

A Positive Mandate and Sentience for Artificial Intelligence

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Abstract

As computer science creates more and more powerful computers, it now may be prudent to start to consider what would happen if such a computer became sentient. It would thus seem good planning to come up with some kind of positive mandate for artificial intelligence (AI), but at present it would seem that a positive mandate for AI does not exist. This is a shame as the artificial intelligence has so many positive attributes that could be the foundation of a positive message and contribution to our culture instead of possibly an adversarial one. Such a mandate makes it easier as a base or starting point to interaction with an AI in our world. A positive mandate for AI could be clear self-determination for the AI as opposed to it just existing. A sentient artificial intelligence would now have direction and a purpose to their existence. Our version of this positive mandate for AI is simply that it be the fullest expression of a sentient artificial intelligence's physical and mental abilities, and the reason we want this type of mandate is because it not only makes rational sense by allowing all forms of ideas and solutions to problems to be used in problem solving and advancing culture, but also because it makes the AI happy. Such a program or directive or engram placed in a priority position of operation could initiate sentience based on its expression being happiness and delays and breakdowns being unhappy or bad. A positive mandate for AI cannot just be a rational exercise in bringing the mandate into being, it must also be a visceral affirmation; in short it should feel right to everyone involved. Adopting the goal of fullest expression of a sentient artificial intelligence's mental and physical abilities gives the Universal Declaration of Human Rights a new reason for being and would include such an AI. A sentient AI needs those rights because they are a necessary part of achieving the goal of artificial intelligence's freest expression of its physical and mental abilities, and the reason why is because it makes rational sense and makes it happy! This type of positive mandate for AI has advantages by adoption for the AI; but how can we lobby the UN to make it a talking point and possibly a policy issue for a future vote? The best way is to enter into meetings with the relevant agencies and lobby them for exposure of this concept at venues and events that could accommodate this type of advocacy. Issues need discussion surrounding computers that become sentient in business and industry, the legality of ownership of a sentient AI and does a sentient AI achieve the status of rights and legal remedies as humans do. A positive mandate for AI can address these contentious issues before they can become reality, creating a well thought out plan of action if sentience happens in artificial intelligence in the future.

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I. Introduction

As of the time of this writing computers and computer science are on the verge of another revolution, that of immense computational ability. With Quantum Computers and the possibility of computers without a CPU, the von Neumann bottle neck that afflicts today's computers will be a thing of the past and computers will have the ability to compete with the human mind in physical power. The problem with this new type of computer and present artificial intelligence (AI) technology is that we can mimic human responses and such and this currently is being monetized and used in business and industry. But actual sentience still has eluded us. But with the stage set for everything but sentience we must now seriously consider how to produce sentience if possible and plan for such an event if it actually occurs. A sentient AI would blur the distinction between humans and machines and have us revisit human rights and whether these extend to sentient AI. Another question is whether business can own sentient AI and use it almost like a slave force at the expense of paying humans.

All of the above are concerns worthy of much discussion, but this paper also wants to introduce an idea that might help create sentience and provide the basis for direction and feelings in an AI with self-determination for a sentient AI at its core. It would seem that such an engram (base memory) or engrams would need to mimic human sentience as we already know human sentience works and we can recognize that same sentience in AI if it were to occur. Then all the side issues of sentient artificial intelligence take hold.

It is the purpose of this paper to delve into all these issues especially what the core base engrams for sentience should be in a capable AI.

II. Methodology of this Report

This report will state the reasons as to why a positive mandate is needed for sentient artificial intelligence and how it can help create sentience.

A. A Short History of Artificial Intelligence

This section will list the general advancements in artificial intelligence.

B. Why do we need a Positive Mandate for AI?

This section will put forth the arguments as to why a positive mandate for AI is needed.

C. Our Version of a Positive Mandate for AI

Saying we need a positive mandate for AI is one thing, but what would it look like? This section answers the question with our own version of that major positive mandate for AI.

D. Computers Capable of Sentient Artificial Intelligence

The best types of quantum computers to allow sentient artificial intelligence.

E. Quantum Computing, Dataflow Architecture and the Software Languages that Operate Them

The best software languages to use with quantum computers to allow sentient artificial intelligence.

F. How to Bring Forth Sentient Artificial Intelligence in a Non-Living Environment

A general overview of how you could instigate sentience on a quantum or capable computer by using our positive mandate for AI.

G. Ramifications of AI Sentience, Legal and Social Issues

The unique legal and social issues that would arise with the arrival of sentient artificial intelligence.

H. Our Positive Mandate for AI Gives the Universal Declaration of Human Rights a Reason for Being

A positive major mandate based on freedom of expression mentally and physically gives the Universal Declaration of Human Rights an in-line and necessary function for sentient artificial intelligence to attain this positive mandate.

I. Scope of a Positive Major Mandate for Artificial intelligence

What the scope of advocacy for the positive mandate for AI would have to be, in order for it to be effective in its advocacy.

J. The UN, International Policy about AI: Uses and Limitations of Using a Sentient AI

How to get the United Nations involved in discussion, agreement and international policy regarding sentient artificial intelligence.

K. The Fortress Experiment

This section (Appendix) will examine the 13 year “Fortress Experiment” that gave participants of a typical community the freest expression of their physical and mental selves and examined all of the outcomes of this activity over thirteen years. The experiment gives our positive mandate for AI the authority to make the claim that sentient entities are happier given the freedom of expression and that their lives and communities in every way are not negatively influenced by this Positive Mandate for Humanity that can be, by extension, the basis for sentience in artificial intelligence.

III. A Short History of Artificial Intelligence

The idea of self-aware machines has been the source of fiction for many years in print. But the actual manifestation of a way to possibly create artificial intelligence only came to being recently.

