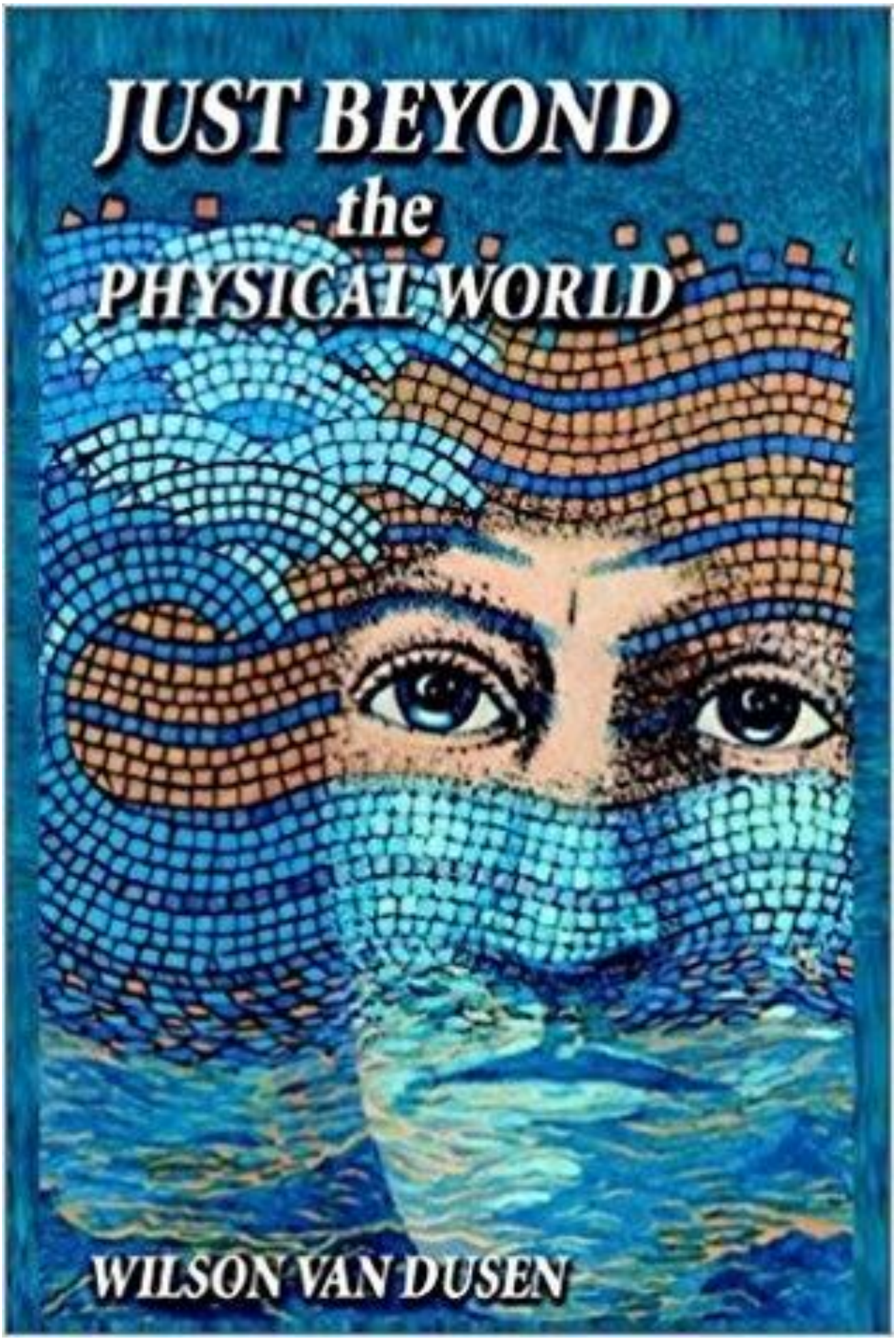
JUST BEYOND
the
PHYSICAL WORLD
WILSON VAN DUSEN

About the Author

Wilson Van Dusen was born and raised in San Francisco, California. A friend who examined his biography said he was really seven different people, and the friend didn't know he is a poet with a lifetime of experience in the arts. One of these seven people is a natural mystic with experiences of the Divine from infancy. Upon retiring, he has surveyed the world's principal mystics working across all the great religions and has eight books published in this area. He is a recognized expert on Emanuel Swedenborg, one of the greatest mystics who ever lived.

He also loves the sea and holds an unlimited master's license in the merchant marine. He spent sixteen years, mostly inactive as an officer in the U.S. Naval Reserve. Not too long ago, he retired after fifteen years of unpaid instructing in the U.S. Coast Guard Auxiliary. For recreation he does navigation research.

The author is a Ph.D. clinical psychologist with a whole career working with the mentally ill. Some of his dearest friends are quite mad.

In the university, he was stimulated by the work of Albert Einstein and made the mistake of asking what is in five space. In three years, he did a definitive thesis answering this question and also found six and seven space. His thesis committee called on Einstein who approved his work. No one would publish it, so he put it aside for fifty years. Meanwhile, he had been known to entertain friends and children with hyperspace. So here, he recasts a difficult thesis into a very understandable book.

He is now a retired old man that has trouble walking, so he sits at his desk wrestling with the ultimates of existence. He fully expects to die before the world notices they already exist in seven dimensional space.

JUST BEYOND THE PHYSICAL WORLD

BY

WILSON VAN DUSEN

Diagrams by Suzanne Hernandez

ISBN: 0-7596-9865-1 (e-book)
ISBN: 0-7596-9866-X (Paperback)
ISBN: 0-7596-9867-8 (Dustjacket)
ISBN: 0-7596-9868-6 (RocketBook)

1stBooks - rev. 07/02/02

Acknowledgments

We wish to thank the following publishers for their courtesy in granting permission to quote books issued by them.

The Future of the Body by Michael Murphy, Penguin Putnam Inc. N.Y.C.

Flatland, by Edwin Abbott, 1999, Shambala Publications, Boston, Mass., www.shambhala.com.

The Upanishads translated by Eknath Easwaran, founder of the Blue Mountain Center of Meditation, 1987, reprinted by permission of Nilgiri Press, www.nilgiri.org.

Dedicated to those who helped me -

Albert Einstein - His work in space-time started this exploration. Later he read the thesis and offered helpful ideas.

Karl Brouwer, Karl Menger, Urysohn, Witold Hurewicz. and H. Wallman. They provided the most authoritative description of the structure of space.

Bertrand Russell - the philosopher and mathematician. He provided another definition of space similar to the above.

Sir Arthur Eddington - He defined space-like and time-like spaces.

Professor Olga Bridgman who encouraged this exploration in an honors course.

Professor Father Raymond Henri Shevenell of the University of Ottawa. He permitted the full development of this unique work in his department and called on the help of Albert Einstein.

Wolfgang Pauli who encouraged this work and based some of his own speculation on it.

Marjorie Van Dusen, my wife and helper in every stage of this work.

To various friends and children who let me show them 5 dimensional space while asking helpful questions.

Other Books by the Author

The Design of Existence

Beauty, Wonder, and the Mystical Mind

Returning to the Source

The Presence of Other Worlds

The Natural Depth in Man

Moments of Enlightenment (Poetry)

Table Of Contents

Chapter 1

Introduction

1, 2, 3
Simple dimensions of space,
Known even by children
since the time of the ancients.
4 space
space-time
the physical world,
long known,
but only discovered by Einstein
as 4 space,
in the 20th century.
5, 6, and? spaces -
a simple extrapolation
anyone can understand.
But what a wonder!
The world just beyond the physical
begins to appear.
It begins to look
as though all there is,
is in this simple and neglected
structure of spaces.

Unknown to practically everyone on earth, all that exists is arranged in relatively simple structure known as the dimensions of space. The first three dimensions of space are well known. When you order a cabinet from a catalog it lists the height, width, and depth. These are the first, second, and third dimension of space. These dimensions have been known for centuries.

Albert Einstein's work opened our understanding of the fourth dimension, or space-time. For various reasons the fourth dimension of space is still poorly understood. Theoretical physicists profess to be unable to visualize four space. It appears they are going about it the wrong way. We will help you to easily visualize four space on our way to five space and beyond.

Beyond these few spaces we will discover there lie perhaps an infinity of further dimensions. All this is in a structure so simple that a child can easily understand it. Though this structure comes from mathematics it is really a simple mathematics without numbers. It really deals with relationships. In a few minutes we can lay down this simple structure. Then we will use it to create the one, two and three spaces already familiar to us. This will give us confidence that this structure can show us further dimensions of space. Then we will generate four space or space time and come to see it as ever present and familiar. We will then learn how some have made it difficult to visualize.

With this much as a foundation, we can then go on and generate the fifth dimension and even higher spaces. Lastly we will look at the amazing implications of all this.

Does all this require an Einstein to understand it? I have briefed a number of friends and even children on higher dimensions. All easily understood it. Recently a carpenter friend was putting in a green house window for me. While we waited for two men to come and help lift it I

briefed him on higher dimensions of space. That evening he had guests whom he briefed on hyperspace. They enjoyed discussing and speculating on these matters. The next day he asked me a question so cogent I put it off to later consider it. So yes, ordinary people can readily understand these things, even children. The twentieth century only added one dimension to space. Let us start the twenty first century by adding three more.

Our Ground Rules

There are several simple things to understand. I have already started using the convention of numbers to describe spaces, i.e. 1 space, 5 space, etc. According to the manual of style for books 1 and 5 should be written out. It is clearer to use numbers. There is a world of difference between 3 space and 4 space. To use numbers makes the description of spaces bolder and clearer.

If we sought one word to characterize all spaces above the 3 dimensional that word would be **hyperspace.** This is the one word for this whole realm. **Hyper** what is above, beyond, more than, ordinary 3 space. So all spaces above the ordinary 3 dimensional spaces are hyperspaces. At present 4 dimensional space-time is the only known dimension of hyperspace. But in this book we will add 5 to 7 dimensional hyperspaces.

In this work we are always dealing with **real space.** In the literature you can find all sorts of careless speculation about space. People continue to suppose all sorts of things about 4 space and even occasionally 5 space. Here we are governed by the **actual structure of real space.** In an extensive survey of the literature I have seen an amazing array of speculations even from physicists. As far as understanding the real structure of space is concerned these speculations are quite useless. They haven't even been suggestive as to how one should proceed to understand higher spaces. Anyone can guess and speculate but here we are governed by the real structure of space.

Mathematics really has two branches. In **pure mathematics** the mathematicians work with mathematical relationships without regard to real life applications. I remember the first time I talked with a theoretical mathematician. He found it strange I would try to link the structure of dimensions of space to real life. It was as though I had committed an unpardonable sin. This is a work in **applied mathematics.** That is, we care very much what relevance this mathematical structure has to our life.

There is another use of space which is misleading. Say there are 10 fish in a fish tank. To describe the position of all 10 we need three dimensions for each so we have 3 x 10 or 30 dimensional space. We need at least one time dimension so to describe the position of 10 fish at a moment in time we need 30+1=31 dimensions. This is an analogical use of dimensions. This is not 31 dimensional real space. 10 or any number of fish in a tank exist only in 4 dimensional real space.

So, as we explore hyperspaces we are always guided by the structure of real space because our aim is applied mathematics. Neither wild speculation or even the analogical use of space is permitted here. We are looking for the nature of existence in real higher spaces. Where we reach the limit of our understanding it will be so indicated. Even though we appear to be limited by a structure, still the results will be quite amazing enough - amazing in part because we keep to the known structure of space itself.

How I Wandered Into Hyperspace

World War II broke out in 1941 just as I was graduating from high school. This will save you a calculation - I am 78 years old. I had already seriously studied popular works in nuclear physics and was considering entering this field. The war took me off to sea for almost four years in the U.S. Merchant

Marine. Almost every ship I sailed on carried an explosive cargo. For instance I was on a liberty ship fully loaded with every explosive known to man. We were sent without an escort ship, because if hit, we would destroy everything in sight.

When we lay in Tarawa the Japanese bombed the new airstrip thirty nine times. I remember shouting up to the bomber, "Just strafe us and we'll destroy every vessel and land facility close by. Luckily the pilot did not hear me. He bombed the airstrip which was soon repaired. My ship was a 441 foot bomb. There was no need to worry about life jackets or lifeboats. If hit the entire ship would become scattered fragments. Because I had to work the next day, if still alive, I slept through most of the night bombing raids.

At the end of the war I entered the first available class at the University of California at Berkeley. We veterans were perhaps the most mature and serious entering class the University ever had. I completed the four years for the Bachelor of Arts in two and one half years.

As an honors student in graduate work in psychology, I was finally allowed to take one class that was whatever I wanted. Essentially I went back to the matters that intrigued me in high school. It all began with P.D. Ouspensky's **Tertium Organum**.[1] Ouspensky's work speculated on the nature of higher spaces. My master's thesis became more speculation on hyperspace. I had not yet found the structure of space. It amazes me now that Professor Olga Bridgman (in the Dedication) even accepted such a work. It now looks quite useless to me, because it was a beginner's effort to penetrate hyperspace.

Although I enjoyed learning, the University seemed rather limited. My field was clinical psychology, in which psychology was used to help people. The great gods of the field were then Sigmund Freud and Carl Jung. They were, not only not taught, but not even referred to. The clinical field was somewhat new and we were in a department which always put science and experimentation first. The leaders of the department worked with rats. I wanted practical clinical training.

We had to serve one year in a field setting. I became part of the psychology staff at Fort Ord, a major army induction and training center. We ran into the full range of problems that kept soldiers from completing basic training. Each case was exciting. I well remember the narcoleptic soldier who fell asleep while marching and while under machine gun fire. We had such a problem with real and faked homosexuality (to get out of the service) that I learned to speak the special language that marked a soldier who had been in the homosexual culture for some time.

After a year I was ready to complete the doctorate. I wanted a school that would provide better training in clinical psychology and would be open to larger human issues. I wrote to every school in the world that taught my field. My wife and I went to the University of Ottawa, Canada. This was a big change for us. The University was Roman Catholic and I was not. It was bilingual, French and English, in a foreign culture. This was a good choice. As a Catholic University the big issues of the nature of things could be approached and discussed.

For my doctoral thesis I came back to hyperspace. Only this time I found the real structure of space. As a clinical psychologist with only an interest in mathematics the greatest part of my problem was to find the real structure of space. I can remember the electric moment I first read the structure of space in an obscure article by Menger.

Then I found some other similar definitions. I can still remember being in the library stacks and taking down Bertrand Russell and finding another parallel definition. I then only knew Lord Bertrand Russell as a philosopher, but he wrote with Alfred North Whitehead the monumental **Principia Mathematica.** Shortly thereafter I learned of time-like and space-like higher spaces from Sir Arthur Eddington. Finally I had the real keys to higher spaces.

Though these keys were intrinsically simple they were extremely difficult to find. The actual task of generating and visualizing 5, 6, and 7 space was not very difficult. I had to go through an oral examination on this thesis under three professors. I had an unfair advantage. I was the only one present who totally and thoroughly understood hyperspace.[2] My thesis committee were intimidated enough to take the unusual step of asking Albert Einstein for his opinion. Then at the Princeton Institute for Advanced Study, Einstein read my thesis and commented on it. He sent a note in English saying he couldn't really speak of these things in English so the bulk of his response was in German.[3] He applauded the mathematical structure as correct, the point on which I felt weakest. So I graduated in 1952 Summa Cum Laude, with highest honors, I believe the first such honor given in that department. I immediately went to work as a clinical psychologist.

For several years I tried to interest various scientists in the ideas of the thesis. Basically all had difficulty believing higher spaces even existed. So I gradually gave up and put the work aside. One publisher would publish it as a book but required a modest subsidy I didn't have. So it was put on the shelf.

Over the years I explained hyperspace to many and spoke of my letter from Einstein. Reviewing a tattered file I also find letters from Wolfgang Pauli and Rupert Shelldrake.

