Can One Parameter Provide the Key to the Understanding of Natural Phenomena? Can There Be a Starting Theory to Explain Everything?

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Definition of Zero Zone Theory

In SI units that we universally use today, it is possible to multiply and divide among different units, yet it is not possible to add or subtract. For instance, people never opt to ask what the sum of time, mass and temperature is. Length (m), area (m^2) and volume (m^3) cannot be directly compared among one another and you get nowhere if the dimension of angle is added here. This perception has held true up till now.

I have spent the past 16 years, investigating the relationship among physical quantities/constants and patterns of experimental data, etc. and trying to identify the hidden link among and between all of them. I figured out that the problem of measurement lay beneath many dilemmas we were faced with. The so-called *Zero Zone theory*, a physics theory, is concerned with a number system that can convert units themselves into pure numbers, in order to resolve the lacking compatibility of SI units. The newly proposed unit system is a system of units that maps international units to the corresponding numbers for the purpose of leveraging the merits of the number system and the meaningful language system. So far, we have believed that the concept of number is the abstraction of quantity of observable or countable objects. Certain physical quantities in the format of 'number x unit' such as length, mass, time, etc. can serve as variables and they are un-observable quality. Now it is found that concepts of basic unit signs such as m, kg, s and so on can also be quantified.

For instance, as for 10 ℓ of gasoline, ℓ itself can be quantified. The newly discovered system of units can improve the 'uniformity', induce the compatibility of SI units and map basic units to the corresponding numbers respectively and this will significantly improve preciseness and convenience of scientific calculation. The new system of units does not need any definition of base quantity. Under Zero Zone theory, all basic units are not essentially different. Besides, Zero Zone theory uniquely suggests that number *one (1)* serves as the meta-language to translate and calculate all natural phenomena.

Zero Zone theory is aimed to explain diverse aspects of our world such as religion, philosophy, science and technology through the proposed number *one (1)* – driven system of units. Zero Zone theory suggests that three following phases are in place to account for the physical world; conceptual design, logical design and physical design.

I. Conceptual Design

Zero Zone theory views that dilemmas surrounding modern science originate in part from the fact that we overlook the importance of number *one(1)*. Numbers unexpectedly offer clues or breakthroughs in the problems that have remained unsolvable over a long period of time. Throughout the history of science, there have been numerous attempts to explain the world we live in and some have focused on numbers as the key to unlock the mystery of the physical world. However, no one has ever succeeded in painting a complete and balanced picture of the world, which is compelling enough. In this paper, Zero Zone theory is painting the picture of the world with the touch of simplicity and aesthetics as many scientists have predicted, along with number system, one meta-parameter, frequency, time's basic unit s and so on.

The world we live in is based on relative comparison of observable and countable matters. However it is not so clear what the starting point of theories that explain the world is. Let's assume that the starting point could be time, the most fundamental common denominator of the physical world. Take the example of the unit of time. Natural scientists do not take much trouble to explain the implication of time, treating it merely as a simple variable. As an integral part of mathematics, calculus represents time's rate of change over the flow of time. Here, calculus does not define its most important element, i.e., time. And in physics, time is the most important concept in all measurements, yet, it is explained only via the temporal unit that we defined. Now what do we argue the most about in science? I believe that measurement is at the center of all disputes.

Why measurement? Before answering the question, it is necessary for us to have some ideas on the basic concept of measurement. Language is far more important than calculation technique in the context of measurement. The first thing that we learn in mathematics, i.e., the foundation of all academic disciplines, is *set and proposition* chapter. This indicates that all our problems are associated with the problem of language in one way or another. The chapter on set and proposition comes before everything else in mathematics text book because it contains the most essential perspectives in modern mathematics education.

On the other hand, when you open natural science text books such as physics, chemistry, and engineering, the first thing you notice is a measurement chart. Students are expected to learn the definition and use of units as the first step. The reason is that it is highly important to know how to calculate the quantity of materials that are observable and thus countable in natural science. In natural science, the quantity of countable materials is called physical quantity. Students get to learn the definition of units concerning such physical quantities and then the rules of operation among units. Then students learn more complicated physical formula and this is when we get accus-

tomed to and accept the idea that addition or subtraction among unlike-dimensioned quantities is not allowed.

Physical quantity and units

I'd like to explain physical quantity more easily. As love, courage, beauty and ugliness are not countable quantities; physics does not treat them as physical quantities or count them. In other words, physical quantities mean numbers combined by complex units or individual basic units designated for each different property of matters.

Now there is the formula of *physical quantity = number x unit* (basic unit or complex unit). Considering that units are attached to only countable objects, abstract nouns such as love and courage are not treated as a *set* in mathematics. It is ambiguous to categorize the abstract nouns above as the countable. When a certain property is continuous and it is difficult to differentiate the property from the surrounding properties, it is generally called analogue. On the contrary is digital, which means a property is differentiated and has boundaries. In a word, what is analogue in natural science cannot be treated as a countable object and a unit cannot be assigned to it.

However, as for length, mass, time, current, and temperature, they themselves are not observable and countable physical objects, yet people anyhow use them as units of countable objects. When units are assigned to the un-observable objects, they can be easily communicated or exchanged. For example, since length, i.e., the distance between different locations, and mass, i.e., weight are considered as countable, they can be conveniently applied to our daily lives. We perceive that the concepts of length and mass are different properties and this is why unit signs are designated as an international agreement on names or symbols of units

As we can designate units for length and mass and numbers can be attached to these units, they are physical quantities. As a result of decades-long studies, natural scientists found out that matters did have such different properties. For instance, if we determine units of length, area, and volume to be m, m^2 and m^3, we have the common sign of m in varying orders such as 1st, 2nd and 3rd orders (Orders of the basic unit m differ. Order represents dimension). In the same vein, people looked at how fundamental properties differed and they identified 7 basic units, i.e., the base SI units and this is the metric system that is currently in use.

The physical quantity, name of unit and sign description of these 7 base units are as follows; The seven physical quantities are length, mass, time, electric current, thermodynamic temperature, amount of substance and luminous intensity. Names of units that are mapped to the foregoing physical quantities are meter (m), kilogram (kg), second (s), ampere (A), Kelvin (K), mol (mol) and candela (cd), respectively.

As is explained above, we should remember that the units of physical quantities always represent the quantities of countable objects and they include numbers as well, in the format of 'number x units' such as 3 m, 5.5 kg and 60 s, etc.. What is noteworthy here is, as many natural scientists are frequently mistaken, that the whole physical quantities, i.e., number – unit combinations are considered as variables. Numbers that come before units are variables and they are subject to change. In contrast, the unit itself is predefined and cannot be a variable. Keep in mind that physical quantity is a

formal structure, consisting of numbers and units. Given this, we need to pay attention to how Zero Zone theory analyzes and translates language to derive the unique identity of physical quantities and constants. All languages of natural science are physical quantities. There is a theoretical foundation to view physical quantities as having *numeric signs*, i.e., abstraction of quantity and character sign (units in this context) with certain definition.

