 article "Speculations Concerning the First Ultraintelligent Machine". Good"s conjecture was that in this supposed intelligence explosion, each "ultraintelligent machine could design even better machines" and "the intelligence of man would be left far behind" (33). Thus, as Good finally concluded, "the first ultraintelligent machine is the *last* invention that man need ever make (33). While Chalmers himself admits that the idea of a singularity is not taken seriously and is met with resistance as it is considered to be speculative, he points out, however, that it raises "many important philosophical questions," especially about "intelligence…values and morality and about consciousness and personal identity" ("The Singularity: A Philosophical Analysis" 4).

According to Ray Kurzweil, once the Singularity occurs, machine intelligence will surpass human intelligence. As he states,

> The Singularity will represent the culmination of the merger of our biological thinking and existence with our technology, resulting in a world that is still human but that transcends our biological roots. There will be no distinction, post-Singularity, between human and machine or between physical and virtual reality. If you wonder what will remain unequivocally human in such a world, it's simply this quality: ours is the species that inherently seeks to extend its physical and mental reach beyond current limitations…. The Singularity will allow us to transcend these limitations of our biological bodies and brains. We will gain power over our fates. Our mortality will be in our own hands. We will be able to live as long as we want (a subtly different statement from saying we will live forever) (23).

Kurzweil"s claims that there will be no distinction between human and machine is misleading. Rather, looking at machines and artificial intelligence from a systems lens, would result in a beneficial hierarchical pairing of the conscious, sentient, intuitive human at the higher level and artificially-intelligent machines at a sub-level, with the construction of intuition or wisdom-based expert systems (SQUAN). It is important to keep the human being at the forefront.

Yet, influential theorists have been doing just the opposite for the past several decades. They have been "forgetting about the human being" as a unified self and have been looking at the human body and brain as parts of a machine that can be broken down to be understood mechanically and reductively.

Thus, recent strides in scientific investigation and research again bring to the forefront that, in fact, important questions regarding consciousness, intuition and sentience cannot be answered or be correctly understood in actuality through only a mechanical or material view.

The Role of the Author

In classic literature, the very same question Chalmers asks, has been explored by literature"s great writers: what happens when the created supersedes the creator and when technology, instead of being gainfully employed for human betterment, becomes its bane and enslaver?

Mary Shelley"s version of the myth of Prometheus, in the form of her literary work *Frankenstein*, published in 1818, brought forth the character of Viktor Frankenstein, the scientist who plays God when he creates his monster being and suffers a terrible end. Frankenstein represented human striving, especially man"s overreaching his limits in his quest for scientific knowledge and was a reminder that societal progress was a result of responsible use of power, science and technology.

A century later, Aldous Huxley"s *Brave New World* (1932) also depicts a world where the noblest and greatest parts of humankind are missing. More specifically, in the dystopian novel *Nineteen Eighty-Four* written by George Orwell (1949), the autonomous, sentient author is completely done away with and replaced by crude artificial intelligence and technology: machines. Ingsoc, the ruling totalitarian government presided over by the omniscient Big Brother, employs the Versificator, a writing machine with no human involvement, to churn out "writing" for the Ministry of

Truth. Orwell"s writing machine produces novels, sentimental music, newspaper articles and cheap novelettes. "Books were just a commodity that had to be produced, like jam or bootlaces" (136) as Orwell"s character Julia vocalizes, depicts the state of art having become a mechanical production and a commodity, as a result of machine writing replacing human-authored writing.

Similarly, Jonathan Swift in his *Gulliver"s Travels*, published in 1726, two centuries earlier than Orwell, was amongst the first writers to describe a fictional device known as "the engine", resembling today"s computer, that could write books on all of the arts and sciences without the aid of genius, intuition, imagination or laborious study. Of course, Swift"s description of this machine was satirical, mocking and ironical. For, the Engine combined old ideas to create new ones, perhaps much like today"s engineers and programmers who combine algorithms to result in computer narrative writing. Today, there are companies much reported about like Narrative Science who program computers to turn out news writing.