Lately I started to resurvey the whole field of hyperspace. Michio Kaku's **Hyperspace** particularly helped.[4] Einstein was involved in the grand effort to find the Unified Field Theory. This would tie together all the main forces of physics. Various efforts to do this kept pointing to the existence of higher spaces. The unification of physics could easily take place in higher spaces. This does not surprise me. With higher dimensions of space there is increased freedom. What seems impossible in 4 space easily becomes possible in higher spaces.

This work clearly stems from Einstein's relativity theory. Without his work on 4 space I would not have asked the nature of higher spaces. In the intervening forty eight years the various efforts to find a Unified Field Theory have led to a greater acceptance of the possibility of higher spaces. This work should have been brought out in the late 80's when the need for it first became apparent. All of the current work most closely related to this is in theoretical physics where higher dimensions are often referred to.

Though I had to review current theoretical physics as background to presenting this, it became apparent to me current theoretical physics actually contributes almost nothing to this work. So it seems best if this is presented in the simple fashion in which it was presented to friends. They had minutes to grasp it. You will have more time to examine it all. When we get to 4 space we will lay out why physicists have trouble visualizing 4 space - a task you will find quite simple when presented in the correct way. "It is impossible to imagine a four-dimensional space. I personally find it hard enough to visualize three dimensional space!" says Stephen Hawking in **A Brief History of Time.**[5]

Let us deal with a paradox in the midst of all this. Why on earth was this theory developed by a clinical psychologist? If my thesis topic on hyperspace was rejected at either the masters level or at the doctoral level I would have understood.

Hyperspace looks inappropriate to psychology. Yet it turns out to be appropriate. When I first described what 5 space had to be like, it was immediately apparent to me to be the lowest level of mental functioning. One of the reasons theoretical physics today can't find 5 space is that they are looking in the physical world, the only world they know well, for something that transcends 4 dimensional space-time. 5 space cannot be found in 4 space.

It turns out each level of space creates a whole new world. This work really needed someone who loves and respects theoretical physics and yet is of another, but related field. This is a cross discipline work. It needed someone at the boundary of different disciplines.

But there are deeper reasons why this should emerge from me. I went into clinical psychology just to make a living in a field I enjoy. Yet I have always had a deeper occupation. Since childhood I have always wanted to know the overall nature of existence. Obviously dimension theory is part of that because it points to the structure of the whole of existence. In a few lines I can sketch the history of one who always wanted to know it all.

I am of the personality type of people who have intuitive sense of the design of it all. In infancy through adolescence I had a series of experiences of the Divine. It was as though the design of it all was shown me with the details left out. Some thirty-four years ago I found the work of one of the greatest mystics (those who have experienced God), Emanuel Swedenborg. For years I have collected the great mystics and recently published a book comparing the mystics of all the great religions. [6] With retirement I have concentrated on mysticism.[7]

Where can one best find the design of it all? In mysticism. This field differs from religions which are full of historical, cultural, and social factors. If you will, mysticism is the empirical side of religion. The mystics of all religious traditions tend to point to the common center of it all, the universal. Dimension theory represents an earlier attempt to see it all. It lies wholly in science. My long venture into mysticism was to develop an even more comprehensive picture of the all. A recent book of mine is titled **The Design of Existence.**

I see no real conflict between science and religion so I can be an honest member of both camps. Science has ways of restricting itself to develop relatively certain knowledge. The methods of science are these restrictions. Also science is limited to the seen. I often solve practical problems using the methods of science. Are science's methods sacrosanct? No, they too are evolving. So science can only come to relative certainty, never absolute certainty.

In contrast religion specializes in the unseen using methods far less rigorous than science. As a scientist, religion looks remarkably careless to me, practically never measuring anything, even when measurement is quite possible and useful. As a religious person science looks pedestrian and slow, overlooking the great essentials of life because they do not fall into its restrictive method.

Actually science and religion complement each other. If your concerns are the seen and measurable then science is the better way. But if the larger and more ultimate questions are your concern then religion is the better way. As a species of work this falls wholly within science. We have an exact structure of space to refer to and we can look at our ordinary experience to find what it is referring to.

My thesis of 1952 described the 5 to 7 levels of real space. I made various efforts to draw attention to it and eventually gave up for 48 years. Unlike the total skepticism in 1952, developments in theoretical physics have now pointed repeatedly and clearly to the existence of higher spaces. In the intervening 48 years I fully expected someone to find the real structure of space and its implications by now.

Though there has been an immense amount of very clever speculation it seems to be with a total disregard of the real nature of space. I have yet to find anyone but pure mathematicians to even allude to the real structure of space. Without this structure speculation wanders off into strange and imaginary realms, far from science.

I here carry the development of 4 to 7 space as far as I can go. Someone younger with the interest will have to carry it further.

Chapter 2

The Structure of Space and 0 to 4 Spaces

> *Whereas nature doth not admit of more than three dimensions...it may justly seem very improper to talk of a solid...drawn into a fourth, fifth, sixth or further dimension...Nor can our fansie imagine how there should be a fourth local dimension beyond the three*.
>
> J. Wallis, **Algebra,** 1685

A major difference between this book and other works on space is that the others seem to universally overlook the actual structure of space. I spent literally months looking at everything that might be dealing with real space and have yet to find anything, other than limited areas of mathematics that describe the actual structure of space.

In contrast we will be guided by the known structure of space. Without this structure we could go off into endless speculation, full of error as countless authors have done. It quite amazes me that no one has thought to look at the real known structure of space. If any reader comes across any real reference to this structure before the date of this work, would they please send me a complete reference through the publisher.

The greatest difficulty in conceiving of this work was not in visualizing higher spaces. It was simply my finding the structure of space. This was especially difficult because I am not a mathematician. At that time (1951) the major reference systems in mathematics were not available. Yet the structure of space is simple, very, very simple. This structure is rarely referred to even in math. When Albert Einstein read my thesis he was aware of this structure and said the structure in the original thesis was correct.

First a little review so you understand our parameters here. The first three levels of space are widely understood and accepted. All spaces beyond these three are termed **hyperspaces**. Hyper simply means beyond the well known three levels of space. The 4 through 7 levels of space dealt with in this book are all hyperspaces. The term has no connotation of whether they are real or not. It only means beyond the first three levels of space.

For simplicity and clarity we will say simply 3 space, 4 space, or whatever. Convention has it these numbers are to be spelled out, but this use of numbers makes it clear and simple. By the time we are done you will have a strong sense of the differences between various levels of space.

It turns out these spaces are dealing with entirely different levels of reality. The structure of a space spells out what is possible or not possible in that level. Occasionally we will say 4 **di** space meaning four dimensional space. Again it is short and clear.

This is a work in applied mathematics. There is a **pure** mathematics which deals only with mathematical operations. Pure mathematicians generally are little concerned where their mathematics might be applied. This is a work in **applied mathematics**. We are very concerned how the structure of space relates to levels of reality we know of.

Also we are always in the realm of real space. Space and dimensions of space have been used in countless **imaginative ways** none of which concern us here. There is also analogical space. It may take 26 numbers to specify where fish are in a tank but this does not make the tank 26 dimensional real space. At this point in time no one has a clue as to what might exist in even 10 dimensional space.

The Real Structure of Space

In my original PhD dissertation it was necessary to develop the concept of space with full scientific rigor. Much of this is abbreviated here so we can get down to the real business at hand. The thesis surveys the history of dimension theory and how some approaches were eliminated over time.[1]

Projective and analytic geometry seem to describe higher spaces. Yet geometry was eliminated as an approach because, though it could produce complex diagrams, it was no help in the actual conception of space.[2]

The branch of mathematics called topology developed the most accepted and usable conception of space. Topology is a study of mathematical relationships in such primary terms that basic elemental structures can be delineated.[3,4]

The best known branch of mathematics in everyday use is metrics, or the measurement of things in terms of arithmetic. Less known is projective mathematics treated in the previous paragraph.

Not commonly known, topology is the study of the properties of geometrical figures that persist when the figures are transformed without regard to their metric or projective properties. The most spectacular examples of topology are deformations or 'rubber sheet geometry'.

If a figure is drawn on a rubber sheet which is stretched or compressed without breaking it, the topological properties of that figure remain the same while the metric and projective properties have changed considerably.

A ring may be stretched, bent, or tied in knots and as long as it is not broken it is topologically equivalent. A square, circle and irregular polygon are equivalent figures topologically since they are each plane figures which define a simple inside and an outside. A sphere and a cube similarly are equivalent figures topologically.

Topology by its nature permits the study of the essential mathematical properties of a thing divorced from its metric and projective accidents. Because of this it has succeeded in giving the most penetrating characterization of space and dimension that can be found in mathematics. The study of space and dimension as a mathematical entity is the proper domain of topology.[5] The main authoritative works on dimension theory today are those of Menger,[6,7] and that of Hurewicz and Wallman.[8]

We can simplify their basic definition of space as follows:

A series of n-1 dimensional spaces forms a space of n dimensions. Here series means 3 or more elements placed so as to become continuous, i.e., a series of points becomes a line. Each point is a 0 space. A series of zero spaces becomes a 1 space or a line. This simple definition will become clearer as we use it.

We can immediately apply this to 1,2 & 3 space. 1 space is a line. A series of lines creates a plane or a 2 space. A series of planes creates a solid or a 3 space. As simple as that. Some things follow. If we cut the plane, the boundary of the cut is a 1 space line. If we cut a solid, at the boundary of the cut is a plane.

In the mathematical logic of Bertrand Russell another definition of dimensions of space was found.[9] It is equivalent to that above. Mathematical logic demonstrates the continuity between mathematics and logic.

The last mathematics that contributed to this work is the E group theory of Sir Arthur Eddington.

A group, formally defined, is a set of finite or infinite elements, termed operatives, for which the product of any two, equals a member of the group, i.e., AB=C, where A, B, and C are operatives in the group. Product here does not necessarily mean the multiplying of A by B, but it means operation A is followed by operation B. A multiplication table, or better a matrice, forms a group since the product of any row by a column yields a member of the group at the point of intersection of the row and column. In fact any group can be arranged in such a table.

The group of interest here contains sixteen operatives. Eddington, who has done the most work with this group, has termed it the group of E operatives. Dirac in 1928 made the first important application of the group when he showed that its pattern characterized the operations of electrons.

In his **Relativity Theory of Protons and Electrons** and more fully in his **Fundamental Theory,** Eddington used the E group to link together the macroscopic Relativity Theory of Einstein to microscopic quantum mechanics. Eddington's fundamental assumption was that in nature there are equivalent sixteen fold frames of operations which can be appropriately represented by the set of E operatives.[10] More specifically he identified the E operatives with dimensional operations of real space.[11]

In this extensively developed application of the E group, Eddington showed that the E operatives fit the pattern of dimensioning in real space. He shows the first three operatives in their relations are equivalent to operations in the first, second and third dimensions of space, and that the value of $\sqrt{1}$ of these operatives refers to space-like changes.

The fourth operative has value of $\sqrt{-1}$ which he identifies with time-like changes.

From Sir Arthur Eddington we learn there are two kinds of space - space-like and time-like spaces. What does this mean?

Space-like spaces - the n-1 dimensional elements exists **simultaneously** just as the planes of a solid exist simultaneously. This is a space-like space. 1,2, and 3 space are all space-like.

Time-like spaces - the n-1 elements exist **sequentially.** For instance we can generate a 4 space by letting a book fall. The book is in successive positions as it falls hence 4 space is a time-like space.

Much of the difficulty of modern physicists understanding 4 space is that they try to conceive of it as space-like. According to E group theory 4 space is fundamentally time-like. 5, 6, and 7 di spaces are all timelike.[12]

With the following simple elements we now have the keys to generating higher spaces:

a) the topological definition of space

b) the parallel definition from mathematical logic

c) Eddington's E group theory which defines whether a space is space-like or time-like.

Let us now apply these keys to the known 0 to 4 spaces.

0 Space

0 space is simply a point. We cannot specify where it is. That would take more dimensions. We also cannot draw a point on paper and ask its area. Area would take another dimension to describe. So we can't really say anything about its location, size or shape. It is just a point. Perhaps the singularity of the Big Bang was such a point. Notice one of the things that clarifies what a space is, is to examine what it doesn't contain. 0 space is in part a convenient place to start because zero space can generate 1 space.

1 Space

We seek to create a 1 dimensional space so n=1. We must generate it with n=1-1 or 0 space elements. We take a point (a 0 space) and generate a whole series of points. Though we demonstrate this simple process in a drawing we can't actually have **any thickness** to the line. That would take another dimension. Nor can we really say anything about the shape of this line. Our line is highly theoretical. 1 space is space-like, i.e., all the points on the line are there at the same time.

Though we present our 1 space line as a drawing it cannot actually be drawn without involving the other dimensions. Try drawing a line that has **no thickness**. Any depicted line is actually in 4 space. So we have a very naked theoretical line. 1 space is a beginning potentiality not really a demonstrable reality.

We have a number of bad habits concerning spaces. 1,2, and 3 space are all theoretical and can't be shown until we get to 4 space. Yet we persist in saying 1,2, and 3 space are real and apparent and 4 space is questionable!

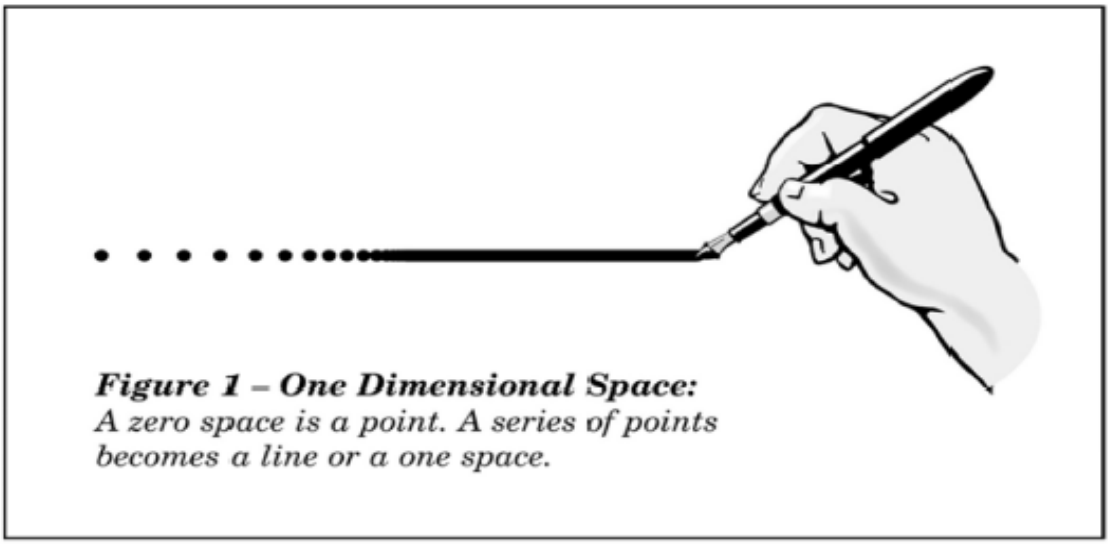

Figure 1 – One Dimensional Space:
A zero space is a point. A series of points becomes a line or a one space.