Units $\neq$ variables

Zero Zone theory discovered that varying degrees of relative uncertainty were found when converting the theoretically extracted dimensionless numbers into units. This indicates that physical objects have eigen value as the unique identity before taking on any units or formats. When various units are designated to eigen values, we assume that they have different properties. Thus, Zero Zone theory points out that physical properties are identical if numeric values are the same Physical quantities or formulas are treated differently due to units. Yet, in modern physics, if they have the same *frequency*, they are regarded as *identical*.

Zero Zone theory highlights the unique physical property, which is expressed as *frequency*. It is important that eigen-value never changes despite different signs or formats (units).

A case in point is Einstein's discovery that mass and energy are equivalent in terms of properties, no matter how we name them. This is mass-energy equivalence. The simple energy conservation is extended further into mass-energy conservation here.

Zero Zone theory discovers that in addition to Einstein's mass-energy equivalence, the properties of all too familiar basic units, i.e., the language of natural science are identical in that they are all number systems. However, what differentiates the basic units is the proportionate relationship among them. This can be likened to currency rates among different countries in that exchange rates vary, yet the proportionate relationships among different currencies are constant. Given that physical quantity, which is currently treated as a variable or a constant, is represented as the combination of a number and a unit, Zero Zone theory reached such a conclusion based on the analysis of relationship among various physical constants and quantities, and the comparison with the accumulated experimental data. Zero Zone theory is making a stride in general language analysis through the study of natural science language given that there's an ongoing effort to study the language related to heart or mind, about which little progress has been made so far. Steven Weinberg (2001), the renowned physicist, argues that the idea of properly describing the world using a theory is based on the assumption that the theory can correctly present the measured values of certain physical constants. The theory does not indicate the end of physics, but the end of a research of a particular kind, i.e., the pursuit of a unifying theory that encompasses all the different aspects of physics.

Professor Martin Rees (1997) of King's college, Cambridge argues that the day may come when we can mathematically calculate physical forces and constants, rather than measuring them experimentally. Rees adds that this may not be easy, yet this may happen as if we could calculate the circumference from the diameter. Zero Zone theo-

ry focuses on the analysis of physical quantities, which have logical formal structure in the field of natural science. The intent is to lay the foundation for the qualitative and the quantitative theoretical analysis of ultra-sensitive science related to mind, e.g., *singularity*, which is interpreted for various purposes.

There are cases where numbers combined with basic units are constant. They are called physical constants. Let's take some examples. Isaac Newton once discovered the so-called law of universal gravity, the law on the force between two objects with the theoretically different mass, based on experimental data accumulated through numerous tests that Johannes Kepler and other preceding physicists had conducted. The formula of the law of universal gravity is as follows:

$$F = G\frac{M\,m}{r^2}$$ (M, *m*=Mass of objects; r=the distance between two objects)

Here, G stands for Newtonian constant of gravitation or Newton's constant, named after the discoverer. G has been precisely measured (CODATA Internationally recommended values of the Fundamental Physical Constants, 2006) to be $6.67428(67)\times10^{-11}\mathrm{m}^3\mathrm{kg}^{-1}\mathrm{s}^{-2}$. Physical constant refers to numbers which come before units and when physical constants are described, you need to add units to indicate the originating relationship among units. Generally speaking, physical constants are expressed as a set of derived units, i.e., the combination of basic units. When the law of gravitation is explained, the attractive force between mass is proportionate to the multiplication of two mass and is in inverse proportion to the square of length between objects. In the context of gravitation, which property does an object have? Is it length, electric charge or temperature? Gravitation here basically refers to the concept of mass, regardless of other properties an object may also have. Any objects with mass and furthermore gravitation can be measured and compared for quantity. Then, the thing is that gravitation constant remains constant, regardless of the quantity of mass or length.

Physical constants that are discovered in nature are highly important in terms of measurement. This brings us to the theoretical question as to why they had to be such numbers. And furthermore, the significant figure of physical constant is considered integral, to enhance the accuracy and the preciseness of measurement in actual fields of engineering. Physical constants that are discovered in nature are applied to all computer programs and used for controlling numerous variables, forecasting results and multi-purpose fundamental calculations in varying areas such as forecasting of weather or location, production of useful materials in engineering or medicine, manufacturing of medicines, emotional design in the area of artificial intelligence.

Two profound questions

Nowadays, physics asks two profound questions to be able to translate and compute various natural phenomena, for the ultimate purpose of even more accurate and precise measurement.

The first question is how many basic units there are. And the second question is about the true property of quantity. Currently, we don't know if the 7 fundamental quantities of SI units are all we can discover or if there can be more or less. Two major

pillars of physics that have driven the development of modern science to this height are relativity theory and quantum theory. The former has evolved and focused on the physical constant c, i.e., the speed of light in vacuum whereas the latter has focused on micro-particles including Planck constant *h* as the basic quantity of the smallest energy. Then, the problem is that the two theories are irreconcilable when put together, for some reasons. Accordingly, we are in a dilemma about accurate or precise measurement that our time requests. Thus, many prominent scholars are requesting a new insight about the starting point of theories. Leon Lederman (1993) who once led Fermi Institute in US stated in his book *The God Particle* as follows:

> *We tend to sneer at the fact that the trend in the pursuit of simplicity has generated 20 or more parameters. This does not seem a way that a god with self-respect would have created the machine to build the universe. One or two parameters at the most. This is to say that one would have expected a more elegant structure in the world of nature and in our experience. As we have already complained, this is a matter of truth concerning standard model. Of course, we still have tons of work, in exactly pointing at the values of these parameters. The problem is aesthetics.*[1]

With this perspective in mind, experienced theoretical physicists in the fields are questioning if there is a certain starting point theory (for instance, the theory of everything, TOE) for all the derivation processes. To answer such a question, Zero Zone theory points out that even if the best solution may require very complex processes, yet it produces highly simple answers at the end of the day. This is to highlight the fact that truth or truthfulness lies in simplicity and aesthetics. It has been a long dream of human kind to be able to explain diverse and complex phenomena of natural system with only *one parameter*, which is one of the most fundamental goals in natural science. This may not be achieved through the simple equation of energy = mass. Rather, what we are looking for is energy / mass = particular physical quantity = 1.

If basic SI units continue to be regarded mutually independent, we cannot avoid the frequent disconnect witnessed between relativity theory and quantum dynamics.

It would be highly difficult to weave through some consistent explanation concerning the rules of physical quantities that we specifically created. Do we have an alternative method to deploy? And can we identify it easily? What is a good theory in the first place?

In theories and experiments, the key is always the problem of measurement. We measure objects by defining and narrowing them down. If we view that quantity is an abstract representation of numbers, the concept of measurement should not be limited to countable quantity and the abstract representation of numbers.

The new system of units that Zero Zone theory presents is not intended to replace or discard the well-established SI units. As physical formula have dimensions, the well-known dimension analysis has resulted in various problems of translation and calculation in actual measurement. Thus, Zero Zone theory introduces a new system of units to allow theoretical computer calculations regardless of dimensions and to address the restriction of calculability. The new system of units discards dimensions on a temporary basis. In so doing, the system enhances the accuracy and the precise-

ness of calculation and allows prompt validation by applying *one parameter* to the consistent translation of scientific calculations. That is, numbers that result from calculation can be translated as the quantity of time or frequency. Further details will be explained in the following section on logical design.

