Original Paper

Culture Level Quotient

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Abstract

The world is changing for the purpose of progress. It is important for a person, a people or a nation to know the direction and the desirability of the change. A comparison of different cultures and knowledge advancements around the world and cultures throughout history provides some guideline for the change. From the perspective of the knowledge advancement of the historical past and the post-scientific vision of knowledge of the expected future, the concept of culture can serve as an overall measure of the quality of a person, a people or a nation. One's beliefs can provide indications to one's cultural level. The knowledge vision of post-science fuzzy logic extends 4,000 years into the future and can serve as a guide to the cultural development of the future. 2,000 years ago, morality culminated in religion, which dominated human culture in the West for over a millennium and was taken over by science in the past 500 years. Rigorous training in mathematics is needed in the next 500 years for social science, which involves the infinite future and is, therefore, not subject to empirical verification, for the infinite future will never arrive. The acceptance of solutions in social science depends on complete mathematical rigor. Rigorous training in logic is needed in the next 1,000 years for the unlimited complexity in life science, which deals with the creation of permanent entities, such as DNA, and whose solutions are accepted based on complete logic. The Age of Robotics will occupy the next 1,000 years, when robots will be intelligent machines with the capability of interact safely with uncontrolled environments. The Age of Self-Creation from 4,000 AD to 5,000 AD will reveal from the design specification of mankind's self-creation the meaning of life and the purpose of existence. Post-Science Fuzzy Logic will occupy from 5,000 AD to 6,000 AD and will sacrifice precision in the process of expanding the range of tolerance of a creation in order for the creation to survive and flourish for all the possibilities of an uncertain future. The total of 6,000 years of recorded history to 6,000 AD will enable mankind to establish a new religion based on knowledge, replacing the

supernatural beliefs of the current religion. In 4,000 years, a new Religion of Knowledge will completely replace current traditional Religion of Faith, but as soon as the Religion of Knowledge is established, leading thinkers of society will start to criticize it, as the Religion of Faith is criticized by the current not-yet-mature Religion of Science. Post-science speculates that human knowledge in the Religion of Knowledge might be replaced, say, by alien technology, when aliens find human cultural level high enough to communicate. Post-science also includes practical innovations on Intergalactic Communication based on the newly invented I Ching Numeral and completely automated Universal Permanent Software. Post-science is knowledge beyond science, one of the immediate goals of Culture Level Quotient is to restore philosophy back to its rightful place, on the center stage of knowledge, which is now occupied by science, which lacks the consideration of value and the understanding of the permanent nature of the living system.

1. Introduction

Culture Level Quotient (CLQ) measures a person, a people or a nation. Cultural Level Quotient identifies the sum total of a person's cultivation in life; it is a measure of the whole person. CLQ is fuzzy in order to allow tolerance in measurement and change from low to high. Cultural diversity is the process of human progress. Currently, CLQ is intended as the sum total of the measure of Intelligence Quotient (IQ), Emotional Quotient (EQ), Wellness Quotient (WQ), Happiness Quotient (HQ), Cultural Quotient (CQ), etc. Post-science fuzzy logic classifies CLQ based on the vision of knowledge of the past 2,000 and the future 4,000 years.

Briefly, culture advances from simple to complex with increasing rigor for handling the increased complexity. In the past 2,000 years, cultural progress is based mainly on common sense, which involves roughly 3 variables, except that science demonstrated to mankind for the first time in history knowledge based on uncommon sense, in the form of precise observations.

The pre-religion culture was morality 2,500 years ago. Technically, morality provides guidance to human behavior without stating the conditions under which the moral principles should be followed. Religion is the culmination of morality and gives all the conditions of human behavior, but is unable to relate these conditions. Current dominating culture, science, relates all the conditions deterministically, but applies only to the physical world with non-violable laws of nature in science. Social science of the next 500 years relates all the conditions deterministically. These deterministic relationships are non-violable laws of nature. Science deals with 5 variables, social science, 50, and life science 500. Solutions in science are accepted based on empirical verification. Due to the involvement of infinity in social and life sciences, empirical verification is not possible in social and life sciences, for, by definition, infinity never arrives. Solutions in social science are accepted based on complete mathematical rigor, making mathematical training a prerequisite for social science culture. Solutions in life science are accepted based on complete logic, making logic or philosophy a prerequisite for life science culture. The attempt to the self-creation of humans starts with humanoid robot with the ability

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of touch, which is the ability for the robot to come into contact safely with the uncontrolled environment and, thus, should be the definition for robot. Self-creation involves the improvement of the robot to become the human and the improvement of the completely automated software, which develops and controls the robot, to become DNA. In 3000 years, the basic framework for the culture of self-creation is complete with the realization that self-creation is the purpose of existence, for what is self-created can do anything the creator can do. The design specification of self-creation will reveal the meaning of life and the purpose of existence. From the basic framework of self-creation, fuzzy logic will be needed to study the fuzzy reality, resulting from the sacrifice of precision in order to expand the range of tolerance of the created to survive and flourish for all the possibilities of an uncertain future into the last of the next 4000 years. Fuzzy logic adds the study of the range of tolerance to that of conditions and, thus, opens up a completely new field of knowledge, advancing knowledge from exact solutions to fuzzy solutions with tolerance. Commercially, social science in post-science fuzzy logic is represented by the Infinite Spreadsheet, which will dominate real estate and stock predictions. A post-science life science product is represented by Universal Permanent Number, which, as a byproduct of completely automated software, assigns permanently and globally unique integer names to all the permanent entities and is the first step in big data. Robotics is represented by the Fuzzy Jumpulse Mechanism, which will help a nation dominate sports and robotics with the solutions of prolonged contact and of touch. Self-creation and fuzzy logic are too advanced for the current society, but endorse Permanent Life based on health, bioethics, and human cloning.