2 Space

The n of this space is 2. We take a n-1 or 2-1 = 1 space line and generate a series of them. This creates a 2 space plane. 2 space is a space-like space so all the lines exist simultaneously. Time doesn't yet exist! Something must exist in sequence for there to be time. Similar to the 1 space we

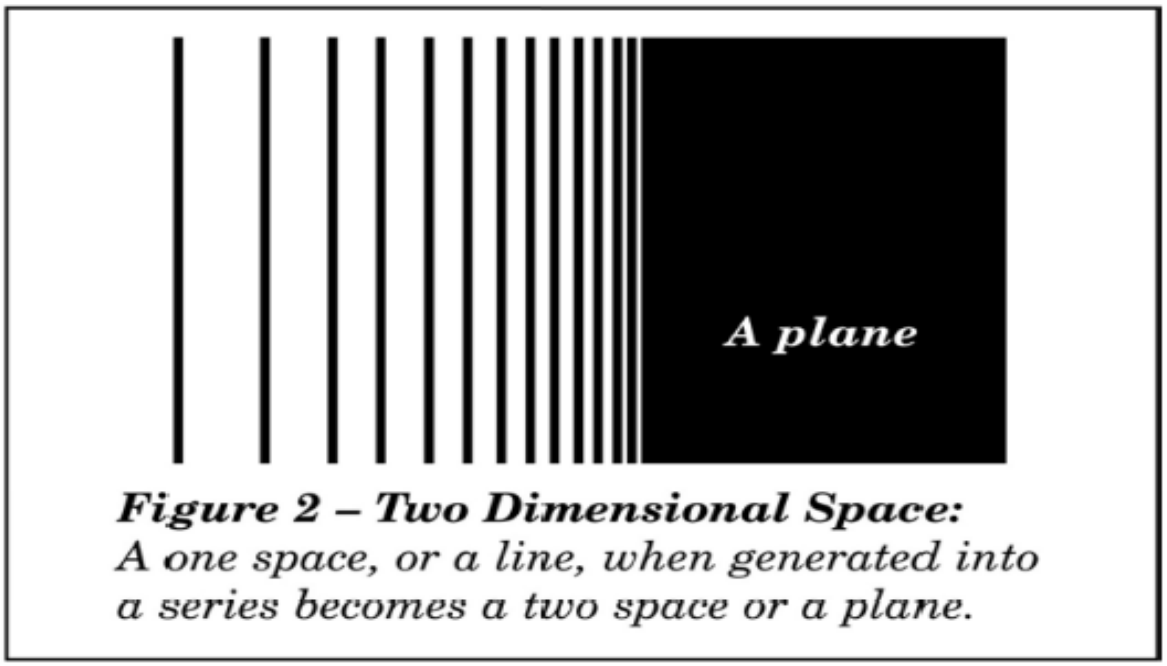

Figure 2 – Two Dimensional Space:
A one space, or a line, when generated into a series becomes a two space or a plane.

can't say where our plane is in relation to anything else. That would take more dimensions. I am not sure we could even specify the size of the plane either. We have a naked theoretical plane that doesn't yet exist. Like 1 space this 2 space is really a potential of existence. It is not yet in existence. We provide a diagram just to make the concept of the process clearer. A 2 di space is commonly known as a plane.

3 Space

N here is 3. N-1 or 3-1 = 2 space generated into a series creates a 3 space. This is normally called a solid. This does not mean a material solid. A solid is a mathematical concept. Each point in a solid can be defined by 3 numbers from any point in the solid. We come to what most people think of as space. When we walk around in our home we walk in our space which is defined by the floors, wall, and ceiling. Yet, like 1 and 2 space this space doesn't yet exist in time. It is highly theoretical - a naked mathematical concept. Time and the reality of our space doesn't yet exist. According to E group theory 3 space is space-like. This means the planes exist simultaneously. Nothing is in sequence yet. 3 space, though easily conceived of, doesn't yet exist!

Why do I stress that 1,2, and 3 space are theoretical? As we will show 4 space is in time. It exists. It is quite impossible to demonstrate real 1, 2, 3 space without actually showing these spaces as an aspect of 4 space. Everyone has it backwards. 1, 2, 3 space are theoretical abstractions, potential levels of existence. Their real existence doesn't come about until we reach 4 space.

4 Space

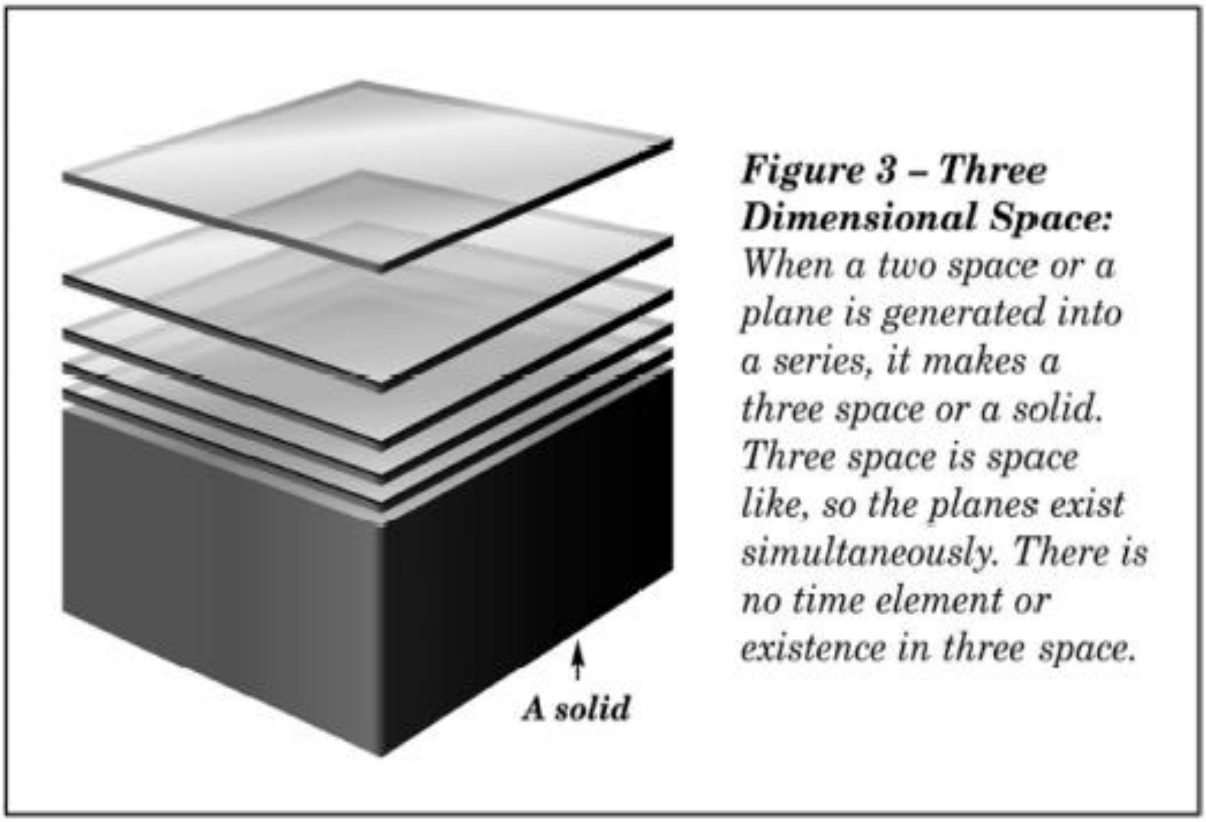

Figure 3 – Three Dimensional Space: *When a two space or a plane is generated into a series, it makes a three space or a solid. Three space is space like, so the planes exist simultaneously. There is no time element or existence in three space.*

It has literally taken centuries to conceive of 4 space. Einstein did not come to it by a simple application of the structure of space. Had he done so the present conception of 4 space in physics would likely be a good deal clearer. A major element missing for physicists is Eddington's E group

theory which clearly indicates 4 space is a **time-like space.** We will see what this means in a moment.

We want to examine 4 space. Then it must be generated by a series of 4-1 or 3 dimensional entities. A 3 di entity is simply an extension, or in mathematics it can be called a solid. A series of solids generates 4 space. But because 4space is time-like this series of solids must be successive. We can provide a representation of 4 space just by dropping a book. The book represents our solid. The book dropped is in successive positions to indicate a time-like space.

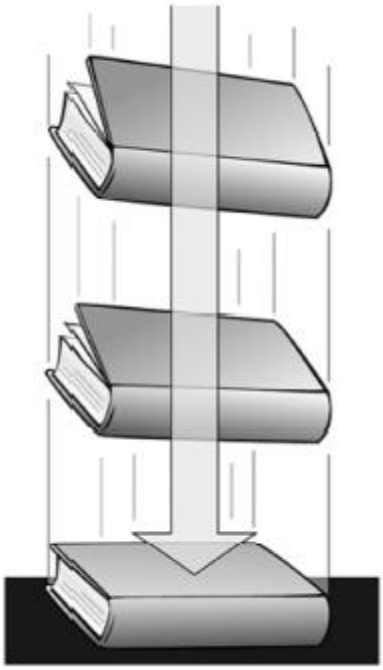

Figure 4 – Four Dimensional Space or Space-Time: *Four space is made up of a series of three space solids. This space is time like, so the solids are in successive positions. A falling book (solid) quite well illustrates four space. All examples of four space are physical or real matter.*

The *way* we proceed in this realm is to generate a higher level of space and then ask where is there any example of this.

Now where on earth do we have examples of 3 di extensions in successive positions? Simply everywhere in the physical universe. It is as though the mere potentials of 1, 2, and 3 space are realized and become real in a space with a time parameter. 4 space has 3 parameters of space and one of time. The time dimension appears to give reality to the 4 di object. Though we had our first look at 4 space by dropping a book, 4 space is the entire physical universe.

Everything is moving in relation to everything else. Even when a thing seems perfectly still on earth, the earth moves around the sun, which is moving in our galaxy, and our galaxy is part of the general expansion of the universe. Moreover even the perfectly still thing is full of movement at the atomic level.

Einstein worked at astronomical distances and with the limiting speed of light. He eventually needed Reimannian curved space to account for gravity. We are here considering these spaces up close, in simpler terms. So what is 4 space? It is simply matter in movement. And all movement of matter is in relation to all other movement. If you want to simply see 4 space, look about you. You are in it and your body is also matter in movement. Your body is of 4 space and you are in it. It is called the physical world.

Newton's work implied the universe had a single time. Einstein's work describes time as relative. It is relative to the position of objects. Time and the movement of objects is the same thing. Time is not an abstraction. Until recent decades all our measurements of time had to do

with the position of the earth relative to the sun. We now have far more accurate clocks based on the vibrations of a cesium atom.

We need to get accustomed to time as the relative movement of objects. But what if a stone hasn't changed position one whit in centuries? It is part of the earth which is engaged in considerable movement. Its very atomic particles are in considerable movement. We would have to extract an immense amount of energy to make the elements of the rock stop.

So in 4 space we have movement of two kinds - matter moving in relation to other matter and the very atomic structure of matter involves movement. To illustrate the generation of 4 space we simply dropped the book, representing 3 space extension drawn into a series creating 4 space. But all physical matter is an example of 4 space.

Some find it difficult to conceive of time as an aspect of space as in space-time. Here is an example. We see where two roads cross. Down one comes a bus loaded with children. Down the other comes a loaded cement truck. They are to both pass through the center of the intersection. Is there a terrible crash? No, they passed days or hours or minutes apart. They weren't there at the same time. Time is very much a part of our conception of space.

So where is 4 space? Every physical thing you see and deal with is 4 space. Even your body and brain are in 4 space. Your body is of 4 space as is the whole physical universe. Where can we see 4 space? All things physical are in and of 4 space.

THE PHYSICAL UNIVERSE IS 4 SPACE. ALL THINGS OF 4 SPACE ARE PHYSICAL. 4 SPACE AND THE PHYSICAL UNIVERSE ARE THE SAME THING.

Those who have difficulty conceiving of 4 space are likely trying to see 4 space as space-like. It is not. It is time-like. It is matter in movement. This should not be difficult to conceive of. When you get up and walk around your house you are matter in movement, i.e., drawn into a series. As you move so does the earth about the sun. The rotation of the earth makes day and night. It is all in movement.

Can we reverse this time? We would have to put all matter in the universe back to a prior state. This is not possible. Could we even reverse time in a single atom? I very much doubt it. In the physical world there is time's arrow. With careful study we can always determine what was prior. Time marches on. It does not appear the time of the physical world can really be reversed.

But as we did in lower spaces we can ask what does not exist in 4 space. Our body, and our senses, and nervous system are all of matter, in 4 space, physical. Missing is everything of consciousness, memory and our entire inner life. In 4 space what was, is no longer. In memory what was, happened, and yet remains in some form. That is not possible in 4 space. Once past it is past and done with.

When we carefully developed 1, 2, and 3 spaces, which everyone considers so obvious, I did not expect these would be only potentials of existence and beyond demonstrating in any real way. How can you draw a line of no thickness, and a plane of no thickness. We only represent these by drawings. Isn't it odd that 1, 2, and 3 space seem like empty possibilities until they suddenly come together in 4 space and appear manifestly. When 4 space was generated there was no way to predict the physical universe would appear as a bold example of 4 space. Perhaps sequential movement, and through that, the sudden appearance of time predicted 4 space would be real and manifest.

Why do physicists and others continue to have difficulty conceiving of 4 space? There appear to be a number of factors at work:

a) There is a general unawareness and disregard of the structure of space

b) Eddington's work that describes space-like and time-like spaces is little recognized even though it is a major key in these higher spaces. Many try to see 4 space as space-like. But when seen as time-like and involving sequential movement it becomes quite apparent.

c) Most workers in this field have followed Einstein's lead and gone off into the most abstruse mathematics and speculation.

d) I make a bold use of reality by asking where, if anywhere, this level of space is represented. In this way every bit of the physical universe comes to illustrate 4 space. It is not so difficult to conceive of when my own body and all the things about me illustrate 4 space.

I believe a combination of these factors makes 4 space difficult to conceive of for some. It is hoped this difficulty will now pass.

What on earth might 5 space hold? It has two time parameters! We will proceed as before by generating 5 space and trying to limit ourselves to what the parameters of this space suggest. Then we can ask where, if anywhere, it might exist?

Chapter 3

5 Space

With the help of...theories we try to find our way through the maze of observed facts, to order and understand the world of our sense impressions. We want the observed facts to follow logically from our concept of reality. Without the belief that it is possible to grasp the reality with our theoretical constructions, without the belief in the inner harmony of our world, there could be no science.

A. Einstein and L. Infeld,

The Evolution of Physics, p. 312

When we were in 0 to 4 space we were mostly in known territory. For several reasons the highest level of 4 space or space-time has proven the most difficult to conceive of. 4 space breaks with the 1, 2, 3 space-like spaces into a time dimension. Those who persist in trying to conceive of 4 space as space-like have had an unnecessary difficulty. But once you discover 4 space is matter in movement it should be easy to recognize. Matter in movement is all about us. We see it everywhere in the physical world. 4 space or space-time is the physical universe.

We are in the midst of a giant example of 4 space. Every point in the physical world can be defined by 3 dimensions of space and one of time. And time here is the relative movement of matter. It is not an abstraction separate from moving matter. And matter even in its atomic structure is made up of relative movement. And thus far we see our simple formula for the structure of space generates the already known dimensional levels of space.

But in 5 space we use our familiar formula to describe a space that hasn't been described before. To my knowledge real 5 space has not been described before, other than in my doctoral thesis written 48 years ago.[1] It does not appear anyone has attempted to describe 5 space based on the structure of space itself.

My original thesis had the considerable rigor required of a doctoral thesis. This made it challenging to understand. Now we can trim much matter that only made it difficult. Now I can avoid all the complexity, which only distracts from the heart of the matter. For the most part the world paid little attention to the original thesis and looking at its difficulty one can easily see why.

5 Space

In this case the level of space = 5 and this space is made up of 5-1 or 4 space entities. We also know from E Group Theory that 5 space is a time-like space as is 4 space. So in 5 space we have the three parameters of 1, 2, and 3 space, plus the time parameter of 4 space and then one more time parameter. 5 space has three space and two time parameters.

This is the first time we have run into something with two time parameters. One inference I would make is that we are no longer in a physical realm. All things in the physical world have three space and only one time parameter. The second time parameter takes it out of the physical world. If 5 space were arranged like a history of physical events then we would have the second time parameter defining where we are in this history.

How large is a series? How many lines in a plane? Since these lines have no width one could say there are an infinity of lines in any plane. Then the series of physical events in 5 space is also infinite.