One, zeron as the original material of everything

In the context of Zero Zone theory, *one* does not mean sign one, the countable quantity as we know it. In other words, *one*, i.e., number one can be construed as the mathematical abstraction, which serves as the fundamental ruler of all measurements, translating and calculating all natural phenomena. Number *one* is set as the original material of everything. The assumption of Zero Zone theory lies in assigning the specific physical implication to number *one*. In this theory, *one*, i.e., number *one* as the original material of everything is named as *zeron*. Zero Zone theory has the following assumptions to designate specific physical implication to *Zeron*, which also has the original meaning of one.

First, experimentally calculated physical constants are introduced, in order to arrive at the pure principles of nature that we didn't define. The assumption is that physical constants can be reflected in test data in one way or another. Second, the reason why physical constants based on test data have certain values is that physical constants anyhow reflects the basic units and constants that we've defined. Thus, Zero Zone theory adopts one basic unit as well as physical constants for its assumption. For example, if we fix the speed of light in vacuum as 400,000km/s, it is obvious that the quantities of various physical constants that have been measured so far are subject to change. Third, the reason why basic unit of time is selected out of all basic units is that speed of light is defined as a physical constant and if any one unit of length or time is selected, the remaining becomes the subordinate quantity. In particular, basic unit of time is considered here because time unit especially matters in equations of mathematics and physics and besides, measurement takes place in time and space. Forth, measurement instantly impacts the object being measured. In order to theoretically minimize the uncertainty here, Zero Zone theory considers that the measurement device and the object being measured are simultaneous. In other words, the starting assumption of this theory philosophically implies that the subject of measurement, i.e., measurement device, and the object of measurement are 'simultaneous one'. That is, the subject and the object of measurement are assumed to be one, in order to subsequently calculate the relative differences between subject and object in measuring change quantity. Fifth, as you know, physical quantities can be variables, yet time's basic unit s in the assumption is the unit itself. Thus, units themselves cannot be variables and this is why it is consistent with SI units even if we say $1s = 1$.

It is considered that numbers resulting from all calculation processes can represent the quantity of basic time unit itself, if we set $1s=1$. In other words, $1s=1$, $2s=2$, $3s=3$, $0.75...s=0.75...$ and you can see the compatibility in place, making calculation easier. Sixth, in existing SI units, dimensional analysis is established as the required condition of equations. However, it is not a required and sufficient condition to guarantee the integrity of theories. In this theory, it is shown that basic SI units can be directly put to comparative operations. For instance, we can calculate $1m+2kg+3s$.

What does this mean from physics point of view? You may hardly identify any physical implication in this operation. Calculability in principle is one thing and identification of useful physical implication is another qualitative problem. Furthermore, we come to realize that nothing in nature determines that unlike-dimensioned physical quantities cannot be added or subtracted when they can be multiplied and divided. We have invented the impeccable system of SI units, yet we have failed to figure out how we can fully utilize it.

The so-called technique of dimensional analysis has been applied to scientific theories up till now. However, a paper on Zero Zone theory was published, presenting various examples that were properly consistent with experimental data, despite that dimensional analysis was not applied. (21th CODATA conference, A New Unit System to Define All Physical Constants As Well As The SI Units by Dimensionless Numerical Values).

If there's a certain physical implication, anything from the operation results can be converted to any units. And if such a mechanism can be established, we can obtain significant amount of valuable physical advances. This is confirmed in the paper previously published at CODATA conference. It is found that dimensional analysis is limited to only observable matters in the process of concept categorization. That is, scientific theories and technologies so far have ignored nature's quality, which is inseparable from quantity due to nature's duality. We have conventionally believed that concepts such as length, mass, time, etc. are not observable and they cannot be quantified to describe nature. But the truth is that we can use dimensionless numbers when calculating unlike-dimensioned physical quantities. Once calculation is completed, the system refers to the computerized mapping table of signs and values to put appropriate units back to the computed values, in accordance with the existing dimensional analysis method.

Seventh, this theory presents that the equivalence between energy and mass can be extended to all units. $E = nh\nu$ results in a dimensionless number, i.e., frequency ν. As ν can be any values, energy can take on any values. This is why probability comes in. In this case, the quality of energy is categorized as quantity and quantized accordingly as a set. This is translated as the identity of a particular particle, i.e., eigen-frequency. In this paper, electron is expressed as a certain dimensionless number, which is viewed as the unique identity of electron.

In the world of measurement, identity is subject to change, depending on test methods. The elementary mass is based on the property of particle. Then, it becomes elementary charge when taking on the property of wave. '*Frequency*' is a highly versatile term with duality. It is a certain quantity of time, based on basic time unit in SI units. The quantity of numeric value plus the unit of Hz represents a unique frequency. That is, $1Hz = 1/s$ in the context of SI units. For instance, 5=5s=5Hz. In $E = nh\nu$, n is a quantum number, which is described as 0, 1, 2, 3,.... And it is understood that a certain particle with the unique frequency is observed as integers such as 1, 2, 3, etc.

Eighth, as per the assumption of this paper, the intent is to show that c, the speed of light that is constant in relativity theory, and h, Planck constant from quantum theory can be consistent with each other. By proving the above, this paper suggests that

number one (1) is the very parameter and the key to translation and calculation of various natural phenomena.

Today's physics is expressed in a highly complex manner and cannot be easily communicated to people, to produce high-quality data. It is urgent to establish a structure that is easy to understand for everyone. Zero Zone theory presents a means to simplify the existing complex classification method as much as possible. To this end, we need to be more open-minded and get accustomed to equivocality or abstraction of numbers above all

Bottom line is that we have limited ourselves to 'calculability' by calculating only the observable and countable matters.

In modern science, the uncountable is defined as non-material and differentiated from the countable, i.e., materials. And calculation is only limited to materials and here the relationship between material and non-material is incorrectly and confusingly established. This borders on the limitation of language. Can we address this?

As abstract mathematics lays the conceptual foundation for physics, nothing prevents us from stretching the scope of physics to dimensionful abstract concepts such as time, length, force, energy, pressure, etc. and coping with the limitation of calculability. As is witnessed in quantum physics, the micro-system *materials* and *force* have become almost indistinguishable.

Frozen time and the world of mind

Zero Zone theory views that all beings have their unique time and space. This does not mean that causality is no longer at work. It is the frozen time, i.e., absolute and static time when direction is not considered, and this is what the starting assumption is about. With the starting whistle of assumption, time starts to flow and it is dynamically measured. There is relative time that Einstein talked about and other various times exist in the context of quantum dynamics.

As there can be various times, it is difficult to translate what '*one*' is. For the same reason, it is difficult to translate quantization. It can be stated that everything is *one* and *one* is everything, given the equivalence of Zero Zone theory. Besides, all differ from one another, yet are not separated at all.

The gist of this paper is the principle of equivalence among numbers and units with physical properties. When you track down where the principle originated, you're moving onto the moments before measurement is conducted. This can be likened to imaginary number without any quantity. Yet, once we 'see' the imaginary number, the imaginary number gets to imply number *one(1)*, as shown in real numbers (i= 1 x i).

