

Zero-Zone Theory and Its Implication in Our Civilization: A Summary

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Preamble

The doyen of Futurology, Alvin Toffler became famous with his predictions of the future shape of the post-industrial civilization. I personally don't agree to premises upon which he builds the future shape of the post-industrial society. The second wave and the 3rd wave are both ushered in by new key technological innovations, mainly accomplished by Western Science and Western technologies.

As Thomas Kuhn showed (and Alvin Toffler would agree), all scientific endeavors took place within a certain taken-for-granted scientific paradigm and within its rules of the (language) game. Within each scientific paradigm is, whether explicitly or implicitly, embedded a certain set of philosophical assumptions of epistemic and ontological kinds.

What Alvin Toffler might have not considered is that the Western scientific paradigm might not universally hold true and an entirely different scientific paradigm might exist in other parts of the world. (Only recently, the brilliant French philosopher and Sinologist, Francois Jullien has been able to show how starkly different the styles of thinking between the Chinese and the Westerners were, and yet, the Chinese were able to accomplish great scientific and technological feats, operating outside Western paradigm, and created a great civilization of their own, comparable to that of the West).

Even the technological innovations that enabled Tofflerian 3rd Wave civilization were premised upon the Logic and Grammar of what is peculiarly Western Thinking. It is for that very reason the 3rd Wave Civilization may not be ecologically sustainable, to put it bluntly.

Indeed, there was a talk of *Cyberia* in the late 1980s and early 1990s about the possibility of idealistically applying new I.T. technologies in order to create a utopian world the 1960s hippies-rebels imagined. That vision failed and, instead, the new technology was hijacked into one of the greediest Capitalists-Financiers' profit-generating games and it hasn't particularly benefited human lives so far.

The new communication technologies, both hard ware and software, were tools for moving virtual funds all over the world in order to generate virtual profits, breaking the back (of the very sys-

tem) in the course of doing it. That leads to the current economic and financial downturn in a nutshell.

I am afraid that the 3rd Wave of Alvin Toffler's cannot be easily fulfilled given current circumstances. Rather, the unsuspected discoveries from a quarter heretofore unimaginable may contribute to the next sea change. By that unimaginable quarter, I mean South Korea, certainly not a hot bed of scientific innovation until now, with no Nobel Prize Winner in any branch of the sciences to boast of. But, Zero Zone theory is likely to bring about what has been entirely beyond imagination. The new theory can potentially usher in new technological and scientific innovations and I expect such changes and the underlying philosophical premises to be something quite different from what we're familiar with at present. It will enable us to imagine a world quite different from what the windows of Western Paradigms enable us see and envision, so to speak.

Zero-Zone theory could not have originated from place other than South Korea. Perhaps, not even from China, but it requires going into Ancient History of Northeast Asia which is hardly well-researched yet and known widely.

1. What is Zero-Zone Theory?

There has been a mistake, in my personal opinion, in the characterization of this theory, even by its creator himself until now. It is not about physics, even though it 'll be able to end the "end game" of the so-called the "final theory finding game" (There 's a very good reason why the CODATA people and the engineering profession (and not Physics Faculty) are more readily accepting of the Zero Zone theory). It is really nothing less than a MIRACLE that Mr. Yang has been able to unify all different physical units like mass, energy, temperature and such other units. It is just a matter of going over the conversion table between different physical units so painstakingly sketched in Mr. Yang's published papers. You will see that the numbers bear out that the conversions do indeed take place with clock-work precision between any two physical units.

Once the unification of the physical units is accepted, the most tantalizing revolutionary aspect of Zero Zone Theory makes its appearance. I think "tantalizing" is the right description for what Zero Zone theory is up to. Because it will say, "all you need is Arithmetic" to solve all the difficult and long-standing problems of Theoretical Physics. You need not solve differential equations any more. You don't even need Calculus to do physics any more. Some of you might think all this makes no sense at all. Yet, Zero Zone Theory proposes to do exactly that... to replace all physics by arithmetic. Let me explain:

What Yang proposes to do is astounding in two ways. First in the validation or falsification of any given physical theories, given in terms of equations, which are the well-formed strings in Physics. This is where Yang's unification of physical dimensions comes into a crucial play, playing the critical role as the fulcrum of his theoretical framework.

All physical data is given representation in terms of some units like kg, meter, or second, etc. What is unique with Yang's theory is that these units can be translated into

dimensionless number. Hence, once these units, as they occur in the physics data base, are turned into dimensionless numbers, you have found a way to re-code any and all physical statements into just numbers only in a DB, somewhat like the Great Mathematical Logician Kurt Goedel had re-coded the theorems (or "well-formed strings") in any given formal (axiomatic) system with numbers only in what is famously known as *Goedel-numbering*.

Through such a process of arithmetization, Goedel was able to prove the famous *Incompleteness Theorem*. Miraculously, once arithmetized, the complex mathematical-logical statements followed only arithmetical rules of addition and subtraction, thus it was easy to follow the various steps through to the conclusion.

Likewise, once Goede-like Arithmetization is done, all and any physical statements and equations, however complex, follow only the rules of Arithmetic. Only by doing simple Arithmetic, you can either validate or invalidate physical equations, however complex they are. This is why I portray Zero Zone theory as tantalizing. This is utterly different from the conventional validation procedures in Physics in that a traditional way of Physical validation requires experimental measurements for theoretical validation. If Yang is right, no such costly and time-consuming experimental validation is necessary. It can be done simply in your office with nothing but calculator and what you need is just the mastery of elementary rules of Arithmetic, rather than some fancy or sophisticated tools.

