MAN, THE MEASURER OF ALL THINGS

AN INTRODUCTION TO THE STUDY OF TIME

GJB

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When you saw the title of this study, your first reaction may have been “surely it should read ‘Man is the measure of all things’?” Perhaps, like me, you connected the quotation with Plato, but when I checked the reference I discovered that he was quoting Protagoras, who was born about half a century before. What kind of an image do the words evoke - a noble creature for whose benefit the universe was created, and against whom all the achievements of the creator can be weighed? There may be another way of looking at it.

If we think about the passage of time, there are some questions which tend to come to mind - why does time go so slowly when we are bored and so quickly when we are enjoying ourselves? Why does the second week of the holiday go more quickly than the first? When you walk to a strange place, why does the return journey seem quicker? Why is a year such an enormous stretch of time to a child, whereas old people say that the years are flying by? Can we travel into the past? Can we foretell the future? Of what does the present moment consist?

To attempt to answer the questions, we should ask ourselves not only what time is, but whether there is a difference between

(a) our measurement of time and

(b) our consciousness of time.

This study may enable us to arrive at some understanding of time based not only on what we read about the subject, but on our own experiences.

PART I - CLOCKS AND CALENDARS - CHRONOLOGICAL TIME

How long is a long time?

Suppose we ask the family or our friends to complete the sentence
"It is a long time since …". What kind of answers might we receive?

Baby - since I had my feed - two hours or so
Toddler left with Granny - since I saw my Mum - a few hours
An older child - since Christmas - a few months

An adult may have a dual standard -
I have been waiting a long time for the bus - quarter of an hour
It's a long time since I was at school - quarter of a century

What about Grandad
It's a long time since I had my dinner - just like baby
It's a long time since I served in the trenches in the First World War - nearly a lifetime

Suppose you ask a geologist. He might say "It's a long time since the Ice Age. But he might equally well say "This formation of rocks is of recent origin, only 20 million years old". Or he might say "It's a long time since I had my dinner" just like baby or Grandad.

So it appears that to define "a long time" is equivalent to the old riddle "How long is a piece of string?" which could never be answered satisfactorily. The answer is subjective, and depends upon comparison.

Can distance be measured more accurately than time?

Our piece of string might be a yard long. But who decided that the yard was to be precisely so long? It is a man-made measurement – there is no divine ordinance which states that there must be a yard, consisting of three feet. And what is a foot?

When early man began to cultivate the land, it became useful to measure. For example a piece of land measured so many paces in each direction. Standards were derived from comparisons with man's bodily measurements: the foot, the hand, the cubit, the span. These measurements served their purpose but they were, even so, variable, and the three foot yard must have varied considerably until it was standardised as the distance from the nose to the thumb of one of our early kings.

The metre was introduced by the French, and was supposedly some significant fraction of the distance between the Pole and the Equator (since found to be inaccurate). A nautical mile is also a scientific measurement related to the earth's circumference.

These measurements which seem so precise have no absolute standard, because they are all obtained by comparison with a length which men have decided is to be used for this purpose.

What do we use to measure time?

So what “yardstick” are we using to measure tine? Is it a clock? What is it that the clock measures? A modern watch will measure fractions of seconds; it also measures minutes, hours, and can be constructed to register the day of the month, the month of the year, and the year of the century. The constant factor here appears to be the day, the turning of our planet earth on its own axis, observable by our relationship with the sun.

Man for his own convenience has made his watch to measure divisions of this period, worked out on mathematical principles. He did the same before clocks and watches were invented, by marking lengths of candles so that the time which they took to burn was divided into recognisable periods.

Surely a year is also a clearly defined measurement, in so far as it is the time which it takes the earth to orbit the sun? It is indeed, but your expensive watch which shows the date will need some adjustment in Leap Year. Even if this adjustment is automatically built into the watch, it raises some doubts as to the absolute reliability of the year as a clearly defined length of time. For that matter, even the day is not precisely 24 hours long, and months are very confusing for the measurer, with their varying lengths and the added complication of the lunar month.

So forget clocks and watches and calendars for the moment and think of other ways in which we measure time. What words do we use? Quick, slow - we need to be more precise than that.

How did our ancestors measure time?

Primitive man’s first measured observation would have been of light and dark, so just like the man with the modern chronometer, his standard was the day and the night. The hunters noticed that some nights were lighter than others, and that these light nights coincided with the size of the moon. Sometimes it turned cold for many days and nights, and the weather was stormy. The hunters began to comprehend the seasons, but the idea of a year did not yet enter into their calculations.

Then early men settled in small communities, and although they still hunted they began to plant crops and to be more dependent on what they could grow. They learned that there was a season to plant and a season to harvest. They learned to store food for the season when none would grow. These seasons came at recognisable intervals, and they were now beginning to comprehend and measure a year.

There came a need to divide up this period, from planting to harvest and back again to planting, into shorter more manageable periods, and for this purpose the moon was their ready-made “clock”. Every twenty-eight days it was round and full; then it waned until they could barely see it, and in between there were convenient quarters. Man had his measurements the “moonth”, the “fortnight” (fourteen nights) and the “sennight” (seven nights) which became the week.

It is unnecessary to pursue the subject of how names developed for the months as we know them, or how there came to be twelve months instead of thirteen lunar months. These facts are available in reference books.