When we see imaginary number, the measurement is started and real numbers step in. This is the reason behind almost everything in the world. Our constantly changing minds are positioned between imaginary numbers and real numbers. What is the physical implication of imaginary number? This question is inevitably asked when measurement and comparison take place. Imaginary number is connected to Planck mass, Planck temperature, length, time, etc. from Zero Zone theory perspective.

Did the concept of time originate from imaginary number before Big Bang, just as Stephen Hawking once mentioned in his hypothesis of *no boundary condition*? What

can Planck time specifically mean in the context of measurement? Can imaginary number quantized to express the infinitesimal with a specific finite number?

From the perspectives of measurement, the ultimate physical process must account for actual data exchange. Measurement needs tools including the symbolic system of all signs and numbers. The symbolic system should concurrently take the most simple and optimized semantics and structuralism. Practically, data must be the minimum condition to relay commands in computer. Given all, the most simplified symbol system is number system and character system cannot be separated out here.

Two conditions are required for semantics and basic structuralism of this number system, in addition to the accuracy and the preciseness. First, in order to guarantee exactness, it is necessary to select data of the most optimized combination. Second, to ensure preciseness, the minimum experimental data needs to be sequentially selected. The former stands for mutual exclusion which is the structure of introducing the assumption and the latter is cooperation sequential process based on the assumption.

II. Logical design: What Is the Specific Logical Condition of Assumption?

Assumption is not a required condition at all. It improves the efficiency, instead. The world of assumption is relatively static as opposed to dynamic world of measurement which is triggered by assumption. In the context of Zero Zone theory's assumption, the concept of time determines time's design and operation. Difference exists in the world of measurement. This is how events become sequential and meaningful. If differences are to exist, the significant starting point of the assumption is to identify what is not different. The underlying assumption is that physical constants and units that are equivalent to number *one* are not different at all. Only the relative ratio among them needs to be identified. That is, both objects and the particular relationship among objects are important here. If the criteria of accuracy or test data sequence for preciseness is not pre-defined, we may not be able to obtain high-quality data. The assumption addresses what number *one* or *one* means through relationship between physical constants and basic units. This specifically encompasses the implication of special state of vacuum or speed of light. The inseparability between subject and object is explained through the simultaneous equivalence between number *one* and concepts such as speed, time, and energy as the internal and external aspects of light itself. This state can be likened to the optimum order where cards are perfectly aligned and entropy is minimized. Once the sequence is determined, there is the possibility of identifying the specified combination data out of infinite sequential combinations.

Easily put, definition of the most significant physical quantity can be presented in a system with the identical scale, i.e., number *one*. Such an assumption is expected to clarify language and thoughts. To this end, the most optimized combination is inductively selected to prevent redundancy and loss in terms of *one*'s implication, based on data analysis.

In science and technology that deal with quantity, unification as well as compatibility of units are essential for accurate or precise comparison of the measured physical quantity. Gottfried Leibniz tried to find a way to convert reasoning tools such as

sentences or words into signs and to mathematically array signs in accordance with exact logical rules. And it is not an exaggeration to say that symbolic logic originated from this effort. In other words, we are serious about the idea of converting language of natural science into numbers and comparison and calculation via numbers. David Lindley (1993), the professor of theoretical physics at Cambridge University who participated in the design group of Superconducting Super Collider (SSC), made the following meaningful remarks concerning the goal of physicists.

> *What physicists essentially want to do is to attach numbers to physical quantities and find relationships between those numbers. This is how physics is supposed to work, and so firm is this notion that one cannot really imagine any other alternatives (p.6).*

Numbers themselves are meaningless. However, when physical translation is assigned to numbers, image processing becomes significantly easier to describe the changing world. What can we tell from numbers with infinitely successive irregular array? In this sense, characters are easily generalized, whereas numbers are easily analyzed and validated and the relationship between variables is treated as quantity. Numbers store information and numeric data compression is easier. Counting is already an intentional action based on comparison. When the concept of units is converted to numbers, it is simply calculated in mathematical operation. In so doing, if we can consider *one*'s unit with physical property as a countable mathematics object, it means that we are capable of converting observable and un-observable concepts of units into numbers. They include numbers and units, expanding the concept of quantization. The concepts of units themselves such as time, length and frequency are not regarded as observable countable quantities. However, once physical implication is assigned, numbers are no longer simple objects of mathematical operation and become vital themselves. The orderly and harmonious combination of numbers can create music and geometry like Pythagorean theorem, so to speak. This implication has established the true definition of quantization in physics. Here we can open up an *Age of Hybrid language* where characters and numbers are jointly used. We can finally understand the relationship between quantification of nature, i.e., the quantification of all scientific languages and quantization.

The former is achieved by combining random numbers like one, two, etc. while the latter represents combination of numbers with certain patterns, assigning physical implication. For instance, CH4 is more stable as a measurement unit compared to CH, a chemical sign. Physical implication is lost in the case of random combinations.

Zero Zone theory presents a new way of describing physics with numbers and signs, which can complement SI units, based on the fact that abstract mathematical structure can correspond to the formal logic of scientific language. In effect, Zero Zone theory has expanded Gödel numbering, a method to express indeterminable mathematics sentence, using prime within *Logical structure of Peano arithmetic* well into the area of physics.

Generally speaking, the same physical property is synonymous with the same quantity of dimensionless numbers in Zero Zone theory. As Hz, the SI unit for frequency is s^{-1} and Zero Zone theory defines 1s=1 in its assumption, Hz=s=1. And it is

noted that dimensionless numbers can indicate the quantity of time and frequency. At the same time, it is highlighted that the same frequency stands for the same physical implication in modern physics theories.

Likewise, the arbitrary number that comes before Hz, the derived unit for frequency, a variable, is the multiple of 1. The concepts of infinity and finiteness are incorporated in the frequency unit(Hz=s^{-1}) , which is often used in science and engineering. The implication of number *one*(1) gets even more obvious in the context of Zero Zone theory. The number of points on the circumference that rotates every second are mathematically 'infinite'. Yet, length of 1 rotation is finitely calculated as 1(1Hz=1s^{-1}=1). In Zero Zone theory, it is pointed out that 1s=1Hz=1 is far more significant than 1s=1Hz. Likewise, E/mc^2=1 is far more significant than E=mc^2.

Zero Zone theory pays attention to dimensional analysis in modern scientific theories where the objects with the same physical properties are regarded different, if formal equations alone, rather than dimensionless numbers, are considered. When objects with the same physical properties take unlike-dimensioned units, classification gets more complicated and the four fundamental rules of operation cannot be directly done among them. In this process, reasonableness and usefulness are limited from measurement perspective.

Why is the number *one*?