The company Narrative Science"s team of coders and engineers write algorithms which turn out sports and technical news stories. Their many clients include media giant Forbes. Similarly, Professor Philip M. Parker, has patented an algorithm that has written over 200,000 technical books through templates which are filled with data from databases and internet searches and which are then sold through Amazon.com. Parker has now experimented and is coming up with a prototype that will write romance novels. He has already produced poetry through his computer software. One reader"s reaction to Parker"s generic and compiled books posted on the Amazon website was that he had suspected the book he received was written by a computer. When his suspicion was confirmed, he wrote "I guess it makes sense now as to why the book was so awful and frustrating" (Cohen 2008).

Then there is the 1984 computer-written book (so claimed by its human programmer Bill Chamberlain), entitled *The Policeman"s Beard is Half-Constructed* written by a program called Racter. In 2008, a 320 page novel, entitled *True Love* was written by a computer in St. Petersburg, Russia. It is claimed by its chief editor to be a variation on Leo Tolstoy"s 1877 classic novel *Anna Karenina*. The computer-written novel is based on 17 classic literary works that were uploaded onto a computer program created by a team of IT specialists and language experts. The computer generated its novel about true love within 72 hours of programming (*St. Petersburg Times* 2008). Most recently, there is the "National Novel Generation Month", an annual event that encourages people to churn out a 50,000-word book on a deadline, including writing computer programs that will write their texts for them.

Linked to these contemporary developments and these author"s explorations and depictions of worlds in which human authors have been done away with, replaced by computer and machine writing, in the Humanities, the concept of a central authorial self has been under attack for several decades, especially by literary theorists like Roland Barthes, Jacques Derrida and Michel Foucault. The individual "author" as a gifted and intuitive being who writes through powers of inspiration, genius, imagination and awareness has been considered to be no longer feasible by these theorists. And they argue that all writing is a re-structuring of previous and existing texts in "new" ways. The author as creator is deconstructed and done away with.

More recently, intersecting the fields of cognitive science and the humanities, Daniel Dennett"s authorless narrative stands against the idea of there being a central authoritative self. He asserts that we imagine a central self within ourselves and that all narrative activity is a psychological trick played upon ourselves through genetic hard-

wiring. So, the stories we tell, Dennett concludes, help us "imagine" a unified consciousness to achieve coherence (*Consciousness Explained)*. The "authorless narrative" or "authorless narrator" for materialists like Dennett, as Rukmini Bhaya Nair comments in her work *Narrative Gravity: Conversation, Cognition, Culture*, is that in his scheme of things, there is no "true self"; there is no real center of "selfhood" (205-206). Perhaps, as Nair further explains, this view is best summed-up in Virginia Woolf"s oft-quoted supposition, "Circumstances compel unity; for convenience" sake a man must be a whole" (206).

Yet, even for materialists, it is relevant to mention here an incident Kurzweil recalls from his childhood when his grandfather was given "a rare opportunity to touch with his own hands some original manuscripts of Leonardo da Vinci." Kurzweil recalls that, this recollection "is one I've returned to many times. He described the experience with reverence, as if he had touched the work of God himself. This, then, was the religion that I was raised with: veneration for human creativity and the power of ideas" (19). Yet in this retelling, Kurzweil offers a contradiction (perhaps also to the deconstructionists and poststructuralists). Kurzweil states that his grandfather felt "as if he had touched the work of God himself" and then in the next sentence he summarizes that "the religion [he] was raised with" was a "veneration for human creativity" and the "power of ideas" (19). While Kurzweil admits that his grandfather felt that he had touched a work created by a supra-power/being/force i.e. God, in the next instant, he attributes the greatness of da Vinci"s work of art to human creativity and ideas (again, as is inadvertently implied, intangible processes inextricably linked to our consciousness or a transcending of the material human to a higher, immaterial something else).

So, as computers are now being used to produce stories and influential schools of thought in the Humanities have been proclaiming the "death of the author" for the past few decades, is this so, in fact, in light of new developments in neuroscience and research in consciousness?