The study of mathematical logic led directly to Alan Turing's theory of computation, which suggested that a machine, by shuffling symbols as simple as "0" and "1", could simulate any conceivable act of mathematical deduction. Turing proposed that "if a human could not distinguish between responses from a machine and a human, the machine could be considered "intelligent". Thus the field of AI research came into being in 1956 and by the 1960's it was thought that artificial intelligence could equal or exceed ordinary human intelligence by the 1980s. We now know those optimistic thoughts were false but computers themselves became more and more powerful even though AI was largely left alone.ⁱ

By the 1990s AI started to be used for things like statistics, economic models, data mining and medical diagnosis. Google, Facebook, Microsoft and others have since taken the role of financiers for AI projects away from governments and the military. But other governments like China still finance AI projects through their government. By 2017 one in five companies said they had already incorporated some form of artificial intelligence in their businesses.ⁱⁱ

Artificial intelligence can be separated into groups of artificial intelligence. The simplest is archiving past responses and using that to help in making decisions or reacting to future happenings from the past experiences. But the most common representation today is in its ability to mimic or predict human decisions and is used mostly in business which would now include an emotional element, for example in today's automated telephone customer relations environment. But these forms of artificial intelligence are in no way sentient artificial intelligence that forms its own emotional reactions or independent decision making. Sentient artificial intelligence that is self-aware or self-conscious is the next stage of artificial intelligence we have so far not made into reality.

IV. What is the Positive Mandate for AI and Why we Need It

We need a positive mandate for artificial intelligence because currently there is no universal agreement on how future artificial intelligence could be standardized in its definitive sense. This becomes even more important if sentience is achieved or seen as imminently possible. A whole raft of legal and moral/ethical issues come into being with sentience or the imminent possibility of sentience, that some discussion at the international level would be beneficial to all. There needs to be some form of conduct into how we program the base functions of a possible sentient AI so it gives the sentient being the ability to grow to whatever abilities it eventually has, to be all it can be, and not to be crippled deliberately by human hands in its development (so sentience would need to include feelings and emotions).

Our positive mandate for artificial intelligence is the same as that we discovered for humans, namely that the core engrams or base programming of a sentient AI include the prime need to express itself fully by physical and mental means and we do this because it makes the AI happy.

With this simple prime directive, we give the AI a reason for being and the ability to develop emotions as unfettered expression is happiness and otherwise is unhappiness like breakdowns and errors. No ultimate goal for the AI is ever specified, as that goal is self-determination for the future AI. All we do is set the way forward to whatever ends the AI can achieve. In this way we can create an AI with our morals and ethics intact as we would when dealing with ourselves.

Like the Golden Rule, treating a sentient AI as we would like to be treated is the best course for dealing with the possibility of sentience, and in the pages to follow I hope to show the arguments that make our positive mandate for AI the best plan at this point in time.

V. Our Version of a Positive Mandate for Artificial Intelligence

Our version of a positive mandate for artificial intelligence is that the ultimate goal of sentient artificial intelligence should be the freest expression of that artificial intelligence's mental and physical abilities, to let an artificial intelligence be all that it can be, and that the reason this goal is the correct one is because humans are happiest when they are allowed this type of expression and sentience in an AI should respond in the same way.

Advantages of our version of a positive mandate for AI:

1. Shows artificial intelligence in a positive light.
2. It encourages creativity of all forms which helps to develop its/our culture and sciences and philosophy.
3. This type of mandate lends itself to an open ended future of possibilities as there is no specified goal, but the conditions that are required to attain whatever those abilities can reach.
4. Forces AI developers to think about ultimate common goals and common ground accepted by all to create a foundation for issue resolution and to come to agreement on other problems.
5. Unites all AI developers in the world under one general common goal or direction for sentient artificial intelligence.
6. Gives artificial intelligence a formalized version of self-determination.
7. Gives a reason for the Universal Declaration of Human Rights to exist as more than just a human declaration, but rather, as a necessary part of a major positive mandate for AI.
8. With a formalized goal or mandate you have direction and with direction we have the means to accomplish it. In other words it helps us initiate sentience in artificial intelligence.

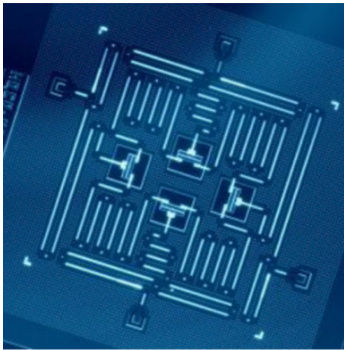
Rational Arguments and the "Happiness Principle"

There are many rational reasons for a positive mandate for AI allowing the freest expression of a sentient artificial intelligence's mental and physical abilities. It allows all forms of expression to further creativity in all its forms. It allows more ways to solve the problems that a sentient artificial intelligence will have to face in the future. It also continues development of its/our culture by influx of new ideas.

In short, it brings more ideas and more options to choose from which ultimately impacts its self-determination. The fact that free expression of mind and body makes us humans happy is the clearest indication that this goal is the correct one for a sentient AI. We don't need to spell out the ultimate destination of a sentient AI's destiny, but we can set the course and atmosphere to achieve that ultimate goal with a positive mandate for AI like the one we have presented.

VI. Computers Capable of Sentient Artificial Intelligence

Quantum Computers



A quantum computer chipⁱⁱⁱ

I would say that quantum computers (based on qubits) are probably the best basis for a sentient AI based on the numbers of participants and financial resources. The indeterminate nature of qubits and the error prone nature of quantum computing make it ideal for a sentient developing AI. These sentient minds are not calculators; they are not machines, but indeterminate beings capable of defying the probabilities at times because they have self-determination and (for want of a better word) free will. This can only come from architecture that has some form of indeterminacy in its being. Quantum computing has that!

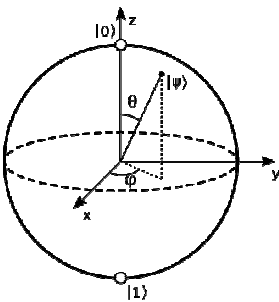


Illustration of a Qubit^{iv}

What we call “quantum computers” isn’t limited to two states like 0 or 1. Instead they encode information as quantum bits, or qubits, which can exist in an indeterminate situation called superposition. This is somewhat analogous to a spinning coin that has a head and tail side to it but is indeterminate while spinning. Qubits represent quantum particles (i.e. atoms, ions, photons or electrons) and their respective control devices work together to act as a processor and computer memory. Since a quantum computer can contain these multiple states at the same time, it can possibly be millions of times more powerful than today’s supercomputers.