What we are concerned with is the nature of time and the time of nature, whether for our own ancestors who inhabited these islands - Celts, “Ancient Britons”, Picts and Scots, Anglo-Saxons, Jutes, Danes, Norsemen and Normans - or for Chinese, Hindu, Jew or North American Indian. The names these people gave to their measurements are unimportant; in all cases the wise men of the tribes came to realise that the year did not divide neatly into thirteen lunar months or into 365 days, and complicated attempts were made to measure the differences and adjust the calendar accordingly. Not always happily - “give us back our eleven days” was the outraged cry of the people when the calendar was adjusted by Pope Gregory in 1750 to account for a discrepancy which had accumulated over the centuries, and the peasants really believed that their lives had been shortened by eleven days.

They were wrong, of course, and nobody nowadays really believes that you lose or gain a day when your ship or plane crosses the International Date Line, but can it possibly be that there is still a tendency to confuse the measurement of time with the passage of time?

Looking outwards to observe nature

Whatever names men gave to the passages of time which they measured, and whenever they considered their new year to commence, it is clear that in all cases they were inventing measurements for, and giving names to, natural phenomena which they could observe for themselves by looking outwards:

> light and dark; the revolution of the earth on its own axis, which constituted a day, and which they subsequently divided into hours, minutes and seconds for their own convenience;
>
> the varying seasons, caused by the orbit of the earth around the sun, constituting a year;
>
> the phases of the moon, which gave convenient divisions of the year.

These are all measurements depending on observation and comparison - observation of the movements of the earth, moon and sun, and comparison between the positions of the moon and sun relative to earth. The fact that for many centuries they thought that the sun moved round the earth does not matter, as the principle of measuring by observation and comparison holds good.

Comprehending the rhythm of nature

These natural phenomena can all be described as cycles: that is, they come into existence, they have a span of being, and then they die away.

Looking outwards from within our bodies we can comprehend a day, a week, a month, a year, and relate the span of each to our own life span.

But man is a comparative newcomer to the planet. What other cycles have taken place, or are taking place, on this earth? There are some which we know about, because they can be deduced and to some extent measured by scientists, but they are impossible to comprehend in

any real sense of the word, or to measure by any kind of comparison with the life span of the whole of the history of mankind, let alone the observations of one man during his lifetime.

There is the geological cycle - the coming into being of the rocks of which our earth is made, their gradual solidification from a molten form, their upheavals cue to the action of earthquakes and volcanoes; the ice ages; the breaking down of rock to form soil; the shifting continents.

The vegetation cycle: the land untouched by man produced a climax vegetation which died away after reaching a peak, as the great peat bogs and coal fields testify.

Animal species had their cycles, the dinosaurs evolving, reaching a peak of power and then eventually becoming extinct.

These cycles took place, and are taking place, over periods of millions of years. We know that they take place, but we cannot comprehend them with any degree of inner knowledge because we have no basis in our experience for comparison.

It is easy to say “a million years”, “ten million years” or “a billion years” but it is impossible to have any feeling of what a million years is like, because it is too large a cycle for comparison with even the entire history of mankind.

For measurements of time to have any meaning to individuals and become consciousness of time, they need to be observed and experienced with the senses.

Looking inwards and comprehending the rhythm of our bodies

What happens when we look not outwards, at the earth, the moon, the sun the planets and the stars, but inwards at our own bodies? “A lifetime” we say, to measure not a precise number of years, but the coming into existence of a physical body, its growth to maturity, its gradual ageing and eventual death.

The body has its own natural rhythm: birth, life-span, death. This is an observable natural cycle; the body is nourished by the fruits of the earth, and it returns to the earth when life departs. The body which lives on this earth relates its rhythms to those of the earth. This becomes more apparent to us when the rhythms are disturbed, by jet lag for instance, or a change to the night shift.

However the body as a whole contains components within which operate in their own rhythm: flesh, muscles, blood, cells - all of these have a life/death cycle and are completely renewed every so many hours/days/years until they gradually run down as age advances and no more renewal is possible.

Each part of the body has its own birth/life/death cycle: it is observable that these vary - we see that our finger nails and hair grow. These can be cut and will soon be replaced. We cut or graze our skin, and it heals. These have a short span, but the bones of the body cannot be replaced. They have a long span and in fact outlast the life of the body by centuries. The body dies, physically, because some part of it which is essential for the conversion of food or fuel, which cannot be replaced, has reached the end of its life span, or has been damaged beyond repair. When death occurs, the whole body does not suddenly disintegrate.

So when we observe our bodies we can see some of these cycles going on; with others we know from scientific evidence that they exist, but we cannot comprehend them in any conscious manner. We can be conscious of our breathing, and of the pulsing of the blood, but we cannot experience consciously the renewal of cells.

The time of the material world

The natural phenomena mentioned so far - from the cell to the blood, flesh, muscle and bones, hair, finger and toe nails, to the human body; from the earth to the moon, the sun, the planets, the stars and the galaxies, have something in common. They are all constituent parts of a universe which has been made material: possessing form and structure.

What kind of time are we measuring, at this level?
We may call this chronological time, the time of our earth and its seasons, and of our own bodies and their relationship with this earth: The time which relates to things given substance, which we can experience with our senses. “To everything there is a season, and a time to every purpose under the heaven”.

Man observes, and measures by comparison

Man, with his body which is made of the same energies as the planet earth, looks outwards, using his senses of sight, hearing, touch, smell and taste, and relating these to his consciousness. He sees the light and dark of the earth’s revolution on its own axis; he observes the phases of the moon and the seasons of the year. He sees the planets, stars and constellations, the galaxies. He uses these observations to devise measurements, of varying accuracy, to use as a frame of reference for his own life. He invents a machine, a chronometer, to register these measurements, with varying degrees of accuracy.