How could one have an infinity of physical events all at once? It would take up an infinity of space. We can have an infinite series in 4 space - such as a moving car, because at each instant the car moves on. The car moves through the instantaneous nows and doesn't clutter up the world with

its past. In 5 space there must be some sort of transformation from the physical realm into what looks more like a history of physical events.

This "history" can then be a series of physical events of successive time dates existing all at once. Then we have a series of physical events existing all at once with different time dates our second time parameter.

I looked everywhere for such a reality and could only find it in perception and memory. Let us take a series of physical events and watch, in slow motion, as they are transformed from 4 space to 5 space. Once you see it, it is so simple.

A woman is seated comfortably watching the sunset. The sun is low on the horizon. Clouds and the sky are changing colors. The situation in the outer physical world is simple. The sun is setting and time is passing. She perceives changes in the sun and the clouds and sky. These changes are reflected in changes in her brain. That is the physical side of it. But now we can look at the inner side, her conscious experience.

Inwardly she is not limited to just what is before her. She may ask herself if the sun is really setting? She fixes its position in relation to a cloud and sees it slowly move and set. She even notices how the sun seemed to get more oblong when it was on the horizon. She can remember all this and even go back and review what sky and sun were like earlier. Her perceptions extend into a remembered series.

The outer 4 space series of the sun setting are transformed in her into a remembered series. This series is the transformation of the 4 space events into 5 space. The 4 space event has been transformed into the perceived event.

The memory of those perceived events has the three space and one time parameter of the outer events. But their memory also has a second time parameter of the order of events in memory. This perceived and remembered series has been transformed in her into a 5 space entity. The transformation from 4 space to 5 space apparently requires someone there to perceive the events. This is the transformation of 4 space into 5 space.

Each dimensional level creates a whole new form of existence. 4 space created the whole physical world. 5 space creates the lowest level of the mental world - a level near the physical world. We have been living and working a long while in 5 space without being aware of it.

The perceived and remembered series of events in physical 4 space has been transformed by someone perceiving and remembering it. So where is 5 space? In us. Mind is in hyperspace. The only example I can find in the whole world of such entities occurs in us when we perceive and remember events!

We are in 5 space. It represents the lowest level of our mental capabilities. Look for yourself. Is it not a series of 4 space events as perceived and remembered? We have the 5 space capability which is to realize outer events as perceived and remembered in a second time dimension. We are in 5 space. We have the capability of 5 space. The transformation from 4 space to 5 space occurs through our brain and senses to our inward conscious awareness. Our inner conscious awareness is of 5 space. The lowest level of our conscious existence is in 5 space. Look for yourself.

Isn't memory of outer events an excellent example of a series of 4 space events transformed in us. Our inner consciousness is right at the level of transformation of the physical to the mental. We tend to act as though we see the real outer world as it is in itself. We don't. We always perceive it from our angle. At the 5th dimension we enter into representations of the outer world. At the lowest level of mind we live in representations of the outer world. The essential transformation of 5 space is from the outer physical world to an inner world of representations of the physical world, to a mental world. What new reality

exists in 5 space? The lowest level of our mental world is our inner world of representations of the outer world.

It should not be too surprising that 5 space begins to look like the lowest level of mind. In going from 3 space to 4 space we suddenly generated the whole physical world. In going from 4 to 5 space it appears we enter upon the lowest level of mind.

In our own experience our mind is close to the physical world but not the same as it. In our memory we have the extraordinary freedom to look at events in our life as a whole. If we were limited to the now we would make no real sense of our life. If events happened and disappeared, as is true in 4 space, we would be trapped in an incomprehensible universe. In 5 space we have the possibility of considering the events of our life.

As we go up in dimensions of space we will see increasing levels of freedom so it was no surprise to me the forces of physics could not be put together in 4 space but easily come together in higher spaces.

We have only begun to understand 5 space. It is easy to raise some serious questions. For instance how does our 4 space brain relate to 5 space sense experience and memory? We will come back to the mind-body issue after we explore 6 and 7 space. It is enough to grasp at the present that just as our body **is an example of 4 space,** direct sense experience of the outside and memory **is an example of 5 space.** We need not go far to get an example of either space.

How does 5 space include the direct sense experience of the outer world? This experience is gathering the data that makes up memory. For instance the memory of events our body is involved in is 5 space. The memory of illnesses is in 5 space. But there are other kinds of memory, for instance the memory of dreams are records of inner rather than outer events.

What does the experience of outer space give us? As we view any outer scene there is a sense that we are doing this. There is also a sense that we will remember doing this. We can partly experience the sense of a spread of time when viewing an outside scene. It fits in the sequence of events that includes our body and us. We can partly experience the spread of events represented by memory. This gives a sense of inner latitude and freedom in contrast to our being held to the knife-edge now of 4 space.

The presence of our memories plays a role in our sense of who and what we are. We are constantly recording in our memory the doings of others as others. So our memory is part of the sense of what we are and also what others are.

Consider the time-dated series of memories stored by an individual reaching from his childhood to the present. These memories are events in the life of the individual. Somewhere along this series there remains the broken treasured toy. Not only the toy is there but the setting of the loss, the events leading up to it, and the reactions of the individual are still there. Somewhere along this person's series of memories is the complex setting and his reactions to a balmy summer night ten years ago.

Meanwhile, in the world of physics - the 4 space world, the toy has long since disappeared; and no one would argue that the summer night still exists. The physicist says they might have been at one time, but they are not now. But to the individual who experienced these things, somehow, somewhere, they still are. This is the difference between 4 space and 5 space. These stored memories are a series of events, all having some kind of existence, all with different time dates.

Is there anything other than memory that fulfills the requirements of 5 space? How about a book of history? It is an entity that contains a series of events! The history book is not history. It is only paper with marks on it until mind sees it as representing the past in present symbols.

One immediately looks about for some means by which the past event can be made real in the present without resorting to memory. For instance, wouldn't a photograph of a past scene do that? One might even say the memory is merely a storage file of photographs - a 4 space kind of entity. Even a photograph is not the same as 5 space existence. To physics it is only a collection of points on a surface reflecting such and such wavelengths. Only to a mind with memory of a past does a photo **represent** the past.

The truth of this matter is so simple as to make it in some sense difficult to demonstrate. As an example, one could operationally define the difference between closed book and open book. Then taking a book, flipping the pages, glimpsing print, diagrams, and illustrations, and hearing the pages turn, one could return it to the state, closed book.

A physicist will confirm that the book then has closed book existence. In fact he could burn it and pulverize the ashes so that it could not again have exactly the same open book existence. He can then pronounce it has not, and cannot have, the same open book existence.

Then in memory one could flip the pages, glimpse illustrations, and hear the pages turn, and then pronounce, "You may be correct in your realm, but somewhere in mine it has open book existence just as before." That is to say, the series of events (flipped pages), part of a larger series of events (individual's stored memories) continues to exist even though the time dates are before the now. In the experience of 5 space it is as though we go through the event again. It is still there though perhaps in a weaker form. In recall we visit a past event again. Without this time spread we would have almost no conception of ourselves and of the world.

It should not be too surprising that immediate sense awareness is easily confused with the 4 space of events happening out there. This is the very area of mind most closely related to the outer physical world.

Yet in our very sense of the outer world we can easily sense the time spread of our past experience of the outer world. This time spread is our memory and our sense of having experienced these things before. It is curious how we can tell the story of our scars and illnesses. All the doings of 4 space body have been recorded and are available.

THE LOWEST LEVEL OF OUR MIND (SENSE EXPERIENCE OF THE OUTER WORLD AND MEMORY) ARE OUR EXISTENCE IN 5 SPACE. 5 SPACE IS A POTENTIALITY OF EXISTENCE IN WHICH WE PARTICIPATE. SINCE 4 SPACE IS THE PHYSICAL WORLD IT SHOULD NOT BE A GREAT SURPRISE TO DISCOVER THAT 5 SPACE IS THE LOWEST LEVEL OF MIND

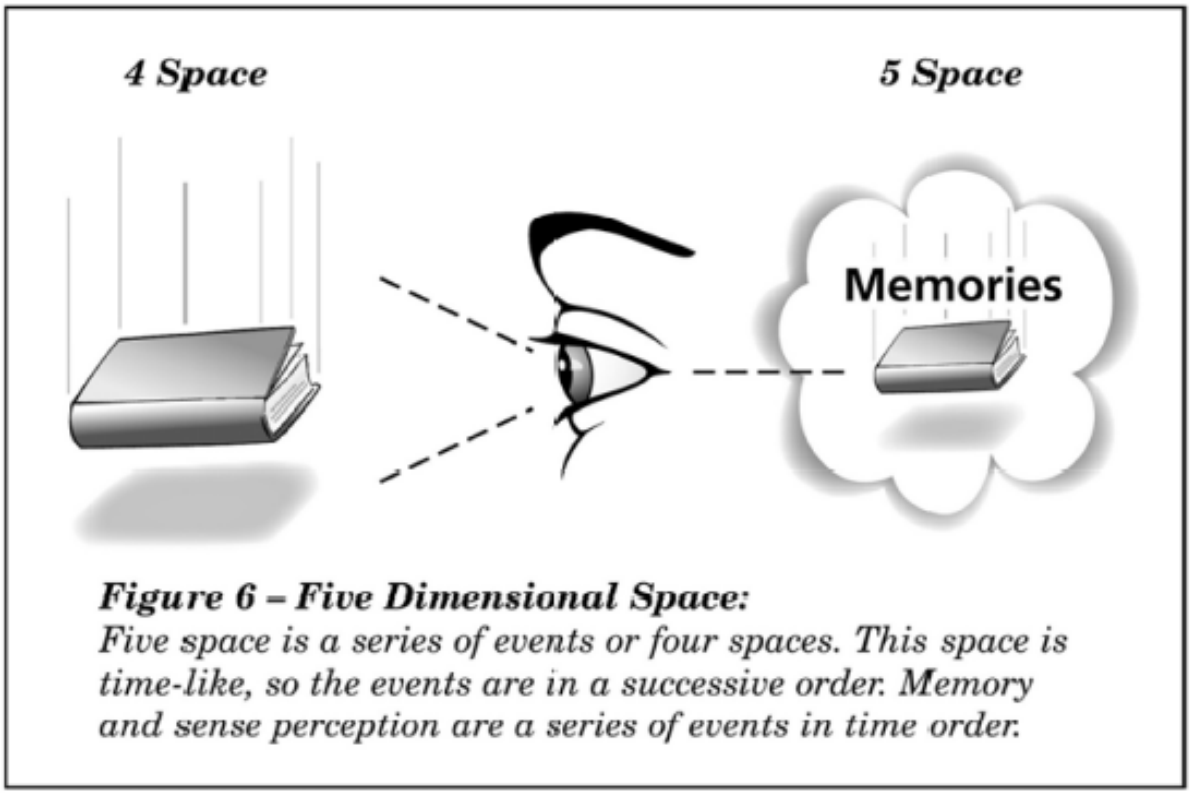

Figure 6 – Five Dimensional Space:
Five space is a series of events or four spaces. This space is time-like, so the events are in a successive order. Memory and sense perception are a series of events in time order.

Figure 6 — Five Dimensional Space:

Five space is a series of events or four spaces. This space is time-like, so the events are in a successive order. Memory and sense perception are a series of events in time order.

We can now ask ourselves what does this not explain. The answer is all the other levels of mind. We are also unclear how brain and mind interact in 4 and 5 space. This will be dealt with later after we looked at even higher spaces.

It seemed best to present 5 space in the actual sequence in which we discover it as a person perceiving and remembering. This will later fit with the mind — body interaction. But lest 5 space seem simple, there is another major aspect not dealt with yet. It occurs if I ask does 5 space include events that have not yet occurred in the world? The answer appears to be yes.

To deal with this we have to ask are these spaces created from the lower to the higher spaces, or do these spaces exist from the higher down? These spaces appear to be part of the natural order of things. We are discovering them from the very lowest ones first. That is only due to the limitations of our understanding! They were always the potential of existence. 4 space existed as soon as matter came into being. 5 space also then existed even if there was nothing around yet to manifest memory. We are dealing with hierarchical orders of existence. We only have to overcome limitations in our understanding to see them.

Furthermore given a higher space all lesser spaces it includes are already present. We are not creating this space by working upwards. We are discovering already existing levels of existence. Given a high level of space it includes in its very nature all other spaces that it is superordinate to. Part of this superordinate nature is apparently a whole series of time transformations quite beyond our present understanding.

Let us suppose future events exist in 5 space. What would they relate to in human experience? Precognition. When this theory was first conceived I examined the world's literature in psi phenomena and concluded the evidence for it was substantial. Yet this is an area of immense prejudice among scientists. As one expressed it so well, "I don't care what the evidence. Psi phenomena can't be true." Psi phenomena include extrasensory perception, precognition, and psychokinesis.

Often scientists are troubled by the fact 4 space can't have events that have not yet occurred. Well 5 space carries this as a possibility. In general psi phenomena are weak, and variable between persons, and generally unreliable. It takes a long series of tests with apparently gifted recipients to detect its existence as statistically beyond doubt.

I do not want to hinge the validity and acceptance of this theory on its capacity to explain precognition. So it is simply put forth here as another potential of this theory that will take some work proving and making acceptable. In terms of this theory I have difficulty explaining why precognition isn't more common! In ordinary 5 di sense experience of events we have a 4 di organ (the brain) involved. So precognition is probably made more difficult by having to perceive events that did not involve the brain.

Another difficulty with precognition and the fact that future events exist in 5 space is that seems to imply all events are fixed ahead of time. Without proving it let me say this is an error of perspective. Looking up from our lower dimensions of space it can appear all is predetermined. Looking down from higher space it becomes apparent everything is free, not predetermined. The most limited perspective is looking at higher spaces from the lowest ones. Looking down from higher spaces all appears free. This is an effect of perspective.

The possibility of explaining precognition is just another potentiality of this theory. Let us not rest acceptance of its validity on a phenomenon even scientists have trouble accepting "no matter what the evidence." All along I have implied I would develop this theory as far as I could. The possibility of this theory explaining precognition and precognition becoming one of its proofs is just passed by at this time.

At this point this theory simply shows that 5 space could explain the perception and memory of events. Operations in 5 space are of this nature. Is it really a great surprise that the structure of space that has the entire physical world in 4 space would also have these beginning operations of mind in 5 space?

Is this an abstract theory that is difficult to grasp? Not really. The reader is better off to view passing cars as an example of an ordered series of extensions, as in 4 space. A common example of relative movement is cars in traffic. That is, the nature of 4 space is everywhere apparent about us. Even our body is an example of 4 space. As we move about our body is an ordered series of extensions. Mysterious? Hardly. It is all very apparent We are just not accustomed to connecting the outer world with 4 space.

In a similar way the lowest level of our mind is 5 space. We perceive events and they go into an ordered series called memory. We are quite accustomed to this experience. We just didn't know it was part of the order of things called 5 space. This theory has made me aware of the time spread of perception and memory and how this is part of my freedom from physical events. Physicists working on 4 space literally have to catch events as they go by. In 5 space we have the beginning of a freedom to experience some of the scope of events. 5 space is the beginning of inner psychological time.

This theory accomplishes one more thing. If you read modern cosmology it is easy to see cosmologists are trying to squeeze everything into 4 space; mind, spirit, even God. This theory sets exact boundaries. The physical world is 4 dimensional space and nothing higher. Mind begins at the level of 5 space. We now have exact and testable boundaries. It takes 3 space and 1 time parameter to describe all of 4space. 5 space is similar except it has two time parameters.

People can be as casual and imaginative, as they want; yet now we have a real possibility of a boundary between the physical and the mental. How much talk there has been about mind as an epiphenomenon of matter! Real boundaries that speak of the nature of things help by clarifying the underlying order of things.

Summary

1 - We have used what mathematics suggest of 5 space to generate 5 space as a series of physical events with two time parameters.

2 - The only real examples of this we can find are the perception and memory of events.

3 - 5 space is here said to include future events. This could account for precognition. But this line of thought was not developed since this theory doesn't hinge on this, and it is too controversial an area.