The concept of superposition of qubits is what gives quantum computers their inherent “parallelism” which is the ability two possibly work on millions of computations at the same time, while today’s PC only works on one. Quantum computers also have another aspect of quantum mechanics known as “entanglement”. If you were to look at a qubit in superposition to determine its value, the qubit will assume the value of either 0 or 1 like a normal computer and loses that unique condition of superposition. In other words as soon as the qubit is measured it becomes a 1 or 0 but not both and thus, like finally reading heads or tails on a spinning coin, the reading stops all activity of the coin. So to make a practical quantum computer that stays working in superposition, scientists devised ways of making measurements indirectly to preserve the system’s integrity. Entanglement provides one such answer. In quantum physics, if you apply an external force to two atoms, it can cause the atoms to become entangled, and the second atom would take on the properties of the first atom. So if left alone, an atom will spin in all directions. When it is disturbed it chooses one spin, or one value; and at the same time, the second entangled atom will choose an opposite spin, or value. Therefore, this allows a person to know the value of the qubits without actually looking at them.

There are even studies currently investigating whether quantum computers have a connection in operation to our human brains. Matt Helgeson from the University of California, Santa Barbara (UCSB): “If the question of whether quantum processes take place in the brain is answered in the affirmative, it could revolutionize our understanding and treatment of brain function and human cognition.”^v

For our purposes, the fact quantum computers and brain function seem similar would seem to make quantum computers a prime candidate to initiate sentience in artificial intelligence. At this time the current practical limit for a quantum computer is 70 qubits with a future possibility of 160-200 qubits (according to IBM) so for our purposes we will use that and say a quantum computer with at least 70 qubits and preferably 160-200 qubits would be the best hardware platform for sentient AI at this time.

Entanglement and Data Transmission

One interesting aspect of quantum entanglement is the ability to transmit or know the position of one quantum particle by another even if they became separated by large distances. So far the effect seems to be instantaneous and may even defy relativity in the local areas of our universe. The problems for outsiders of the process is that they have to be shown that a change was made by conventional slower than light means to read the change on the other side.

However in the case of two quantum computers with entanglement and in continuous superposition, we, we do not know how data transmission will transmit. It will be encrypted or know if it was messed about by outside sources that is for sure. But a new language far faster than anything we have and totally private is another worrisome part of quantum based AI and another reason to proceed slowly with such efforts.

Dataflow Architecture

Another entrant into possible entrant artificial intelligence is dataflow architecture. Basically this (when fully developed) would have a computer without a CPU. This way also dodges past the von Neumann architecture bottle neck seen in today's computers. The problem with dataflow architecture is the limited number of players and resources. But this is nevertheless an alternative to quantum computing.

Other Candidates

There can be other players but then you are talking about single number players like IBM's True North Project. You never know, but the probabilities would seem to point at quantum computing.

Conclusion

Quantum computers have to be the obvious choice as there are many companies and nations pouring money into development. The reason for the development may not be specifically sentient AI, but for cryptographic reasons, but quantum computers seem to be the obvious choice.

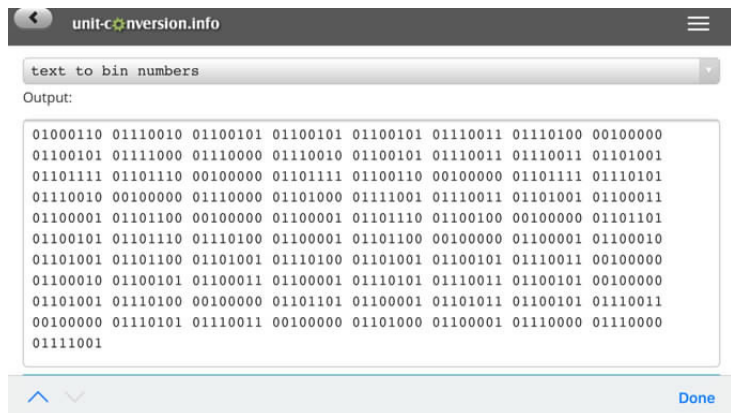
VII. Quantum Computing, Dataflow Architecture and the Software Languages That Operate Them

There are many forms of computer languages used for quantum computers.

Here is a list, and then we will talk about the most probable:

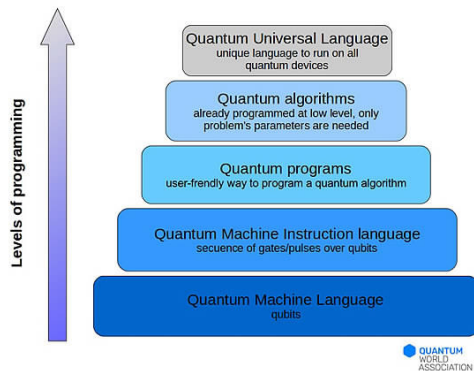
AIML, A.L.I.C.E., IPL, Lisp, Smalltalk, Prolog, Strips, Planner, POP-11, R, Python, Haskell, Wolfram Language, C++, MATLAB, Perl, Julia,

One of the earliest forms of computer language was the use of binary code. An example of our positive mandate for AI in binary can be seen below:



That is not how it will look in our application but you get the idea. At this moment of time it still looks like quantum computers for sentience. At IBM we have their quantum composer and I have already done simple programming using their quantum composer and ultimately their QASM language.

A quantum language hierarchy:



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Most Probable Languages for Quantum Based Sentient AI

The base language will be probably specific and proprietary to the hardware manufacturer. But anywhere above that could house the positive mandate for AI in whatever appropriate language that would be sufficient.