Man observes his own body, and realises that it has a natural span, birth, life, death. It contains within its covering of skin component parts, each of which has its own birth/life/death span. They are interrelated and work in close collaboration. Some of the component parts grow again after their own death or damage. Other of the component parts, may, when they die or are damaged, only affect the efficient functioning of the whole body to a limited extent, without causing death: a person can function with only one kidney; without a gall bladder; limbs may be amputated, eyes may be blinded. However when the heart reaches the end of its life span, life departs from the whole body.

Man comes to realise that when he uses his senses and his consciousness to look outwards at the earth, the moon, the sun, the rest of the solar system and the stars, there are cycles which he can comprehend. There are also larger cycles which he begins to suspect, or which scientific evidence tells him must be proceeding, but which he cannot comprehend fully because they are too immense to be related to his experience.

He comes to realise that when he uses his senses and his consciousness to look inwards at his own body, there are cycles and rhythms which he can comprehend, such as the renewal of skin, hair and nails. He cannot comprehend other cycles such as the renewal of cells, although scientific evidence tells him that this is taking place. He may know that his heart is not so good as it used to be, but he cannot predict when its span will end.

It appears from this that man's measurement of what he calls passing time is based entirely on comparisons which he can observe, of the various phenomena of the material world, from the smallest particle which he can isolate by modem scientific means, to the outermost limits of the universe which he can observe with the most modern scientific instruments.

Consciousness of passing time

What is consciousness of passing time, as distinct from measurement? Is this also based upon comparison, or are there any absolute standards? A child thinks a year is a long time because he is comparing it with his own short life. A year for a five-year old is one fifth of the time he has lived, and seems endless. For a seventy-year old, it is one seventieth of the time he has lived, and follows a familiar pattern.

Patterns which we see, looking outwards

Patterns are significant. Wherever we look, we find patterns. In the material world, the world of action, the world of things made manifest, which we can see, hear, taste, touch, smell and think about, molecules are the basic building blocks. A molecule is so constructed that it will interlock with another molecule of its own time scale - that is, one which has a similar programming of coming into existence/life span/passing away or change of function. It is the nature of these molecules to form "bundles" which in turn form parts of bigger bundles, or patterns. We can see evidence of this in the world around us. The earth we live on is a "bundle" or pattern of rocks, formed and reformed by the action of heat, water and air into the pattern of continents and oceans which we regard as permanent, but which may be changing while we live and breathe.

The planet earth is part of a greater pattern in the solar system. The solar system is part of a galactic pattern. Our galaxy is one of many galaxies - have we yet charted the outer limits of this "bundle" or pattern?

Patterns in the physical bodies of living beings and organisms

We can see evidence of these bundles in the life which exists on earth: a plant, an insect, a bird, an animal, a man. Each contains numerous bundles of cells, forming components - reproductive organs in all cases, stems, petals, leaves, roots; limbs, wings, scales, fur, feathers; internal organs, internal skeleton or outer shell. Some of the bundles are replaced when they die, others do not. When an irreplaceable bundle dies, the organism, be it plant or creature "dies", that is, there is a change of use in the other bundles of components. They may serve as food for another species, or they may return to the earth to fertilize it for new growth which will in its turn serve as food.

We can see man's physical body as a conglomeration of bundles or patterns, each with its own life span, or time scale. These time scales vary in as much as some bundles come into existence, live and die quickly, and are replaceable. Others are not replaceable but compensate for this by being "programmed" to last for a long time, such as bones. A third category consists of bundles which are not replaceable, and which are "programmed" to last for a certain time, perhaps approximately the biblical three score years and ten. When this bundle ceases to function the man "dies" but the other bundles are still there - they have a change of use and go back to the earth to fertilize it. So although all the bundles or patterns which make up a man have different time scales, or different lengths of birth/life/death span,

they can be said to be comparable, in that they all exist in material form together in the world made manifest.

Physical life depends on food

The existence and life of the physical body, this bundle of component parts, which are in themselves bundles of smaller components, depends on the fuel and food which it obtains from the planet earth on which it lives.

Consider this in terms of the four elements. Heat from the sun transforms earth into food, through the medium of plants, which also need air and water. Earth provides minerals, and gives the body its structure. Heat provides energy; water provides a flow for the chemicals which the body needs, and acts as a control device for the heat; air which we breathe powers the circulatory pump and extends the body into the shape we know.

Energy flows, and the body maintains its existence by a constant rhythm of activity/rest, which we can observe in our sleeping and waking, in breath and out breath, with the brief pause between each, and in the pulsing of the blood through the arteries.

PART II - IMPRESSIONS, MEMORIES AND EXPECTATIONS – FLOWING TIME

Groups and patterns built up by mankind

If man's physical body is composed of numerous bundles or patterns, each having its own birth/life/death cycle, what about his consciousness, his being, and his life as he lives it? We can certainly find evidence that individual men tend to group themselves into bundles, starting with those necessary for survival - the family, the community (either a band of hunters or a settled village), and these components developed into states and nations, usually consisting of people of the same race.

There are groups which men choose for themselves or for their children. In all cultures children are grouped for learning, whether in formal schools or in little bands with an older instructor. In primitive societies the men gather together apart from the women, for their own rituals. The women have their ceremonies and mysteries which are forbidden to the men.

Throughout modern society men and women choose in some way or another to band together to pursue a common interest, whether it be for the purpose of making money, producing food from the land, or spending their leisure time with those who have similar interests. Those who are religious usually belong to one or another of the religious denominations. The "loner" or the hermit may not be victimised, but he is usually considered to be exceptional.

