

**IS CONSCIOUSNESS A NUMBER?
HOW MAHARISHI VEDIC MATHEMATICS
RESOLVES PROBLEMS IN THE FOUNDATIONS
AND PHILOSOPHY OF MATHEMATICS**

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Introduction

What could be simpler than a number? A child typically learns to count almost as soon as he learns to speak. What could be more essential, more ubiquitous than numbers? We use them constantly, often subconsciously. Yet, as with so many things that are simple, essential, and ubiquitous, not many of us stop to think about what a number really is. Among those that do stop to think about it, there is widespread disagreement. What does the current writer hope to add to this situation? He wishes to describe an answer that, for him at least, works spectacularly well.

This answer makes use of the revival of a remarkably effective and comprehensive science of consciousness, Maharishi Vedic Science. This science is based on the experience of *pure consciousness* through the Transcendental Meditation program, and the understanding of this experience and its integration into daily life. One branch of Maharishi Vedic Science is Maharishi Vedic Mathematics. This branch describes consciousness and its development from a mathematical point of view. A careful examination of one important concept of Maharishi Vedic Mathematics can achieve a breakthrough understanding of the role of number in mathematics and consciousness. This examination will be one of the primary goals of this paper.

This understanding will also enable us to resolve numerous problems that are currently plaguing the philosophy of mathematics. The primary problem in this area is determining the nature of mathematical objects. Until recently, mathematicians have usually taken the point of view that mathematical objects are transcendental, beyond all objects of the senses. But the current generation of mathematicians usually finds themselves unable to defend this position. Maharishi Vedic Mathematics gives us the tools to properly evaluate the nature of mathematical objects, both theoretically and experientially. We will examine this outcome in detail.

Another problem that Maharishi Vedic Mathematics enables us to solve is one whose existence is not widely appreciated at present. This is the assumption that set theory is a foundational theory of mathematics. We will locate the problem in set theory and then see how Maharishi Vedic Mathematics gives us a way to solve it.

Maharishi Vedic Science

It must be obvious that knowledge is based in consciousness. Our knowledge of anything is based on the degree of development of our consciousness. The past few decades have witnessed the rise of a remarkably effective and comprehensive science of consciousness, Maharishi Vedic Science. This science has its roots in the ancient Vedic culture of India, which enjoyed a remarkably high level of civilization. Only remnants of this civilization are available today in modern India.

The modern revival of Maharishi Vedic Science is based on the experience of *pure*

consciousness through the Transcendental Meditation program, the development of this experience through other techniques that originate in ancient Vedic culture, and the understanding of this experience and its integration into daily life. Over 600 studies have demonstrated the effectiveness of the Transcendental Meditation technique in many areas. Maharishi Vedic Science has been established by a remarkable individual, Maharishi Mahesh Yogi, who started his worldwide Transcendental Meditation Movement in 1957.

Maharishi Vedic Mathematics

One branch of Maharishi Vedic Science is Maharishi Vedic Mathematics. This branch describes consciousness and its development from a mathematical point of view, and prescribes, among other things, the Transcendental Meditation technique as an “enjoyable exercise of Vedic Mathematics” (Maharishi 1996, p. 441).

Unity is an important concept in Maharishi Vedic Mathematics. Unity, in both common usage and among mathematicians, is simply the number one. In Maharishi Vedic Mathematics, Unity rises to the status of self-reference. The following diagrams help us to understand this.

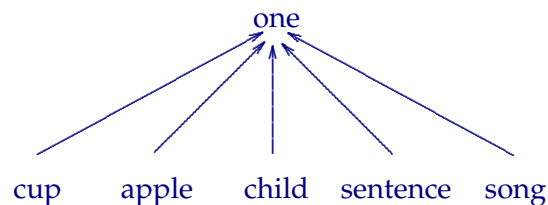


FIG. 1

When we perceive a cup, an apple, a child, a sentence, a song, or any such object, we are implicitly counting to One, because we are perceiving one such object. If we perceive more than one, we can consider each one individually. We are therefore characterizing each object by the number one. This is depicted in Figure 1.

If we perceive subtler objects of thought and perception, we may include them within this scheme, as depicted in the Figure 2.