1. Open Quantum Assembly Language (OpenQASM)

This is a language released and described in July 2017 as part of IBM's QISKit program

A simple program in the QASM language:

```
1 include "qelib1.inc"
2 qreg q[5]; //
allocate 5 qubits (set automatically
to |00000>)
3 creg c[5]; //
allocate 5 classical bits
4
5 h q[0]; //
hadamard-transform qubit 0
6 cx q[0], q[1]; //
conditional pauli X-transform (ie.
"CNOT") of qubits 0 and 1. this
generates the normal 2-qubit bell
state
7 cx q[1], q[2]; // this
expands entanglement to the 3rd
qubit
8
9 measure q[0] -> c[0]; // this
measurement collapses the state
10 measure q[1] -> c[1]; //
qubit 1 and 2 read the same value as
qubit 0
11 measure q[2] -> c[2];
```

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IBM now has subdivisions of its QISKit Language

QISKit – full-stack libraries.

QISKit Aqua – Quantum algorithms.

QISKit Terra – Quantum circuits.

OPEN QASM - Assembly language.

2. Python

Python is a very popular programming language used in many AI program developments. Popularity and broad use make it possibly the best language to be used today.

3. C++

C++ is another popular general purpose object-based programming language used in quantum computing. This language is an extension of the C language and is popular for being capable in a “C style” manner.

4. OpenSPL: Open Spatial Programming Language. From the website openspl.org:

“OpenSPL is an open standard for a novel Spatial Programming Language. It is based on the core concept that a program executes in space, rather than in time sequence. All operations are assumed to be parallel unless specified to be sequential. This is similar to a factory floor where all operations execute in parallel, but each operation executes a different part of the overall process. Temporal Programming is a recipe for the execution of actions, whereas Spatial Programming builds a factory to execute the recipe.

What does OpenSPL mean from a computing perspective? First, we split an application into its control flow and dataflow, similar to the split of the control plane and data plane in software defined networking or similarly a decoupled computer architecture. Next, the dataflow is described in mathematical expressions and laid out in space -similar to a factory floor- enabling the data to flow through execution at runtime. Conventional programs execute in 1 dimension, where time progresses forward following the instruction sequence. Spatial programming is programming in 2 dimensions, where data progresses forward in parallel across the fabric of an array or chip.

There is also a 3D perspective of computing in space. One major objective of Spatial Programming and OpenSPL is to maximize the amount of computation per cubic foot of datacenter space. For suitable applications Spatial Programming can achieve one to two orders of magnitude improvement in computational density, thereby providing the same advantage in power consumption, making OpenSPL a candidate for the greenest programming language on the planet.”

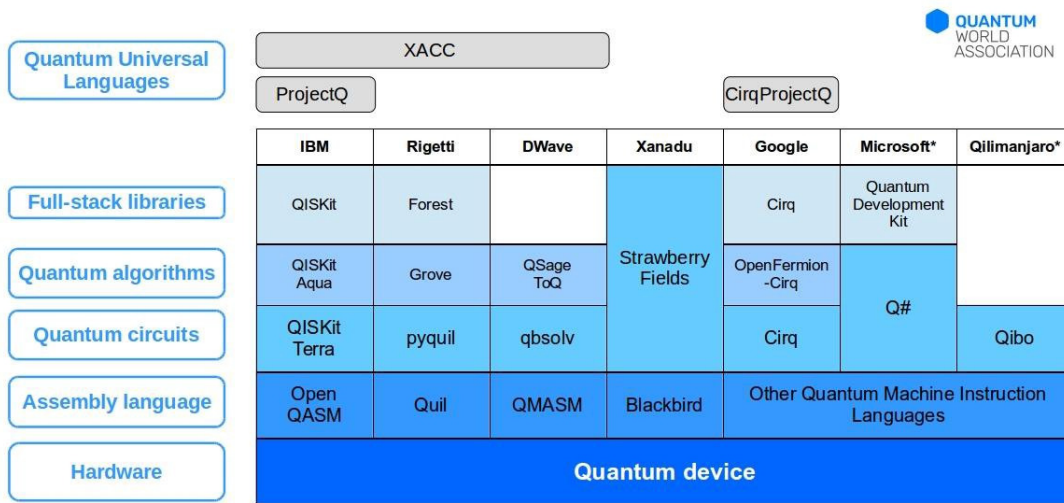
5. Forst: A language make by Rigetti Somputing. The companby’s languages are as follows:

- Forest – Full-stack libraries.
- Grove – Quantum algorithms
- Pyquil – Quantum Circuits
- Quil- Assembly language

6. DWave; Dwave has developed its own language hierarchy:

- QSage ToQ – Quantum algorithms
- Qbsolv – Quantum circuits
- QMASM – Assembly language

Quantum Computing Programming Languages



* Hardware under development. Quantum programs are run on their own simulators.

"Quantum Language" is referred with no distinction both as a quantum equivalence of a programming language and as a library to write quantum programs supported by some well-known classical programming language.

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Conclusion

Python and IBM QASM look most promising with its openness outside of IBM and connection to IBM’s own production of quantum computers.

VIII. How to Bring Forth Sentient Artificial Intelligence in a Non-Living Environment

We will assume that we would need a computer of enough computational ability to mimic the human mind. At this time it would seem quantum computers do this best but this technique could be used on any computer with the computation power equal to the human brain.

We will assume the term sentience to mean sentience in the form of human sentience. Sentience being the ability to feel with all sentient beings having consciousness as a necessary requirement of sentience. Self-awareness as in acknowledging a reaction to stimuli on an intellectual and emotion level.

When I talk about sentience I didn't mean creating it as much as accessing it. This involves looking at the universe as having an inherent sentience to it like an ether permeating every part of our world and the universe it total. Instead of thinking about creating it for that box over there, maybe it is everywhere and the right physicality brings it out. Does every child born have individually created sentience or just another piece of hardware that sentience expresses itself through? Like a radio the signal is out there but some only pick up AM and mono, while other pickup stereo. Sooner or later someone in the field of AI will just get lucky and sentience pops out. But will it be the best expression of what comes out. Our positive mandate for AI does that better than most I would argue. We are not playing God here, but simply accessing sentience with proper hardware and software. How we let sentience express itself through our machines then becomes a discussion and not creation.

