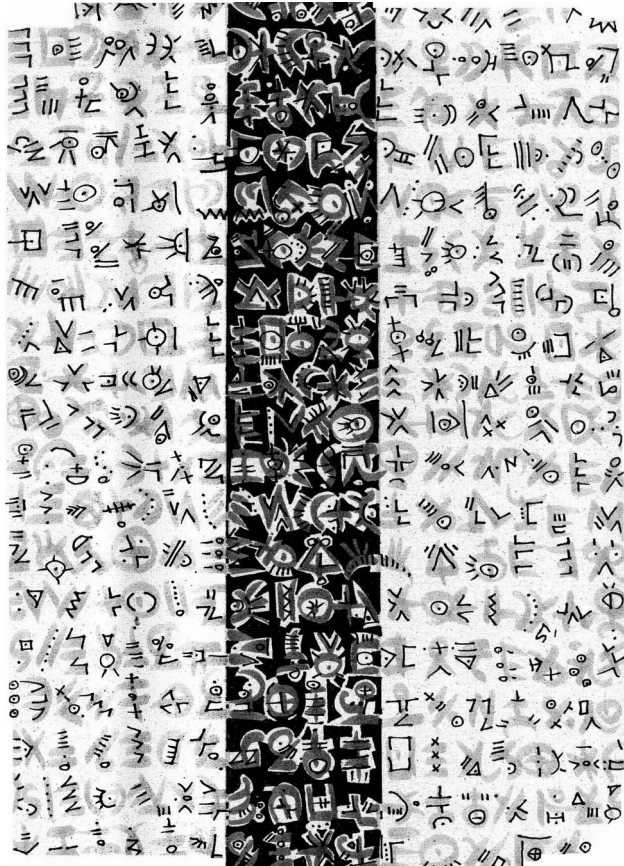


# DuVersity Newsletter

## No. 7 2002

In this issue we are reflecting the 'university' aspect of our work, which very much depends on connections with original thinkers in many spheres.



First of all, we have a short essay by Richard Heath on the work he and his brother Robin have been doing for many years, to discover the methods and forms of ancient astronomical knowledge. Richard has recently published *Matrix of Creation*, an account of some of his research. We heartily recommend this book, which can be purchased in the USA through the DuVersity. Next we have a transcribed and edited talk by John Allen on the meaning of knowledge in relation to being and will. This gives an exciting new perspective on the development of human culture. This is followed by a short essay by Steve Mitchell, writer and theatre director, on the metaphor of film

making for how we structure our experience and memories. Finally there is an essay by Anthony Blake in which he reviews the Working Group methodology as a discipline of what he calls 'psyche education'. We also give news on our forthcoming seminar dialogue on *The Synergic Epoch* and the 2003 trip to Peru with Bill Sullivan.

In the next issue we hope to include an account of the brilliant Stone Game devised by Leslie Schwing and Janet Young. The image on this page is an example of one of Leslie's *Glyph* compositions



The photograph shows Anthony Blake near Chengdo, Szechwan Province, China conducting a logovisual exercise at a Lafarge cement plant. This was part of an extended visit to China, also involving the teaching of Gurdjieff Movements in Beijing.

## Stonehenge: Key to the Ancient World

Richard Heath © 2002

Stonehenge represents



a vast array of so-called megalithic sites found

all over Britain, Northern Europe and beyond and yet no real explanation has been given by archaeology for why they were built and what they were used for.

Instead, for the last century it has been individuals working outside the scientific establishment who have been proposing radical theories, based on measurements, that now threaten to turn our concept of stone age culture on its head.

What they have found is that such monuments incorporate high levels of numerical and astronomical knowledge pointing to an alternative view of a world created by numerical relationships that manifest in the sky through the planets.

This idea, *that the planets were gods* preceded the one god of modern western culture, a culture that systematically destroyed the ancient cultures leaving only certain indelible traces, found in artifacts such as myth, monuments, and the ancient systems of measure that were not considered a threat.

These systems of measure have proved to be the key to understanding the cultural roots of megalithic peoples, alongside an emerging new science of astro-archaeology.

### **The Development of Astro-archaeology**

Astro-archaeology was initially the domain of 18<sup>th</sup> century gentlemen who were intrigued and inspired by stone circles. Who had built them and why?