2. Practical Applications

There are many post-science applications relevant to today's technology. Artificial Intelligence (AI) should start with the Self-generated Neural Network of software cell based on UPS and fuzzy logic, but is not. AI is leading the society into a complexity crisis due to the need of manual updating of AI software. UPS is provided by Post-Science Fuzzy Logic Team to society free of charge. The Infinite Spreadsheet (IS) had dominated locally commercial real estate prior to passing of the law FIRREA of 1989, which is a de facto endorsement of the market comparison appraisal method. Fuzzy Infinite Spreadsheet, where a range of values replaces one single value in each cell, should completely dominate the real estate business and stock analyses in the future. Universal Permanent Number (UPN) based on UPS will dominate big data by assigning globally distinct integer names to all the permanent entities, such as DNA, land parcel, books, and personal identification numbers.

Two of the innovations of post-science have been accepted by the society. Hugh Ching's double-hitting provides a definitive demonstration of the possibility of prolonged contact using jumpulse; after the publication of the book Table Tennis, Scientific Analyses in 1978, tennis regulation allowed double-hitting in one smooth stroke in 1982, table tennis, in 2004, and golf, in 2019, only after the video demonstration of double-hitting in 2018. Hugh Ching has been successful in demonstrating that his Epigenetic Lifestyle has reduced his biological age by 28 years from 76 to 48 in 2020.

3. Completely Automated Software Cell: Toward a Theoretical Biology Based on the Theoretical Discovery of DNA

The cell is the most intelligent system in the universe, for it contains the wisdom of the universe accumulated from the infinite past. A single cell can self-generate into a brain, a body or any living thing. This multi-cellular design is the ultimate form of fault tolerance. Expanding the range of tolerance of a creation is the central theme in the study of fuzzy logic, where precision is sacrificed for tolerance. Post-science introduces a Completely Automated Software Cell for uncovering from the programmer's point of view the intelligence of the cell. By identifying DNA as Completely Automated Software, the discovery of the Software can be considered the theoretical discovery of DNA. The Software is capable of self-generation, auto-updating, and auto-documentation. In the Universal User Interface of the Software the four nucleobases A, C, G, and T are replaced by the Universal User Interface of the Software, 0, 1, 2, and 3. And codon can be represented efficiently by radix based of 64. The Software can self-generate itself to form software cells, whose number is limited only by the disc memory space. Software cells can be differentiated during self-generation by an External Common File, as in the biological system. The Software is used to simulate the DNA-protein biological system. This discovery contains three "Holy Grails" in computer science in order to connect the software cell to the biological cell: (1) Universal User Interface or how can humans communicate with machines in human language, permanently, (2) Universal Computer Source Code (UNCOL have tried by failed as a Holy Grail, and (3) Universal Data File or how to eliminate all technical barriers in computer usage by representing all technology in terms of Universal Permanent Number, whose meaning will be remembered by the Completely Automated Software, not the user, or How human access unlimited amount of information with Human Associative Memory. An overwhelming significance of the completely automated software system is that it will allow anyone over the age of 6 to communicate with the computer in human native language, permanently. The human-language program language is the solution of software and will bring about a fundamental breakthrough in productivity, when most people, including some intelligent animals, birds, and insects, can program a computer or communicate with the computer or with each other through the computer. This discovery deals with the foundation of theoretical biology. Starting with a completely automated foundation, post-science initiates a new direction of research based on the similarity of the software cell and the biological cell. In particular, artificial intelligence systems in computer science can be built based on completely automated self-generated neural network of software cells. Thus, this electronic brain of software cells can be constructed imitating the biological brain. The theoretical discovery of DNA in post-science is made purely by logic, not by experimentation. Accordingly, theoretical biology resembles computer science, which is based on logic, more than science, which is based on experimentation. In terms of the method of reasoning used in theoretical biology, post-science has bridged the gap between the current exact non-living technology of man and the fuzzy living technology of nature.

4. I Ching (易經) Numeral for Computer Software, DNA, and Intergalactic Communication

Post-science speculates that I Ching Numeral or a numeral of similar design should be used for intergalactic communication. It describes a communication system, which combines the pictogram of I Ching and the Universal User Interface of a completely automated software system to form a Universal User Interface for intergalactic communication. Bothe the Bible and I Ching have stood the test of time, but neither has made notable technical contribution. I Ching Numeral discovery describes how the pictograms used in I Ching, such as ☷, ☳, ☵, ☶, ☴, ☲, ☱, and ☰, corresponding to the binary system of the computer 0, $1=2^0$, $2=2^1$, $3=2^0+2^1$, $4=2^2$, $5=2^0+2^2$, $6=2^1+2^2$, and $7=2^0+2^1+2^2$, can be used to unify technologies spanning 10,000 years from I Ching of two and a half thousand years ago to computer science to DNA to self-creation to an intergalactic communication system applicable several millennia into the future. With the broken line denoting 0 and the solid line denoting 1, the pictograms of I Ching, when counted from bottom up, form a self-exploratory counting system, which is more logical than all the other counting systems. It is equivalent to the binary number system of 0 and 1, but more compact and even more self-exploratory. The I Ching Numeral contributes to the development of an intergalactic communication system with a Universal User Interface, which has eliminated the final technical barriers in communication with a logically designed self-explanatory representation of numbers, namely, the I Ching Numeral. I Ching Numeral will advance human technology to a level to allow humans to communicate with aliens and to absorb alien technologies far more advanced than the human technology through an intergalactic communication system.