When a thermometer is put into a bath tub for measuring water temperature, the temperature of water in the bath tub is instantly impacted by thermometer, i.e., the measuring device. In other words, the action of measurement itself disrupts the structure or property of the moment. Therefore, the problem of measurement can be related to the subject using measurement devices and the object of measurement at the same time. If we consider this as one continuous attribute, i.e., the action of measurement, we need to understand that the concept of space, which is inseparable from that of time, is deeply involved. Phenomenally speaking, velocity gets faster when an object is lighter. The reason why the speed of light and Planck constant are set as *one* is that this is presented as the abstract standard of measurement of both the smallest energy quantity and the container to hold the matter of the smallest quantity and energy. When multiplied, all random numbers produce certain other numbers. However, number *one* (1) alone does not have any impact throughout multiplication operation. All random numbers imply number one. However, number one produces itself. Dictionaries need to use some other words at the end to explain a certain word. This process is used as an example of regression in infinitum. At the end of the day, it is necessary to refer to oneself. As for such an analogy of the repeated self-reference process, the breakthrough may be found in the symbolic meta-language of number one. Through the repeated analysis, it is known that number one is the combination of two imaginary numbers with different directions. Then, do these imaginary numbers imply number one? Where and how do we define basic concepts? Problems need to be explained through relationship. Yet, relationship is not enough. That is, the answer will not be found only via formal structuralism of mathematics.

Regardless of the truth or not, advanced programming languages of today produce the required output if input patterns match. But, data quality is not guaranteed. It is

difficult to extract high-quality data via present computer architecture where we combine character signs and numbers. Simple mapping or mathematical structuralism can hardly bring about software revolution or furthermore eliminate barriers of scientific technology and theories. Just imagine how many command-lines are needed for the analysis of DNA that differs among people. And what about DNA modification? As for programming language that the complex systems of weather forecasting require, you know that physical storage or the speed of quantum computer is not an issue here.

One is not simple quantity one as we know it. The abstract nature of number one serves as the relative container for the perception of fast and slow, many and small. And this container cannot be further dissolved, given the property of number *one*. This container is qualified as the basic ruler of all measurements.

Given that number *one* (1) is the ultimate container, what is this made of? This container consists of physical constants Zero Zone theory talks about in its assumption and basic unit of time (1s). Therefore, this container implies the duality of quantity and quality, rather than simple quantity number one (1)

Science is like a common divisor to establish reliability. When measurement starts, the concept of quality hides away and numbers alone as signs of some quantity seemingly exist. Thus, in the context of the starting theory, number one, a common divisor in the assumption, is the container to measure all and it is like finding the original copy of everything. For instance, what would happen if equivalence is established between number *one* and the combination of physical constants with complex units such as $c=h=1$ and $c=\hbar=G=1$, which are frequently used in particle physics or cosmology? The relationship between complex units will be partially tracked down, instead of one-on-one correspondence among basic units as language proposition. In addition, the compatibility with SI units will be possible only in local areas. In this case, relative uncertainty about consistency with test data is unlikely to improve, not to mention difficulty of translation.

When units, i.e., language propositions, are mapped to the corresponding numbers in one-on-one relationship, *one* and imaginary number represent the most appropriate numbers to symbolize the original copy. Number *one* consists of the overlapping pair of imaginary numbers of the opposite directions. Thus, it is the only number that does not influence any numbers in terms of quantity and quality. Any random number would do in this context if convenience of calculation is the top priority.

Then, the question is, which number other than number *one* can act like this? Number *one* is the most basic interface to connect current symbol systems. However, number *one* alone cannot generate any implication at all. It needs host numbers other than itself, changing the number, yet not changing itself. It acts like a virus. In this sense, number *one (1)* can be said as a set of *one* with identical physical properties. Then, it is necessary to explain qualitatively and quantitatively which *one* it is. Thus, while implication of a set is still ambiguous, all arguments and disputes we have are far from complete, since *one* is not properly understood. It would be useful to consider structure of language as the symbolic structure with respect to number *one (1)* for those who are working at the forefront of advanced science.

When we say that number *one* is the multiplicative identity, *one* means the simultaneous state of operation objects which are inseparable between themselves. That is,

multiplication operator implies space where operation objects simultaneously exist and act. In this sense, number *one* along with multiplication operator indicates the standard fundamental quantity of space. In contrast, number *zero* (0) is the additive identity and it has duality, differentiating itself from *one*, i.e., the multiplicative identity. *Zero* (0) indicates non-simultaneous state of operation objects and does not have any impact on their state. In other words, the operator of addition implies time. Number 0 along with addition operator show the standard fundamental quantity as well as direction of time. Numbers *one (1)* and *zero (0)* are mapped to each identity element, expressing the attribute of duality and symbolization of both time and space. Arguments surrounding duality in the context of measurement is inevitably leading to self-referring mechanism of contradiction and paradox in terms of ontology and epistemology. That is, it is the self-referring proposition about how a word '*exact*' can guarantee that something is exact. This is why logic of mathematical format is introduced to exclude the self-referring mechanism in measurement where comparison actually takes place. This is the mathematical principle of contradiction where one shows up while the other hides away. It is an inevitable prerequisite in measurement where counting starts based on comparison. This does not mean that only one exists at any given time. It is particularly so when the implication of vacuum is translated from the perspective of epistemological measurement. It is highly ambiguous to express some existence when it does not exist.

Thus, as can be seen in the assumption, when we determine number *one* as the basic ruler and establish equivalence among number *one*, physical quantity with a certain implication and basic unit 1s, number *one* is no longer a simple operation object. Rather, number one assumes a unique and simultaneous format.

According to the assumption, the speed of light = second = length =1 =1s=1Hz if c=1 and s=1. Here, mover, non-mover and standard exist as trinity. Once measurement is initiated, non-mover hides away based on 1 and standard and mover remain for comparison. In this process, trinity is destroyed and material velocity (0<v<1) is relatively calculated .

Now is the time when electron, rather than light, comes up as it has elementary charge with duality like light. The world is restructured where all material particles are translated and calculated by the proportion of quantity, based on electron. In this case, we need to pay attention to the fact that every calculated number always contains *one*, thereby implying properties of light velocity or vacuum, etc. In Zero Zone theory, as for c=1, i.e., the speed of light, v<c=1, considering velocity of material particle. Just as particle and wave cannot be simultaneously observed, one extreme translation is being excluded when translation becomes contradictory in terms of measurement. Accordingly, we should keep in mind that any equation of scientific language is tautology of equations and the origins of number and language overlap at all times when the result of any equation is expressed in number or quantity.

Some say that there can be particles faster than the speed of light. This results from the lack of understanding of number *one (1)*'s self-reference or incorrect translation of equivocality of numbers from calculation involving imaginary numbers. Strange aspects of electron are witnessed in experiments on 'double slit' and they reveal trinity nature of self-reference and paradox. Given that self-reference happens

in language analysis, we should revisit the history of science and find out that number *one* (1) is not 'one', which results from calculation convenience.

Based on the properties of number *one*, we can clearly understand where paradox and contradiction of language proposition started in the first place. The equivalence between physical quantities and number *one* implies that independent physical quantities with seemingly different properties are not strictly separated and excluded from each other. In addition to such a philosophical implication of holism, this is about tautology of *one*, in broader sense.