Each of these groups - the family, the community, the nation; the school, the church, the business, the club - has its own pattern and life-span. It is brought into existence by a coming together of individuals with a common purpose; it exists for a certain time; some individuals die or change their interest - in many cases they are replaced by others. Then there comes a time when an individual who is irreplaceable dies or goes away, or when the purpose of the group no longer exists. Then the group dies out, or is re-formed. A look at the map of Europe over the last century will show how this has taken place with states, principalities, kingdoms and nations.

What about the family? Some families continue for hundreds of years, and can trace the male line back to a Pilgrim Father or a knight who came over with William the Conqueror, but suppose the present male heir dies without issue? The family may die out, or the line may continue in a related branch - in effect a "change of function".

If man's life-style takes the form of being part of a pattern, can we then say that if we look within man's mind and consciousness, patterns there also play a large part? We talk about behaviour patterns, and habit patterns. One religious sect has stated "give me a child until he is seven years of age ...", the implication being that by this time patterns have been formed, of thought, beliefs and behaviour, which it will be difficult for an outsider to eradicate.

From early life onwards the days have their patterns, and when we are older we realise that the years do, too. There is an eating pattern – during the course of a week we eat more or less the same kinds of food, at more or less the same hours of the day. There is an eating pattern for the nation - otherwise we would not go to the Chinese restaurant "for a change".

We use our minds (our psychological existence) to arrange the intake of food for the physical body in a certain pattern.

Food for psychological patterns

We have seen that man's physical body is dependent on the elements of our planet for its coming into being, and for food and fuel for its continued existence.

When we consider man's psychological existence, it becomes obvious that this also requires food, in the form of impressions which are continually received through the senses - what we see, what we hear, what we touch, what we smell, what we taste. This is, in effect, our psychological "earth", or the basis of our psychological life. These impressions are passed to our consciousness - after all, the eye merely sees variations of light and shade and shape - it is the brain which registers "that is a flower" - so the impressions by themselves are not used as food unless we give them attention and interest.

These two factors - the impressions we receive and the attention we give to them - result in energy in the form of feelings, and a flow of that energy in the form of volition and action. This may be considered to be a transition of the four elements to a higher level.

The psychological food is also arranged into patterns by our minds.

Observing and comparing in the psychological world

From birth onwards we are accumulating experience, based on our impressions, our interest, our feelings, our actions. These are in effect the form and structure of our psychological world. Every impression we have is referred back for comparison with previous impressions. Gradually a pattern is built up. Some people very quickly reach a stage where their pattern is complete and there is no room for anything new - any strange impression has to be rationalised and fitted in with the pattern which is already there.

The procedure of observing and comparing goes on in the psychological world, just as it does in the physical world.

Man looks outwards and sees certain accepted standards of behaviour and action in his family, his peer group, his nation. He may diverge from these standards, but nevertheless he is constantly observing, comparing.

He looks inwards, and with every experience which comes to him, he has a pattern within whereby he can say "how did I react to this experience last time?" He may decide to act differently this time - but nevertheless he is observing and comparing.

These patterns of impressions, interest, feelings and actions arise, have a certain span of activity and then die down, to be resurrected from the recesses of the mind only for the purpose of instant comparison when a similar impression comes along. They group together to form experience, and experience is the basis of our psychological life. It also brings into being a factor of <u>expectation</u>, that is, we are basing our attitude to any experience on the impressions, interest, feelings and actions which we have had previously.

Just as measurement of time in the physical world is based on observation and comparison, our <u>consciousness</u> of the passing of time in the psychological world is based on observation and comparison, together with <u>expectation</u>.

Comparison is with patterns of impressions which have been set up previously, leading to a certain expectation of the way in which the new impressions can be fitted into, or latched on to, a former pattern. For instance, suppose you want to be sure of remembering something. By far the easiest way of doing so is to invent a mnemonic or rhyme, or an association. Television advertising takes advantage of this, with its slogans and jingles. The new datum or impression is formed into a pattern, by hooking it onto something already familiar to the mind. The slogans and jingles have rhythm which appeal to the pattern of "activity/rest" (for what else is rhythm?) in the physical body.

Speed of impressions

Ten minutes which you spend waiting for a bus seems endless. The watched pot never boils. You get stuck with a bore at a party. You are ready to swear that time itself is going slowly. But what about the speed of the impressions which are entering your consciousness and, more important, what about the attention and interest you are giving to these impressions? If your great friend is beside you in the bus queue, the ten minutes soon goes - impressions in the form of animated conversation are entering your mind, and you are giving them your attention. Or a procession passing by may arouse your interest and have the same effect. While you are waiting for the pot or kettle to boil, it is unlikely that you are giving much attention and interest to anything else. But what if you slip away to watch television for a few minutes? Before you know it your pot has boiled over. Or suppose you suddenly discover that the person whom you supposed to be a bore has a fund of fascinating information about an obscure Greek island where you just happen to be spending your next holiday?

So in these cases the rate at which time flows into your consciousness depends on the number of impressions which you are receiving, and the amount of interest and attention which you are giving to them.

This is another kind of time

We are not thinking now about chronological time, or the time of things made material. All the patterns we have been considering, in man's psychological world, - habit patterns, behaviour patterns, thoughts and impressions, have something in common with the patterns of the physical world: they come into being, they have a life span, and then they pass away or change their function, perhaps to act as food for a new pattern or bundle. However impressions, attention and interest, and feelings are not in themselves things made material in the physical world. They may lead to volition, which results in action in the physical world. We might call this psychological time an aspect of "flowing time".

How do we measure flowing time?

Is there a difference between the measuring of time which goes on in the physical world, where we observe a natural phenomenon and measure it by comparison with another phenomenon (the day, the year) or measure it by dividing it into manageable slices (the hour, the minute), and our consciousness of time in our psychological life? Are we not in this case also measuring the flow of time by observation, comparison and expectation?