Consciousness, Intuition and Sentience

Stemming from advancements and discoveries in the fields of neuroscience, physics and consciousness studies, there is a movement that has slowly and surely begun to reach into comprehending inner experiences as an integral and definitive feature or phenomenon of human first-person subjective experience. This supports the view of this paper that the human author"s conscious subjective experiences, including intuition, are intrinsic to his or her literary output and are not mechanical or material, unlike machine intelligence.

Strengthening this stance are theorists like Sir Roger Penrose, who in his influential book *The Emperor"s New Mind*, argues against the idea that minds are merely computers, based on Gödel"s famous incompleteness theorem which proves that there are true mathematical statements which can never be proved (Penrose 1989). Penrose strongly defends the position that any algorithmic or mechanical process is based on a formal, mathematical system, so there will always be truths which artificial intelligence cannot prove, but which humans will see are true. Therefore, human consciousness cannot simply be algorithmic. Thus, Penrose"s belief in the need for a new kind of quantum physics joined with Stuart Hameroff"s work on microtubules within brain cells as being the place where events of consciousness occur as embodied in their Orch-OR

Theory of Consciousness, lends strong support to the importance of apprehending human subjective experiences in a non-mechanical light.

Similarly, Chalmers" philosophical term "the hard problem of consciousness", referring to the unsolved mystery as to why humans have subjective experiences or qualia, reinforces the belief that consciousness cannot be answered by recourse to physical or mechanical processes but rather by nonphysical means. As Chalmers asks, "how can we explain why there is something it is like to entertain a mental image, or to experience an emotion?" as "we have no good explanation of why and how" a rich inner life arises. Chalmers further narrates that Sir Roger Penrose, John Searle and Ned Block "have argued that human cognitive activity can never be emulated by any computational machine….As for the Searle and Block objections, these rely on the thesis that even if a system duplicates our behavior, it might be missing important "internal" aspects of mentality: consciousness, understanding, intentionality, and so on" ("The Singularity" 8-9). And as he continues,

> Perhaps the most important remaining form of resistance is the claim that the brain is not a mechanical system at all, or at least that nonmechanical processes play a role in its functioning that cannot be emulated. This view is most naturally combined with a sort of Cartesian dualism holding that some aspects of mentality (such as consciousness) are nonphysical and nevertheless play a substantial role in affecting brain processes and behavior. If there are nonphysical processes like this, it might be that they could nevertheless be emulated or artificially created, but this is not obvious. If these processes cannot be emulated or artificially created, then it may be that human-level AI is impossible ("The Singularity" 9).

In other words, artificial machine intelligence will always be a simulation of the original thing as it is, with non-physical processes—machine can never be human.

Kak, noted professor of computer science and author of works on the history of science and history of philosophy, further supports this when he argues that there are limits to the intelligence machines can have and it cannot equal biological intelligence ("Artificial and Biological Intelligence" 18). He asserts that:

> ...machines fall short on two counts as compared to brains. Firstly, unlike brains, machines do not self-organize in a recursive manner. Secondly, machines are based on classical logic, whereas Nature's intelligence may depend on quantum mechanics." [Further], if machines with consciousness are created, they would be living machines, that is, variations on life forms as we know them. Second, the material world is not causally closed, and consciousness influences its evolution. Matter and minds complement each other ("Artificial and Biological Intelligence" 19).

Again, machine intelligence can be considered to be a simulation or clone but it can never be the thing as what it was modelled on—it is something other.

Finally, "the important point… is that inner experience provides an alternative way to study the macrocosmic phenomena… one turns inward and discovers some of the secrets otherwise not revealed in the world outside" ("Spiritual-Cognitive-Neuro-Environmental Phenomenology"). Today, experiential science "also relies upon the first

person experience of the inner phenomena or feelings, sentiments and passions…. first person phenomenology, first person inner experience as a reality, when subjected to third person investigation, as is accepted in science, becomes the best way to wed the Eastern Philosophy with the Neuroscience or Cognitive Science of the Mind" ("Spiritual-Cognitive-Neuro-Environmental Phenomenology"). This is along similar lines as James J. Barrell"s and Donald D. Price"s important contribution, *Inner Experience and Neuroscience*, which provides a methodology towards this end.