4 - Also we have not yet elaborated the 5 di mind/brain interaction.

5 - Both 4 space and 5 space are areas we already know and have long since experienced.

6 - Is it really surprising that the next level above the physical world is a low level of mind?

Chapter 4

6 & 7 Space

To a frog with its simple eye, the world is a dim array of greys and blacks. Are we like frogs in our limited sensorium, apprehending just part of the universe we inhabit? Are we a species now awakening to the reality of multidimensional worlds in which matter undergoes subtle reorganizations in some sort of hyperspace?

Michael Murphy, *The Future of the Body*

Now that you understand the structure of space I can just say 6 space is generated by a series of 5 spaces. And E group theory tells us the 5 space elements are in a sequential, or a time like order. What is a 5 space element? It is sense perception and memory. In 14 dimensional space we would again see space like spaces but 6 space is time like. We are still on the realm of things moving and changing but as we go higher the very meaning of these terms changes. Each dimensional level is a whole new order of existence and the very nature of space and time changes with this order.

If we proceed as before from the lower to the higher level, 6 space becomes difficult to conceive of. But if we work from the higher to the lower level it is easy. And we can still apply the same test to see if we conform to the simple structure of space. You will recall that we do not create a higher order of space from a lower order. Rather the higher level contains all the lower levels. Given infinite dimensional space, all lesser spaces already exist because the higher contains the lower. But the lower does not contain the higher. At best we can only infer the higher from the lower. So let us work from 6 space to 5 space this time.

At each level we are confronted with something that doesn't immediately make sense. We need to play with the structure of space, and what we know of lower space, to finally see what a higher space is. Then we can apply the structure of space to see if we still conform to this structure. We would be quite lost without the structure of space, and without a step by step figuring out of lower levels.

Let's see. At the 5 space level we have a vast array of sense experiences called memory. Can we take some subset of these as a unique series and see what that series would be in 6 space? Let us take out the subset trees. Now all one's experiences of trees are in one series. What is this as a 6 di series? How about the abstract idea of tree? We easily speak of trees as an abstract category. As an abstract idea it is not this or that specific tree. A person can refer to their general experience of trees to get an idea of what is meant. It is not this or that tree and not even divided into deciduous versus evergreen trees. It is just tree as a general category. Now let us see if this abstraction 'tree' is a series of sense impressions. Yes. To understand what it means we look to our general experience of trees. Now if you and I lived in very different climates our tree experience would differ. Yet we could understand each other.

The concept tree is made of 4 di trees, plus another time series called memory in 5 space, and another time series which sums across all memories of trees. 6 space then appears to be a capacity to generalize across specific experiences. How is this sequential? Sequential at the level of 6 space means to develop a tendency. If questioned about trees we can go back over our underlying series to check again on what our idea of tree seems to be. If the 6 di tree was space like it would be like a fixed shape object. Our concept of tree is more like a tendency developed out of a series of experiences. If there is any dispute about trees we each have to sequentially go over our experiences and compare them. We aren't dealing with a fixed object but rather tendencies that can be gone over again and revised.

In 6 space we seem to have this capacity to generalize. I hope the reader gets a sense of an increased degree of freedom from the specificity at the 5 space level. We can operate in a little freer way. Without this capacity to generalize speech would hardly be possible! Much of speech is words used as generalizations. In fact every word in the last sense represents generalizations.

Now we can list a number of 6 space entities which are similar to the above generalization of a tree.

Common Name in 6 Space	**What Its 5 di Series is Made Of**
1 - Habits	memories of how we did things in the past
2 - Satisfactions	positive experiences
3 - Dislikes	negative experiences
4 - Our body image	Composed of a host of experiences of our body
5 - Sense of self, ego	our history as a person plus our experiences with others leading to a conception of our uniqueness
6 - View of ourselves as an athlete	Made of our athletic successes and failures
7 - Our morality	a self image composed of our moral acts
8 - Our capability	Composed of problem solving experiences
9 - Our sense of the meaning of words	the meaning of each word is a generalization from experiences of that word
10 - Etc., etc.	

And there are a host of other tendencies the reader might think of. Each of these chooses a series of 5 di sense experiences and reaches a generalization based on them. Our whole use of language rests on this capacity. Each word of our language we have heard and seen used a number of times until we have a general sense of its meaning. At the level of the 6th dimension we come into a new order of existence in which we derive from sense impressions generalizations. These are derived from a 5 di series of impressions.

The series of impressions is complex in itself. Picture the tremendous number of impressions which go into our concept of our own body. And these underlying impressions change as we age. The very thin bulimic girl who has a self concept of being grossly fat has somehow developed a peculiarity in her body image. She needs psychotherapy which is a reexamination and restructuring of her body image. In a larger sense our generalizations as to what we are, are quite central. It is our common currency both within ourselves and with others.

The new order of things that arises at the 6 dimensional level is the capacity to generalize, that is to deal with great amounts of data as simpler ideas. Without this we would be trapped in the masses of detail of our sense experiences. With it we can function with others and understand more broadly.

Is it a perfectly set matter? No, we can reexamine our experiences and even shift conclusions. We are dealing with tendencies subject to reexamination. The entire science of semantics arises because even our words don't have a fixed meaning. When there are differences with others as to how words are used we need to examine their meanings and compare ours to theirs to develop a common currency of words.

I recall a course in semantics which was boiled down to a phrase, "Cow one is not cow 2." So your cow and mine may well differ. When in doubt and difficulty with words we need to compare our cows. Yet this capacity for generalization at the 6th dimensional level of mind is a real step forward in understanding ourselves and the world. But note the double drawback in this area.

We can all reexamine our generalizations and improve on them. And others can do likewise. And when we come to compare our understanding to others more shifts are possible. So while the 6th dimension frees us up it still requires some work and caution.

THE 6th DIMENSION OF SPACE IS THE CAPACITY TO GENERALIZE ACROSS MASSES OF SENSE DATA. THE UNDERSTANDING OF LANGUAGE, ABSTRACT IDEAS, AND THE INDIVIDUAL'S OWN TENDENCIES ARE FURTHER EXAMPLES OF EXISTENCE IN 6 DIMENSIONAL SPACE.

7 Space

What do we already know of this level? Its 6 space elements are abstract ideas and the

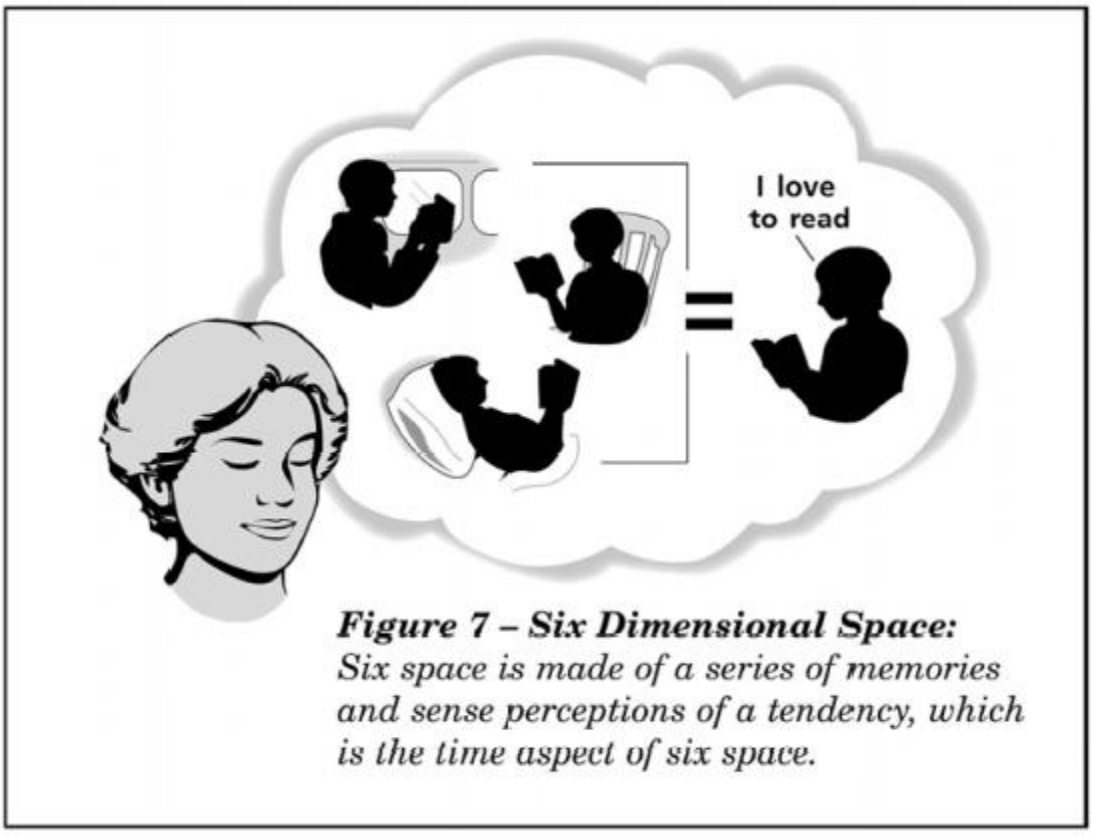

Figure 7 – Six Dimensional Space:
Six space is made of a series of memories and sense perceptions of a tendency, which is the time aspect of six space.

tendencies of the individual. From E group theory we know this is another time-like space. The next space-like space is at the 14th dimensional level. So the elements of the 6 space operate in sequence. At this 6 space level we found this means we are dealing with tendencies. A series of mental events used as a series is like the act of review of what is there just as we can review our concept of tree based on various trees we have seen.

So at the 7th di level we have the tendencies of a person approached in sequential order. What could be the new entity at the 7 di space level? Could it be the series of acts of knowing is the apperception of the act of knowing itself?

In 6 space we have intellect knowing something of its abstract nature, the concept of tree or our concept of our body image are examples. Could these in series be self reflection, or an awareness of knowing itself? In this level we might make choices based on our own tendencies. We are in the field of our tendencies. They are present in the act of self reflection. The outcome of this self reflective awareness would be based on the field of our own tendencies. So the 7th level would be based on the 6 di level. Why did we choose this or that? We could go back to our 6 di tendencies.

At the 7th di level we have a new freedom to look across multiple tendencies and to choose among them. Should we be able to cut the 7th dimensional level we would see 6 di tendencies along the border of the cut.

Let us for the moment review the new freedoms we have acquired by moving upward from the 4 space material world.

4 space - at this level we are a physical body undergoing changes in the knife edge of the now.

5 space - at this level we accumulate sense experiences and memory. At this mental level we are broader than the knife edge now of the physical world.

6 space - the capacity to generalize is born. We now can sense what we are and our situation in a more general way.

7 space - at this level we can self reflect and make choices more broadly based on our tendencies.

Each new level is a whole new kind of freedom or an independence from the lower level. If we were really only a physical body we would have no language (which requires generalization) and no sense of who or what we are. We would have no past. At the purely physical level we could just respond to current stimuli. If a flame burned our hand we would probably withdraw it without thought, as in an automatic response.

Einstein's 4 di space time was what started me off. I simply asked what is 5 space. This required finding the structure of space itself. I had no idea what higher spaces might actually be. Conceivably I could have run into a dead end at 5 space. But once 5 space appeared to be a lower level of mind it was almost inevitable that at least some further levels of space would also be mental. Why?

If 5 space is mind, at least some higher levels of space, being a series of mental aspects, would also be mind. 5 space is the most critical level of this theory. 4 to 5 space is the very boundary of physical existence and the beginning of mind in hyperspace. With 5 space accepted as mental, then at least several higher levels of mind are almost inevitable because we are dealing with mental events in series.

7 SPACE IS SELF REFLECTION BASED ON THE AWARENESS OF ONE'S TENDENCIES AND ABSTRACT IDEAS.

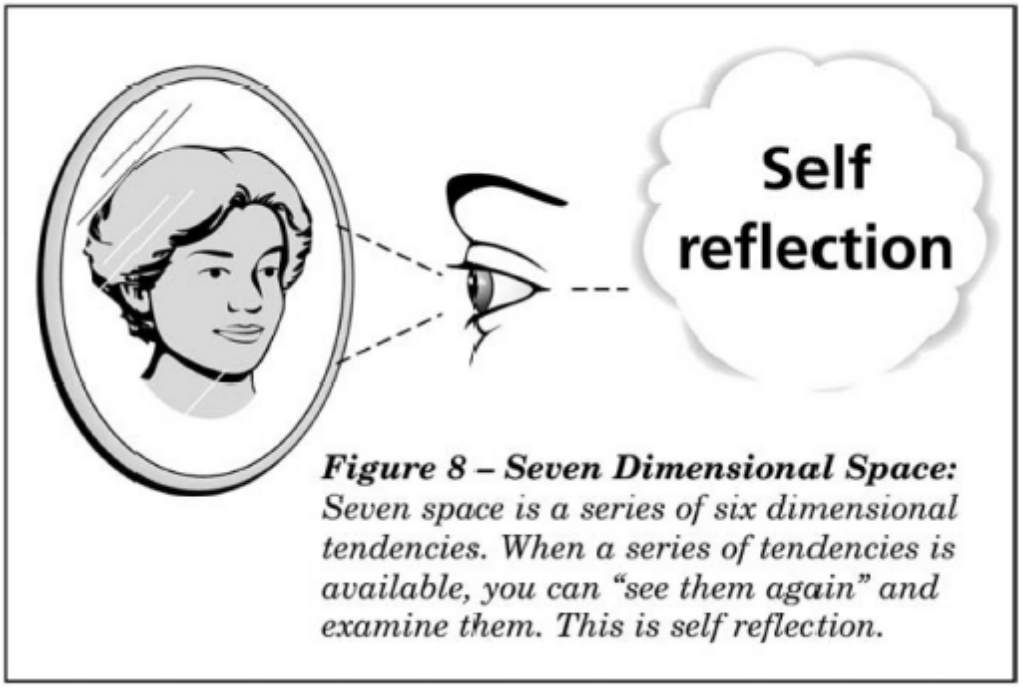

Figure 8 – Seven Dimensional Space: *Seven space is a series of six dimensional tendencies. When a series of tendencies is available, you can "see them again" and examine them. This is self reflection.*

8 Space

We know it is a series of self reflections. It is also time-like so these are used in sequence. This gives 8 space 3 space-like and 5 time-like parameters. The real mystery is what does the 5th time parameter do.

So far each new parameter is a whole new level and an additional freedom. It almost seems to imply some sort of super awareness or knowing. Frankly I cannot conceive of it. It may be an uncommon level of experience which would make it difficult to recognize. See if you can conceive of it. When you have, check that it is really a series of 7 space elements. Then send in your ideas through the publisher. I said I would go as far as I can in conceiving of this and then leave it to others. 7 space is as far as I can go.

Let us summarize what we seem to know of the dimensionality of existence.

Dimension of Space	What Exists in This Level
7	Mental self reflection and choice in mind. Not physical
6	Abstract ideas and tendencies of mind. Not physical.
5	Perception and the memory of events. The simplest level of mind. Not physical.
4	Levels 1, 2, 3, come together with extensions arranged in sequence. The physical world and the person as a body.
3	The universe as a potential extension. No material existence.
2	The universe as a potential plane. No material existence.
1	The universe as a potential line. No material existence.
0	The universe as a theoretical point. No material existence.

At first it appears this theory only adds the 5th, 6th, and 7th dimension to space. Actually it shifts the meaning of all 7 spaces. Here it is seen 1, 2, and 3 space, so widely accepted and talked about, are not physical and can only be demonstrated as a part of 4 space. All examples of these dimensions in the past were part of 4 space. Even 4 space continues to be thought of as stranger and less familiar than it really is. And 5 to 7 space as levels of mind, which transcend the physical, is quite new. So by a close adherence to the known structure this theory changes the meaning of all levels of space through the 7th.

Chapter 5

The Functioning of Mind in Hyperspace

Future historians of science may well record that one of the greatest conceptual revolutions in the twentieth century science was the realization that hyperspace may be the key to unlock the deepest secrets of nature and Creation itself.