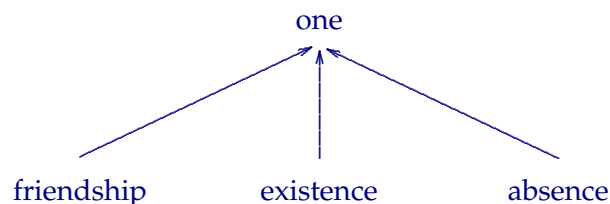


FIG. 2

By counting to one, we are attributing the quality of the number one to an object. But all aspects of the object can be so attributed. What, then, about the object cannot be attributed to oneness? Clearly none. Therefore, from the viewpoint of complete consid-

eration of everything about the object, the number one contains everything about every object. The status of one rises from a derivative attribute to the source of all objects of consideration. Our appreciation of the number one is then reversed. The number One functions as the source of each individual object of thought and perception. This is diagrammed in Figure 3.

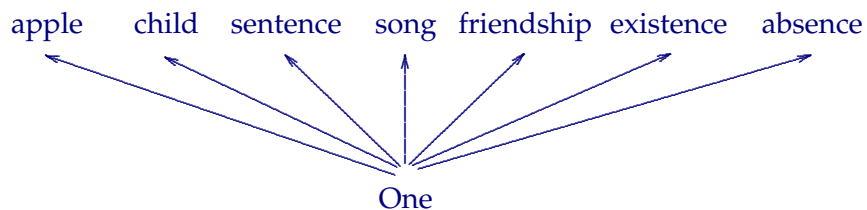


FIG. 3

Now we will see that Unity is both a number and self-referral consciousness. In order for anything to exist, it must be possible to count it, and the first counting number is One. Then we can use other numbers to measure other aspects of the object. Numbers themselves can be counted. As with anything else that is counted, when we count numbers, we start with the number One. When the number One counts itself, or refers to itself, it thereby assumes a role of self-reference. The number One has a property of self-reference, because One is *one* number. This is diagrammed in Figure 4.



FIG. 4

The number One is also the source of other numbers, because two is *one* number, three is *one* number, and so on. This is shown in Figure 5.

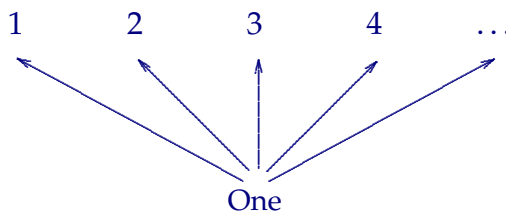


FIG. 5

This picture shows the perspective of the pure self-reference nature of Unity, but it does not account for the relative values of unity. This is because, in the field of duality, in the field of multiplicity, there are distinctions; each number is distinct from every other number. To properly account for all the functioning of Unity, we must have two levels, one in which it is the common source of the numbers and the other in which it is distinguished from all the numbers. To delineate this range, we refer to the source and home of all num-

bers, where they function as absolute pure consciousness, as the *Absolute Number*. This is shown in Figure 6.

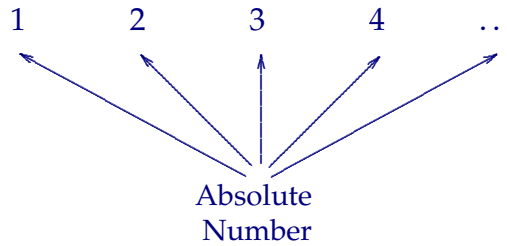


FIG. 6

In order for Unity to rise to self-reference, it cannot count in an explicit way, because to do so would fill up the universe with nothing but the activity of counting. Therefore, One counting itself in a self-referral way must be on the level of knowingness, consciousness without activity, pure silence. The Absolute Number is this unmanifest level of number. In this writer's opinion, this is what Maharishi is referring to when he says that the number one, when it is zeroed, becomes the Absolute Number:

As any number is the modified state of the number one, Unity; and as Unity is an eternal continuum, the number one circled ① expresses the eternal continuum of Unity, which can only be expressed in terms of zero—in terms of a circle. (Maharishi 1996, p. 614)

As any number is the expression of the number one, when the number one is zeroed it becomes unmanifest, which means in terms of numbers it becomes the Absolute Number. This means that any number zeroed transforms itself into the Absolute Number—any number zeroed becomes unmanifest. (Maharishi 1996, p. 614)

The Absolute Number is a field of pure self-referral consciousness, which does not enter into the field of distinctions but maintains itself as pure consciousness, without activity or distinctions. This self-reference on the level of consciousness and without activity is shown by the dashed circle in Figure 7.