There are heated arguments with respect to duality of light or locality and non-locality in terms of relativity theory and quantum mechanics. A new framework of translation can be presented through the in-depth analysis on the relationship among number *one* and seven basic units. In particular, the concept of 1s=1Hz=1=(-1i)(+1i) can provide broader physical translation of *one*, when connected to physical implication of time and space and the pair of imaginary numbers. For instance, when Higgs field is introduced in particle physics, the concept of mass is excluded in the initial vacuum state while energy exists as some quantity to produce material particles. Higgs field implicitly acknowledges *one* as concept of mass and energy, that is, simultaneous duality that originates from number *one*. Out of such duality came photon, which has energy without mass. There are three abstractions in photon such as numbers *one (1)* and *zero (0)* with duality and the imbedded imaginary number. All these exist in the relationship of one, as indicated in the assumption of this paper.

According to views of structuralism and semantics, duality originates from imaginary numbers from behind all numbers. Given that imaginary number also implies number *one*, we ultimately find it difficult to judge which comes first. However, concerning actual measurement, imaginary number is defined as having no quantity at all from epistemology perspectives. In this sense, the most compressed number multiplied by imaginary number is *one*.

In quantum dynamics of modern physics, the square of wave function is used to produce real number and there's some reluctance toward imaginary number. Avoiding something does not clearly resolve any problems. We need to find the clues of the outstanding problems from the concept of imaginary numbers that we have overlooked so far. Zero Zone theory emphasizes the straightforward approach, suggesting that paradox be resolved by paradox and imaginary number be addressed by imaginary number. And we need to remember that paradox and imaginary number happen to be the valuable elements for problem-shooting. As for natural numbers that are viewed as the most natural among all numbers, they basically contain the structure where two unobservable imaginary numbers overlap at the same time. In addition, numbers *one* and *zero* are practically required concepts for measurement. Number *one* provides quantity standard whereas number *zero* symbolizes direction and they constitute a pair of duality.

As *one* is implied in all numbers which are abstract representations of quantity, all classification inevitably requires *language of one*. Thus, we can never separate unobservable conceptual language from numbers that represent quantity in abstract terms. Self-reference of proposition is the contradiction within mathematical format system and it is not something that we cannot overcome. On the contrary, it paradoxically

makes significant contribution to clear-cut description of our dynamic world. In that sense, the world we live in is live and organic like us. And we could also say the same about any elementary particles as well.

We could come up with such an interpretation based on the versatility of number *one* or *one*, as in the assumption of Zero Zone theory. Everything that is translated into numbers can be construed as time, space, energy and frequency emitting vitality at any moment. In the space of minuteness and extremity, frequency pulsates in harmony like the flow of time at every moment, creating orchestra. As light itself cannot be internally contaminated or damaged, number *one* secretly contains a pair of imaginary numbers of the opposite directions. Instead of being the smallest unit, number *one* serves as the criteria of identifying the relationship between critical velocity and infinitesimal in terms of quantity and quality of translation and calculation. In other words, number *one* becomes the fundamental scale of every difference such as the smallest countable quantity, etc. and explains the ground-zero (mod 1) for comparison of large and small, many and little quantity.

If any physical principles, laws, signs, etc. do not internalize eternity, they are deemed dead. 1s=1 represents such a philosophical connotation there. Concepts related to energy-mass conservation are always related to time. In the context of a set, equivalence physically implies that two sets have identical quantity. It means that two sets have the same number of elements. The number of elements subject to *one*'s quantization is the quantity of number, time and frequency and this seems to be the essence of energy-mass conservation. When actual measurement is not started, ontology, epistemology and empiricism collide with one another and the starting concept of all theories awaits. Thus, a theoretical assumption is expected to philosophically imply three abstractions (e.g., speed of light = length = time = 1 as c=s=1 in vacuum) and duality (relative proportion based on *one (1)*, in the world of measurement, rather than vacuum).

Three abstractions in the world of measurement and comparison have evolved into the theological arguments of trinity and its denial in the West whereas they have become the logic of yin and yang in the East. As per the assumption, 1s=1 particularly does not represent time which is defined by our measurement method. Rather, time concept is analyzed from the perspective of numeric abstraction which goes beyond the dimensions of language. All measurements take place in time, which is inseparable from space and the time originates from the symbolic sign of number *one*.

In conclusion, as Zero Zone theory indicates formally in its assumption, number *one* is viewed as A=1, B=1, C=1, ..., that is, A=B=C= ... =1, rather than A=B, or A=B=C=... In other words, number *one* takes on the consistent format of simultaneity of *one*.

This is considered as normalization for calculation convenience and is similar to the process of substituting complex terms with t when solving fraction or irrational equations. Since numeric values calculated as per <Zero Zone theory> are converted back to SI units and they are properly consistent with SI units, the 'uniformity' of SI units is never undermined.

Why combination of a certain physical constant and units?

Human beings are accustomed to data processing by manipulating symbols. Even though physical constants are measured based on the units we defined, they are the most reasonable clues to identify the principles of nature and their symbols which surface during initial measurements. At the same time, physical constants as the background of symbols can be translated as secret codes embedding nature's orders. Thus, the starting assumption requires at least three following understanding to clearly and qualitatively comprehend the number system and the equations and to guarantee the accuracy and the preciseness. First, measurement by human beings inevitably reflects codes of nature's designs. In this context, codes here refer to certain physical constants. If the space-time is where everything about nature is realized, the combination of subject and object measurement is shown through physical constants, i.e., the physical symbols in this space-time. It is inferred that data processing and physics laws are closely intertwined in the first place.

Second, the reason why physical constants have certain quantities is that the concept of unit (e.g., c=2.99792458 x10^8 m/s) is initially introduced so as to select certain constants. Thus, particular physical constants and units need to be provided in an optimized combination. Such a design can be said as the so-called top-down approach. The particular physical constant, pre-defined basic unit (e.g., m/s, etc.) and the pre-defined quantity (2.99792458x10^8) and number *one* are selected in the assumption and the convenience of calculation is not clearly behind such choices. Third, the question is why unit of time is particularly chosen out of seven basic SI units. Among time, length and speed of light c, only two of them are independent. In Einstein's principle of constant speed of light, the value of c is already defined and the derived unit of frequency is Hz=s^{-1}. Thus, when the basic unit of time s is selected and 1s=1, 1s=1Hz=1. Accordingly, Zero Zone theory has advantages in that all numbers that are calculated in the number system of units, i.e., dimensionless numbers themselves are expressed in frequencies. Furthermore, it is notable that mathematics or physics treats time (t) that makes up basic unit of time s as a variable when calculating the rate of position change by time.

For example,

in the equations of $F = m\dfrac{d^2x}{dt^2}$, $F(t) = m\dfrac{d^2x}{dt^2}$,

if the former force is constant, force in the latter shows the function of time. That is why c, the speed of light is selected, along with s, time unit. In conclusion, when c=1 and s=1, the length of one zeron in vacuum becomes 1 and 1/1=1, representing the equivalence among all.

This means that speed of light, time and length are consistently unique frequencies, i.e., 1 Hz. Put differently, Hz is the original material of everything and it becomes the unique frequency of one *zeron*. Currently, the concept of photon is confined to and translated as the medium of electromagnetic wave in physics. Yet, in this theory, *zeron* extends the concept of light or photon into the cognition of measurement subject as well as all materials and non-materials.