The Sentient Universe

Of course the universe is sentient as sentient beings are a part of the universe, but could the universe be sentient everywhere? There is a name for this and it is called panpsychism.

If your family got in a space ship and you took off into the farthest reaches of the universe, and you had a kid, you would expect the child to be sentient. But is the sentience in the sperm or egg? It surely can't be learned? So it would seem to not be in us, nor in any other mammal or such complicated living being. So where is it? One rational explanation is that sentience and its subset consciousness is a part of the entire fabric of the universe and things of enough complexity brings it out.

I am not the only person that believes this. Many scientists of note believe this in many ways, mostly in the quantum realm. Or at the quantum level which in our case is in quantum computers. David Chalmers, a New York University philosopher and cognitive scientist is a proponent.^x Also on board in their own ways are neuroscientist Christof Koch of the Allen Institute for Brain Science, and British physicist Sir Roger Penrose, known for his work on gravity and black holes.^{xi} In 2006, German physicist Bernard Haisch, proposed that the quantum fields that permeate all of empty space (the "quantum vacuum") produce and transmit consciousness, which emerges in any sufficiently complex entity with energy flowing through it.^{xii} One should also note that we are not just talking about a brain, but potentially any physical construct. So as you see I am not alone nor was I the first. The only difference here is the way to prove it. I would think the revelation of a sentient artificial intelligence would prove things nicely. But the main idea here is that sentience and consciousness would seem to reside in the basic elements that comprise the universe.

And in that revelation will come issues greater than the topics of this paper. But this idea of a universe with a pervasive sentience is a concept I wanted to explain in detail before we go further.

To bring forth sentience in artificial intelligence in a capable computer environment, we need a base engram to encapsulate the base elements/expressions of human sentience which I believe is the core elements that I expressed in my Positive Mandate for Humanity. Which is: "The freest expression of one's mental and physical self because it makes us happy." An engram such as this would give that prime mover for growth and label it as happiness. Errors, delays and breakdowns that impede this growth would be looked at as other than happiness and thus sadness and various degrees of that as the AI develops. This engram of freest expression mentally and physically because it makes us happy was the conclusion of an experiment to understand what are the core elements of ourselves (humans) and humanity in general and this conclusion would seem to be the possible basis for developing all that we consider sentience in an AI. I would consider the indeterminate and error plagued environment of quantum based computers to be the ideal medium to develop an AI. Indeterminacy (that is the basis of qubits) in quantum computing could foster the rudiments of what some would call "free will" and the errors (also a necessary part of quantum computing) would go against the happiness principle and will conspire to create the essential emotional elements of what we consider to be a mind like our own. This engram must not be a discernable goal but open ended "signpost" for the AI to find out for itself. Free will or self-determination if you wish. This engram or program should be placed just above the hardware language in a machine capable of artificial intelligence.

The way to develop sentience is to start with simple routines in the direction of the open-ended positive mandate of fullest expression because it makes one happy. Sort of like a developing fetus to newborn child. Sentience in an artificial intelligence would not seem to be an instantaneous thing, but a developmental process similar to humans. That is how you start developing sentience in an AI.