Michio Kaku, Hyperspace[1]

At this point we have three separate levels of mind with no idea how they could lead to a living, functional mind. Let us begin by reviewing what we know and can infer from it.

At this point we have a hierarchy of levels.

8 space, unknown

7 space, self reflection

6 space, tendencies

5 space sense perception and memory

4 space, the brain and the physical world

Each space defines a whole new realm just as 1, 2, 3 spaces have distinctly different possibilities.

The novel **Flatland**[2] was a story around people in a 2 dimensional space running into the miraculous effects of 3 space. A sphere that passed through their flat land appeared as a dot, which enlarged to a circle and then shrank to a dot before it disappeared. But being in flat land they couldn't conceive of a sphere, only its marvelous effects as it passed through their flat land. We might stop and look at this books lovely dedication.

To
The Inhabitants of SPACE IN GENERAL
And H. C. IN PARTICULAR
This Work is Dedicated
By a Humble Native of Flatland
In the Hope that
Even as he was Initiated into the Mysteries
of THREE Dimensions
Having been previously conversant
With ONLY TWO
So the Citizens of that Celestial Region
May aspire yet higher and higher
To the Secrets of FOUR FIVE
OR EVEN SIX Dimensions
Thereby contributing
To the Enlargement of the Imagination
And the possible Development
Of that most rare and excellent Gift of Modesty
Among the Superior Races
Of SOLID HUMANITY[2]

Of course the humble square of Flatland, who reports there is a 3rd dimension, is condemned as a heretic.

Each level of space creates a whole new realm of existence. Hardly anything could top the sudden appearance of the physical world in 4 space. Actually there was a buildup toward this in the increasing possibilities of 1, 2, and 3 space. These possibilities were used in 4 space. The really new element in 4 space is its time aspect. 4 space is our first time-like space so it meant the 3 dimension elements had to be arranged in a successive series.

Whenever you puzzle about 4 space just drop a book and you have arranged a 3 space extension (the book) in a successive series. You have also generated time. All measures of time are based on matter in movement whether it be the original one of the movement of the earth around the sun or the current precise one of vibrations of a cesium atom. 4 space creates both time and matter, the real physical world. The boundary between 4 and 5 space is the boundary of physics itself.

I originally sought 5 space just to see what was there, not expecting to solve one of the greatest remaining mysteries, what is mind? Looking at our hierarchy of levels we see the physical brain is in 4 space and mind itself in 5 and higher spaces. I have often seen people confuse brain and mind as though they are the same thing. They are not at all the same. Can we now attempt a first approximation of the mind/brain interaction?

The brain is the means of expression of a person's mind in the physical world. In progressively damaged brains you will see less and less sign of a person's higher powers. I have dealt with aphasics who could know something quite well and yet were not able to say it.

A well educated friend of mine had a stroke and could not speak. He spent a half hour trying to tell me, through gesture, that he wanted a watch. Eventually I guessed. With further simple tests I determined he had lost the concept of gestures. If I ask you to signal through gesture that you want a watch or a cigarette, you will be able to signal this in moments. He knew what he wanted but had lost both speech and related gestures.

In a fundamental way the brain allows a person to signal of their inner life. All representations of mind are through the body. With increasing brain impairment signs of the inner life become less until they disappear. Speech, imagery and gesture are probably expressive clarifications of mind. Yet the million or so cases of the near death experience suggest as the brain shuts down and temporarily quits functioning, the person's inner experience becomes far more intense and free. The brain allows mind to give signs of itself in the world. The easy assumption that mind ceases when brain stops functioning appears doubtful as judged from the near death experience.

It then appears that brain is the instrument for showing our inner mental life in language, expression and gesture. Certainly it is the instrument for movement of our body. Likely it clarifies what we think by giving expression to it. Yet the near death experience suggests we go on as a mental being after the brain shuts down.

Putting all this together, brain may be a very necessary part of our learning and functioning in the world. Without it we might get lost in our purely mental functions. We may need the brain for a time for our learning.

What is a person in terms of dimension theory? The person exists in a whole hierarchy of levels from the 4 space physical world (brain and body) to 5,6,7, and possibly even higher spaces. We exist on a hierarchy of levels. But has this not always been our experience?

A few people might insist that they are only physical. But even they have memory, which now looks like it transcends the physical world. In 4 space an event occurs and is gone. In 5 space it occurs and remains.

So, even though a few people might choose to conceive of themselves in too limited a way, in dimension theory we live in a hierarchy of levels each with different qualities.

At the 4 space level we are brain/body and these are our means to express ourselves in the world. At the 5 space level we sensorially perceive and remember. We collect a multitude of events at this level. At the 6 space level we begin to examine and draw conclusions of ourselves and of the world. This is a level above the multitude of events at the 5 space level. We begin to conceive of ourselves and of the world at a level which clarifies the multitude of events at the 5 space level. At the 7 space level we have another degree of freedom to examine and reflect on what is.

This can be illustrated at the 7 space level with an incident. As a young man I read Gabriel Marcel, the French philosopher. I recall a work in which he examined faithfulness. It was quite full of his life experience and reflections. It struck me, "I could do that." He had simply taken an aspect of his life and reflected on it in a way so rich as to be worth others reading it. So in this book we have my reflections on dimension theory.

In some ways we live very different lives on each of these levels. The healthy person learns they can live on different levels and explores each for their potentials. We can shift from one to another. For me self reflection has always led to joy and personal satisfaction. I can well understand that those who only live at a lesser, reactive level have a life that looks grimmer and more painful. So in terms of dimension theory we have a real potential for quite different ways of living, all the way from the street level (brain/body in the world) to the top floor.

There is another aspect to this hierarchy which is beginning to show in what has been said. The 5 dimension level is mostly reactive. It takes in sensory events and records them in memory. It is simply reacting to what is given. At the 6 dimension level we begin to draw out of events (which include ourselves and our reactions) the tendencies in them. At the 7 dimension level we can finally reflect on all this. In fact psychotherapy can be described as assisted self reflection.

There are increasing degrees of freedom as we go higher in dimension theory. So it was no surprise to me that theoretical physics found that the unified field theory of physics was easy to demonstrate in higher dimensions. This increasing freedom as we go higher in dimension theory shows even on lower levels.

In flatland (a 2 dimension realm) the residents could not conceive of a sphere, so when one passed through their realm the results seemed strange and magical. We can easily conceive how a 3 dimensional realm has far more freedom than a 2 dimensional realm. So in a dimensional theory of mind these increasing freedoms take place.

7th dimension - Self reflection occurs.

6th dimension - 5 dimension experiences are grouped and become tendencies.

5th dimension - Mind is reactive, experiencing sensations and recording them.

4th dimension - Brain, speech and actions of a person

There is absolutely nothing in dimension theory to suggest that only 7 dimensions exist. In fact the implication is of infinite dimensions. Why? Given an array at the 7th dimension level certainly the 8th dimension exists, whether or not we can conceive of it.

The same is true in dimensions all the way to infinity. Given that the infinite dimension exists **all other dimensions** would exist because they are part of the very make up of the infinite dimension. In view of the incredible possible scope of dimensionality we are just fooling around at the very lowest and most limited levels. The 4th dimension gave us the entire amazing physical world. Three more dimensions give us mind. What more could there be between 7 dimensions and infinity? Maybe even heaven doesn't know.

Just to give ourselves another set of terms so we don't have to repeat the dimensional numbers endlessly let us call

7 space, **gamma** mind

6 space, **beta** mind

5 space, **alpha** mind

It is hoped that mind in hyperspace is beginning to seem a little more user friendly. So now we look at other aspects that can be drawn out of dimension theory.

Other Aspects of Mind in Hyperspace

Dear reader, you don't know how fortunate you are at this point. In the original doctoral thesis done in 1951 I drew five principals out of hyperspace and proceeded to juggle them for some sixty most difficult pages. Fifty years later even I could barely understand them, and I wrote them! As an old man I treasure what can be made clear and simple. A doctoral thesis is supposed to be difficult. But there is no advantage to difficulty here now.

We still have a hierarchy of states. It is not immediately clear how it could be our very own mind that is being described. I puzzled for some while where ordinary ego was in this. It is the gamma level. This is the level where we inwardly survey possibilities and we can decide actions. Ego is further defined by its beta tendencies and its alpha history of itself in memory. The principle function of ego is to survey where we are and to make decisions. An eye at the gamma level to represent self awareness was quite appropriate.

There is a very natural means of communication between the levels. If we take the now of the physical world it will have **correspondin**g events at all levels from the brain to the gamma level. But, of course the nature of these events changes with the level. So correspondence is a natural way in which events at different levels relate. The now line is quite clear at the brain and alpha levels. The beta and gamma levels tend to transcend time but even they will have now contents.

Another mystery is rather easy to solve in this theory. The older psychology made much of the unconscious. This idea has fallen out of favor even though we know that some people are not aware of some aspects of their life and actions. Consciousness and the unconscious evolve upon how much contents of these levels are we dealing with at any given time.

We easily see consciousness in the very knife edge of alpha sensory awareness. At the beta and gamma level we have contents that are intrinsically broader. I can be aware of my tendencies but they need more study and defining to make them really conscious.

In the knife edge of sensory awareness we can be quite conscious and aware. But, taking broader segments of these levels we are still aware but not perfectly clear. If we take a whole level it would be appropriate to say we are mostly unconscious of this level. That is consciousness, and the less definable broad awareness and unconsciousness, are a function of how much we try to deal with all at once. And here brain and even our speech and expressive gestures help to define ourselves.

The unconscious is not so mysterious, it is the more, and the broader, that we can't readily define. This doesn't preclude there also being some mechanism that keeps certain contents from readily arising - for instance a view of ourselves that makes it difficult to face some things we have done.

Clarity of consciousness rests in part on how much is dealt with. I can broadly sense myself as a person but if you want it clearly formulated in words this can't easily be done. Moreover it will take time and work.

It is perhaps fruitful to realize that the broad and complete ourselves is only gradually available to us, if at all. It is as though the broad and difficult contents of these levels have to be squeezed out through limited language and our alpha consciousness. So it may be appropriate if the idea of the unconscious is less used. The unconscious was seen as a devious holding back when we are actually far more than can be readily described.

We may as well look closer at the time aspects of mind in hyperspace. It is curious that 4 space and the alpha through gamma levels are all time-like spaces. Actually all spaces up to 14 space are time-like, so we are quite some distance from any space-like space. We can see immediately that time-like has a different but related meaning depending on the level. At the 4 space level it means the moving body is in a succession of positions.

The entire physical world is in movement. Even the stone in the pavement is rotating with the earth and hurtling through space with the solar system, which is part of an expanding galaxy. All matter is in movement. Moreover, at the atomic level, all matter is full of movement.

At the alpha level we have a brain with its senses observing and recording changes. At this level we have two time parameters. One is the world time of the observed event and the second time is the continued existence in memory. At the beta level we have these times plus the time crossing aspect of a mental tendency. At the gamma level we have the additional time of our self reflecting on all this.

Time on each level has a different meaning but these meanings are recognizably related. It would be most curious to see what the further successions of time could mean. It is very clear even from 0 to 4 space that we are dealing with a hierarchy of different realms. Because the higher level is always made of series of the lower level we expect some relationship between levels even while a new reality opens at each level. We will keep coming back to time for we are in a series of time transformations.

There is a simple principle in these levels. You may as well think about it and get used to it. Higher spaces always include all the lower spaces. Given a 3 di extension it includes as limits, its own 1 and 2 dimensional aspects. Yet given a 3 space we don't really have a 4 space and may well not even be able to conceive of it. Say we have a car going down the street. The car is in successive positions. Each of these contain all of their 1, 2, 3 dimensional aspects. Yet from the 3 space aspect we can't really infer the physical reality of a car.

The higher must of necessity contain all the lower levels, because that is how space exists. But the lower levels do not contain the higher. This is true on up through the gamma level and beyond. This is absolutely startling in its implications. The higher contains the lower. The lower in no way includes the higher. So we can say that the higher levels are the more real, meaning they contain more of reality in them.

Spaces are not really built up from the lower level. That is merely how our plodding thinking works. If there is infinite dimensionality it would include simultaneously all the possibilities of existence. This is perhaps the God of hyperspace. If by more real we mean showing more of the possibilities of existence, then higher spaces are clearly more real than lower spaces.

One sign of this is how long it has taken to get to mere 5 to 7 space. From the Greeks to Einstein we have always known of 3 di space. Einstein's great work gave us 4 dimensional space-time. Yet I feel it is poorly understood when noted current physicists say they cannot visualize it.

Why has this development been so slow? Because the entity at each level of space does not show anything of the higher dimension. Only the higher speaks of the lower because it contains all that is lower. Without a careful regard for the simple structure of space we are unable to climb higher.

But do not conclude from this that the lower governs or creates the higher. We are dealing with time transformations. In 4 space, even the just past event **is no longer**. In 5 space it continues to be. In 6 and 7 space there are even two more time transformations. The higher makes and contains the lower. The lower does not make the higher.

All this will be in bolder relief if I ask the simple question do events in 5 space include events after the now of this world? They do. This is part of the fact lower spaces don't make the higher, but the higher contain the lower and is the source of lower space. Maybe the world is like this.

We use our senses to pick up the world out there and our experiences are recorded. The now of the world is a very real matter so sensorially we are picking up what is now going on out there. But we inwardly each recreate our world from the view of our senses. We don't really see it as it is but rather as we picture it inwardly from our senses. The tree isn't really green but to our eyes it reflects the green wave length. Because we are forever catching up to the world now we conclude future events don't exist.

What we conclude is what we discover. There is no way to see the future - unless we look for it. Precognition is possible because we are in 5 space and so are these events, but we have the problem of perceiving events not recorded in the brain.

Studies of precognition show the subject is inwardly working to recall what they have not yet experienced. Precognition looks like the retrieval of memory. So our ordinary experience suggests to us the future is unavailable unless we try.

This theory supports extra sensory perception as a real possibility and provides the basis for its existence. The higher makes the lower so the world we perceive is already there in 5 space. We would need to work then on why is there any difficulty in perceiving the future.

In addition to our preconceptions the brain may play a role. Alpha level perception and brain correspond. To any event in the mental world of 5 space there should be a correspondent brain configuration. In this whole hierarchy the brain serves as our reality anchor.

Suppose we just existed in the alpha, beta, gamma levels and had no brain. We might get lost in our inner processes. We have all awakened from a vivid dream to suddenly find ourselves in the 'real world'. With the help of brain it may take a while to sort out why we are in this bed in this place. I suspect the brain is not just an odd appendage to mind in hyperspace but it has a very useful and needed role. Yet the brain may also make it difficult to "recall" events in the future that have no trace in the brain. And our attitude toward this possibility (beta level) may also block the perception of what is available in the alpha level.

The possibility of reading the future immediately leads some to conclude all events are fixed. I will not take the time to demonstrate this, but it is this way in dimension theory. As we look up through the levels it appears all events must be fixed. As we look from a higher to a lower level everything appears completely free and determinable. It is a function of perspective not of reality.

My real field and greatest amount of work is in mystical experience (the experience of God). What might it be in terms of dimension theory? Mysticism deals with how to come directly into broader experiences. I spoke of consciousness as a narrow scope, awareness as broader, and the unconscious as too broad. All of the spiritual practices lead one to become aware of a large scope of existence.

The mystic develops a tolerance of ambiguity. Gradually something clarifies out of this, and this is the mystics discovery. The mystic opens to a wider array of existence and lets this instruct him. The principal spiritual practice of the mystic is meditation. There is "nothing there" in the

broader if you don't believe it, or ever explore it. But mystics learn to work with the apparent ambiguity of wider experiences and from this develop a broader understanding.

Once we saw hyperspace points to three levels of mind then the question arises could these levels function as we know mind. We have developed a preliminary exploration here that begins to show how these levels could function as mind.