In the assumption of Zero Zone theory, when a certain physical quantity or unit becomes quantity of *one (1)*, they are not mutually different (0). 'No mutual difference'

here indicates that they are of the same quantity (1) and no direction (0). This is why they are introduced as the standard of measurement. When measured, things differ in terms of rate and direction.

Physics presents the principles of equability and isotropy simultaneously for measuring the universe. Here, the implications of numbers *one* and *zero* are already implied. Especially, given the implication of number *one* and Planck constant *h*, a sign expressed with a particular constant and a derived unit, it is unlikely that we can determine quantity by separating number *one* into two imaginary numbers. Likewise, position and momentum, which are originally one, can never be exactly measured by real numbers. Sometimes people are asking where the principle of uncertainty is at work. The bottom line of the principle of uncertainty is the state that contains the possible minimum energy, indicating vacuum state (zero point energy). In this case, the implication of vacuum or the smallest unit energy particle and the relationship with physical constants in the world of measurement are insufficiently explained. That is, strictly speaking, the uncertainty principle becomes partially useful with respect to the equation for measurement, instead of starting theory. The true identity of *one* is not to be discussed from measurement perspective. It is better understood as part of the assumption and the starting theory. For instance, quantum physics or the world of measurement does not have room for translating one and encompassing quality and quantity. Relativity theory is incomplete in terms of translating time and space.

Relativity theory formally expresses time and space as space-time while considering time and space as strictly different dimensions (x, y, z, t). Imaginary numbers are treated as real numbers in a rather descriptive process in physics. If asked why, no physicist would have much to answer.

Something about the starting theory is incomplete and Zero Zone theory addresses such incompleteness physically by *one*, i.e., number *one (1)* to explain and describe the properties of set and units. This paper intends to share such a perspective of *one* across the world through the assumption. The process may look complicated, yet it offers consistent classification method and may appeal to everyone. As per the principle of uncertainty in measurement, it looks only natural that the uncertainty of position is multiplied by the uncertainty of momentum as follows:

$$\Delta x \cdot \Delta p \geq \hbar / 2, \quad \hbar \equiv h / 2\pi$$

When one zeron, i.e., the original material of everything, is expressed, using an equivalent transformation equation, $mc\lambda = nh = nh\nu = mc^2 = E$. Whence $1 \times 1 \times 1 = 1 \times 1 = 1 = 1s = 1Hz$ and the wavelength of one zeron is $2r = \lambda = 1$, $\nu = 1$, $E = 1$. We can confirm that the speed, time and length of one zeron in vacuum are all one. When this is converted to SI units, the assumption explains the particular state of vacuum and the speed of *zeron* is 2.99792458×10^8m/s, time is 1s and length is $1/2.99792458 \times 10^8$m$=3.33...\times 10^{-9}$m. Accordingly, if the concept of space-time is set as triple equivalence in the starting theory, we may argue that time is space and space is time. In the material world of measurement, all physical quantities in various natural phenomena can be consistently calculated as relative quantity, based on number $1 = 1s$(1x unit of time)$= 1Hz$(1x unit of frequency). This means that $1 = 1s = 1Hz$ is a

comprehensive qualitative concept which serves as the fundamental unit of cognition or causality, instead of being a simple quantitative unit.

Therefore, the combination of the speed of light, Planck constant and the basic unit of time that are specified in the assumption of *one*, i.e., number one is related to the element proposition of causality in ontology and epistemology and is based on the assumption that the translation of substance in the particularly vacuum state is stretched empirically. The implication of *one*, i.e., number *one* in the assumption is specifically explained as follows; It is Planck constant h as the indivisible energy quantum, e/m_e as the ratio of elementary charge to elementary mass, equivalent to energy-mass, a constant to incorporate electromagnetic radiation theory and thermodynamics, i.e., Boltzmann constant k related to energy and temperature, Avogadro's number N_A that emerges in certain numbers in nature, c, the principle of the constant velocity of light, s, basic unit of time, etc. All the above are the properties related to light and they unanimously indicate *one* as simultaneity. In this way, we have relative criteria to determine how quantitatively and qualitatively material particles change while maintaining accuracy and minimum uncertainty in measurement.

The remaining term on Candela is formally listed to structurally complete the assumption of one. All this is consistently structured for easier translation and calculation of vacuum in the context of measurement. The consistent contents and formal structure are contracted via abstract symbolization of number *one* and presented accordingly. In other words, it is not an exaggeration to say that number *one* serves as the symbol of various connotations and structure of ontology, epistemology and empiricism and is expressed aesthetically. Lastly, there is the phase of physical design

III. Physical Design: Why Is A Special Assumption A Method to Optimize Nature?

The process of building new scientific knowledge is associated with the 1st phase of conceptual design and the 2nd phase of logical design. The ultimate physical process needs to be explained through actual data exchange. Then if the question is about how technology has contributed, the answer can be found in the last phase of physical design.

The bottom-up approach is deployed in the last phase. Based on the established test data, physical constants with zero uncertainty are initially used and followed by those with low uncertainty. Cooperation sequential process is implemented to calculate unique values of basic units. The possible combination of theory and experimental data is highly limited, considering the relative uncertainty. The established constant concerning the basic SI units and certain physical constants with relatively low uncertainty are utilized.

In the calculation process, top-down approach of conceptual design and logical design are combined with bottom-up approach of physical design where frequency and other various signals of mechanical devices are considered. In this phase, genetic algorithm is also utilized, which is the most well-known optimization method to identify the most optimal solution while not impacting the consistency with various test

data. For this process, it is necessary to first convert test data into numbers and manually enter data into DB. This phase is about data processing structure, asking how we can make computers understand and conduct operations. The initial data entry is analyzed as rational number based on the mathematics theory of partitions and such analysis output is recorded in regular patterns.

When this database is further built up, the next numeric value keyed in is combined with the existing data and the relevance is calculated as output. Highly manual and granular process is involved when entered values and a series of identity combinations from DB are compared repeatedly and the most optimal combination is identified based on the physical implication. Genetic algorithm is applied here, searching for the most optimal solution out of the so-called random combinations.

We cannot figure out the internal mechanism of micro-world through approximate values. And it is well-known that minute difference in equations can result in tremendous difference in calculation results. There are many adjustment methods, yet we need a theory that can forecast certain numbers now. In quantum mechanics that has significantly contributed to modern civilization, standard model cannot be theoretically derived. There are approximately nineteen free parameters including the specification of particle mass, which was only experimentally found. It is always possible that these variables can produce significant output when fine-tuned. However, it is hard to tell when values of variables can be properly identified for consistency with various experimental data. It is definitely saving the efforts of physicists if we could certainly learn the numeric calculation approach to resolve numerous problems in physics.

Zero Zone theory introduces a new calculation technique to find information on variables and to discover useful equations related to various forecasting. This is to discover the so-called missing link that modern science and technology can hardly translate or calculate. For instance, engineering models are not particularly designed to be truthful. Rather, they aim to improve convenience. What matters the most in computer operation is consistent translation of highly complex phenomena and data processing structure for pattern identification. This will contribute to the measurements and assessment in the future.