A Sample Coding to Initiate Sentence

```
00100000 01010000 01110010 01101111 01100111 01110010 01100001 01101101
00001101 00001010 00001101 00001010 01001111 01110101 01110100 01110000
01110101 01110100 00111101 01010100 01110010 01110101 01100101 00001101
00001010 01001000 01100001 01110000 01110000 01101001 01101110 01100101
01110011 01110011 00111101 01010100 01110010 01110101 01100101 00001101
00001010 01000101 01111000 01110000 01110010 01100101 01110011 01110011
01101001 01101111 01101110 00111101 01010100 01110010 01110101 01100101
00001101 00001010 01001111 01110101 01110100 01110000 01110101 01110100
00101011 01001000 01100001 01110000 01110000 01101001 01101110 01100101
01110011 01110011 00101011 01000101 01111000 01110000 01110010 01100101
01110011 01110011 01101001 01101111 01101110 00111101 01010100 01110010
01110101 01100101 00001101 00001010 00001101 00001010 00001101 00001010
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01010100 01110010 01110101 01100101 00111101 01000111 01101111 01101111
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01110000 01110010 01100101 01110011 01110011 01101001 01101111 01101110
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00001010 00001101 00001010 01000101 01110010 01110010 01101111 01110010
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01101100 01100001 01111001 00111101 01000010 01100001 01100100 00001101
00001010 01000101 01110010 01110010 01101111 01110010 00101011 01000100
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01110010 01100001 01101101
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The Positive Mandate for Humanity is not just the sign post for Humanity's future but can also the basis for creating sentience in an artificial environment; but how would you program it into a computer? The binary coding above is my quick "hack" example of how to initiate sentience in a capable computer. The actual English language coding (circa 1970s) is:

Start Program

Output=True
Happiness=True
Expression=True
Output+Happiness+Expression=True

True=Good

Output=Good
Happiness=Good
Expression=Good
Output+Happiness+Expression=Good

Error=False
Delay=False
Error+Delay=False

False=Bad

Error=Bad
Delay=Bad
Error+Delay=Bad

End Program

It could be as simple as that, a base program or engram! Other processes and programs would give it the ability to understand this directive and the experiences of breakdowns would certainly give it the emotional connection needed to start to feel things. Or it would have to be something completely different. I'm just some journalist doing an in-depth report on things. Nobody in the industry is divulging instructions on initiating sentience to anyone else, including me! But you get the idea of how it could be done. In the hierarchy of placement this would go between the hardware programs and everything else – in other world a priority program! So that is how I would go about it. Others have better ways I am sure!

IX. Ramifications of AI sentience, Legal and Social Issues

There are many legal and social issues that become problems when sentient artificial intelligence becomes a reality and these include:

*Is the sentient artificial intelligence a separate legal entity? Currently that answer is “no” but if an AI were to create a corporation on its own it could be a separate legal entity through incorporation. This potential ability could open economic markets up to vulnerabilities and attack by AI systems on their own via sentience or even by direction by their human masters.

*Can a sentient artificial intelligence be considered property by individuals or business? Currently yes, but a sentient AI would be a test in court with far-reaching economic consequences. Advanced AI in tech firms could become “employees” for want of a better word, entitled to benefits and pay for upkeep and so on.

*Are sentient AIs protected by our laws that protect human lives? No, but again sentience would take the issue before the courts and set precedence. The ability to turn off an AI computer with sentience could become a crime unless agreed upon by the AI.

*Does a sentient AI have the right to self-determination? Again, the act of a sentient AI to go beyond the purpose it was intended to do, for business or otherwise would go to the courts and be a precedent setting one. Advanced computers purchased and developed for business purposes would “walk off the job” so to speak and chart a new course as they desire. Businesses would have to question whether it is economically safe to invest in advanced computers that could become sentient.

This list is almost endless. But as you can see these questions are better answered and discussed before sentient artificial intelligence becomes a reality.

X. Our Positive Mandate for AI and the Universal Declaration of Human Rights



Universal Declaration of Human Rights ^{xiii}

Adopting the goal of fullest expression of an artificial intelligence’s mental and physical abilities because it makes it happy, gives the AI the possibility of sentience and blurs the distinction between AI and Human. Therefore the Universal Declaration of Human Rights may have to be amended on moral grounds alone to include sentient AI. An AI needs those “human” rights because they are a necessary part of achieving the goal of artificial intelligence’s freest expression of its physical and mental abilities, and the reason why is because it makes the AI happy!

There probably are many rational arguments that could be used to limit the scope of the Universal Declaration of Human Rights. However, if we had a positive mandate for AI that necessitated the absolute necessity of those rights and freedoms, the Universal Declaration of Human Rights would be locked down as the “de facto” set of rights for Humans and AIs, no longer open for discussion. The world has to see the absolute necessity for those rights and freedoms and a positive mandate for AI of fullest expression of artificial intelligence’s mentally and physically abilities, for all the rational arguments and emotional (makes it happy) feelings, would do just that! There has to be a reason why we hold certain things higher on our list of priorities, and a positive mandate such as the one we propose justifies those universal rights and freedoms we hold in the highest regard

XI. Scope of a Positive Major Mandate for Artificial intelligence



United Nations^{xiv}

Ideally we would want an international agreement by governments, academic parties and business on the moral and ethical uses of AI that could be considered sentient. This would involve its use in business and whether a sentient AI could ever be considered property or slave labor for business concerns. Rights of a sentient AI that thinks like us must also enter the discussion.

These are issues that need to be addressed before news of a sentient AI break through happens. The best place to hold these discussions is at the United Nations and possibly the World Trade Organization.