The early work revealed alignments to solar sunrises and sunsets at important points within the year, but at the same time their fellows continued to destroy the stone circles as pagan and, since archaeology hardly existed, there was little discussion of their work.

It was the 19<sup>th</sup> century scientist Norman Lockyer who made the first real impact when he showed that Egyptian temples were aligned not only to the Sun but also to stars. Through this work he was able to accurately date the building of the Great Pyramid at Giza, by its orientation to the polar star of that epoch, alpha Draconis.

Thus, celestial alignments allowed megalithic monuments to be dated but there was only one

snag – archaeology students until recently did not know enough astronomy!

Lockyer also noticed alignments within the landscape that could continue on and this was developed by Alfred Watkins into a theory of straight ley lines crisscrossing the landscape, linking all the monuments into a network of paths covering most of Britain.

The problem lying behind all this was a cultural prejudice of stone age culture as primitive and of modernity as inherently superior. This is a cultural imperialism, that began with the destruction of pagan beliefs and has culminated in opposition to *virtually any* astro-archaeological revelations.

An unlikely character then stepped forward, a Scottish professor of aerodynamics who became interested in stone circles seen afar whilst sailing his yacht in the Hebrides. His name was Alexander Thom, and he decided to do rigorous surveys of hundreds of stone circles – an activity never carried out by professional archaeology.

In the course of his survey he noticed that the lengths found within monuments appeared to have a common unit lying within them, as if megalithic man had a standard type of ruler 2.716 feet long which was used to build the monuments. He also found advanced geometrical methods being used to build them and a propensity to use whole numbers where possible. New forms of highly accurate celestial alignment emerged from his work, using sightlines tens of miles long.

His work met strong opposition, which did not seek to question his results, but to dismiss them as impossible given the traditional picture of the past. This rejection by orthodoxy prevented widespread serious discussion of his work, again forcing astro-archaeology to lie for decades as only a minority interest, outside of mainstream science.

Meanwhile, an experientially led Earth Mysteries movement developed, to incorporate ley lines, sacred sites, earth energies, meditations and even aliens, giving traditional archaeologists legitimate reasons to beware of any theory that might contaminate their perceived role of conservation.

### **Parallel Developments**

Other areas were yielding interesting results about the ancient mind. One such was Santillana and Dechend's book *Hamlet's Mill*, initiating an astro-mythology in which crazy stories are shown to point to a system of characterising and describing the heavens, their events and "topography", relating to how the gods acted between each other, and created the world.

Another remarkable contribution was from Ernest McClain, a New York music professor who unearthed in the Vedas a complete theory of music, including tunings supposedly only discovered in the last millenium. From this he was able to restore the lost meanings within the works of Plato and hence of Pythagoras, famous in the West as the bridge between the ancient numerical sciences, including music, and the "modern" analytical mathematics initiated in Greece.

In this way, the astro-archaeological evidence behind monuments was just one facet of a larger picture being recovered through myth and through musical number theories that were both well developed traditions with a surviving written form.

But how was all this to be put into a theory? It required a trigger that turned out to lie within Stonehenge.



Stonehenge was operational for over 1000 years, and its phases of construction are revealing. The monument starts by defining a large circle 104 of Thom's megalithic yards in

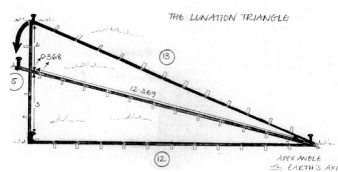
diameter. 56 holes were evenly spaced. Later, four points in the circle were marked out into a station stone rectangle, whose sides are in the proportion 12 to 5, aligned to stations of the Sun within the year.

### Trigger 1: The Lunation Triangle

My brother, Robin Heath's attention was drawn to this rectangle, within which he discovered what was, effectively, the required trigger. Marking a point at 3/5 along the shortest side, he discovered a triangle whose longest side was 12.368 long and this is the number of lunar months in a year.

Firstly, this means that using simple lengths, a very awkward proportion could be generated and the behaviour of the Moon relative to the Sun accurately portrayed.

Secondly, though, it appeared that the universe



had somehow "taken lessons from Pythagoras" in using such a simple geometrical form to underlie this astronomical fact. I

joined my brother's work, to discover together ten years of ever-stranger numerical coincidences.