5. Universal Permanent Education for Developing the Habit of Reason, Not Memorization

Universal Permanent Education describes a complete system, which has eliminated all technical barrier and memorization in education. Humans have inherited the earth. Human social progress will determine the destiny of the survival of the living system on earth. Education is at the roots of social problems. Logically, the youngest of our children should be taught by the wisest among us, and the most advanced knowledge should be taught to the youngest children. But, today, the teachers with the lowest level of training are the teachers of our youngest children. Worst of all is that from a young age, children develop the habit of memorization as the main mechanism for acquiring knowledge. Universal Permanent Education is designed for developing the habit of reason, not memorization from a young age.

In terms of advanced knowledge, the purpose of human existence is to continue the legacy of the completely automated living technology, not to be engaging in the partially automated technology of today. In a completely automated world of the future, society should educate people to think and leave routine work to robots and memorization of information to computers.

In practice, Universal Permanent Education start from two numerals 0 and 1 represented logically by an empty space and a line, such as " " and "_". How to logically represent 2? If we consider a binary system, 2 can be written as "-", a line one space higher than "_". How to logically represent 3? 3 can be

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represented by both one and two combined, such as "-". This logic is similar to the logical representation in binary system using Arabic numerals 0 and 1, where $0 = 0$, $1 = 01$, and $2 = 10$, $3 = 11$, $4 = 100$, $5 = 101$, $6 = 110$, and $7 = 111$. Correspondingly, Universal Permanent Education can write 0 to 7 formally as I Ching Numerals ☷, ☶, ☵, ☴, ☳, ☲, ☱, and ☰, which are more logical and self-explanatory than corresponding Arabic Numerals 0, 1, 2, 3, 4, 5, 6, and 7, and more compact than binary numerals 000, 001, 010, 011, 100, 101, 110, 111, which require 3 spaces plus a null space to represent an integer. Informally, I Ching Numerals can be converted to the Ching Numerals with ☰ replaced by "." and ☷ by "_" for simplicity in writing. Eventually, all typewriters should confirm to the logic of Universal Permanent Education.

The practical goal of Universal Permanent Education is to convert all learning to a completely automated Universal Permanent Software where memorization of an unlimited amount to information are done by the computer not the user. Thus, Universal Permanent Education has eliminated virtually all technical barriers learning, except logic and reason. The students will aim their education toward Universal Permanent Software. Initially, the education can be done manually, where the memorization is done voluntarily, and eventually, the education will be completely automated.

6. Post-Science Automobile Industry

The car industry is the largest manufacture business in the world. Post-science predict that the car industry will spearhead and merge with the robotics industry of the future. The post-science robot industry will be based on the post-science definition of robot, where a robot is defined as an intelligent machine capable of come into contact safely with the environment. Post-science has solved the 300-year-old unsolved contact problem based on the new physics concept of jumpulse, a sudden change of force, as Newtonian impulse id a sudden change of momentum. The post-science car industry will eliminate all bounces and nearly all fatal collisions in cars. The cars will be fully electric and controlled by Artificial Intelligence (AI). Post-science has also defined and solved the problem of machine deep learning, which is basically the simulation of the brain by the computer. The solution to AI or the electronic brain is self-generated neural network of software cell, which is described in the patent "Completely Automated and Self-generating Software System" (Pat. No. 5,485,601). Thus, post-science dominates the two essential technology breakthrough innovations in the future of the car industry. In sum, the post-science car is a self-driving, collisionless, bounceless robot on wheels with self-generated neural network of software cells for artificial intelligence deep learning.

7. Post-Science Life Science: What Is Wrong with Life Science Based on Science

Science speaks of evolution in terms of random chance, and post-science speaks of evolution in terms of planning. Science is founded on crisp logic, and post-science uses fuzzy logic as its foundation of knowledge. Science deals with biology using method in science, and post-science deals with biology as the programming of DNA, which post-science has identified as a completely automated Universal

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Permanent Software. To post-science, life science deals with complete logically rigorous systems, and life science finds its solutions through logic rather than experimentation, which is the method of science. Science deals with problems involving around 5 variables, and post-science deals with problems in life science involving over 500 variables. Scientists consider evolution as a simple process of random selection, and post-science members consider evolution as one of the most complex problem in planning, which involves infinity and is not subject to empirical verification.

8. Integer Gold

Universal Permanent Money is also known as Integer Gold. Like gold, Integer gold has intrinsic value and is permanent and universal. Unlike gold, it is digital, using globally distinct integers as money, and has unlimited supply. The control of money supply determines the soul of a society.

Resource allocation depends on to whom money is supplied. Social progress depends on who supply the money. Politicians will supply money mainly for military competition.

Businessmen will supply money for economic competition. Thinkers will supply money for knowledge cooperation; Integer Gold funds research projects.

The discovery of money in the form of Integer Gold is the greatest discovery of wealth in history.

The discovery is purely based on knowledge and education, not the desire for money. The discovered wealth is unlimited because Integer Gold is a product of the Age of Life Science based on the knowledge of complete automation. The wealth of today's billionaires is still created based on partially automated technology.