Expectation

The factor of expectation may give us a clue. We have already considered how time appears to flow more quickly or more slowly in accordance with the speed of the impressions which enter the mind. So think about the question previously raised “why does the second week of a holiday seem to go so much more quickly than the first?” If impressions are coming in thick and fast, surely the first week should go more quickly? These impressions are receiving attention and interest; time never drags, but at the end of each day there is a memory of an enormous number of new impressions. There are no patterns which they can be compared with, and one is left with a feeling of a day which has encompassed a great many activities.

After a few days the newness wears off, and each day’s impressions, together with the interest and attention, are compared with the pattern which we have come to expect. So the days seen to be going quickly, because impressions are coming in rapidly, but at the end of the day one has not quite the same feeling of a day filled with new things. In retrospect the first few days seem to have been longer.

The same principle applies when a journey is made to a strange place, particularly when this is made on foot. The outward journey is full of new impressions and seems in retrospect to have taken a long time, but on the return the pattern has been set up and the expectation is there.

Attend an absorbing lecture and you are not conscious of the passing of the hour. You are too absorbed in what you are hearing to be bothered to compare the flow of this hour with all the other hours you have experienced. At the end of the talk you may say “good heavens, is the hour up already?” but you will also think “what a great deal went into this hour; what an enormous number of impressions 1 received in it; how did we do so much in one hour?”.

Sometimes, therefore, our consciousness of the flow of time seems to be contradictory in that an experience which is full of new impressions, which at first sight one would expect to pass rapidly, seems in retrospect to be a long time, regardless of the speed of its passing. This depends in every case on the previous experiences which form the basis for comparison, and whether or not there is a high degree of expectation present. In other words, the sense of time based on the speed of impressions may be altered or modified by the expectation factor.

When time slows down

It appears that the mind has the faculty of taking new impressions, when it has no previous pattern to compare, and referring them to a different part of itself - in fact to the more essential and real person. This acts as a little shock which enables this essential person to stand back from the “patterns” and have a slightly different viewpoint of this flowing time.

A physical shock, or the shock of experiencing something unexpected can have the same effect. It sometimes happens when one is involved in an accident or receives bad news, that the mind shifts into a different state and one views events as if from afar. The physical action of the events seems to happen in slow motion, and may be viewed or heard as though from a distance.

This can happen in an emergency too, and may be providential because when there is this shift in the mind and events arc observed as though they were in slow motion, one is spurred

by the shock into taking instant action which will resolve the emergency. “I don’t know how I did it but I caught her as she fell”. “Some sixth sense told me to slam the door before she got out”.

Two kinds of time

Now we have two different kinds of time: the time of the material world and its seasons, which we try to record with clocks, and which we are truly conscious of only in so far as it affects our lives. The time of our thoughts and impressions, feelings and desires, which we remain conscious of whilst they are at the surface level of our minds. We do not necessarily try to measure this flow of time, but nevertheless we are constantly doing so, by comparing it with previous experience, and with our expectations.

These two kinds of time interrelate, because all objects of creation need “flowing time” for their maintenance.

PART III – THREE WORLDS OF TIME

A time of all possibilities

By studying our own experiences we encounter laws which operate throughout the whole universe, and we can use our experiences with processes near and familiar to gain insight into those unseen and unfamiliar.

Suppose you are holding a small stone in your hand. Your energy is balanced and controlled, contained and held in check. Whilst this is the case, no act of creation can take place, and no action will come to fruition in the physical world.

As soon as you move your hand, the situation changes. According to your wish, you might place the stone on the table nearby; you might throw it up in the air; you might throw it at somebody; you might drop it. If you drop it, you might hold your hand open so that the stone falls to the left, or to the right, or rolls ahead. Your intention will govern the way in which you open your hand. So you may say that the moment you move your hand, all possibilities exist, taking into account the laws of the physical universe in which you and the stone are manifest. (The possibility that the stone will vanish cannot be said to exist, and the possibility that you will levitate, taking the stone with you, may be disregarded).

Having made the decision to open your fist and let the stone fall, there is a shock taking place. At one moment the stone is there in your hand, the next moment - this possibility is split off from all the other possibilities. By the separation of the hand and stone, energy is released and flows for the period while the stone travels from the hand to the ground. The stone hits the ground and remains there.

This is a simple analogy but it contains all the essentials of the time process; firstly there is a passive containment of energy; will, or intention operates, and one possibility is split off from the many which exist; separation produces an energy; this energy flows to maintain the action; it subsides into inertia or entropy, resisting change until some new factor is introduced into the situation.

An acorn becomes an oak

We can apply the same time process to the growth of a tree. Acorns lie on the ground. What are “all possibilities”? They may be eaten by squirrels or other animals; they may be crushed by the boot of a passer-by; roll away onto stony ground; be washed away by the rain. In any case, there may be a dozen or so of them on a tiny patch which could not hold a dozen oak trees. Is there “will” or intention in this case? There is certainly the urge within the parent oak to perpetuate its own species. The possibilities for the growth of any one acorn are in accordance with the laws of the universe in which it exists - it is programmed to grow into an oak tree, not a sycamore, and it is dependent for its survival upon the same four elements which maintain the physical body of a man.

Perhaps then for one particular acorn all necessary conditions for survival come together at the right moment; space to grow, good soil, water and drainage, sunlight and the right temperature. Suddenly there is growth - this acorn has the opportunity to survive and become an oak tree. It is immediately split off from the other acorns which have not had that

opportunity. It is able to release energy, to feed and fuel this energy, so that it will flow for as long as the acorn/sapling/tree exists.