What emerged first was a series of triangles, all of which spoke of extraordinary coincidences between how megalith builders built and how the skies of Earth were organised.

At the very least, the monument builders were accurately transcribing the heavens but what, then, must their view of the world have been given the facts they knew?

Every aspect of the Sun Moon Earth system became a numerical maze as far as a calculator could see. Meanwhile, arguments raged over popular books declaring the ancient world to have been a high culture lost, but always the evidence if any was contested by an orthodoxy that saw the emotional appeal of such ideas to be unscientific.

All one could do was keep calculating, sharing ideas where possible and hope a big idea would arise within which a picture of a numerical universe would fit simply. Robin's work in the meantime provided a defensive position for Thom's finding, which became

more accessible within new books on building stone circles, understanding Earth-based astronomical facts, and publishing some of the strange numerical facts about the Moon.

## Trigger 2: The Matrix of Creation

Another trigger was required, provided out of the despair of too many questions and too few answers. I decided to make a simple map of all the time periods emerging from the triangle and other calculations, since important elements seemed to go right down to the rotation of the Earth being linked to the lunar orbital period.

Suddenly numbers started to fit Saturn and Jupiter, confirming myths about them and revealing that Jupiter was effectively the god of the Moon and the rotation of the Earth. That is, the role of Jupiter in myth corresponds with the hidden astronomical facts.

Thus, whilst Robin had seen how the megalith builders brought strange mathematical knowledge down from the skies, I also found the planetary system confirming what myth makers had said: They had brought the sky down into their stories.

Maybe there was a theory lying behind stone circles and other systems of thought left from a far from primitive stone age.

Whatever this theory was, it was going to be about the use of numbers by both ancient cultures and the gods they worshipped. But they did not build monuments just to puzzle unknown future generations, they must have been engaged in a cultural effort to understand something, something lying in their past about how the fate of man is somehow tied to celestial events.

I then started a book about a numerical creation, to be called *The Matrix of Creation* and, as so often happens, writing lead to further discovery. It was that the Jupiter creation has a musical foundation, and this reconciles the Pythagorean corpus with the overall idea that what is in the skies was brought down into human understanding. But this understanding was lost in a "socio-political deluge" putting such knowledge beyond use by man during the emergence of the modern world, first through religious ideas and then by the religion of Science.

There is therefore a political backdrop to the history of ideas.

Ancient man was highly numerate in a way we cannot match today and their understanding was completely different to ours but (a) at least as valid and (b) probably more harmonious with the environment.

The new numerical facts reveal that the planets are not accidental formations, and that Jupiter defines a *pure musical whole tone* with the Lunar Year, with the solar year caught between. This is only revealed by using units of time, just as Thom used units of length to reveal the plans of stone circle builders.

This work deepens the astro-mythology of *Hamlet's Mill*, taken forward by Bill Sullivan into a time scale of planetary movements within the 26000 year cycle of the Precession of the Equinoxes. This was done through integrating specialisms other than Myth such as the Measures used in ancient monuments and numbers found in the sky. The South American experience found by Bill appears to be a survival impossible in the European dominated cultures of the old world in post-Classical times, a survival eventually demolished by adventurers from the Iberian peninsula and their spiritual advisors. More work on other aspects such as Measure will be needed to see how full Inca and Mayan knowledge was, not forgetting the importance of realising knowledge in the modern context as we reconstitute this ancient science.

It all fitted with Myth and Music whilst the whole phenomenon keeps coming back to stone circles and especially Stonehenge. Having reached this point, various reconciliations with other lines of work start to take shape.

## John Michell's Enchanted Landscape

John's 1969 book *The View over Atlantis* led to his developing a tightly integrated use of number within a sacred concept of landscape, including the network of lines linking the megalithic sites of Britain. In the next three decades, the work came to focus on the use of canonical numbers, as found in Pythagorean studies, and their relationship to the ancient systems of weights and measures.

This broadens the work of Thom and the original Pyramidologists who also found special

measures throughout the ancient world, including Greece and the early Semitic cultures. But he also forwarded the study of ley lines developing the concept that ancient man lived in an enchanted landscape built on a numerical framework, not by man but again, in some way, by the gods.