The world must choose the currency to be used as money. Currency should be universal and permanent. Gold would be the first choice, for gold is both universal and permanent, but its supply is insufficient. Today, the US dollar will be the second choice, for it is universal, but definitely will NOT be permanent. All fiat currencies and all the digital currencies can be accepted within their limited ranges of acceptance. Universal Permanent Money or Integer Gold is pegged to gold and, initially, completely backed by gold. Universal Permanent Money should be even more desirable than gold because it is pegged to gold and easy to handle, and it has intrinsic value and unlimited supply.

Integer Gold uses distinct integers as money. Universal Permanent Number is the set of distinct integers from minus to plus infinity. Universal Permanent Money is a subset of Universal Permanent Number, consisting of the integers with the first 1 to 17 digits. Universal Permanent Money is pegged to gold. Universal Permanent Money is universal, permanent, and in unlimited supply. Universal Permanent Number is a byproduct of completely automated

Universal Permanent Software. Universal Permanent Money is also called Integer Gold because it is pegged to gold. A 12-digit Integer Gold is equivalent to one ounce of gold: Gold Ounces = 10 to the power of (12-Digit). Gold has been the most stable currency in history.

A 15-digit Integer Gold is equivalent to one or two US dollars. Most Universal Permanent Number under 18-digit will be used as Integer Gold, but can also be used as integer names of entities, such as individuals, land parcels, books, DNA, and products.

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Integer Gold will be secured by blockchain or just by titles recording of ownership of Integer Gold or ledgerchain, as in real estate for deeds. Integer Gold is similar to Real Property. Integer Gold is Intellectual Property, while patents and copyrights are just intellectual rights. Recording of Integer Gold of high valuation gives an added security to Integer Gold. In Knowledge-Oriented Society, money will be supplied through the funding of innovative research projects justified by the solution of value. Gold Ounces = 10 to the power of (12-Digit) The Solution of value is available commercially at http://123is.com/verify21.htm

A complete solution for the coming Greater Depression and Currency Reset is to invest the newly invented Integer Gold, which is pegged to gold, in high-rate-of-return innovative research projects, which are justified by the solution of value, to balance the low-rate-of-return massive past and future Quantitative Easing.

9. Where Will Be the Next New World?

Our world advances from reason to science to freedom. Today, China is in the Age of Reason, Europe, Age of Science, and USA, Age of Freedom. Each is trapped in its own belief asking: What can be wrong with reason? What can be wrong with science? And what can be wrong with freedom? Their answer is: Nothing. Our world is in trouble. It will be punished by financial, health, military, and complexity crises.

Our world is not free; it is regulated by non-violable laws of nature in science and social science. For example, the Free Market is not free and is plagued by financial crises. And freedom is detrimental to the effort in controlling a pandemic, which needs the sacrifice of individual freedom for the good of the whole community. Science plays only a small role in the reality, which, in its entirety, deals with social and life sciences, to whose solutions, science can only supply the input, not the final output, which must include infinity, not empirically verifiable by science. Rational decisions must be based on social science, and the living system is an output of life science, where science provides just the input. Communism has helped China destroyed its old belief and left it in the Age of Reason, which could be the most painful period in human history, evidenced by the French Revolution of 1789, WWI, Pandemic, Great Depression, and WWII.

As each society continues to indoctrinate its people to its established belief, the brainwashed young minds will grow up to become unwavering defenders of the establishment. What is programmed into the subconscious during youth will be hard to deprogram, for it is difficult to erase something, which can no longer be found. Thus, throughout the history of human progress, brand new worlds are needed to start brand new beliefs, such as from Greek to Rome to Europe to America in the past. Where will be the Next New World? Possible candidates are Australia, Brazil, and Canada.

10. Knowledge Vision for the Next 4,000 Year

To Replace the Existing Religion of Faith with the Religion of Knowledge

The method of solving problems defines the cultural level of the people. Fuzzy logic is the most advanced method discovered by mankind up to now. The advanced nature of fuzzy logic can be described by a speculation of the future chronological order of the progress of human culture described below and summarized in **Figure 1** and **Figure 2**.

This paper is a non-technical explanation of a technical paper "Fuzzy Completeness Theory" (Ching, 2021) on the subject of knowledge vison of the future. A direct comparison of the cultural level and the 16 Methods of Reason shows that each culture operates in its own Fishbowl Culture Level (FCL). A first draft of a knowledge map of the future on earth, expecting numerous future updates, can be presented below:

Fishbowl Culture Level 1 (FCL 1) corresponds to Method 1 of Reason of Fuzzy Complete Logic 5000 AD-6000 AD Age of Self-Creation. Fuzzy complete creation of the living system and its cosmic environment: The method is post-science fuzzy logic. Precision is sacrificed in the expansion of the range of tolerance of the complete living system to survive and flourish for all the possibilities of an uncertain future. For example, common sense, which is the most important human ability for survival, is fuzzy. Other fuzzy logic examples are multi-cellular design for ultimate fault tolerance and bio-diversification and the creation of a fuzzy universe, where exact systems cannot exist permanently.

Fishbowl Culture Level 2 corresponds to Method 2 of Reason of Fuzzy Complete Mathematics 4000 AD-5000 AD Age of Creational Design: Fuzzy complete planning of the living system and its cosmic environment: The method is self-creation. What is self-created can do anything the creator can do, thus, eliminating the creator. The design specification of self-creation reveals the meaning of life and the purpose of existence. The Robot in FLC 3 will become the human, and software, DNA.