What structure do we use for retaining knowledge or information? The method of problem resolution or learning has emerged as a popular research theme of artificial intelligence. Naming every file in computers today makes no sense at all. It means that we lack appropriate methods of simply describing highly complex systems and of properly describing such information. The structured computer query language is fundamentally flawed due to uncertain proposition logic. This is related to the descriptive structure of realistic question to address the problem of incommensurability in scientific philosophy. We are talking about a method to numerically array signs of sentence or signs, i.e., tools of thinking, in accordance with accurate logical rules. In specifically expanding meaningful cross-connection, generalization and calculability, we can convert all physical quantities into numbers.

In this process, we seriously raise a question about how a free variable item is determined. It is found that such an inquiry is closely connected to the phases of conceptual design, logical design and furthermore that of physical design. This paper is restricted in terms of details, yet we feel that nature has manifested itself through the

following instruction. One source, multi-user and simplicity! First, we need to establish a DB of maximum number of combinations of physical constants and physical quantities that are expected to be quantized. Second, terms that show the most consistency and optimization with test data in one formula should be converted back to possible natural number or rational number. In the first and the second steps, the asymptotic formula is repeated until the most optimized solution is identified simply as a natural number or rational number. Generally speaking, mixing numbers through operations is easy. Yet, it is complicated to split or quantize the data mix into physically significant data modules. Thus, it is even more difficult to find individual eigen-values of physical constants or basic units that emerge in the initial starting theory.

Not knowing the free variables from the beginning, it is difficult to select data samples from the assumption and to extract certain rules about the sequence of calculation afterwards. Mutual exclusion is adopted in the assumption of the starting theory. If combination is not good enough, accuracy is undermined and if there is a problem with the following cooperation sequence processing, preciseness is impacted.

Thus, based on certain calculation rules, huge amount of data has been analyzed through numerous trials and errors. And finally, the assumption of this theory is established from the inductive perspective. The compatibility between numeric data and character data is discovered.

This approach is differentiated from the existing computer coding method, in which characters or numbers are randomly mapped to numeric codes. Zero Zone theory is focused on converting into numbers the patterns of relationship among physical constants, i.e., nature's codes that are experimentally identified. It is notable that Zero Zone theory does not require any arbitrary setup. If the values of physical constants or physical quantities (exact with 0 uncertainty) are entered differently, it is evident that tests will produce entirely different values of constants. However, it is notable that combination among particular physical constants is observed constant, regardless of initial values.

This provides good theoretical grounds for forecasting significant figures when questioning about numeric patterns of the seemingly and constantly irregular physical constants. Therefore, it is highlighted that epistemology of *one*, rather than simple convenience of calculation, is highly essential in designing the assumption of starting theory. Epistemology is a discipline on symbolization of number system , which is related to language proposition.

Brain is a simple and flexible system of parallel processing

This indicates that extensive analysis of number system is essential in terms of relevance of fundamental representation and optimization problem, given that brain is made of one parallel command structure like DB. Thus, the selective and random combination of physical quantities without any simple logical rationality violates the principle of mutual exclusion and cooperation sequence processing, undermining the accuracy and preciseness of data. Even if the accuracy and preciseness are obtained, compatibility with SI units is only possible in localized area. If there are structural errors associated with semantic structure, it is difficult to extract the necessary significant figure, even through ultra-precise mechanical devices.

Energy conservation law was established in 1840s and mass-energy equivalence law was announced in 1905, evolving into mass-energy conservation law. SI units that are universally used today are convenient, yet there are rooms for improvement since direct comparative operations among basic units are not possible and dimensional analysis is restricted for identification of consistent patterns among basic units. It is necessary to improve the flexibility of SI units to be able to quickly respond to rapidly changing information age, obtaining, analyzing and forecasting accurate data.

This paper adopts the existing scientific notion where all physical quantities are considered identical if they have the same frequency, regardless of the make-up or elements. When focused on equations, we would have infinite number of equations with the same numeric values even for the same physical property. The numeric value is simply expressed as frequency. Now it is meaningless to count the number of physical constants.

Physical constants serve as parameters required for all data during the course of building DB through quantization. The primary goal here is to execute simple transformations and populate database with exact or precise data in line with number system. For instance, gravitation is dependent on mass alone and it does not care about other properties. It is said that gravitation is identical for the same mass. And mass is translated as equivalent frequency, according to the conversion system of Zero Zone theory. That is, despite different equations, the same numbers represent the same gravity.

If frequency delivers physical data, the combinations of individual quantized frequencies, which are often detected, can be expressed as harmony of frequency and grammar of nature. This manifests interaction and communication with nature. The concept of frequency is likely to be an important vehicle to bridge science and technology. If you want to identify the pattern of a certain physical expression, you need to express them in numbers for translation. Numbers are then converted to frequency for consistent translation.

One day, I watched a deaf girl passionately playing the piano on TV. This girl was invited for the orchestra and she was shedding tears while the orchestra played. How could she listen to music, shedding tears? The girl said that she could hear the piano and orchestra play in her heart through vibration on the ground. And what about a blind person drawing a picture? He or she may be detecting minute vibration from the paper on which the painting is drawn. In any ways possible, all living creatures including human beings or animals seem to experience the ultra-sensitive means like wave lengths or frequency, if the format of language is not available to them. In Zero Zone theory, the wave lengths or frequency is all about *one parameter*.

I would like to wrap up by quoting Albert Einstein's lecture to a university back in 1933:

I believe that we can discover the concepts and laws that provide the key to understanding of natural phenomena, using pure mathematics structure. Even if nature does not have anything that absolutely matches the concept of a person doing measurement, it is not unlikely that an object that satisfies the standards of measuring time or length or that is accurate enough to meet actual needs.

Zero Zone theory is aimed to utilize the clarity of numbers to address the ambiguity caused by character signs in measurement. The theory intends to show the structure that nature designs as it is by quantifying nature's secret codes such as physical constants and basic units, etc., without manipulation or artificial setup. The true understanding of the ambiguity of language is to discover the structural relationship among physical constants, i.e., the language of nature.

Thus, it is possible to convert the language of science with logical implication into numbers and it is figured out that number *one* can sufficiently serve as the basic parameter. Zero Zone theory indicates that measurement should be done in a consistent and unifying manner for the comparison of any quantity. I would like to mention that many numeric models have been formulated based on this theory and yet to be published. I'm confident that Zero Zone theory can contribute to the resolution of various outstanding problems, by presenting a model that seamlessly and consistently bridges micro-world and macro-world.

According to Zero Zone theory, the seven basic SI units are no longer independent and they do have relationship among each other. What is important is that SI units do not depend on the definition of any base quantity either under this theory. This points to *democracy of units*. The new system of units can be said as simple, accurate and comfortable so that anyone who is capable of using computers can understand and apply if numbers – units compatibility table is used. Zero Zone theory is not intended to replace the established SI units with a new system of units, given that SI units have been widely used for a long period of time. Rather, the theory is likely to present an opportunity for science to get one step closer to the general public, by improving the integrity of SI units and offering easy-to-use verification and validation system. Zero Zone theory has not discovered a new natural phenomenon by any means. It pursues a new way of understanding natural phenomena.

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Notes

1. This translation is by ONE publishing company in Korea in 1996. p.495.

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