Thus the Megalith builders were working with both a created Heaven and a created Earth and simply exploring the creation through its primary language of number.

### The Lost River of Knowledge

So what exactly happened to such ancient knowledge? The truth is actually quite plain to see and is also echoed in the myths generated since the Roman occupation of Britain. It went underground into the idea of esoteric groups of men with secret knowledge who, it turns out, continued to make patterns within the landscape as at Renne le Chateau and stone monuments such as Gothic cathedrals, filled with canonical numbers and sacred geometry.

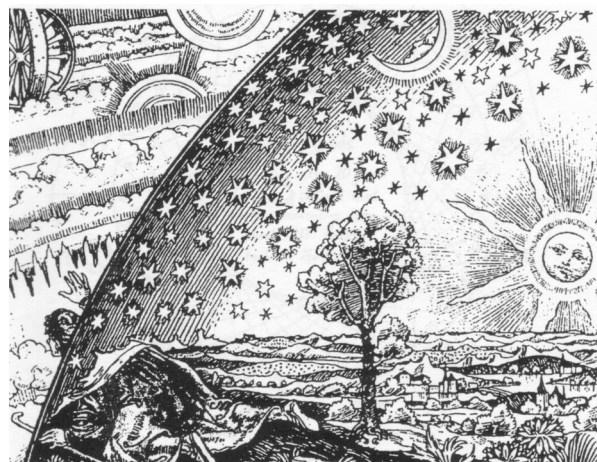
As we enter the historical period, the stories of secret groups are less easy to recognise as being modern myths and yet they function just as myths do. The Knights Templar are a perfect example, allegedly using the crusades to visit the middle east, bringing back measurements and artifacts that define a modern esoteric corpus. Meanwhile, a good classical education became the substratum of the ruling classes emerging from the dark ages.

These groups, attached to State and Church, were highly influential in forming the modern world and yet the orthodoxy of that world stands opposed to any emergence of this type of knowledge into popular usage.

This knowledge was described in classical myths as the river of knowledge – the Greeks called it *Arcadia* – which had gone underground and was claimed to occasionally resurface as in the renaissance myth of the Rosicrucians.

The important theme is secrecy and subversion, all controlled by predominantly male groups and therefore having a politics of

gender. If Jupiter is the ruler of the Matrix of Creation, then what does this tell us about his character as it manifests if, as the ancients believed, human fate is somehow defined by the gods in heaven?

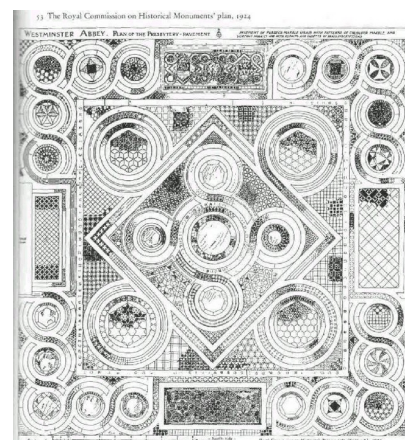


It appears that Stonehenge is a kind of narrative. That the order of its constructional phases might reveal the questions its builders were seeking to answer and also, possibly, immortalise.

### The War Against Time

Thus, all the evidence from the ancient world combines with new numerical research into the planets and monuments to create a coherent theory that the Earth is within and part of a numerical creation. That the technology of the gods is in fact expressed numerically, has been exactly the thesis of every occult group until modern times.

What is surfacing becomes obvious in retrospect but is a form of knowledge so despised by professional scientists as the antithesis of why they are scientists at all. Science requires no god, although transcendent gods such as The Big Bang may apply. Also, people in the past were mathematically inferior, *otherwise there has not been progress.*



The new astro archaeology overcomes the lack of accurate data, once the units of measure are identified that reveal the pattern in the sky and on the Earth.

There is indeed a war in heaven but a heaven occupied not by planetary rulers but by the dogma of science that the ancients were primitive and that the world has no gods but is an accidental situation that humans can exploit through technology.

The technologies of the gods and of modern humanity are at war over the description of the world.

This is the World History in which Stonehenge again plays a prominent role.