Fishbowl Culture Level 3 corresponds to Method 3 of Reason of Fuzzy Complete Empirical Verification 3500 AD-4000 AD Age of Robotics: Fuzzy complete empirical verification of the physical universe and the completely automated robot: The method is fuzzy complete empirical verification. The operation of the universe is empirically verified with non-violable laws of nature in physical science. Complete automation of the robot is achieved with Self-manufactured General-Purpose Robot capable of safely interact with the external physical environment with the ability of touch and is

developed and controlled by the completely automated software. The solution of touch is based on the Fuzzy Jumpulse Mechanism in FLC 7.

Fishbowl Cultural Level 4 corresponds to Method 4 of Reason of Fuzzy Complete Other Method 3000 AD-3500 AD Age of Religion of Knowledge: The vision of knowledge on earth will be completed. The founding of the Religion of Knowledge based on faith to replace the Religion of Faith will begin.

Fishbowl Culture Level 5 corresponds to Method 5 of Reason of Fuzzy Incomplete Logic 2500 AD-3000 AD Age of Life Science: The method is fuzzy incomplete logic or fuzzy logic.

Fishbowl Culture Level 6 corresponds to Method 6 of Reason of Fuzzy Incomplete Mathematics 2100 AD-2500 AD Age of Social Science: The method is fuzzy mathematics.

Fishbowl Culture Level 7 corresponds to Method 7 of Reason of Fuzzy Incomplete Empirical Verification 2050 AD-2100 AD Age of Post-Science: Solutions of value, software, and touch plus fuzzy logic will be implemented by the establishment. For example, the solution of touch will be solved based on the Fuzzy Jumpulse Mechanism, which will create robotic bounceless, collisionless, and autonomous automobiles.

Fishbowl Cultural Level 8 corresponds to Method 8 of Reason of Fuzzy Incomplete Other Method 2050 AD-2100 AD: Solutions of value, software, and touch plus fuzzy logic will be accepted by the establishment. The method is fuzzy post-science, replacing exact post-science. Now foundation of knowledge based on fuzzy logic replacing exact logic.

Fishbowl Culture Level 9 corresponds to Method 9 of Reason of Exact Complete Logic 2020 AD-2050 AD Age of Logic: Solutions in life science, due to their unlimited complexity, cannot rely on the imprecision of mathematics, due to decimals and fractions, and must be confined to the rigor of logic, represented, for example, by integers. Involving infinity, the solutions in life science are accepted based on complete rigor of logic. For example, the solution of complete automated software should be the foundation of life and computer sciences, is a completely logic system, involving self-generation, auto-updating, and auto-documentation. Complete automation is the ultimate solution to unlimited complexity.

Fishbowl Culture Level 10 corresponds to Method 10 of Reason of Exact Complete Mathematics 2010 AD-2020 AD Age of Mathematics: Solutions in social science deal with reality in its entirety. Reality extends to infinity in space and into the future. Since infinity, by definition, never arrives, deterministic set of data for empirical verification can never be obtained when infinity is involved. The solutions in social science are accepted based on complete mathematical rigor. In particular, the solution of value is a completely mathematically rigorous system, which corresponds to the price system and is the solution to financial crises. The solution of value will replace completely morality and religion by offering quantitative solutions to their problems. While doctrines in morality and religion are violable, the solution of value is non-violable and is a law of nature in social science governing human behaviors.

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Fishbowl Culture Level 11 corresponds to Method 11 of Reason of Exact Complete Empirical Verification 1800-2010 AD Age of Science: The scientific method is based on empirical verification, and science currently still dominates human culture and is the knowledge of the establishment. Science provides a cultural shocked to China waking it from 2000-year morality and advancing it to the Age of Reason.

Fishbowl Cultural Level 12 corresponds to Method 12 of Reason of Exact Complete Other Method 500 BC-6000 AD Age of Faith: The method is faith. Faith is applied to morality, which deals with beliefs favorable to the believers, and to religion, which is the sum total of morality. Morality provides temporary comfort and stability and culminates in religion, which becomes addictive and considered by Marxism as the "opium of the masses." Morality stabilized the Chinese culture for 2,000 years, and religion creates the stable Dark Age lasting over 1,000 years in the West.

Fishbowl Culture Level 13 corresponds to Method 13 of Reason of Exact Incomplete Logic 1800 AD-2030 AD Age of Computer Science or Descriptive Logic: The method is incomplete exact logic. Logic is applied to the computer, which is a logic machine. The computer transforms logic into the binary system. The logic in the computer is not complete, leaving it to be a partially automated machine with partially automated software. The structural knowledge of logic will be realized in life science in FBC 9, where solutions in life science must be accepted based on complete logical rigor. The completely automated machine will be the Self-manufactured General-Purpose Robot in FBC 3.

Fishbowl Culture Level 14 corresponds to Method 14 of Reason of Exact Incomplete Mathematics 1500 AD-2020 AD Age of Descriptive Mathematics: The method is incomplete exact mathematics. The incomplete exact mathematics provides an efficient description of science. It is significant as a descriptive knowledge. The structural knowledge of mathematics will be realized in social science in FBC 10, where solutions in social science must be accepted based on complete mathematical rigor.