FIG. 7

We can deduce, therefore, that Unity is both a number and a field of self-referral consciousness. In the following passage, Maharishi verifies this by essentially equating the Absolute Number with the self-referral nature of Unity.

Vedic Mathematics is the mathematics of the Absolute Number, which is the reality of the absolute field (the field of Unity, the field of self-referral consciousness, the field of Samhitā, the field of the Veda). (Maharishi 1996, p. 371)

Samhitā in this quote refers to the collected state of awareness which is at the basis of the Veda, the field of total knowledge and the subject of Maharishi Vedic Science.

In the following sections, we will examine several aspects of mathematics, using Maharishi Vedic Mathematics and the Absolute Number. Through such an analysis, we can achieve a breakthrough understanding of the role of number in mathematics and consciousness.

Solution of problems in the foundations of mathematics

Modern mathematics has drifted away from its ancient foundations in arithmetic and geometry. Almost all modern mathematicians take at least a nominal view that set theory is the foundation of modern mathematics. Yet set theory attracts very little research interest from professional mathematicians, and a problem or advance in set theory is usually viewed as having little or no bearing on the rest of mathematics. Maharishi Vedic Mathematics sheds much light on this peculiar situation. We will undertake a simple examination of set theory to show how.

A simple definition of a *set* is that it is any well-described collection. Each object that belongs to the collection is called an *element* of the set. We can speak of the set of all the nations of Europe, or the set of all points on a line. The set of the nations of Europe has a finite number of elements, and so it is called a *finite set*; while the set of all points on a line is an *infinite set*, since there are an infinite number of points on a line. A set may have no elements at all; there is only one such set, and it is called the *empty set*. Sets are denoted with braces: the set containing the numbers 0, 1, and 2 is denoted $\{0, 1, 2\}$. The empty set is denoted $\{\}$. Sets can contain other sets; thus $\{\{\}\}$ is the set containing the empty set, which is a different set from just the empty set by itself.

The set theory that the mathematician uses is called *pure set theory*. In pure set theory, all the elements of a set are other sets. The construction of all such sets starts with the empty set. This allows only such sets as $\{\}$, or $\{\{\}\}$, or $\{\{\}, \{\{\}\}\}$, or an infinite set that contains only other sets. The whole numbers are defined as pure sets in the following way: the number 0 is defined to be the empty set $\{\}$; the number 1 is defined to be the set containing the empty set, i.e. the set containing 0, i.e. $\{\{\}\}$; the number 2 is defined as the set containing 0 and 1, i.e. $\{\{\}, \{\{\}\}\}$; 3 is defined as the set containing the 0, 1, and 2; and so forth. All mathematical structures are defined by modern mathematics in this way, starting from the empty set.

Pure set theory has an identifiable starting point in the empty set, and a kind of self-reference in that its sets admit only other sets as elements. Nevertheless, it fails to be a true foundational theory, for several reasons:

1. The inside and outside of a set are two distinct realms, and so the concept of a set is based on the assumption of a fundamental duality.
2. Sets are governed by the axioms of set theory, which are not regarded as themselves being sets. Thus the governance of set theory is based on another assumption of a fundamental duality.
3. Since sets may be infinite but the number of axioms of set theory is finite, set theory attempts to approach the infinite using only finite intelligence—it approaches the infinite from a finite point of view.
4. Set theory cannot fully account for self-reference. When the empty set includes itself, it becomes something different from the empty set. Set theory therefore cannot account for the simple ability of the number One to count itself while remaining One. Likewise, set theory cannot account for the self-referral counting ability of any number.
5. Because set theory cannot account for counting, it fails to account for any of the laws of arithmetic. Since arithmetic is fundamental to any branch of mathematics, set theory is unable to fully account for the laws of any branch of mathematics, even its own laws.