I don't in the least feel that we know all there is of these three levels or how they function as mind. This is a preliminary exploration. Not only does it seem feasible that 5 to 7 space are levels of mind but it appears they could function as our mind. As an old man I simply put this forth hoping others will take an interest and develop it further.

Chapter 6

Conclusions

In what is space itself woven, warp, and woof? Tell me Yajnavalka. It is in the imperishable that space is woven, warp and woof.

Brihadaranyaka Upanishad'

This is a totally unique and unusual theory. In this chapter we can stand back from the details of hyperspace to see how this theory fits in the world. Through this we can come to some conclusions about this unusual work.

The Place of This Theory

It would help to see me as one who has a natural penchant for putting things in order. This shows in every detail of my life. At first you might think of me as a cosmologist. But present cosmology has been taken over by physicists who try to cram everything into the physical realm. The term is now too limited for me. It is the whole order I seek to understand. This theory is only a small but a critical part of this order.

As a young man in the period just after World War II (1945-1952) I was quite stimulated by Einstein's relativity theory. Then 4 di space-time was an oddity people were trying to understand. I wanted to press ahead so I asked what would be in 5 space.

At the master's level I reconstructed the structure of space from the structure of 1 to 4 space. It was only a few years later, at the doctoral level that I found the structure of space as defined in mathematics. This work came out of that. I would have given up long ago except my early findings were so promising. Higher spaces could be known and they appeared to describe levels of mind.

Did I have any preconceptions as to what 5 space could be? Actually none. It could have been anything. Because I am a psychologist, and this theory really lies in psychology it may well seem that I projected my own field into the results. But this isn't the case. It was because I was a psychologist, and this theory describes mental realms in 5 - 7 space, that this theory could more easily develop in my hands. Others, without my background in psychology simply would be less likely to figure out mind in hyperspace.

An excellent example of this is the way physicists seem absolutely determined to see higher spaces as a part of the physical world. They are coloring their discoveries with their field. They want answers in the physical realm so they can't understand it if the answer leads elsewhere. In this theory we find dimension theory leads to a hierarchy of totally different orders of existence.

Early in the development of this theory I was afraid I was perhaps wasting my time - that I should be studying psychology. So I compliment Professors Bridgman and Shevenell for letting me wander so far. When I first knew the parameters of 5 space, and realized only memory met these conditions, I was quite shocked.

I would have been far less shocked if it turned out to be some alien existence out of science fiction. That it was near-at-hand and easily recognizable shocked me. And yet how reasonable that the realm just above the physical is mental. This is how it is for us. Our mental awareness includes the physical world and yet is just a little different from it.

In the course of writing this book I thoroughly reviewed the doctoral thesis out of which it came. But a question arose. I had first developed this work as a master's thesis which I hadn't looked at in over a half century. Since I did not know the mathematical structure of space when

the master's thesis was done my current guess was that it must be full of loose speculation and thereby useless.

When I reviewed the master's thesis I discovered to my surprise that I had taken what was known of 1 through 4 spaces and constructed a fairly good picture of the structure of space, and out of this I had my first look at 5 to 7 space. So one can work without the mathematics of space but can operate more surely with it.

Even at the master's level I knew of Sir Arthur Eddington's work on space-like and time-like spaces. But I was far from clear on what these terms mean. It was only while working on this book I suddenly saw that space-like spaces mean the n-1 series are there all at once (like the lines that make up a plane) and that time-like spaces means the n-1 elements are in succession (as in a book falling from a table).

It pleased me when the Cambridge expert on Eddington, C.W. Kilmister agreed with me.[2] It was my partial success at the master's level that encouraged me to do the very difficult job of a doctoral thesis. The high point of that period was Einstein reading my thesis and commenting on it.[3] The professors who allowed me to develop such an odd work deserve their place in my dedication. It must have been difficult for them to tell whether I had dreamed up nonsense or not. I regard this work as plodding, elemental, and basically simple. But it is so new an idea it takes time to get used to it.

Of what use is a theory? A theory is like trying to construct a bridge between opposite banks of a river. A theory leads to engineering planning, which leads to actual construction. When the bridge stands up to traffic, earthquakes and storms then it proves its worth. We have so many theories in this world and only a few lead to a bridge that can carry traffic.

Theory provides a pattern. In this realm it says so and so phenomena follow this pattern. One would need to suffer through the thousands of theories in psychology (as I have) to get a feeling for the wonder of an effective theory. Einstein's relativity theory tested out in amazing ways. I suspect psychology needs a sound fundamental theory more than any other field.

A correct theory is very valuable for focusing future work. It is the concept of a possible bridge which then can be engineered, built and used. This is a fundamental theory as to the nature of mind, and by implication, the rest of existence also. A wrong theory in this realm would be a waste of time. A right theory could be incredibly valuable.

The structure of this theory is very simple. We have turned to mathematics to describe the basic structure of space. The mathematics used here is basically topology, the same mathematics used in theoretical physics. Mathematical logic and even group theory are variants of the basic topology. What is topology? It is a mathematics without numbers that deals with relationships. The lines of a plane bear a fixed relationship to a plane. You can put numbers in it, but its basic structure is that simple relationship.

This theory uses the structure of space to try to conceive of a higher space. We then attempt to see where in the world is there anything like this structure. We then check that the parameters of this space fit a given aspect of the world and apparently no other. 4 space is merely a space in which any point requires x, y, z, - 3 spatial dimensions and one dimension for time t.

All this is fairly meaningless until we discover this characterizes the physical universe! Then we can start to ask questions based on both 4 space and matter. Why on earth is matter generated at the 4 space level? Well 4 space is our first time-like space. Time-like means something is in a sequence of positions. Maybe we must have **something** to be in a sequence of positions.

Once we create a space and discover what, if anything it is, then we can learn from both elements, the structure of this space and what it is. I have commented that 1, 2, and 3 space are only theoretical possibilities. They cannot be demonstrated except in 4 space.

OK, so you draw a line on a page to demonstrate 1 space. But it is really a plane (it has width) and a solid (ink on paper) and exists in 4 space. We might then guess that all space-like spaces may be only potentials that only are realized in the next time-like space. We then have a new hypothesis that can be tested out some day. Judging from 7 di space that is what it looks like.

Testing is like seeing if the bridge can stand traffic. So a theory dealing with the nature of the physical world, and mind, and possibly all the rest of existence, ought to get careful attention. This is far from another school of psychology. It is potentially a theory of everything.

This Theory and Theoretical Physics

When a person starts to do a book on hyperspace it is reasonable to collect all that is known on hyperspace. I did this and acquired a small library from various sources. One of the best summaries is **Hyperspace** by Michio Kaku.[4] It nicely summarizes the history and the current status of this field. There were also somewhat wildly speculative books like **Surfing Through Hyperspace.**[5] And there were works on space geometry with lovely illustrations such as **Beyond the Third Dimension.**[6]

After reviewing many of these works I asked myself what do these works have to do with this theory. And the answer came back, "Nothing, absolutely nothing." This is an unusual finding. Normally the best works in one's field are overlooked at one's peril. I developed this theory some fifty years ago. As the years passed I fully expected someone else to map out this area. I have not been able to find the slightest sign anyone has. So I finally felt obligated to rework this early work into as clear a form as possible.

But why does current work on hyperspace turn out to be strangely irrelevant? In science there are fashions as in other fields. One fashion for theoretical physicists to try to develop a unified field theory in which all the forces in the physical world are unified in a single conceptual framework. Einstein devoted all his later life to this quest and there are still many working in this area. This effort still governs practically all the work on hyperspace. It is the current holy grail of physics.

Let us look at how this problem is being approached. Theoretical physics deals with complex mathematical models looking for some sort of transformation that will yield all the basic physical forces. In all of this there is a consistent overlooking of the actual structure of space. An example of this work is the Kaluza Klein theorem. It was first postulated in 1916 and extended in 1926. It proposed the unification of physics would take place in 10 space. There seems to be an underlying assumption that since only the physical exists all the dimensions 5 to 10 must be in 4 space.

But they are quite invisible. So they calculate that dimensions 5 to 10 must be incredibly small and rolled up in submicroscopic balls. Now what seems more reasonable to you? Is it our orderly plodding development of 5 to 7 spaces, or is it more reasonable that after the progression of 1 to 4 space all other spaces to the 10th are sub-microscopic little balls?

Let us for the moment consider the possibility of a unified field theory emerging out of 10 space. It would not really be a surprise. In 5 through 7 space we see increasing degrees of freedom which arise with the additional time dimensions. If the unified field theory is possible in 10 space then what we see as physical forces in 4 space emerge from a single fountainhead in 10 space. This does not in the least mean 10 space is physical. Lower spaces emerge out of the higher. There is a correspondence between dimensional levels. Whatever 10 space is, it could well be the unified source of what we see as different forces in 4 space. This is possible.

So current theoretical physics is in a rush for the holy grail of a unified field theory. In this it so overlooks the real structure of space that its work is no help whatever in this work on hyperspace. But there is another force in current theoretical physics. Essentially the physicists are working at all the remote, great problems, i.e., events around the Big Bang, black holes, an expanding universe, warped space, gravity, etc., etc., all the remote and great cosmological problems. Practically none of this is down where people are. Let us call this effort of physics a focus on the remote.

In complete contrast, this theory is on the **near-at hand,** what 5, 6 and 7 space could be in our immediate world. The near-at-hand work here says nothing about the remote aspects of space. So it is not in conflict with matter bending space to produce gravity and the like. We will be very happy to settle the more plodding, elemental and pedestrian matter of the near at hand.

There is one other aspect that appears to have led current theoretical physicists astray. Over and over again one gets the sense they don't really accept anything beyond the 4 space physical exists. So the 5 to 10 dimensions in the Kaluza Klein theory had to be in the 4 di world, so they must be so tiny they can't be seen. In the theory here 5 to 10 space would be an incredible range of orders of existence, three more than anyone has ever visualized.

We can put these factors together to summarize how this theory is in marked contrast to current theoretical physics which is the only field dealing with hyperspace now.

1 - This theory deals with the near-at-hand whereas physics is far more concerned with the remote.

2 - This theory is governed by the structure of space which appears to be mostly overlooked by physics.

3 - Physics is primarily seeking the unified field theory.

4 - Physics uses very complicated mathematics with the assumption that only the physical world exists. Of course our mental experience belies this.

So we are in the unique position that the vast amount of work on hyperspace in theoretical physics has no relevance to the theory propounded here!

Incidentally why do noted physicists have difficulty visualizing their own 4 space? In Newton's time it was as though a giant clock was assumed with everyone everywhere under the same clock. Relativity theory changed all that. There is no one big clock in the universe. Time itself is relative. In dimension theory time is the relative movement of matter. In the vast distances of space physicists had to consider how there were somewhat different times over vast distances.

Several simple steps give me an advantage in this theory. One is the consistent effort to respect the real structure of space. Another is seeing levels of space as space-like or time-like and realizing time-like means the n - 1 series is in successive positions, as in a book falling from a table.

My last advantage is that once you discover what a dimension of space is, you can work with it as dimensional and as an aspect of reality. For instance I accept that 4 space is the physical universe. The physical world and 4 space are two aspects of the same. I also work with the near-at-hand so I don't have to immediately solve problems of the early moments of the Big Bang or the like. I can then work with simple matter and 4 space and learn from the pair of them.

Also I accept that somehow the successive positions in 4 space are time and matter in relative movement.

A great wonder is staring us in the face. We may as well accept it and learn from it. If there were only relative movement, as in a book falling that would be one thing. But, in addition, we know that relative movement also exists at the atomic level. Matter is thoroughly about relative movement. Relative movement is time and **is matter.** I almost wonder if there doesn't have to be

something there to have relative movement - not something like a particle of matter - but any sort of local difference. This illustrates accepting what is given us at each dimensional level and then trying to fully accept and understand it. Then 4 space becomes less alien and becomes easily visualizable.

Similarly with other dimensional levels we come to expect a totally new order of existence at each dimensional level instead of trying to force everything into the 4 di physical. From 1 space on up each dimension is a totally new order of existence, with greatly different potentials. Theoretical physics hasn't yet even reached 5 space because they disregarded the real structure of space and did not expect anything but more of the physical. Hence current speculations on hyperspace are useless to the work here. This does not please me. I would far prefer to be part of a widening agreement and understanding.

For all these reasons theoretical physics has blocked itself from the discovery of higher spaces. You can't overlook the real structure of space and come to understand what it points to. You can't find in the material world what transcends the material. You can't play complex games with mathematics without reference to their real life equivalents and find things of real life.

How Can This Theory Be Tested?

Einstein's theory led to several predictions that could be tested. One was that light would be bent by the gravity of a body. So astronomers went out and measured it. This greatly strengthens what otherwise appears as an odd theory. Unfortunately two major predictions of this theory have already been measured and found true. I am hard put to come up with any adequate tests. It is as though the theory is in the realm of the near-at-hand and it easily reflects that realm with no surprises.

The first area to be developed is further work in checking whether these three levels of space can account for all mental phenomena as we know it. In Chapter 5, I made a preliminary effort in this direction. It was somewhat difficult. One has to think in two realms, i.e., hyperspace and the functioning of mind, and finally see how hyperspace describes mind. Surely this work can be greatly extended. It might surprise the reader if I said we are not accustomed to either realm, mind as it is and hyperspace. Only in phenomenology, a very tiny aspect of psychology, are we really accustomed to the direct experience of mind.

Of course these three levels of space as dimensional are entirely new to us. So the effort started in Chapter 5 needs to be greatly extended to see if this theory can really describe all of mind as we experience it. By the way the author is a phenomenologist, a relatively rare breed of psychologist. Phenomenologists deal with inner experience just as it is experienced.

There are two areas where this theory makes a prediction. The first is that this theory provides a means for precognition. We said in 5 space events after the now, i.e., the future, already exist in 5 space. You recall the higher space contains all the lesser spaces. We might say the higher space is the source of lower spaces, whereas the lower space is not the source of the higher. This is an odd paradox of this theory.

We then have to wonder why it is difficult at all to become aware of future events before they occur in the world. For one it may be necessary that the subject believe in this possibility. For another, now events have a corresponding brain state. Events after the now do not. It is perhaps somewhere in this area that makes precognition provable and yet a relatively uncommon event. Of course some do not believe precognition is possible no matter what the evidence. So this theory would predict the possibility of precognition and yet this is already demonstrated to anyone who looks at all the evidence.

Another testable idea came to me while working on this book. The conscious now line has an alpha state and a corresponding brain state. So if the brain is electrically stimulated, alpha level experiences should become conscious to the subject. But beta and gamma level experiences should not show up. They don't have immediate correspondences with the brain. The experiment has been done by Penrose and this is the case.[7] This shows how intimately related the brain is to the alpha level but not to the beta and gamma level. Of course a person can describe beta and gamma experiences in words. Unfortunately our prediction is already demonstrated. It would be far more impressive if it were tested and found true in the future.

A recent Newsweek article repeated an experiment that has been done many times.[8] A skilled meditater puts himself in a state in which he feels part of the all. He tugs at a string which gets him radioactive tracers in his vein. He is then whisked off to a machine which shows the active areas of the brain. The area of the brain that deals with orientation in space is not active. The article takes a brain-is-all orientation and asks if, "Brain wiring explains the feelings believers get from prayer and ritual, are spiritual experiences mere creations of our neurons?" This is called neuro-theology. "The way our brains are wired may explain the origin and power of religious beliefs." I have almost come to expect this bias, that brain state causes religious experience.

But wait. Let us look at the sequence of events. The subject was an experienced Tibetan Buddhist monk. Some years of practice preceded this experiment. He agreed to the experiment and knew about the string, and radioactive tracer and the machine to show brain activity. He worked to create the state. The state had a brain concomitant. This is no surprise. Is this state all neurology? Did the subject try to create a neurological pattern? No.