Yang's Zero Zone Theory is astounding in another way in that he reverses the usual scientific processes completely. Current crisis in theoretical physics is that existing theories cannot provide a full account of experimental data, which have been accumulating as ever-stronger experimental tools like super-powered accelerators become available.

Physicists try to build upon existing theories, creating newer and more powerful theoretical framework within which the previously acceptable theories can be accommodated as a limited case. As for Yang, he starts from scratch with the existing huge data base, which is available to anyone. As in the process of physical validation above, he ARITHMETIZES the database by re-coding all the data with nothing but numbers. In such a simple process of an Arithmetized Data-Base Structuring, as simple as it is, a miracle occurs, revealing numerical patterns, which cannot be seen in any Data-representation of ordinary language and symbols.

By applying simple processes of "seeding" and "mothering" of the numbers, Yang says he is able to come up with unsuspected Algorithms, which in turn enables him to go through the huge data base in only one-hundredth of the time it requires for a Super-Computer to process the same amount of data in the usual Non-numerical Language-base representation, AND come up with unsuspected equations.

In such a way, he came up with an equation in which he proves that the Charge of an Electron is the same as the Mass of the Electron, as significant discovery, which no one else was able to do. Yang did this in his study without doing any sort of experiment. This is truly an astounding story. With his unification of all physical dimensions, he discovered a way to *re-represent* any and all Scientific Data Bases in numbers only, and this SIMPLE ACT alone enables the future scientists to discover (and write) theretofore unimaginably simple Algorithms to uncover new equations, purely

from numerical manipulation with ordinary personal computer.

Since these equations are born from pure numerical manipulations (of very simple Arithmetic kind), they will require "interpretation" as "well-formed strings" are to be given "interpretation" in Model Theoretic way in Formal Logic.

Leibnitz and Northeast Asian Philosophy of Mathematics

In Northeast Asia's Ancient Philosophy, the NUMBERS are the only language in which the truth of the Universe can be revealed, unsullied. Only when numbers are discovered as codes of the natural processes, could they then divine some pattern (or shape) from the numbers. This belief in Ancient Orient has an uncanny partner in Goedel Numbering.

The pattern of logical reasoning could not be divined or discovered when the Logical Theorem is stated in a natural language; but when it is re-coded in numerical representation, the unseen, invisible pattern of logical reasoning is suddenly visible. This is what Mr. Yang also discovered. By unifying all physical units, he found a way to re-code all scientific data bases in numbers only just like Goedel-numbering extended the boundaries of Mathematics into the domain of physical sciences.

When such recoding of the data bases in numbers only, he said that patterns appear. (Natural Languages enable us to think and argue and yet it can at the same time hinder our vision. Just compare this process with Wittgenstein's notion of Aspect-Blindness. Natural Language blinds us to the patterns which non-language, Mathematical coding reveals.)

When the history of Mathematics in Ancient Northeast Asia is tracked down, it turns out they have had their own brand of mathematics. It is well-known that the great German mathematician, Leibnitz, had nothing but 'awed' respect for Chinese mathematics as it is embedded in their famous I-Ching, the Book of Change.

Not only had they proved Pythagorean Theorem fully 300 years ahead of the Greeks, but they have discovered the Binary Mathematics fully a millennium ahead of the West. So impressed was Leibnitz with Chinese conception of mathematics that he thought sometime in future history Chinese will be the leading center of Civilization from whom everyone else will try to learn.

I want to argue that what Leibnitz predicted in the 18th Century is just about to become a reality with the advent of Zero Zone Theory and its total Re-Configuration of all different scientific paradigms as we know them today and practice them.

2. The Impact of Zero Zone theory

I believe that the radical transformative implication of Zero Zone Theory is much more than revolutionary. I'd rather call it "Apocalyptic Theory", as it will bring Apocalyptic Changes not only to the way we do science, but it will become the seed for the transformation of the world as we know it today; hence, its impact on the world will be nothing less than apocalyptic.

The creative potential of IT Technology and Multimedia have not been grasped into re-configuring the civilization as we know it today, which is internally flawed and is hostile to the nature's way. For instance, even the very definition of "multimedia" is

too instrumental and technically motivated, when in fact it is nothing other than a realization of the 'alchemic' aspiration of the Renaissance Humanism (Steven Toulmin decries the missed opportunity of the 1st Moment of Modernity already in Renaissance Humanism was discarded in favor of the 2nd Moment of Newtonian-Cartesian kind a century later, which brought modern civilization in war with nature, earth and themselves in his book COSMOPOLIS).

Zero Zone theory, rooted in Oriental Philosophy of Numbers for which Leibnitz had such a great respect, re-configures (transforms) even the paradigm of Western Digital Technology and Computer Science in such a way that it doesn't war against the nature's ways.

There is a possibility of Re-Directing the 3rd Wave Civilization into a different direction NOW, with the advent of Zero Zone theory and its technological by-products, mainly in a radically re-configured Data Base Industry in numerical recordings and re-representations.

The potential implication of Zero Zone theory is already urging us to expand our horizon. Anything could happen. May be we'll be able to map human body's chi-energy passage in a sequence of numbers only and realize the ancient hope of the Oriental Wise Men - namely, retarding aging process, making one more responsive to the nature's ways (and its rhythm) and live a much lengthened span of life in a youthful and harmonized and creative way. You never know. Yet, what is certain at this moment is that possibilities are now wide open in front of us, thanks to Zero Zone theory.

In short, a newly conceived notion of "Civilized Life" will be emerging with the acceptance of Zero Zone theory and the radical Re-configuration of all the scientific and technological paradigms.

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