Maharishi Vedic Mathematics rectifies these shortcomings and thus becomes a much better foundational theory for all of mathematics:

1. Numbers, including the Absolute Number, have no inside or outside. They simply count, and that counting may be purely self-referential. There is no fundamental duality in the structure of a number.
2. The laws which govern the Absolute Number and the relative numbers are included in the structure of the Absolute Number itself.
3. Maharishi Vedic Mathematics approaches the infinite from its own level—infinite intelligence. This infinite level of intelligence is accessible to everyone.
4. The number One does not change when it counts itself. This is an unchanging or absolute quality of Unity, which is due to the Absolute Number's support of every number.
5. The Absolute Number is the common source of all the numbers, and so it encompasses both Unity and diversity. Because all the laws of nature are based on numbers, the Absolute Number is also the home of all the laws of nature.

Set theory does provides a framework for associating any mathematical structure with a set. But a framework is not necessarily a foundation, and an association is not necessarily a definition. Those who claimed that set theory was the foundation of arithmetic never proved it and never could have, because they never had any independent theory of

arithmetic. Maharishi Vedic Mathematics rectifies this by bringing to light the self-referral nature of number, both in theory and in practice.

The emphasis of Maharishi Vedic Mathematics on the self-referral nature of number finds confirmation in one of the most famous theorems in the foundations of mathematics, Gödel's Incompleteness Theorem, often simply called Gödel's Theorem. The discovery of this theorem in 1930 by Kurt Gödel (1906-1978) made him one of the most famous mathematicians of the twentieth century. There are many ways to state Gödel's theorem, some of them very technical, but perhaps one of the easiest is to paraphrase Gensler (1984, p. 1): Gödel's Theorem states that *a complete knowledge of arithmetic cannot be reduced to a finite set of rules*. Gödel proved this theorem *about arithmetic by using arithmetic*. He used the ability of numbers to count themselves and anything else by:

1. transforming the language of his theorem into numbers;
2. constructing a self-referential statement in this language;
3. using self-referral properties of numbers to show that this statement is true;
4. using the same properties to show that no finite set of rules can prove this statement.

Solution of problems in philosophy of mathematics

Among the Western disciplines, mathematics affords us with probably the clearest example of the transcendental quality of knowledge and intelligence. This position is well known in Western philosophy as *Platonism*. The recent revival of interest in Western philosophy has sparked a widespread interest in the philosophy of mathematics, among mathematicians and non-mathematicians alike, and with this has come a renewed examination of Platonism.

Unfortunately, even though mathematicians in the past have generally defended Platonism, almost none of the current generation of mathematicians does so. A recent well-known work in the philosophy of mathematics by Hersh (1997) highlights this situation as he throws out Platonism and develops his own theory, called *humanism*, which takes the view that mathematics is solely a social activity. We will now examine this and other views of Hersh and see how their shortcomings can easily be rectified by Maharishi Vedic Mathematics.

Platonism ... says that mathematical entities exist outside space and time, outside thought and matter, in an abstract realm independent of any consciousness, individual or social. (Hersh, 1997, p. 9)

Why do mathematicians believe something so unscientific, so far-fetched as an independent immaterial timeless world of mathematical truth? (p. 11)

We don't ask, How does this immaterial realm relate to material reality? How does it make contact with flesh and blood mathematicians? We refuse to face this embarrassment. . . . (p. 11)

To answer, you have to forget Platonism, and look in the socio-cultural past and present. . . . (p. 12)

Mathematical objects are created by humans. Not arbitrarily, but from activity with existing mathematical objects, and from the needs of science and daily life. (p. 16)

1. Mathematics is human. . . .
2. Mathematical knowledge isn't fallible. . . .
3. There are different versions of proof and rigor. . . .
4. Mathematical objects are a distinct variety of social-historical objects. (p. 22)

The kind of Platonism that Hersh describes is in some ways like the reality described by Maharishi Vedic Mathematics, except that Hersh's Platonism prescribes no method for contact between the abstract, timeless realm and individual consciousness. Maharishi Vedic Mathematics gives many procedures, especially the Transcendental Meditation technique, for enabling the individual to contact the transcendental realm of pure consciousness and pure orderliness beyond the activity of the senses and the mind. A realm beyond all activity, containing nothing but the structures of pure orderliness, is thereby raised from the shrouds of mysticism to a simple matter of experience. This field is not created by humans, but it can be fully experienced by anyone.