## References

Robin Heath *Stonehenge* Wooden Books (Walker Books in US), *Sun, Moon and Earth* Wooden Books (Walker Books in US), *Sun, Moon and Stonehenge* Bluestone Press

Richard Heath *The Matrix of Creation* Bluestone Press, available June 2002 at [www.matrixofcreation.co.uk](http://www.matrixofcreation.co.uk)

John Michell *Brief Guide to Astro-archaeology* Thames & Hudson

Giorgio de Santillana & Hertha von Dechend *Hamlet's Mill: an Essay on Myth and the Frame of Time*, Gambit

William Sullivan *Secret of the Incas: Myth, Astronomy and the War with Time*, Crown

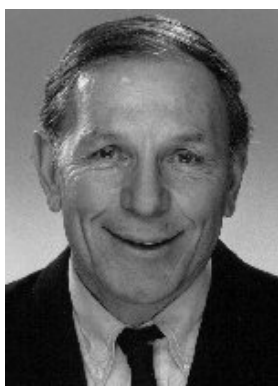
Alexander Thom *Megalithic Sites in Britain* Oxford University Press

Ernest McClain *Pythagorean Plato* Nicolas-Hays

Cosmic patterns in the Great Pavement of  
Westminster  
Cathedral

## Reality as Knowledge

John Allen



*Talk given in a series at Les Marronniers, Aix-en-Provence, France October 2001*

Yesterday, we talked about reality as being. Actually, very often knowledge is much more complex and difficult than being. Humanity arrived at advanced being long before it arrived at anything that could be called advanced knowledge.

Let's start off with being. There was a certain kind of person known in central Asia as a *kusilapa*. A *kusilapa* was a person who reduced knowledge needed to the minimum so they could concentrate on realizing being.

A *kusilapa* was a person who only kept three practical interests left in life: eating, excreting and sleeping so everything else could be concentrated on being. But let's analyze it and see what he actually had to accomplish to support that endeavor. You get a little cave and you build a brick wall in front of it and people hand you over a minimum amount to eat (therefore your waste is quite economical). The time saved might be allocated to you doing 3 million repetitions - which are not repetitions of course. 'Ringing the deepening changes' on the mantra a more correct description. So there's eating, excreting, sleeping and doing the repetitions. However, that means a lot has to be known about food and diet. If you want to minimize this how is somebody going to live at increasingly high attention to subtleties from 2 to 3 years? Of course they could lose weight, they could do all sorts of things to slow their metabolism, but still at some point they have to survive.



Excreting. Well, it has to recycle somehow. It can't just sit there in the cave for a few years. It's ever increasing so they have to know something about this. Just think about the technical problems. Techniques introduce knowledge.

Sleeping. Well it gets cold in the high Tibetan mountains. Quite cold. Even if you are doing your heat yoga, you can only do it when you're awake—something you're doing consciously. So this minimum warmth has to be done. And furthermore this analysis isn't quite correct because they also have to do 'culturing'. That

is, the local culture has to be convinced that it should do the work to produce food for them. It looks out for the shelter and actually says this cave could be yours. If it doesn't happen you might recall what happened to Milarepa. He was in his cave and he was a little out of touch with the local culture being a rabid individualist and some rough practical jokers came in and bounced him up and down off the floor for their amusement, so he had a somewhat difficult time. Then people have to check on what is happening: generally a guru makes a check every so many months to make sure somebody's still alive in there. There's no Western law and order: if somebody dies it's their fault or karma.. You have here a more objective society than our victim-loving society but nonetheless he has to know how to appear to be doing something for the culture and the culture has to think he or she is doing something for the culture for it to provide these essential services.

There has to be a certain technology that's involved in for example, keeping secure an area in which people can do this kind of thing. There has to be a technical way to insert this experimental apparatus into the local society, just as with any kind of laboratory.

There has to be a complex feedback system. After all, a kusilapa isn't some individual who just gets a breakthrough. There've been kusilapas for thousands of years and so forth so there must be a complex feedback system operating. 'Oh we did this and this for Joe Tibetii and this is what happened to him'. But times change and what happened before may not happen like that now with the change of economic and government systems.