It has another factor “programmed” into its growth. The speed of its growth will be balanced with the form, structure, and degree of materiality appropriate to a tree. Otherwise it would develop into a monstrosity which could not survive.

We can also say that its eventual death is programmed into its growth. Oak trees cannot last for ever, even in ideal conditions. Its death will depend in one way or another on its becoming incapable of taking in the food, water and warmth which it needs - the young sapling may be crowded out by faster growing vegetation, or eaten by an animal; the mature tree may be damaged or chopped down; these are accidental happenings, but if none of these takes place, eventually by its own “programming” it will degenerate until it is incapable of taking in the nourishment it needs. From whatever cause it dies, it does not just disappear - the patterns and bundles from which it is constructed undergo a change of function.

Here again we have “will” or intention, in this case of the species to perpetuate itself. We have a time of “all possibles”, consistent with the laws of this planet, when the acorn may or may not survive. We have a “shock situation” when a number of exterior conditions come together at exactly the right moment to trigger growth. Then we have a flow of energy to multiply the cells, shape them into a tree, and animate and maintain what would otherwise be an inert lump of wood, brought into being in a material world.

Birth, life and death of a human being

What about man, or woman? There is the same urge of the species to perpetuate itself. There are numerous possibilities, consistent with the laws of the planet - the woman’s egg may or may not be fertilized; it only needs one spermatozoon, but how many spermatozoa are released as “possibilities”? The egg may be fertilized by a sperm which will result in the birth of a son, or in the birth of a daughter (or twins etc.) In accordance with the “programming” it will result in a human child. A woman will not give birth to a litter of rabbits in spite of the perennial rumours which have existed at least since Roman times. The pregnancy will last approximately nine months and (unless interfered with) the birth will be triggered by an inner “programming”.

When all these conditions come to fruition, the child is born. We may consider this to be a shock or crisis situation - not only is it an actual physical and psychological shock for the baby, but considered from another point of view, at one moment the child is an appendage of the mother, and then suddenly becomes a personality in its own right, beginning to take in impressions of the world into which it has been born. We are now told by scientists that impressions are absorbed by the child whilst it is still within the womb, but from the moment of birth nutriment, both physical and psychological, is taken directly by the child, instead of through the mother.

We have our “all possibiles”, the sudden transition from one state to another, and then the flow of energy which, besides powering the child’s physical growth and maintaining its body throughout its life, enables it to take in impressions, give them interest and attention, resulting in feelings and desire for action.

This flow of energy continues throughout the life of the human being. It is "programmed" with an approximate life span which it will reach unless some outside factor interferes with its ability to take in food and fuel, on either the physical or psychological level.

As with the oak tree, the speed of cell division and growth will be balanced with the form, structure and degree of materiality which in this case must be appropriate to a human body. When this programming goes out of balance we have a monstrosity or a cancer. This balance, between speed of growth and degree of materiality (and length of life span) must be considered not only as applicable to the body as a whole, but to each and every one of its "bundles" or component parts. Suppose teeth grew at the same rate as toe-nails?

When the human being dies its body does not suddenly disappear. As with the tree, the patterns and bundles of its body and mind undergo a "change of function".

Will, the life force, and programming

We must consider "will" and "programming". When we took the example of the life span of an oak tree, we saw that it was the result of an urge of the life force, nature, in the species to reproduce and perpetuate its own kind.

It would be possible to say, then, that the oak tree which was created had a kind of urge to individuality - that is, it had an inbuilt urge to be a tree, rather than a man or an animal; it had an urge to be an oak tree, rather than an elm or an ash, it had an urge to be one tree, not two or three. In other words, besides having an urge to live and grow, it also has the urge to take on the identity of an oak tree.

A child is conceived. It has an inbuilt urge to be a man or a woman, not a plant or an animal. It is an individual in its own right, whilst remaining part of the greater pattern of mankind. It has the urge to this identity, and also an urge to consciousness which the tree does not possess. We have seen, though, that even in the most favourable conditions, the oak tree will eventually die. The healthiest man or woman will not live for ever. Their forms, or their material bodies, whilst possessing the will or urge to become <u>one</u> oak tree, to become <u>one</u> man or woman, also have a natural will to eventual death, or "change of function" of the material body.

Conflicting wills

So we may say that the will to uniqueness or eternity, the natural urge to become one entity and resist change, is counterbalanced by the will to eventual death of the physical body as we know it.

When an act of creation takes place, these two wills - the will to eternity and the will to annihilation - split off from unity or containment of energy, to begin the creative process. It is this split which powers the flow of energy to give the created body its material form, and maintain it throughout its life. The greater the split, the more energy is available and the higher degree of materiality the created body will attain.

For instance consider a tiny insect. Its inbuilt urge or will to become one individual is there, but it does not have a strong urge to last for a great length of time. Its urge to die soon takes

command and its life span may only be one day. Its body is fragile and has not a high degree of materiality. Its birth/life/death are rapid.

What about an elephant? It has a great urge to live for a long time. It has the urge to become one individual elephant; it has the urge to identity and uniqueness, and the consciousness appropriate to its species. It also has the inbuilt urge to eventual death, but in this case there is a much larger split between the two urges. The elephant attains a higher degree of materiality than the insect. It will, barring accidents, live for a great length of time, and its birth/life/death cycles are slow, compared with the insect.

We could say that the insect is living a fast time scale and the elephant a slower one, but these time scales, or birth/life/death cycles are observable and comparable, because they are both manifest in the same material world.