Providing both techniques and proper understanding to support the techniques makes Maharishi Vedic Mathematics itself a science. Since this realm of pure orderliness is also the realm of pure consciousness, the *Ātmā* or Self of everyone, it develops individual awareness, and it results in more alertness and increased ability to function optimally in every way. In this way, Maharishi Vedic Mathematics supports all the other sciences.

Another important point in relation to modern mathematics is that the experience of pure consciousness which Maharishi Vedic Mathematics supplies is beyond the intellect. One can say that the experience of pure consciousness is knowledge, but it must then be said that this knowledge is different from intellectual knowledge.

The philosophy of Maharishi Vedic Mathematics finds confirmation from Kurt Gödel, whose philosophical views are much less well known than his famous theorem. Considering his status as a famous research mathematician, they are quite illuminating.

Consciousness is connected with one unity. A machine is composed of parts. (Wang 1996, quotation 6.1.21)

It is a primitive idea of our thinking to think of many objects as one object. (Wang 1996, quotation 8.2.1)

A set is a unity of which its elements are the constituents. It is a fundamental property of the mind to comprehend multitudes into unities. (Wang 1996, quotation 8.2.2)

It is surprising that the fact that multitudes are also unities leads to no contradictions; this is the main fact of mathematics. (Wang 1996, quotation 8.2.2)

Numbers appear less concrete than sets. They have different representations and are what is common to all representations. For example, we add or multiply by dealing with a collections of two indeterminate things. (Wang 1996, quotation 8.2.5)

Another mathematician who confirms the philosophy of Maharishi Vedic Mathematics is Franklin Merrell-Wolff (1887-1985). He was a professor of mathematics at Stanford. Early in his academic career, in 1916, he left Stanford, spent twenty years in solitude studying Vedic texts, had several realizations of consciousness which he said confirmed certain traditional Vedic teachings (those of Śhaṅkara and Advaita Vedānta), and wrote several books describing these realizations and how they fulfilled Western philosophy and science. In the following passage, he describes his experience of Consciousness as Unity, which is essentially different from the duality in which knower and known are separate.

Once one has had a glimpse of the Consciousness which I have called the High Indifference, it readily becomes clear that there can be but one ultimate Element. Spirit is not divided from matter in any final sense. This is simply the truth concerning the subject and the object, given in other terms. In that State where I realize Myself as identical with all space and with all objects, there is no division between and “I” and a “not-I.” This is equivalent to saying there is but one Element. But the same thing cannot be said concerning the seeming relationships within the shell of the subject-object consciousness. For here the subject has the appearing of being different from the object, but these two stand in some relationship to each other. (Merrell-Wolff 1994, p. 144)

Exercises of Maharishi Vedic Mathematics

Maharishi Vedic Mathematics is not merely a philosophy. It encompasses a range of practices which develop self-referral consciousness. In the following quotation, Maharishi refers to these as “exercises” and includes among them the Transcendental Meditation and TM-Sidhi programs.

Exercises in Vedic Mathematics lie in fathoming and stabilizing self-referral consciousness through my Transcendental Meditation and TM-Sidhi Programme, and studying different aspects of the Vedic Literature in the light of my Vedic Science and Technology, in the light of self-referral consciousness, because the study of self-referral consciousness is the study of invincible, perfect defence. (Maharishi 1996, p. 350)

The Transcendental Meditation technique is a simple, natural, effortless technique which takes the mind from the surface level of thinking to the source of thought, pure consciousness, consciousness in its self-referral state, a state of restful alertness which is also the source of all creativity. As the mind settles down during this technique, both mind and body experience deep rest, and stress and fatigue are released. The result of this experience is increased creativity and intelligence, which naturally lead to increased efficiency, enjoyment, and success in all aspects of life.