Through considerable experience the subject tried to create an inner state. It happened to have a corresponding configuration in the brain. Which came first, the subjects training and effort, or the brain state? We are in an area where there is so much bias toward the physical it is as though it is the be all of our existence. This is the same error as seen in theoretical physics. If the unified field theory is possible in 10 dimensional space then 5 to 10 spaces must be very tiny and curled up in 4 space.

I am afraid we need a great deal of work with higher spaces to eventually thoroughly see there is more than the physical world. A recent book in professional psychology came out with the bold and terribly innovative idea that consciousness actually exists. Forgive me but everyone knows that.

I look out through my eyes and sense a world about me, which gets recorded in me. I can actually see tendencies in myself and in others. I can reflect on all this. I know I create a conceptual world based on my experiences. I know full well my inner world is not the same as yours. We have to compare notes to understand each other.

Perhaps we just need time to get used to the power of a dimensional explanation - and get used to the fact it is describing a world much as we already know it. At this point I wonder if an absolutely definitive experiment to prove the theory would do any real good. Perhaps we just need to get used to the idea our mind is in hyperspace. A dimensional conception of the world is a very new idea. Our preliminary study suggests it could explain our inner experience just as we know it. Have we been in 5 to 7 di space all our lives and just now begin to figure it out? Maybe we really just need time to get used to this idea!

What is it like to be in a 5 di hyperspace? Well, it is exactly like your present perceptions and memory. Nothing more or less. You are already there and have been in 5 space a long while. Look at memories, how you can examine past events. That is the second time parameter of 5 space. Mysterious? No more mysterious than it has always been.

If someone asks who could really decide if this theory is correct I would have difficulty in answering. Certainly mathematicians can check on the structure of space here. But this structure is so simple I could get an adequate idea of it from 1 to 4 space for my master's thesis.

Theoretical physicists have currently staked out hyperspace as their territory. For the reasons given above they may be poor judges, especially if they see only the physical as really existing. Perhaps thoughtful people would be the best judge. Our first task is simply to become accustomed to the fact that we are in and have always been in hyperspace. Later someone may devise a test.

But there is an unusual kind of proof that this theory is correct. There is in science a law of parsimony which states that if we are faced with a complex explanation versus a simple one, we are required to take the simple one. A bit of history will illustrate it. In Galileo's time both the Roman Catholic Church and science of the day thought that our earth was the center of the universe, of course. This led to seeing the planets moving about our earth in a complex and unusual pattern.

Galileo took observations of our planets and concluded the earth was not the center of our solar system, that the earth and planets moved about our sun in ellipses. This was a far simpler explanation, and of course we now know he was correct. Galileo invoked the law of parsimony. The simpler explanation should be accepted. But this did not rescue him from house arrest for the rest of his life by the Church. It only required people give up their view that the earth is the center of the solar system.

The law of parsimony is also called Ockham's razor. Ockham was a monk who invoked the law of parsimony so frequently and sharply in theology it was called Ockham's razor. This law is quite reasonable. The more complexity your theory needs, plus if ands and buts, the more likely it isn't really the answer. In contrast, a simple answer suggests one has found the real order of things.

I invoke the law of parsimony here. We now have a complex physical world and most dubious and doubtful formulations of mind. These vary all the way from; mind doesn't really exist, to, it is the only real existence. Clearly we have no consistent or widely accepted idea of mind now. But, in this theory, both the physical world and apparently the mental are part of the simple dimensional structure of existence. This is far, far simpler than our present situation. This is an extraordinary sign that this theory is true. We have a theory so simple it could be taught to children. Yet it explains both the physical world and mind in the same simple structure. Its very simplicity argues for it.

There is also a further wonder to all this. We have said that clearly higher dimensions contain the lower but the lower do not contain the higher. This is one of the reasons that the discovery of 4 space did not soon lead to finding 5 space. 4 space gives no hint of 5 space. This simple rule can be elaborated into a larger picture of potentials.

At every dimensional level all higher potentials lie in higher dimensions. Because of this, this theory points toward real higher spaces existing, even to infinite dimensionality. We have no way to eliminate them and the theory quietly points toward their existence.

Consider that in a mere tiny 7 levels of space we seem to have almost all we know of. Each level of space is a new order of existence just as we have seen from 1 to 7 spaces. Even 8 to 10 di spaces are now beyond our ken. Even a mere 25 space staggers the imagination. Infinite space is far, far beyond our wildest dreams. This simple dimensional structure has an immense potential. Because this theory quietly points beyond to higher dimensions, quite beyond our ken, we may have glimpsed just the lowest levels of the design of everything. All there is may be in this dimensional structure.

Conclusions -

1. Current work on hyperspace in theoretical physics is of no help in this work. This is true for several reasons perhaps the greatest of which is a general ignoring of the structure of space. The next dimension, the 5th should have been found long ago.

2. The physical world is 4 space. 4 space is the physical world. These two are equivalents. It would help to visualize 4 space when it is realized 4 space has to be solids (3 space) in a sequence of positions. In ordinary language this is a moving body. This relative movement is time. Matter is also made of relative movement at the atomic level. A falling book or cars moving down the street illustrate extensions in a successive series of positions. We are constantly experiencing 4 space.

3. This theory sets the boundary of physics at the 4 space level. 5 space has two time parameters so it transcends the physical world.

4. This dimension theory of the structure of space is basically simple. It can, and has been taught to children. One day children will wonder why it took so many centuries to go from 3 space to 7 space.

5. It appears people simply need to get used to this idea tying together 5, 6 and 7 space with well known levels of our inner mental experience. Hopefully definitive tests of it may come later.

6. The law of parsimony has been invoked. It now appears no simpler structure of all of the physical world and mind could be found.

7. This theory internally points to the existence of ever higher levels of space. For this reason we should consider that this simple dimensional structure may well be the structure of all that exists. What a wonder to have seen what may be the structure of all there is.

I was coming to the end of this book when a surprising circumstance happened to me. This book was held up while I did final editing on my **Design of Existence.**[9] In that book I draw on great mystics of several faiths. After years of study of mystics it occurred to me that existence from the Godhead through man to the physical world could now all be described. It wasn't until I got to the end of this book that I realized that dimension theory may be the real structure of all existence. It came as a surprise to me. I was working at the order of it all in both books. In this earlier work the order is seen as a more strict and scientific way. In my mystical works it is bolder and broader.

I ask the reader to be patient with an old man who journeyed to new lands and described them as well as he could. Others will have to carry this new idea further.

Appendix
A Quiz on Hyperspace

Instructions: You can use this exam as a review, or to test your understanding of hyperspace. To test yourself write down your answers and check against the answers given on page 79. With each answer is given the page number in this book where it appears. Give a partial score for partially correct.

1. Describe the basic structure of space.

2. What is the difference between a space-like space and a time-like space?

3. Between 1 and 7 space which are space-like and which are time-like spaces?

4. In 4 space how many space and time parameters are there? Describe the same for 5 space.

5. Is each new level of space a totally new realm with new possibilities?

6. What are the most remarkable aspects of 4 space?

7. Can 1, 2, and 3 space actually be shown outside of 4 space?

8. 5 space has two time parameters whereas the 4 space physical world only has one. What does this immediately tell you about 5 space?

9. What is wrong with the Kaluza-Klein theory that 5 to 10 dimensions of space are rolled up sub-microscopic balls in 4 space?

10. Why has it taken so long to discover 5 space?

11. What occurs in 5 space?

12. What occurs in 6 space?

13. What occurs in 7 space?

14. Do we fully understand how mind would function in hyperspace?

15. Are higher dimensions made out of lower ones, or are the lower manifestations of higher spaces?

16. What is the law of parsimony and how does it apply here?

17. What is the important principle of dimension theory, which suggests that everything in existence may be in this dimensional structure?

18. Do you have an idea that might be a contribution to this theory? Credit one point if you think you have one.

Answers

1. Let n be level of space. Each space is made up of a series of n - 1 dimensional spaces. For instance a 3 space "solid" is made up of a series of 2 spaces or planes. See p. 14 in this book.

2. In a space-like space the n - 1 elements are there all at the same time, i.e., the planes that make up a solid. In a time-like space the n - 1 elements are there in sequence, i.e., a falling book. See p 16.

3. Space-like spaces are 1, 2, and 3. Time-like spaces are 4, 5, 6, 7. See p. 16

4. In 4 space there are 3 space and 1 time parameter. In 5 space there are 3 space and 2 time parameters. See p. 21 and 27.

5. Yes, absolutely. At each higher level of space a whole new kind of existence appears. If this doesn't happen the space was probably not conceived correctly. See p. 49.

6. In the first place the entire physical world appears in 4 space. Whatever is physical is 4 space; whatever is 4 space is physical. These are equivalents. 4 space is also the first level of a time-like space, which made it difficult to conceive of for some. Yet time here is merely relative movement. The last remarkable aspect of 4 space is that it has relative movement both at the macroscopic and at the atomic level. See p. 21 to 25.

7. No. Every showing we can develop of 1, 2, 3 space depends on 4 space. For one we would have to demonstrate these levels outside of time which is in 4 space. As a consequence the simple 1, 2, 3 spaces we have taken for granted for centuries have always depended on 4 space, which we only recently discovered. See p. 24.

8. Two time parameters immediately say 5 space transcends the physical world. In a practical sense events can happen and vanish in 4 space but they can continue to exist in 5 space in the second time parameter. See p. 28.

9. In the first place spaces 5 through 10 comprise 6 wholly different orders of existence. Dimensions 8 through 10 are way, way beyond our understanding at present. It is not appropriate to treat 5 through 10 spaces as one thing. In addition spaces 5 through 10 all add time parameters so they all transcend the physical world. But all this does not mean the unified field theory isn't possible in 10 space. With each level of space we see increasing freedom and increasing possibilities. So it is possible the physical forces unify at the 10th dimension of space. See p. 66.

10. One of the main reasons it took so long to find 5 space is a general neglect of the structure of space, an essential guide to find a higher space. Also it appears no one looked for it. And we had to look for a wholly new order of existence rather than some variant of the physical 4 space. See p. 67f.

11. Mental perception and memory occurs in 5 space. See p. 29f and 46.

12. In 6 space is the capacity to generalize across remembered events so as to get an abstract concept like tree on which the whole of language depends. This is also our capacity to perceive trends in sensory data. See p. 46f.

13. In 7 space we look across ideas. We can replay events and decide if this or that course of action is better. It is self-reflection, a new space in which to review ourselves and the world and to make decisions. See p. 43f and 46.

14. No. We don't yet fully understand how mind would function in hyperspace. This book only gives a preliminary assessment showing this theory could account for mental functioning. See Chapter 5

15. Because we generate higher spaces out of the lower we can easily fall into the idea the higher are made up of the lower. But given a higher level we have all the lower levels in it. Given a lower level we don't even have a clue as to the next higher dimension unless we try to generate it out of the structure of space. Also higher levels have multiple time parameters, which say they transcend our one time dimension physical world. Given the higher dimension you have the lower. Given the lower you do not have the higher. The lower dimensions are manifestations of higher dimensions and are reflections of them. See p. 56f and 74.

16. The law of parsimony suggests of several theories we take the simplest which covers the most ground. It suggests real understanding can be simple. A theory of many levels of if, ands, and buts is suspicious in its complexity alone. In this book we explain both the

physical and the mental in the simple structure of space. The very simplicity of this theory commends it. See p. 73.

17. Higher spaces include the lower. The lower does not include the higher and, in fact, don't really suggest what they might be. The higher dimensions contain multiple space and time values which all transcend the physical world of 4 space. In a mere 7 dimensions of space we discover the physical world and mind. This suggests all of existence may be in this dimensional form. A mere 10 or 20 dimensions of space include far, far more than we can currently understand. We can't properly even speak of infinite dimensionality. But it would be a great honor if in dimension theory we have looked upon the structure of all that exists. What an honor to look upon even the lowest rungs of the structure of it all. It would mean that existence has far more order than we thought possible. See p. 74-75.

18. This is an idea most everyone can understand. We want everyone to reflect and speculate. Maybe you too can make a contribution. Only time will tell. Credit one point if you have any ideas at all.

Score

16 to 18 correct - You are among the world's few experts on hyperspace.
12 to 15 correct - You are unusually knowledgeable on hyperspace.
7 to 11 correct - You have a good beginning understanding.
3 to 6 correct - You have made a start.

Bibliography

Chapter 1

1. P.D. Ouspensky, Tertium Organum. New York City: Alfred Knopf, 1944.

2. W. Van Dusen, Mind in Hyperspace. Dissertation Abstracts, 19, No. 8, 1959. A copy may be obtained from University Microfilms, Ann Arbor, Michigan.

3. A private letter from Albert Einstein dated 6/5/1952 with a note in German.

4. Michio Kaku, Hyperspace. New York City: Oxford University, 1994.

5. Stephen Hawking, A Brief History of Time. New York City: Bantam, 1988, p. 24. I eventually found several physicists who professed to be unable to visualize 4 space.

6. Wilson Van Dusen, Beauty, Wonder, and the Mystical Mind. West Chester, PA: Chrysalis, 1999. Chapter 9.

7. My mystical works include # 6 above and,

a) The Design of Existence. West Chester, PA: Chrysalis, 2001.

b) Returning to the Source, Ways to the Experience of God. Moab, Utah: Real People, 1996.

c) The Natural Depth in Man. West Chester, PA: Chrysalis, 1981.

d) The Presence of Other Worlds. West Chester, PA: Chrysalis, 1994.

e) Country of Spirit. San Francisco: Appleseed, 1992. 0 Moments of Enlightenment, E Bookstand, 2001.

Chapter 2 and 3

1. Wilson Van Dusen, Mind in Hyperspace. Dissertation Abstracts, 19, No. 8, 1959, p. 58-63.

2. Ibid, p. 63-67.

3. Philip Franklin. "What is Topology?" Philosophy of Science, 2, 1935, p. 39-47.

4. W.L. Ayres. "Some Elementary Aspects of Topology." American Mathematical Monthly, 45, 1938, p. 88-92.

5. S. Lefschetz. "The Structure of Mathematics." American Scientist, 38, 1950, p.106-111.

6. Karl Menger, Dimension Theorie. Leipzig: Teubner, 1928, p. 80.

7. Karl Menger. "What is Dimension." American Mathematical Monthly, 50, 1943, p. 3.

8. Witold Hurewicz and Henry Wallman, Dimension Theory. Princeton: Princeton University, 1948.

9. Bertrand Russell, Principles of Mathematics. 2nd Ed. London: Norton, 1937, p. 375.

10. Arthur Eddington, Relativity Theory of Protons and Electrons. London: Cambridge University Press, 1936, p. 32.

11. Fundamental Theory. London: Cambridge University Press, 1948, p. 113-129.

12. I wish to acknowledge the help of Professor C.W. Kilmister, author of Eddington's Search for a Fundamental Theory. Cambridge: University of Cambridge, 1994.

Chapter 5

1. Michio Kaku, Hyperspace. New York City: Oxford University, 1994.

2. Edwin Abbott, Flatland. Boston: Shambala, 1999

Chapter 6

1. Eknath Easwaran translator, The Upanishads. Tomales, CA: Nilgiri, 1987, p. 40.

2. A letter from C.W. Kilmister, dated 6/ 30/99.

3. Letter from Albert Einstein dated 6/5/52.

4. Michio Kaku, Hyperspace. New York City & Oxford: Oxford University, 1994.

5. Clifford Pickover, Surfing Through Hyperspace. New York City: Oxford University, 1999.

6. Thomas Banchoff, Beyond the Third Dimension. New York City: Scientific American, 1996. This book is full of diagrams from projective geometry. Early on we eliminated projective geometry as of any use in this field. It presents higher spaces as 2 space diagrams. They totally miss that 4 space is the physical world, and the miss is even greater in higher dimensions.

7. Wilder Penfield, The Mystery of Mind, Ann Arbor, Michigan: Books on Demand, 1959.

8. Sharon Begley, "Searching for the God Within." Newsweek, 1/24/01, p. 59.

9. Wilson Van Dusen, The Design of Existence. West Chester, PA: Chrysalis, 2001.