These time scales - the short life of the insect and the long life of the elephant - can be compared with each other, and can be compared with the birth/life/death cycles of all other created objects, whether animate or inanimate, because in each case we are considering existence in the world of action, the world of things made material, which we can sense with our own bodies and relate to our consciousness.

Shock or crisis

Previously we considered the "time of all possibles", and the time when there was a release of energy, when the possibilities began to take shape - shapes which might or might not gain materiality.

For one of the possibilities which exist in the "time of all possibles" to come to exist eventually in the material world as a created object or action, the possibility has to undergo what we may describe as a shock or crisis situation, which will enable it to make a jump from one state to another.

This applies whether we are considering the actual creation of an object or the transformation of an idea into an action which will have an effect in the material world.

In all cases there has to be this jump from the state or condition of "could be, might be" to a different state of "going to be".

We know that we can obtain more insight by studying examples near and familiar to us, so we need to look for situations where there is all the potential for something to happen, and then some kind of shock sets it off. Go back to the hand holding the stone: this is a situation of "might be" which could go on for a very long time, until the hand opens - a shock - one moment the stone is held; its future is uncertain. The next moment the shock has taken place. What happens next is inherent in the shock – the stone must now fall.

Watch a platoon of soldiers marking time until with the command "Forward march" there is a sudden change in the angle at which the feet touch the ground, and the whole platoon moves forward.

Hold a match to a matchbox; nothing happens. This could go on indefinitely. Apply the shock of friction and what happens next is inherent in this shock - the next moment there is a flame.

We saw that the acorn could lie on the ground indefinitely without growing into an oak tree, until certain conditions favourable to growth all came together at the right moment, providing a shock or a stimulus which ensured that growth would take place.

The same applied to the conception of a child which could only take place when various favourable conditions all came into being at the right moment. At one moment there is merely the possibility that a child will be conceived. The coming together of favourable conditions, together with the will and life force make it certain what is going to happen next - there will be an embryo developing in the womb.

When ideas become actions

Think about the jumps which one makes in everyday life from ideas to action. You lie in bed in the morning with the idea of getting up - soon. What is the "shock" which spurs you into action, the shock that makes it certain you will get out of bed? It may be a look at the clock. It may be the thought that you need breakfast. It may just be a resolution of your will. Whatever your answer, there has been some kind of little shock which bridged the two moments - one moment when you were lying in bed, and the next moment when you were out of bed, perhaps not quite sure how you did it. If it were not for this little shock of decision, you would remain lying on the bed as the unlucky acorns remained lying on the ground.

Suppose you want to make a major change in your life - to go abroad, or to move house. The ideas may be milling around in your mind for weeks, months, or even years until something happens which spurs you into action. Even if you make the change on a sudden impulse, the impulse itself is a result of a sudden resolution of your will, namely a shock or crisis situation. Or perhaps, after considering a move for years, you see just the right house, or just the right job advertisement. Or you get the sack, or have another baby, and action becomes imperative.

In every case, there has to be some shock, crisis, or resolution of will, whether large or small, whether or not you are conscious of it, which spurs you into action, or in other words makes the jump from the time of ideas to the time of action, which affects the material world of chronological time.

In every situation there is an inherent factor which acts as a shock, and determines what is going to happen next.

PART IV – SUMMARY

Four Worlds

We have discovered three orders of time, but there are in fact four "worlds" which interrelate, and which are analogous to four states which we can observe for ourselves in any creative process. Time is inseparable from the process of creation. Does this mean, then, that there is a "timeless" world?

As before, we try to identify this state in a near and familiar process. In our first example, the stone was held in the hand. Before physical activity we say that we "gather ourselves together"; before mental activity we say that we collect our thoughts. This is the first world - unity, the still point, the containment of energy. This is a world or state of potentiality (as distinct from possibilities) and no creative process can begin until will operates.

With the operation of will, there comes into being a world or time of possibilities, which accord with laws which operate at that level. If the necessary shock is forthcoming, one possibility will be split off from the others.

This split releases energy, which gives us another world of time – a flow of energy which will bring the creation to fruition and maintain it throughout its life span.

Our fourth world is the world of created objects and actions which are manifest in the universe and to which we can relate with our senses. Every creation, whether animate or inanimate, has its own cycle of existence - coming into being/maintenance by flowing energy/death or change of function.

Each object of creation is a pattern, a bundle of smaller components, which are in themselves collections of even smaller bundles. Each object of creation is part of a larger pattern or bundle, whether it is an atom or a galaxy.

What is time?

Can we now attempt any definition or clarification? In the physical world of things and actions, time appears to be the name which man gives to his observation and measurement of these patterns and bundles; their coming into being and their passing away. He measures these patterns and bundles by comparing them with other patterns which he can observe in the universe.

He usually overlooks two important factors - firstly that the passing away of any of the patterns/bundles/components is not a complete death or disappearance, but a change of function for the energy involved. Secondly (and of paramount importance), that his observations are necessarily from the standpoint of his own body and his senses, and cannot therefore be definitive. He watches, compares, measures, and calls it time. What would a table look like if you were one of the atoms composing the wood? In this, as in the other worlds of time, YOUR VIEW DEPENDS ON YOUR VIEWPOINT.

The world of flowing energy is viewed by man from the standpoint of his own consciousness; he uses the energy to receive impressions which he forms into patterns. These relate to patterns which he has accumulated formerly, or which have been accumulated by mankind as

a whole. He measures, comparing the speed of his impressions with those he has received formerly, and with his expectations, and calls it time. Again, he is observing the flow of impressions, feelings and ideas from the standpoint of his own body and its mind.

This world of flowing energy is the world of the psyche, of memories, of dreams, of imagination.