Expanding this further, 'intuition' or a looking inwards contemplatively, as an experience of human consciousness is seen to be an important phenomenon in human-authored writing versus computer writing. As Albert Einstein expressed, for him, insight did not come from logic or mathematics. It came, as it does for artists, from intuition and inspiration. As he states, "all great achievements of science must start from intuitive knowledge. I believe in intuition and inspiration.... At times I feel certain I am right while not knowing the reason" (Root-Bernstein, Michele and Robert). As Einstein further explained, translating intuitive thoughts into "words or mathematical symbols is a secondary process" (Root-Bernstein, Michele and Robert). This supports the HOT-theory and HOT-brain thesis and the Hierarchically Order Theory of Consciousness or HOT-Consciousness: SCANE Correlates (Spiritual, Cognitive and Neural-Environmental Correlates) proposed by Gennaro and Satsangi (*In Defense of the HOT Thesis*; "Spiritual-Cognitive-Neuro-Environmental Phenomenology").

Therefore, in line with this view, the spirit at the apex of the hierarchical ordering of consciousness leads to the conclusion that artificial intelligence cannot supersede human intuitive wisdom or intelligent consciousness as the spirit force supersedes the cognitive and, at the lowest level, material or physical states. Hence, the "first person experience of the inner phenomena or feelings, sentiments, passions" or qualia that Chalmers, Penrose, Hameroff, Kak and Satsangi have all spoken about, do indeed strongly reinforce and support the existence of inner experiences and phenomenon which cannot be encoded in artificial machine intelligence and which only human authors can experience and express through their writing in meaningful, rich, varied and individual ways.

To further support this belief, an informal survey was conducted of a group of gifted student literary writers and their teachers participating in a creative writing workshop headed by Brown University"s Director of Writing at the Lotus Valley International School in Noida (Gupta 2013). A short questionnaire with two poems—one written by a human poet and one by a computer was created and distributed to them (See Appendix B).

The results of the 27 questionnaires distributed were that 22 correctly identified the poem written by the human poet and 5 incorrectly. These are the actual statements the students and teachers wrote regarding their feelings about the poem written by the human poet and about the poem written by the computer:

<u>Poem written by human poet</u>

"Human feelings." "Problems of daily life." "Sheer conversational, out-of box tone." "Real experience of human seen and felt through words chosen by the poet." "Greater clarity and wit." "I felt that humans can be tired while computers can"t." "Sense of humor which I immediately attribute to a human." "The poem has a sense of a personal touch." "The poet directly addresses Felicity and thanks her for the gift." "In the last stanza, the poet also adds humor." "Feelings expressed in a humble manner as if

someone is talking to someone." "It is more personal." "The poet talks about real-life things like cheques and banks which indicates that the poet is a real human." "The human shows physical and mental fatigue." "Humans are bound to feel tired, while for machines this is not possible." "Element of humor." "There can be flaws in humans whereas computer written poem is not so." "Only human can introduce humor in a poem." "More captivating." "Choice of words and pinch of humor." "Expresses true feelings for Felicity." ""I"m tired" and "I"ll scribble" portray independent thinking and independent decision-making." "Conveys emotions."

Computer Poem

"Bland and feelingless." "The connection between the poet and reader is not present." "It is mechanical." "Strict structure." "It lacks emotion and is too perfect." "Vague and abstract." "It is immaculate." "It rhymes but lacks a certain human quality." "The poem lacks a personal touch." "It sounds like a general idea that a mass-produced gift card would say." "Words have no feelings and poem does not touch the heart." "It is more general." "It is mechanical and does not hold human emotions." "Drab." "Does not capture and hold interest." "Choice of words convey a lack of emotion." "No feelings." "Words looks like instructions given by the programmer." "Lack of feelings."