Fishbowl Culture Level 15 corresponds to Method 15 of Reason of Exact Incomplete Empirical Verification 1500 AD-1800 AD Age of Reason: The method is reason (End of Common Sense). Reason does not change anything; reason is just viewing the same phenomenon or conclusions from different perspectives. Mathematics and logic provide examples of reason in its most efficient form. This is the Age of Reason. Mankind, ignoring the stable guidance of morality and religion, enters into the most painful period in history exemplified by the French Revolution, pandemic, WWI, Great Depression, and WWII, as incomplete reason can neither settle disagreements nor solve any problems in physical, social, and life sciences.

Fishbowl Culture Level 16 corresponds to Method 16 of Reason of Exact Incomplete Other Method 500 BC-1500 AD Age of Religion: The method is mainly faith. Faith is applied to morality, which deals with beliefs favorable to the believers, and to religion, which is the sum total of morality. Morality provides temporary comfort and stability and culminates in religion, which becomes addictive and considered by Marxism as the "opium of the masses." Morality stabilized the Chinese culture for 2,000 years, and religion creates the stable Dark Age lasting over 1,000 years in the West. The method

is pre-science, including faith, superstition, incomplete reason, etc. The period extending from the founding of civilized society to the Dark Age dominated by religion.

This paper is intended as a criticism of society based on the cultural level. Instead, the reviewer of the paper criticizes the paper for not being a part of the currently dominant scientific culture. The reviewer suggests that social science is becoming a part of biology, which is a part of science and is subjected to empirical study. This paper claims that social science should satisfy complete mathematical rigor because social science involves infinity, which cannot be empirically studied. In Kant's view, social science involves both the factual situation and the expectation at infinity, which can only exist in the mind, not in reality. The solution of value provides a mathematically rigorous relationship among the price and all the factors affecting the price in a space extending to infinity, the infinite spreadsheet. Science belongs to Fishbowl Culture Level 11 with Method 11 of Reason, which is exact complete reasoning based on empirical verification. Social science belongs to Fishbowl Culture Level 10 with Method 10 of Reason, which is exact complete reasoning based on complete mathematical rigor. Also, Biology or life science belongs to Fishbowl Culture Level 9 with Method 9 of Reason, which is exact complete reasoning based on complete rigor in logic.

11. Cultural Level Quotient Description

This article traces the advancement of human culture in terms of knowledge from 2,500 years ago to the next 4,000 years, in particular reference to the cultural advancement of Chinese and the Western civilizations. Technically, this article exposes the gross defect in the very foundation of computer science and life science, both of which should share the same foundation of complete automation achievable by separating the fuzzy and the exact operational components. It explains why reality is fuzzy, not exact, and claims that fuzzy is actually more accurate than exact. Mathematically, the most accurate description of reality should be the Fuzzy Exact Solution, not the current Exact Solution. Quoting from the article "Fuzzy Logic: The Genius of Lotfi A. Zadeh": ***"The greatness of Lotfi A. Zadeh can be realized from the ubiquitous effect of fuzzy logic on all knowledge that, henceforth, a solution should be defined as all the answers, which lie within the fuzzy range of value or tolerance of the solution."*** The article gives a detailed technical description of the theoretical discovery in 1986 of DNA as completely automated software based on quaternary number system versus the discovery of the structure of DNA in 1953. It concludes with a chronological speculation on the progress of human culture based on knowledge for over 6,000 years from the down of human civilization 2,500 years ago to the post-creational culture of fuzzy logic based on the sacrifice of precision in the expansion of the range of tolerance in order to survive and flourish for all the possibilities of an uncertain future. Each reader would be able to measure one's own cultural level with this cultural yardstick based on one's knowledge of morality, religion, reason, science, social science, life or computer science, robotics, self-creation, and, finally, in 4,000 years, fuzzy logic, all of which are contained in a speck of DNA representing the wisdom of the universe accumulated from the infinite past.

12. Cultural Level Quotient on Life and Death

Post-Science Institute (PSI), founded in 1990, shares many same beliefs with other thinkers. The most important of these beliefs are that how the prospect of mortality profoundly influences human behavior, especially, in terms of evil, and that culture should be the ultimate measure of a person, a people or a society. Post-Science Institute has formally proposed Culture Level Quotient (CLQ) as a measure of a person, a people or a society, and Ernest Becker could well be the earliest leading thinker of CLQ. Post-Science Institute considers survival and the avoidance of death as its highest priority. The current trends in longevity study, age reduction, rejuvenation, transhumanism, and human cloning have finally caught up with the ideas promoted by post-science since 1990s.

Cultural diversity is the process of human progress. Currently, CLQ is measured by Intelligence Quotient (IQ), Emotional Quotient (EQ), Wellness Quotient (WQ), Happiness Quotient (HQ), etc. or their combination. From the perspective of the knowledge advancement of the historical past and the post-scientific vision of knowledge of the expected future, the concept of culture can provide an overall measure of the quality of a person, a people or a nation. One's beliefs can provide indications to one's cultural level, and one's behavior reflects one's CLQ. Post-Science Institute has advanced the concept of culture from general consideration to rigorous technical, mathematical, and logic definitions based on the post-science vision of knowledge for the next 4,000 years.