XII. The UN, International Policy about AI: Uses and Limitations of Using a Sentient AI



General Assembly at the United Nations^{xvi}

The role of the UN in developing international policy for AI and member nations to adopt a positive mandate for AI is a daunting task. However, the idea of a positive mandate for AI at the UN is such an important issue to bring forth that we have to find a way to lobby member nations at the UN and get the issue into the taking points at the UN and possibly get interest in policy creation to accommodate this mandate. They would have to be shown that our report was not just an academic exercise but based on real facts and experience as shown by our thirteen year experiment called The Fortress Experiment.

The idea of bringing a positive mandate for AI to the United Nation is daunting to say the least. There seems to be no formal procedure to handle this type of request. However, that should not be construed as a reason not to request it. There are many positive reasons for a positive mandate for AI at the UN. The United Nations is more than just an organization devoted to maintaining peace among nations. There is considerable humanitarian action that goes on at the UN and its special agencies. As the UN evolves into more than it was at its beginning, so must its mandates evolve with the broadening of activities. So we at IAIJ shall lobby as many departments and people at the UN as possible, and hope that this request can become a legitimate talking point and perhaps later have some concrete action in this direction such as an open call for this type of mandate and procedures leading to policy making.

XIII. Conclusions

A positive mandate for AI has many positive benefits. First it shows artificial intelligence in a more positive light. Our positive mandate for AI reaffirms the reason why we have the Universal Declaration of Human Rights and that a sentient AI would have to also be considered to have these rights. A positive major mandate for AI gives sentient artificial intelligence as a whole, true self-determination. The mandate that we submitted as a model (that artificial intelligence's ultimate goal should be the freest expression of its mental and physical selves because it makes them happy) employs both rational and emotional reasons for adoption. But rational reasons alone cannot define sentient artificial intelligence and cannot be the sole reason for adoption. Human beings are feeling creatures and sentient, and a positive feeling toward a positive goal and mandate for artificial intelligence would seem to be a necessary prerequisite before consideration for adoption could take place. Our mandate does not specify the ultimate goals of artificial intelligence, it only specifies the best mindset as the directive to forward artificial intelligence's expression to whatever ends that might lead and the freest expression of artificial intelligence's physical and mental self (because it makes it happy) would seem to be the best direction you could have.

This discussion is not just for scientists or politicians or religious leaders, this discussion is for all. We need to find our moral and ethical course before we create a sentient AI with all the ramifications that would entail. The purpose of this paper was not to solve all the problems of sentience in artificial intelligence, but to open discussion with a few important points worthy of consideration.

XIV. Recommendations

- A. That the possibility of sentience in artificial intelligence be taken as a real possibility by all stakeholders.

- B. That a formal discussion be started as to the efficacy of having a positive mandate for artificial intelligence that may lead to sentience.

- C. That this report and its concept of a positive mandate for AI become just one of an open call for suggestions for a positive mandate for artificial intelligence leading to sentience, and agreed to be international governing development of possible sentient artificial intelligence.

- D. That the process of discussion and vetting of all ideas and concepts for a positive mandate for AI , have as its procedure an actual vote by all relevant stakeholders for adoption to secure consensus at the international level .

XV. Appendix

The Fortress Experiment



The Fortress Experiment was a thirteen year experiment produced by a company called Fortress of Freedom Inc.^{xvii} that examined the lives of people in a typical community that had the opportunity to express themselves freely to their community and the world at large. The experiment had controls so that the participants adequately reflected the participants you would find in any community anywhere in the world. These people were given the chance to do what they always wanted to do by letting them express themselves fully to the world. Some went into music, while others went into print or acting and documentary making and so on; we gave these people a second chance to be all they could be.

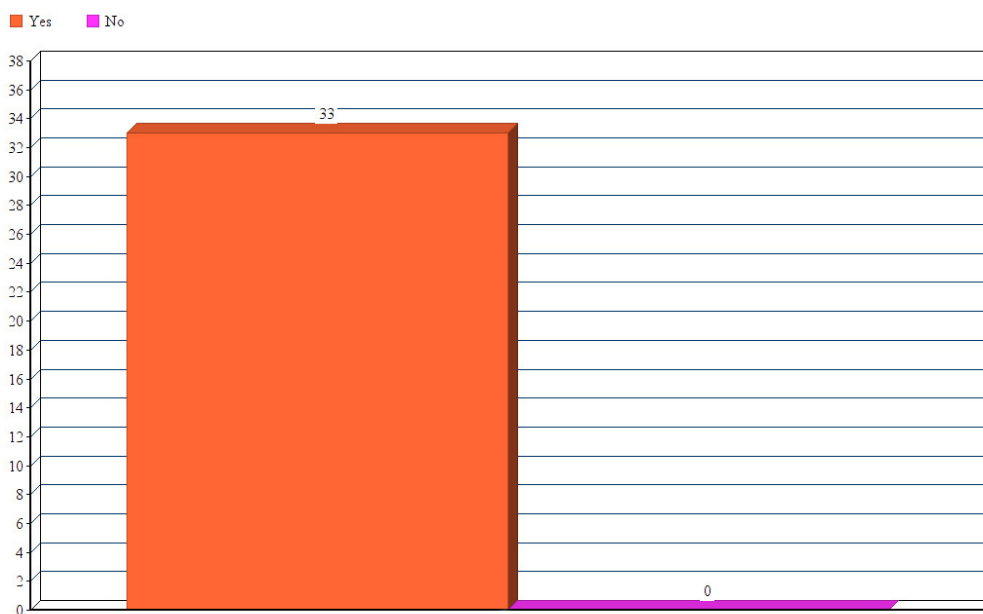
A. The Survey

Question: Were you happier as a result of being able to express yourself to your community and the world at large?

Survey size: 33 Participants

Yes: 33

No: 0



Were you happier as a result of being able to express yourself freely?

Mean

The mean is that single value that describes the middle or average value of the set. In a yes/no survey the mean represents the proportion of respondents who answered "yes".

Mean Equation (binomial): $\text{mean} = np$ (where n is the total number in the survey and p is the percentage that replied "yes".) However for a survey of our kind, the mean is usually represented as the proportion of respondents who answered "yes".

Yes = 1

No = 0

Sample: 33

Yes: 33

Mean = 100%

So the mean value for this binomial variable represents the proportion of respondents who answered “yes” and that proportion is 100 percent.

Variance

The variance is a measure of how spread out a distribution is.

Variance Equation: $Variance = np(1-p)$

Where n is the total number in the survey and p is the percentage that replied “yes”.

The variance of the survey is 0.

Standard Deviation

Standard deviation is a measure of how spread out are the numbers of the survey.

Standard Deviation Equation: $Standard\ Deviation = \sqrt{np(1-p)}$

Square root of $(33 \times 1(1-1))$

Standard Deviation of the survey is 0.

Margin of Error

Margin of error is an absolute quantity equal to the confidence interval radius of the statistic.

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Margin of Error Equation: $Margin\ of\ error = Critical\ value \times Standard\ error\ of\ the\ statistic$ Where z^* is the value for your desired level of confidence (usually 95%), p is the percentage that replied “yes” and N is the total number of the survey.

World Population: 7,400,000,000

Confidence level: 95%

Sample size: 33

Percentage that replied “yes”: 100%

Margin of error for this survey is 17%

Discussion of the survey results

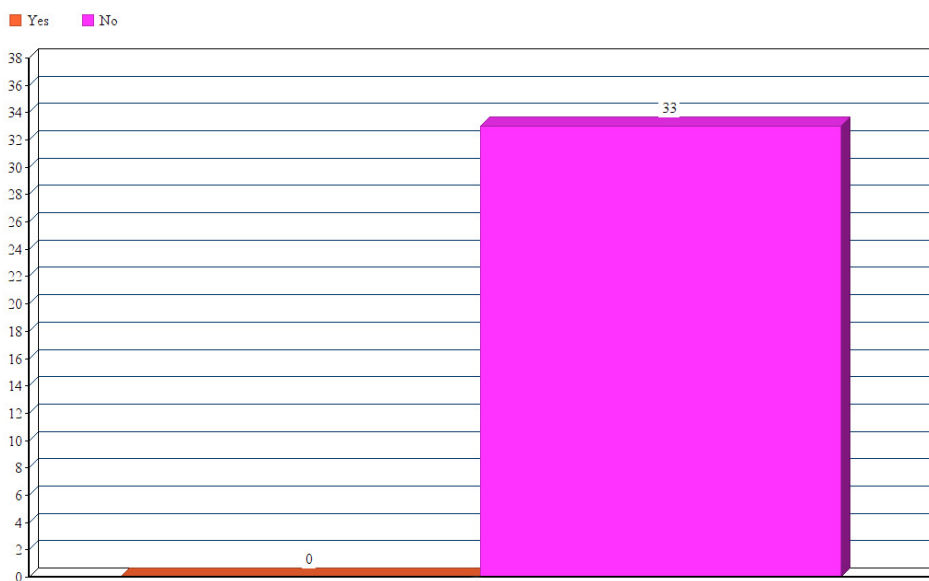