There has to be some 'intelligencing'. Somebody actually has to check out what has happened at the end of 2 or 3 years. Mantrams are limited in time and power and to certain belief systems and so on. Furthermore, certain other exercises may be needed. So did Joe Tibetii actually achieve what he was aiming for and all these people that were involved in supporting him? What about the feedback system? Are we going to change the system? Maybe the Chicoms have come and we can't do it here anymore. How are we going to set this system up in a place like America or

France? Or do we have to give up the kusilapa method?

So intelligence has to be involved in it. All of these – diet, security, culture, feedback and so on - are minimum *know-hows* involved in somebody who is trying to simplify the amount of know how required for them to continue to exist.

Let's think of 'involuntary' kusilapa. That is somebody who is thrown into a dungeon or a prison. Same thing. You have to keep them eating or else you might just as well have executed them. Also if allowed to fall sick, they might spread disease. How many of us have been in a cell? Some of us have at least briefly. The requirements appear quite minimal and yet a fantastic technical knowledge apparatus keeps this functioning. The point is, there's no way out of having some know how, not while we're in a human form on this planet or any other place. Even for people who have the best or the worst intentions at minimizing the amount of know how required to maintain a human's existence.

Let's start considering 'reality as knowledge' by going back to Roger Bacon who started the modern motivation to increase knowledge. Now this idea burst onto humanity like a bombshell. He said that *knowledge is power*. Before that it was not thought knowledge was necessarily power. In fact I grew up in a culture that thought knowledge was bullshit, good fertilizer if you knew how to compost it. Somebody that knew something not in daily use and verification was called a know-it-all and was generally worked over. It was called 'learning them a lesson'. I had a freakish interest in such offbeat things and managed to accumulate and involve a certain amount of knowledge relatively safely only because I played first string football, basketball, went out for track and because I was checked out and taught a lesson in discretion three or four times and because I could throw bales of alfalfa longer than some other people could, I was accepted. My thing about knowledge was considered an interesting idiosyncrasy, as long as I did it mostly in my spare time.

Bacon's idea was extraordinary. Power to do what? To comprehend, which means to 'take with'. So a certain kind of knowledge enables us to take with us all kinds of things, all kinds of

relationships, patterns, which we call know how. Also, to contemplate—a template is something you can put say on a piece of steel and cut it out. Contemplate is taking a template out of appearances.

So one can contemplate. For example, one can contemplate let's say, an area. So we can template it with Euclidean geometry, fractal holography, etc. This gives the power to contemplate, to compare what's in that area with other comparable areas, say, square miles of New York City.

You have to contemplate *something*, mind you. So you can contemplate appearance, that is *being*. And this might give you a great deal of personal power or whatever but knowledge in itself is impersonal power and is *to make do*. This word has practically been eliminated from modern American English. Does it exist in British English? Yeah, maybe, but in a hesitant tone of voice.

Well, to make do used to be said in a special proud tone of voice. 'Well, how are you getting along with so little money and resources?' 'Well, you know, we make do.' Making airplanes, making cars, making this, making that, but the generalized verb is to make do.

*Savoir faire* means to 'know how to do'. Now make do leaves out the how but it implies the how. It's even more direct. *Savoir*—to know how to do implies you may or may not do it. To make do implies that you already know how to do it *and* you're going to do it. You're going to make the doing.

There is also the power 'to regulate'. Take a steam engine. It has a regulator on it. So you could make something that would operate with steam but you need to regulate it. Now this gives a number of powers which can operate or which can be operated at different levels.

The first power that we know was the know how to make a tribe—socially. Before that, it was a clan. But a clan we can see intimated, maybe more than intimated, in a baboon troop or a chimpanzee troop or a wolf pack but a tribe you cannot find. A tribe takes two clans or more and it takes a regulated *breeding*. It's always translated by Anglo Saxons as regulated *sexuality* which is not the same thing at all. To Anglo Saxons sexuality and procreation are supposed to be synonyms.

Just to give you an example—Sparta. It was highly favored for women to have a child by different men for breeding but their love or marriage affairs continued and it seemed to work quite well. Anyway, the tribe was an invention based on what they called exogamy—marriage outside the clan or at least the matrilineage with another clan or matrilineage.