Two thousand years ago, morality culminated in religion, which dominated the human culture in the West for a millennium and was surpassed by science in the past 500 years. Rigorous training in mathematics is needed in the next 500 years for social science, which involves the infinite future and is, therefore, not subject to empirical verification, for the infinite future will never arrive. The acceptance of solutions in social science depends on complete mathematical rigor. Rigorous training in logic is needed in the next 1,000 years for life science, which deals with the creation of permanent entities, such as DNA and completely automated software, and whose solutions are accepted based on complete logic. The Age of Robotics will occupy the next 1,000 years from 3,000 to 4,000 AD, when robots will be intelligent machines with the capability of interact safely with uncontrolled environments. The Age of Self-Creation from 4,000 to 5,000 AD will reveal from the design specification of mankind's self-creation the meaning of life and the purpose of existence. Post-Science Fuzzy Logic will occupy from 5,000 AD to 6,000 AD and will expand the range of tolerance of a creation by sacrificing precision in order for the creation to survive and flourish for all the possibilities of an uncertain future. In general, knowledge, when it matures, becomes a religion. For example, the total of these 6,000 years from 0 to 6,000 AD of human progress will enable mankind to establish a new religion based on knowledge, replacing the supernatural beliefs of the current religion based on the wisest views 2,000 years ago, but the current science, not addressing, at least, the problem of value, is not mature enough to become a religion. Thus, human civilization progresses from religion to religion, which is defined by the most advanced stage of culture of the time.

CLQ, being precisely defined, clarifies the measurement of a culture. However, the rigorous requirement in CLQ becomes both a measure and a criticism that CLQ exposes the deficiency, as well as defines the state of a person, a people or a society. As the most practical examples, America is the leader of the New World moving beyond science advancing into new views akin to post-science, while Europe is still stuck in the Age of Science, which originates in the West and is dominated by the scientific method of empirical verification. Chairman Mao has raised the cultural level of the Chinese from 2,500-year-old Ancient Chinese Morality to the Age of Reason, characterized by the French Revolution of 1789, when people reason without constraints, being ignorant of the laws of nature in science and the constraints of the scientific method. CLQs of America, Europe, and China expose the inadequacy of our current society to deal with all problems in social and life sciences, such as the financial crises of the past and the future and health crises, particularly, the on-going COVID-19. The problem of value, dealing with around 50 variables, was solved jointly by John von Neumann, Kenneth Arrow, Gerard Debreu, and Hugh Ching with complete mathematical rigor, but the solution, which laid the foundation for social science, is not accepted by most economists, due to their lack in rigorous mathematical training. The problem of complete automation, dealing with around 500 variables, was conceived and solved by the joint effort of John von Neumann, Alan Turing, and Hugh Ching, but is completely ignored by life scientists, who fail to see that life is characterized by complete automation. All the advancement in post-science social and life sciences are made in America, which holds the highest cultural level in the world today.

Life science resembles computer science more than physical science. But, today's computer science needs to go back to the time of Alan Turing and John von Neumann to correct the incomplete design of the computer to make the partially automated computer completely automated to resemble the living system, thereby resembling the living system, which is characterized by complete automation. Completely automated hardware is difficult, and post-science has solved the problem of completely automated software explained at http://postscience.com/pspatent.pdf. The similarity between the DNA-protein system and completely automated software cell is presented at the website: http://software-cell.com.

The completely automated hardware can be constructed from a Self-Manufactured General-Purpose Robot with the ability of touch and developed and controlled by the completely automated software. Ultimately, the Robot will become the human, and the software, DNA. The final stage of this process of self-creation will be the expansion of the range of tolerance of the Human-Robot based on post-science fuzzy logic in order to survive and flourish for all the possibilities of an uncertain future.

From the solution of completely automated software, life science or theoretical biology should use the method of complete logic, as physical science uses the scientific method of empirical verification. Involving infinity, which never arrives for empirical verification, solutions in life science are accepted based on complete logical rigor, such as the completely automated software and the living system. This

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theoretical biology can be applied to synthetic biology to allow the completely automated software, instead of generating computer programming statements, to generate biobricks to create life.

The completely automated software is called Universal Permanent Software. One of its byproduct is Universal Permanent Number (UPN), which is the set of distinct integers from minus to plus infinity, described at http://upn4.com. And a subset of UPN is UPM (Money) described at http://integergold.com/money.pdf. UPM is the invention of money with intrinsic value, as the physical gold. UPM and gold are the logical choice to be used as money, for they are both universally acceptable, permanently in existence, and having intrinsic value, as proven, in the case of UPM, by the price of over US$100.00 for a 13-digit ISBN. With its unlimited resource, if UPM becomes a reality, post-science intends to fund globally all the innovative research projects, which are justifiable by the solution of value with full disclosure and full accountability, as given at the web link: http://123is.com/verify21.htm.

Post-Science Institute holds the beliefs that the solution of value, not morality, should be the foundation of ethics, and evil is just a survival mechanism for the weak to compete against the strong. Survival occupies the highest priority in life. In the current Age of Science, age reduction should follow a practical path, requiring only the actual demonstration of age reduction. The founder of post-science Hugh Ching has spent over 35 years extending lives of others, starting with his father by 2 years and his mother by 10 years, and most of his mentors, who all lived past 90. The accumulated experience in extending the life of others gives him the knowledge to maintain his own health. Hugh Ching reduces his biological age by 28 years from 76 to 48 based on his Epigenetic Lifestyle measured by the Glycan Age blood test in 2020. The prospect of human immortality through cloning or age reduction will force people to think long-term, or even to the infinite future, and will discourage evil deeds, which generally trade short-term gains for long-term losses.