Questions we now ask

Is it possible for man to shift his viewpoint and slide the scale to obtain a truer view of what is taking place, both in the material world and in the world of subtler energies?

Is it possible for man to have any consciousness of the world of all possibilities, of archetypes, of the mind of mankind as compared with man?

Is there really a “timeless state” or is this part of a much greater pattern?

I cannot attempt to comment on the final question, let alone answer it, but so far as the other questions are concerned we have already found that there can be a shift of consciousness, brought about by a shock of some kind, which gives a slightly different viewpoint, so that it is possible to stand back from events, which then appear to be happening at a different rate of time.

Other shifts in consciousness or altered states of consciousness (perhaps achieved during or as a result of meditation) may produce much more marked effects.

Present, past and future

Considering that this is a study of time, very little has been mentioned about present, past and future. To what extent are we really awake to the present moment? There is very great difficulty in remaining aware - mostly our actions and reactions are so automatic that if we reflect upon them we come to wonder “who is it who is doing all these things?” - but if we are not mindful of the moment, we are constantly measuring time which has already passed, rather than living in the present.

Awareness of the present moment is a window into reality which can become available to man (usually as the result of a great deal of hard work). If we can develop this faculty and use it, what can we expect to learn?

The world and time order of flowing energy consists of patterns, shapes and ideas forming and reforming, which remain in that world until they have the opportunity to be brought into materiality or action. Remember that the four worlds interrelate, so contained within the world of flowing time there is a state where will operates, where possibilities are split off and may be powered with enough energy to be made a material object or action.

Material objects or actions have their span of existence in the manifest world; when they reach the end of this, the energy which powers them undergoes a change of state, and the pattern retreats to the world of flowing time from whence it came, reverberating in the same way that a gong reverberates after it has been struck, until perhaps it may be brought again to materiality, to form patterns similar to those formed previously.

The prophet may be one who is able to use his awareness of the present moment as a device for a shift of consciousness - not only as a window but as a telescope which he can focus on the shapes and patterns of flowing energy. He is changing his viewpoint of flowing tine to observe not only the impressions which enter his mind from the world which his body inhabits, but to view the energies forming, to see “all possibilities” in the world of flowing time, and to know which of these will gain materiality or result in action.

We know in our own everyday lives that someone who is well informed and familiar with causes can forecast effects with a fair degree of accuracy, and this talent may well be capable of operation on another level, by a shift of consciousness.

Similarly those who have experiences or visions of the past may be expanding their awareness of the present moment to shift levels and view the energies which have previously been made manifest in the material universe, and have shifted to the world of flowing time. They may use the patterns or bundles which exist in their own psyche to “key in” to the reverberations of similar patterns which exist elsewhere in time. If there is “music of the spheres” there must also be “harmonics of the spheres”.

Time travel

Try it by all means, but don’t forget that your body has its own niche in time, in relation to the earth from which it came to to which it will return.

WORLDS WITHIN WORLDS

I am that I am (Exodus)

Then was not non-existent nor existent: there was no
realm of air, no sky beyond it.
What covered in, and where? and what gave shelter?
Was water there, unfathomed depth of water?

Death was not then, nor was there aught immortal: no
sign was there, the day's and night's divider.
That One Thing, breathless, breathed by its own nature:
apart from it was nothing whatsoever.

Darkness there was: at first concealed in darkness this
All was undiscriminated chaos.
All that existed then was void and formless: by the
great power of warmth was born that unit.

Who verily knows and who can here declare it, whence
it was born and whence comes this creation?
The gods are later than this world's production. Who
knows then whence it first came into being?

He, the first origin of this creation, whether he formed
it all or did not form it,
Whose eye controls this world in highest heaven, he
verily knows it, or perhaps he knows not.

(Rig Veda)

To every thing there is a season, and a time to every purpose under the heaven.

All the rivers run into the sea; yet the sea is not full; unto the place from whence the rivers come, thither they return again.

The thing that hath been, it is that which shall be, and that which is done is that which shall be done: and there is no new thing under the sun.

(Ecclesiastes)

'Tis of the essence of life here,
Though we choose greatly, still to lack
The lasting memory at all clear,
That life has for us on the wrack
Nothing but what we somehow chose;
Thus we are wholly stripped of pride ...

(R. Frost)

Do you know that one moment can be eternity? ... but only if you mount that moment and use it to take the totality of yourself forever in any direction.

(Castenada)

Children, if you dare to think
Of the greatness, rareness, muchness,
Fewness of this precious only
Endless world in which you say
You live, you think of things like this:
Blocks of slate enclosing dappled
Red and green, enclosing tawny
Yellow nets, enclosing white
And black acres of dominoes,
Where a neat brown paper parcel
Tempts you to untie the string.
In the parcel a small island,
On the island a large tree,
On the tree a husky fruit.
Strip the husk and pare the rind off:
In the kernel you will see
Blocks of slate enclosed by dappled
Red and green, enclosed by tawny
Yellow nets, enclosed by white
And black acres of dominoes,
Where the same brown paper parcel -
Children, leave the string alone!
For who dares undo the parcel
Finds himself at once inside it.
On the island, in the fruit.
Blocks of slate about his head,
Finds himself enclosed by dappled
Green and red, enclosed by yellow
Tawny nets, enclosed by black
And white acres of dominoes,
With the same brown paper parcel
Still unopened on his knee.
And, if he then should dare to think
Of the fewness, muchness, rareness,
Greatness of this endless only
Precious world in which he says
He lives - he then unties the string.

(R. Graves)

Great fleas have little fleas upon their backs to bite ‘em;
Little fleas have lesser fleas, and so ad infinitum.

(Augustus de Morgan)