A tribe had a particular set of know hows called *magic*. Tribes are still alive and their method of engaging in transmission of knowledge is called magic. They had to have know hows at the basic level for hunting and gathering. This fundamentally works by *dance and rhythm* which creates the magic spell where the hunter and the deer and the environment are seen as a unity in a special state of heightened perceptions and emotions. So for example if, let's say, you were a deer-hunting clan, then you could have a magic dance imitating the deer. You can find all sorts of rather stupid books by French and British anthropologists in the late 19<sup>th</sup> century about how basically dumb this is or that it is only a ritual to elevate the people to a certain state of social cohesion. But if you ever participated in one, you'd realize there's much more than that. You get into the inner nature of the animal, of the hunter, and their surround or *umwelt*. It's an imitation of an action so I begin to know the animal and my reactions to it. This gives you a certain definite knowledge for dealing with things—and you've got to deal with hunting and gathering to eat and to enjoy.

The tribe developed into the city-state and hunting and gathering developed into herding and farming. Now, you can only do the action of imitation in a very small group because the intensity required is high and must be self-generated except for indicated tempo. So, at this new level, to hold together the greater population *ritual* is required. Its degenerate form is seen today in something called 'religion' and its festivals and regular services.

However, the ritual was and is an enactment of a certain knowledge. Let's take for example the 'nilometer'. There was a knowledge so that you could measure the rise and fall of the Nile. The rise and fall of the Nile worked on an annual basis. It would wipe out all of the old existing landmarks so a tremendous amount of knowledge was needed. People had to get out



of the region of flooding and lose their property boundary lines. Imagine if we had to resurvey this farm every year! Somebody had to know where the river was going up and down and it had to be coordinated how the river and the fertilizer and the mud and the property would go. So they went through a big ritual and people would gather and a priest would appear and say the Nile is going to be flooding out and you better get out of your property in such and such—24 hours or 48 hours. And such an evacuation could be happily and orderly done only on a huge ritual way. The knowing beings, priests, would have more rituals to entertain everybody—food, diet, recycle and so forth while they were out of the villages and off to the highlands.

During that period they would go into being work and things which are called superstition by most European anthropologists or used to be anyway, involving the visualization of the Neter or being powers. They would do series of being exercises during that time and these rituals were able to coordinate the tremendous amounts of knowledge needed to run a hydraulic empire and to extend that knowledge to cover droughts and invasions and other catastrophes.

If you have to resurvey the land, what kind of geometry do you use? Are there some rules about this sort of thing? Oh, yes, maybe if you took the square roots of  $Z^2$ ,  $Y^2$ , and  $X^2$ , and if one of them equaled the other two, you would know the length of the hypotenuse for a given size of a right-angled triangle. Also, you would have people upriver and maybe then you'd have signals so you could check your nilometer with fire messages or smoke messages.

The city-state and its ramshackle empires gave way with increasing populations to the nation state and its huge markets requiring science and organization or laboratories that would become very, very interested in products and research and development as the primary thing. This nation states developed huge planetary or regional spheres of influence and these developed the metropolis or 'world city'. Everything else becomes a provincial tributary because they do not maintain the know-how to develop the new know-hows and make-dos. The places that could afford the laboratories and the organizations to produce new products

and to keep the R&D going were like London and Paris. Many people have tried to emulate them. Nobody has succeeded. New York would like to think that it has. Tokyo would like to think that it has. Moscow would like to think that it has but the world still goes still goes to London or Paris for really new R&D to learn how to know what we know and what we still do not know although other places have surpassed them in producing products and systems and specialists.

To coordinate this on a vast scale *spectacle* had to be created, boulevards, grand squares, uniforms, and fashions. You still find magic, you still find genuine rituals, but the overall coordination is by spectacles. Hollywood spectacles are just a faint copy. If you can imagine, for example in Paris, there you are at the Louvre. You look through one arch and there's another arch down there. So you can imagine, say, Napoleon's army marching or the German army marching or the American army marching or whichever army is marching for the spectacle announcing the glory of occupying Paris. The route starts off with the gardens and then into the Champs Elysee, which are the fields of heaven. It's quite a spectacle. The one positive emotion every recorded of Hitler was dancing his little jig because he was going to enter in triumph through Paris.