The marvel of Transcendental Meditation is that it increases orderliness in the individual's awareness while expanding the awareness to encompass all space and time. Maharishi explains this as follows:

The precision and order in the practice of Transcendental Meditation makes the procedure systematic and mathematical. Transcendental Meditation utilizes the holistic value of Natural Law to materialize an all-directional, progressive and enriching effect in all fields of space and time. It is this theme of Vedic Mathematics available through Transcendental Meditation that promotes absolute order from the common basis of all activity in the universe—the self-referral, unified field of consciousness. (Maharishi 1995, p. 173)

Transcendental Meditation is the programme of Vedic Mathematics because it enlivens and utilizes the holistic value of Natural Law to materialize an all-directional effect in all fields of space and time. It is this theme of Vedic Mathematics available through Transcendental Meditation that promotes absolute order from the common basis of all activity in the universe—the self-referral, unified field of consciousness. (Maharishi 1996, p. 441)

The TM-Sidhi program is an advanced program based on the Transcendental Meditation program. The TM-Sidhi program develops the ability to function directly from the level of pure consciousness. This has the effect of dramatically accelerating the growth of mind-body coordination, by developing the ability to think and act from the level where thought and action are most powerful. The TM-Sidhi program is an application of *Yoga*, one of the branches of Vedic Literature. Other branches of Vedic Literature contain other programs for developing pure consciousness and gaining the support of the laws of nature. These programs also belong to Maharishi Vedic Mathematics, as Maharishi explains:

Exercises in Vedic Mathematics are the programmes to actually gain custody and command over the Laws of Nature—the programmes

detailed in all the twenty-seven areas of the Vedic Literature. (Maharishi 1996, p. 348)

Subjective research verifying the approach of Maharishi Vedic Mathematics

The regular practice of the Transcendental Meditation and TM-Sidhi programs and other exercises of Maharishi Vedic Mathematics naturally results in higher states of consciousness, beyond the ordinary waking, dreaming, and sleep states of consciousness. The TM technique gives the experience of *Transcendental Consciousness*, a state of silent restful alertness, a state of pure self-referral without any mental activity. As the practice progresses, the silence of Transcendental Consciousness becomes integrated with the activity of daily life, until they are experienced simultaneously. This is the state of Cosmic Consciousness, where activity is present with and fully supported by the silence of the pure value of the Self, or *Ātmā*. We here quote from Maharishi (1976), who quotes experiences of various individuals identified only by their initials and state of residence. The following experience was recorded by S.B. of California:

Boundless infinitude, beautiful bliss, total silence. In activity a powerful silent wholeness rests on the surface of everything. A beautiful softness connects and interfuses all I see. (Maharishi 1976, p. 77)

As an individual continues to experience Cosmic Consciousness, he begins to perceive finer values, until he is able to perceive the finest value of creation. This state is known as God Consciousness. The following experience was recorded by D.S. of California:

I am perceiving finer and finer values of bliss and beauty, and feeling part of a whole beautiful plan. How small the individuality is, yet how powerful with the growing value of all-encompassing wholeness. The body is perceived as a tiny boundary which the Self flows in and out of. (Maharishi 1976, p. 83)

Continued experience of refined perception in God Consciousness ultimately leads to the ability to perceive any object of attention in terms of the unbounded Self. This state is known as Unity Consciousness. The following experience was recorded by M.H. of California:

The continuum of Self within myself and outside of me just seems to have a very enjoyable, lively, intimate quality—as if my Self is smiling and radiating everywhere. For the first time I feel concretely, tangibly clearer and closer to all that is meant by God, to all that He is. (Maharishi 1976, p. 85)

The following is another such experience, recorded by C.C. of British Columbia:

In the Unity [experience], I would see the object and know it to be myself. A few examples are: I saw the stars, planets, and galaxies

of the universe spread out before me and instantly knew them to be part of myself—the same sense of recognition one experiences when one sees unexpectedly one’s own image reflected in a mirror. I saw a series of people’s faces . . . and knew intuitively that ‘I am all that’—I saw all Creation . . . and knew it to be existing inside myself. (Maharishi 1976, p. 79)

The present writer has had many satisfying experiences with various exercises of Maharishi Vedic Mathematics. One of these exercises is the examination of a body of knowledge in the light of a certain verse of Rk Veda, the first and most important branch of Veda and Vedic Literature in Maharishi Vedic Science. This verse is called the *Richo akshare* verse and reads as follows.