The goal of life is to live a life, of which one's clone will be proud. The purpose of death is to eliminate old staled ideas or cultures. Self-creation is the ultimate purpose of existence, for what the self-created will be able to do anything the creator can do. Self-creation explained at http://self-creation.org will reveal from its design specifications the meaning of life and the purpose of existence. Post-science believes that the meaning of life is the total value of the life, and the purpose of existence is to propagate permanently the intelligence of the universe through self-creation.

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Culture Level Quotient (CLQ) and Representative Thinkers

Culture Level (CLQ includes all the past cultures.)

Universe-Centered Knowledge (DNA: Wisdom of the Universe from Infinite Past)

Post-Creation   (Knowledge becomes mature.) **Religion of Self-Creation**

Fuzzy Logic   (Post-Science Fuzzy Logic) **Lotfi A. Zadeh**

Self-Creation   (Knowledge-Oriented Society) **Hugh Ching**

Robotics (Solution of Touch: jumpulse) **Ta-You Wu**

Life Science (Complete Logic) T. L. Kunii   (Post-Science Cyber World)

Chitoor V. Ramamoorthy   (Post-Science Computer Science)

Social Science (Complete Mathematical Rigor)

Kenneth Arrow   (Mathematical Economics)

Gerard Debreu   (Value Theory)

Milton Friedman   (Money-Oriented Society)

Paul Feyerabend   (Postmodern Science: ^ Start of Post-Establishment Knowledge ^)

Harold Grad   (Benefactor of Hugh Ching, Father of Post-Science)   ⬆ **Post-Science**

....

Singularity Line (The Limit of Technology Based on Current Knowledge)

Science (Empirical Verification)   (The Establishment)   ⬆ **Uncommon Sense**

....

Common Sense Line   ⬇ **Common Sense**

2,000 AD   2,500   3,000 (Robotics) 4,000 (Self-Creation) 5,000 (Fuzzy Logic) 6,000   Future

Figure 1. Culture Level Quotient (CLQ) of the Present and the Future Cultures

Culture Level Quotient (CLQ) of Past Cultures

3,500   3,000   2,500   2,000   1,500   1,000   500 BC   0   500 AD   1,000   1,500   2,000

Past   Pre-Science

                                                                        Age of Reason

                                                    Dark Age

                            (Knowledge becomes mature.) Religion

                                                Pre-Religion

                                        Mysticism

                                Morality

                    Pre-Morality

    Formation of City-States and Cultures

                        Iron Age

    Olmecs (Mexico) Civilization

        Chinese Civilization

    Iranian Civilization

Egyptian Civilization

Greek Civilization
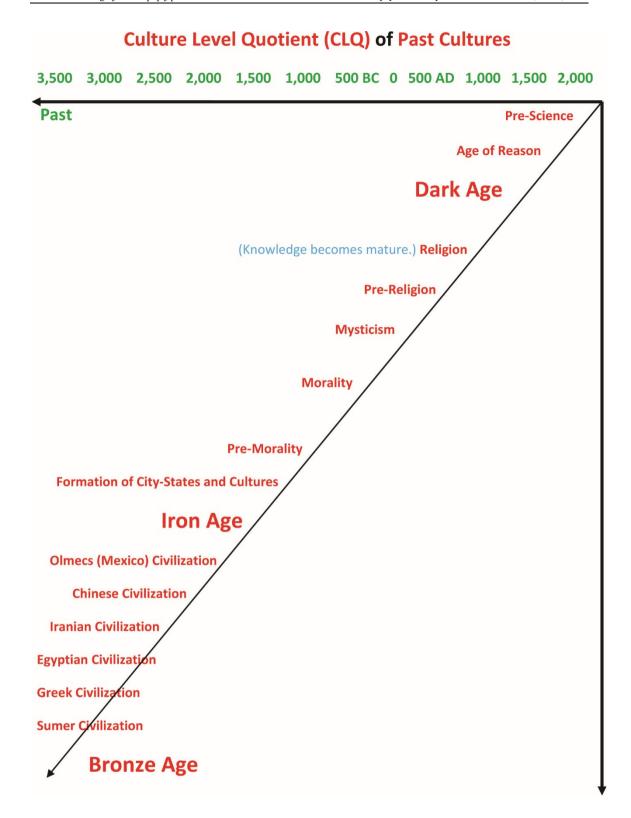
Sumer Civilization

                    Bronze Age

Figure 2 Culture Level Quotient (CLQ) of the Past Cultures

Biography

Hugh Ching. received his B.S., M.S., and Sc.D. degrees from the Massachusetts Institute of Technology, Cambridge. He is the founder of the Knowledge-Oriented Society and the Father of Post-Science. His mentors include some of the greatest thinkers of our time. Harold Grad, an intellectual descendant of David Hilbert, mentored him in mathematics, and Paul Feyerabend mentored him in philosophy relating to postmodern science. Additionally, Milton Friedman mentored him in economics relating to deregulating man-made laws. Chitoor V. Ramamoorthy mentored him in software engineering. Upon the advice of his close collaborator Tosiyasu L. Kunii, the founder of the Department of Information Science at the University of Tokyo, Ta-You Wu, the father of Chinese physics, collaborated with him on physics, particularly on the solution of robot touch based on their newly discovered physics concept of jumpulse, a sudden change of force, as Newton's impulse is a sudden change of momentum. He solved the problem of value posed by his friends Kenneth Arrow and Gerard Debreu. Lotfi A. Zadeh, the father of fuzzy logic, guided him to realize that "fuzzy is more accurate than exact." Chien Yi Lee, Mahadi Hasan, and Benjamin Li are students of post-science.

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