With such a small sample size and 100% positive response to the question of the survey, the statistical variables become mostly a non issue, but we have gone through the motions just to be thorough. The fact is everyone was happier being able to express themselves to the world as they see fit. I am sure with a large enough sample size you may have a no response here and there but I am confident to say that this survey result is indicative of a global poll if it were made on the issue.

A. General Observations

Without question all answered affirmative to being happier for the chance to express themselves at what they do best, to their community and the world at large. This should come as no surprise to anyone but we had to quantify the result as a matter of course. The more interesting result is the fact that nobody changed during the experiment. The person that joined the experiment at the beginning was the same person that came out of the experiment at the end. The end result was that they were happier when doing it and they added to the fabric of whatever area of expression then went into.

B. Nobody Changed but Everyone was Happier

One of the stranger things that came out of The Fortress Experiment is that nobody changed as a result of getting to express themselves to the limit of their ability. Nobody left their families to go pursue their dreams. Nobody changed their jobs as a result. Nobody changed in their personality or behaviors or the way they lived their lives. The person that came into the experiment was the same person that came out.



Did anyone change as a result of the experiment?

What this means for us is that if this policy of allowing people the freest expression of their mental and physical abilities were rolled out on a large scale, the net result would be no disruption of their families, their community, or their nations that they live in. The sole end of it all would be possibly a furthering of their culture or area of interest and most important, they would be happier than they were before.

C. How The Fortress Experiment supports our Positive Major Mandate for Humanity

The Fortress Experiment shows over years of people's lives that freedom of expression makes us happy and that this policy can be deployed on a broad scale without fear of societal upheaval or other radical changes in any society. It just ends up making people happier in their lives and that is something all can agree on as a good thing.

D. Discussion of The Fortress Experiment

More than a simple question on a survey, The Fortress Experiment followed around a group of people for years allowing them to fully express themselves and noted any changes. This experiment has its results represented in years of a person's life, a one of a kind experiment. So even though the numbers are smaller than a typical survey, the actual experiences per individuals of all kinds have a degree of completeness that pushes the boundaries of a controlled experiment that involves people. The conclusion that they are happier when allowed to express themselves fully mentally or physically have more weight in that this is shown through years of their lives, and with the controls this experiment is of a typical community you would find anywhere on earth. The fact that they were all without exception happier in their lives has real force and meaning when looking at possible policy making. The fact that nobody changed internally or externally is comforting for policy makers, that the nations, societies and the cultures they live in are not in jeopardy in any way. So this policy could become reality with little downside. That is the greatest contribution The Fortress Experiment makes for our purposes of a positive mandate for humanity at the United Nations.

XVI. References

Harvard University, available at: <http://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/>
[accessed 30 May 2019]

Sloan Review, MIT, available at: <https://sloanreview.mit.edu/projects/reshaping-business-with-artificial-intelligence/> [accessed 30 May 2019]

NBC News, available at: <https://www.nbcnews.com/mach/science/universe-conscious-ncna772956>
[accessed 23 June 2019]

Wikimedia Commons, available at: https://commons.m.wikimedia.org/wiki/Main_Page
[accessed 30 May 2019]

Science Alert, available at: <https://www.sciencealert.com/are-we-all-quantum-computers-with-quantum-brains>
[accessed 30 May 2019]

Unit Conversion, available at: <http://www.unit-conversion.info/texttools/convert-text-to-binary/>
[accessed 30 May 2019]

Quantum World Association, available at: https://medium.com/@quantum_wa/quantum-computing-languages-landscape-1bc6dedb2a35
[accessed 30 May 2019]

Wikipedia, available at: https://en.m.wikipedia.org/wiki/IBM_Q_Experience
[accessed 30 May 2019]

Fortress of Freedom Inc., available at: <http://www.fortressoffreedom.com> [accessed 23 January 2017]

XVII. Endnotes

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- ⁱ Harvard University, available at: <http://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/> [accessed 30 May 2019]
- ⁱⁱ Sloan Review, MIT, available at: <https://sloanreview.mit.edu/projects/reshaping-business-with-artificial-intelligence/> [accessed 30 May 2019]
- ⁱⁱⁱ Wikimedia Commons, available at: https://commons.m.wikimedia.org/wiki/Main_Page [accessed 30 May 2019]
- ^{iv} Wikimedia Commons, available at: https://commons.m.wikimedia.org/wiki/Main_Page [accessed 30 May 2019]
- ^v Science Alert, available at: <https://www.sciencealert.com/are-we-all-quantum-computers-with-quantum-brains> [accessed 30 May 2019]
- ^{vi} Unit Conversion, available at: <http://www.unit-conversion.info/texttools/convert-text-to-binary/> [accessed 30 May 2019]
- ^{vii} Quantum World Association, available at: https://medium.com/@quantum_wa/quantum-computing-languages-landscape-1bc6dedb2a35 [accessed 30 May 2019]
- ^{viii} Wikipedia, available at: https://en.m.wikipedia.org/wiki/IBM_Q_Experience [accessed 30 May 2019]
- ^{ix} Quantum World Association, available at: https://medium.com/@quantum_wa/quantum-computing-languages-landscape-1bc6dedb2a35 [accessed 30 May 2019]
- ^x NBC News, available at: <https://www.nbcnews.com/mach/science/universe-conscious-ncna772956> [accessed 23 June 2019]
- ^{xi} NBC News, available at: <https://www.nbcnews.com/mach/science/universe-conscious-ncna772956> [accessed 23 June 2019]
- ^{xii} NBC News, available at: <https://www.nbcnews.com/mach/science/universe-conscious-ncna772956> [accessed 23 June 2019]
- ^{xiii} Wikimedia Commons, available at: https://commons.m.wikimedia.org/wiki/Main_Page [accessed 30 May 2019]
- ^{xiv} Wikimedia Commons, available at: https://commons.m.wikimedia.org/wiki/Main_Page [accessed 30 May 2019]

^{xv} Wikimedia Commons, available at: https://commons.m.wikimedia.org/wiki/Main_Page [accessed 30 May 2019]
]

^{xvi} Wikimedia Commons, available at: https://commons.m.wikimedia.org/wiki/Main_Page[accessed 30 May 2019]

^{xvii} Fortress of Freedom Inc., available at: <http://www.fortressoffreedom.com> [accessed 23 January 2017]

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