ऋचो अक्षरे परमे व्योमन् यस्मिन् देवा अधि विश्वे निषेदुः ।
यस्तन्न वेद किमुचा करिष्यति य इत् तद् विदुस्त इमे समासते ॥

*Richo akshare parame vyoman Yasmin devā adhi viśhve niṣheduḥ
Yastanna veda kimuchā kariṣhyati Ya it tad vidusta ime samāsate*

The verses of the Ved exist in the collapse of fullness in the transcendental field, self-referral consciousness, the Self, in which reside all the devas, the impulses of creative intelligence, the laws of nature, responsible for the whole manifest universe.

He whose awareness is not open to this field, what can the verses of the Ved accomplish for him? Those who know this level of reality are established in evenness, wholeness of life. (Rk Veda 1.164.39)

The exercise calls for the analysis of any area of modern knowledge in the light of the eight subsections of this verse. I chose several topics in elementary arithmetic and did this analysis. Almost immediately I was aware that number has the property of self-reference. Shortly thereafter, I was sitting with my eyes closed, enjoying Transcendental Consciousness, when I saw the field of intelligence before me as a glowing plane. I understood that this field of intelligence is identical with my own self-referral state of consciousness. On this glowing field, a circle of light traced itself out, starting at the bottom, proceeding clockwise, and ending up again at the bottom. I understood this circle to be a circle of intelligence. As the first half of the circle was tracing itself out on the left side, I perceived that certain points on the left side of the circle were associated with certain areas of mathematics. When the tracing reached the top of the circle, I understood that the left side is what we have known so far, and the right side is what we will know. I believe that “we” refers to human beings in general. As the tracing proceeded down the right side of the circle, both the circle and the plane became increasingly brighter. When the tracing reached the bottom, the circle and the plane were so bright that the circle became lost on the background of the plane, and the plane merged into my own state of self-referral consciousness.

Figure 8 shows some of the superficial aspects of this experience. The labels on

the left side of the circle came to me during the experience, while the labels on the right side I added later after some reflection. The deeper knowledge imparted to me by this experience has illumined much of the structure of mathematics and its context in life as a whole.

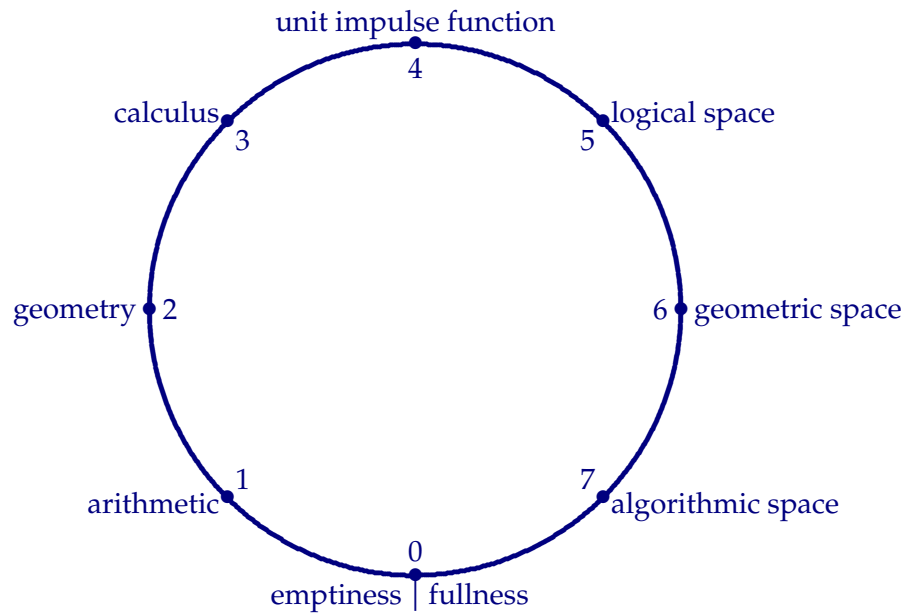


FIG. 8

Objective research verifying the approach of Maharishi Vedic Mathematics

Objective scientific research verifies that Maharishi’s Transcendental Meditation technique takes one from a state of duality toward unity. For example, a study by Haynes et al. (1976) showed that, on average, the more one experiences Transcendental Consciousness, the more one experiences the following:

- high scores on a standard creativity test;
- high synchrony in brain waves between the left and right hemispheres of the brain; and
- shorter recovery time in the muscles and nervous system after a receiving a disturbing stimulus.

Another study by Orme-Johnson et al. (1981) found that the TM-Sidhi program produces larger increases in brain wave coherence and creativity than the TM program alone. Together, these studies show the TM and TM-Sidhi programs result in the growth of unified values within the individual and integration of mind and body.

A study by Kory and Hufnagel (1974) examined the effect of practicing the Transcendental Meditation technique on high school students at three different high schools. At each school, the students practicing the TM technique were matched against students studying psychology. The study compared grade point average and anxiety using standard tests before and during the experimental period. In two out of three schools, there was a significant reduction in anxiety and a significant increase in grade point average among the TM students, while the psychology students showed no significant changes.

Additional objective verification of the growth of Unity through Maharishi's Transcendental Meditation technique is in the finding of increased self-actualization, which is the use of the full value of one's inner potential, including stability, integration, maturity, warmth, and adaptability. Two studies (Seeman et al. 1972, and Nidich et al. 1973) showed that those who practice the Transcendental Meditation program for only two months scored significantly higher on a standard measure of self-actualization, compared to those who do not practice TM.

Another remarkable phenomenon is that this effect spreads from the individual to the society. Numerous studies have confirmed that a group in which the participants collectively practice the TM-Sidhi Program and the number of participants is at least the square root of one percent of the population of a city, state, or country, has the effect of significantly increasing positive social trends and decreasing negative ones in that area. For example, Dillbeck et al. (1987) showed that when such groups were present in: Delhi, India; Puerto Rico; Manila, Philippines; and Rhode Island, USA; such measures as crime rate, accident rate, alcohol sales, cigarette sales, unemployment rate, and even pollution level, all decreased significantly. Another study by Dillbeck (1990) showed that when a long-term group was present in Fairfield, Iowa, supplemented by short-term groups in: Washington, D.C.; the Hague, Netherlands; and Amherst, Massachusetts; then a "violence index" consisting of auto accidents, homicides, and suicides decreased significantly. Both of these papers ascribe these results to a *field effect*, a term borrowed from physics to indicate a factor which is present throughout space and time, itself unseen but producing measurable effects.

Summary and conclusion

Modern society is based on science, and scientists regards mathematics as the ideal science. Virtually everyone studies modern mathematics for eight to twelve years at a young age. Yet this has not been enough to keep modern society from being riddled with problems.

Modern mathematics attempts to approach the infinite from the level of the finite, and other modern disciplines imitate this approach. We have seen that Maharishi Vedic

Mathematics allows us to approach the infinite from its own level, and that this approach is the basis of Maharishi Vedic Science.

We have seen that Maharishi Vedic Mathematics is easy, enjoyable, natural, profound, all-encompassing, and useful. We have seen how Maharishi Vedic Mathematics has its roots in the self-referral nature of pure consciousness, which is the source of thought and the source of all creation. We have seen that this field of self-referral consciousness is both perfectly orderly and perfectly awake. We have seen that Maharishi Vedic Mathematics can easily solve problems currently plaguing the foundations and philosophy of mathematics. We have examined the exercises of Maharishi Vedic Mathematics, and we have seen subjective and objective results of these exercises.

It should be obvious that, if there is any truth to all this, Maharishi Vedic Mathematics should be a part of the educational curriculum at all levels as a supplement to modern mathematics. It only remains for everyone to discover for themselves that the science and technology of Maharishi Vedic Mathematics can fill our lives with truth, knowledge, and love.

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