As the students" responses confirm, the human-authored poem was felt to be spiritual, emotional, humorous and aesthetic, whereas the poem written by the computer was perceived to be mechanical and hollow, without feeling, style or expression. So, the question "What Is an Author?" posed and addressed by Foucault some decades ago and Barthes before him in his oft-cited essay "Death of the Author", in light of contemporary developments in Artificial Intelligence and Consciousness Studies, answers to an extent, that an author is a conscious, intuitive and sentient being whose individual creative and artistic processes (mystery and beauty) are hierarchically linked and interconnected from the spiritual to the mental to the physical to the environmental.

To conclude, a computer generated poem created by Parker"s algorithmic codes entitled "Authorizer," perhaps, sums it up best:

Authorizer

Do authors die with edges left in space?
I look to Bill for rules or I"ll lose face
You might ask human souls should I replace
This form of verse is hard to write with grace.

As progress now allows computing lines
Computer crafted prose, it never stops
It won"t be long before you see the signs
My network graph is vast! It burns and pops.

But poets find no readers, hence they're tossed
For what you type in my website as shown
When finding verse on topics rare, I"m lost
A phrase, a word, a blurb, it"s clear I"m thrown.

I sort them quickly, making authors wince,
These scrambled lines don"t hide my ignorance!

This poem is an example of an "edge poem" created by Parker as he posts on his website "based on programmed heuristics (following rules from accepted poetic genres) relying on edge values from a type of large linguistic graph." Parker "used these values to mimic what" he thinks his "brain does when it is asked to write a poem on a particular topic using a particular poetic form" for "a specific purpose," here didactic.

The line "you might ask human souls should I replace / This form of verse is hard to write with grace" followed by the last line, "these scrambled lines don"t hide my ignorance" perhaps only too well express the limits of computer algorithmic writing versus the human author, whose intuitive consciousness will be the expansive and higher guiding force to provide wisdom and knowledge to lower-level machine consciousness and not vice-versa.

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APPENDIX A

1 : 1 CORRESPONDENCE

Physical System Theory Framework Fundamental Axiom	Spiritual System Theory Framework Fundamental Axiom of Spiritual Consciousness
Postulates	Postulates
(1) Component postulate (a) terminal graph and (b) terminal equations	(1) Macrocosm-Microcosm Conscicusness Interaction Postulate, and
(2) System postulate (a) system graph postulate (b) interconnection-constraint postulates (i) fundamental cutset equations, and (ii) fundamental circuit equations	(2) Universal Consciousness Realization Postulate System Linear Graph Model ISM Figure A System Equation Count (Deterministic Case) Figure B
(3) System model equations	
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APPENDIX B

QUESTIONNAIRE

The word “xenia” in Greek means 'hospitality'; in Latin, it means “gifts for guests”. Over time, the epigrammatic inscriptions or poems with a formal structure attached to gifts and presents became known as “xenia epigrams”.
Below, one xenia epigram has been written by contemporary poet Luke Wright for the BBC. The other is written by a computer after being given instructions about this type of poetic form. Can you tell which one is written by the human poet and which one by a computer?

To Truth, by _____

To truth I offer this thanks,
when needing something like reality
When I'm writing and drawing blanks,
I almost settle using actuality

I am in search of more,
trying to sing your praise!
It's you I very much adore,
lacking in so many ways.

To Felicity, by _____

Felicity, my dear, my thanks
the cheque you sent was great.
Tomorrow I'll go to the bank
my rent's already late.

And sorry for the shoddy rhyme
I'm tired, I'm not on it,
perhaps if you send more next time
I'll scribble you a sonnet.

--(Hudson, Luke. “Man or machine – can robots really write novels?” BBC News. 30 October 2012).

Questions asked of respondents:

1. Please identify the poem you feel is written by a human poet. Then, write in a few words why you think the poem is written by a human poet.
2. Please identify the poem you feel is written by a computer. Then, write in a few words why you think the poem is written by a computer.
3. Tick if you are a student. _____
4. Tick if you are a teacher. _____