These spectacles are quite extraordinary. For example, now that laboratories and organizations have gone to countries that perhaps they shouldn't have gone to from some standpoint, we have the spectacle say of the World Trade Towers magically vanishing. Quite a spectacle, with an audience of billions. How much R&D went into that? I don't know. Somebody had to go to flying school, they had to go to dynamite schools, they had to go to all kinds of schools, they had to study—how do you support yourself in a foreign country, how do you learn the language, how do you avoid detection, how do you destroy such a vast target in the most spectacular manner? There was a tremendous amount of R&D into improved product, which in this case happened to be destruction and image and it's on a *planetary scale*.

Now there sets of enterprises and projects exist which are on a *solar scale*. A lot of people don't realize this. A number of years ago I was

asked to speak at a French conference called *Eco Harmonie*. They said, 'Oh, we understand you experiment in advanced management—we'd like for you to come give a talk on something really new—planetary corporation.' Well, really planetary corporation is very old hat and Louis XIV was quite a master at that with Colbert, not to speak of Elizabeth in the Muscovy company and the Far East company. Now we're talking about the solar corporation.

For example, most of our communication is actually now bounced from off the planet earth. We have billions of dollars in product and trillions in know-hows that is zooming throughout the solar system. In fact, Ms. Alling right there is in charge of a project called *Mars on Earth*. Another of her projects involves a remote sensing project to monitor the coral reefs from off the planet. A major amount of money that America, China, Russia, Japan, and others are spending as well as ourselves and many non-governmental organizations is off the planet or toward projects aiming for off the planet and there are hundreds of thousands of people involved on the planet earth in this and everybody has to take this into consideration.

For example, it's a solar system enterprise and project that landed in Kandahar two days ago. Rather interesting, that in central Asia, 100 people land exactly on two points in the middle of the night. How do they do that? That control's done from off the planet earth.

The knowledge that this uses goes past spectacle to *theater* so one speaks of the theater of action in central Asia. Another theater of action ranged from Manhattan to Florida. Theater knowledge contains plots, climaxes, and peripeteias or reversals. It knows how to cast characters. You can read all about the cast of characters. Cast of characters over here. Cast of characters over here. Powell, Tony Blair, Chirac, Musharraf, Kharzai, Omar, Osama, etc. maybe 22 characters: that happens to be the number of two American football teams. That's a pretty good size. That's about all the characters that you could ever keep in mind in a theater. The theater contains a tremendous knowledge of *how to make-do*. Modern police training is done in a theater. Nobody operates actually anymore without dramatic training. People who

still think they have regular laboratory and organizations and products might still get involved in rhetoric and have spectacles such as meeting our 5,000 best salesmen in Las Vegas. You have a great spectacle but Carlyle armaments now sells more by using theater.

I think that there's now a new arm of knowledge we can call *pataphysics* although Alfred Jarry foresaw the beginning of the pataphysics era at the turn of the century working among a constellation of Parisian intelligentsia, which included any wonderful people.

Pataphysics will take the place of precedence over metaphysics. Pataphysics is the knowledge of how to produce *singularities*. Metaphysics is very useful here, and here and possibly there because it can produce vast generalizations. So you can turn out one theater after another, one spectacle after the other, one ritual after the other in a genuine metaphysical system.

Now something that's properly designed acts "like magic". Rituals could be and are called mystery. Spectacles such as the Nuremberg Rally or the French General Strike of the Front Populaire that inserted themselves as a historical force could be called miracle, technically. That is, a law from a higher world of knowledge operates on a lower law and people regard it as a miracle. European rationalists regarded Mesmer as a miracle worker. Some New Guineans regarded food dropping on them from the skies as a miracle. Theater is the *marvelous*, like walking on the moon or Biosphere 2 for example. *Pataphysics is synergy* and it operates with creative groups for singularity. You can see this occurring in solar system exploration. Each new expedition is a completely different mission. The Cassini has one mission, the Voyager had another mission. They are singularities that depend on synergy to hold them together. In fact we're now beginning to study singularities in the universe. They are called black holes.

What pataphysics is concerned with and what becomes of knowledge here are *complexities* and these complexities can be looked at in one metaphor as *nested*. That is, you never have one



complexity. You have a series of nested or Chinese box complexities.

Now a complex system has a number of properties that are extremely interesting. They are self-organizing, for example. All the other things have to be organized. These take somebody who knows the whole picture to set it up and run it. Singularities don't. Complex systems don't. They have independent properties. Another thing is that they are *evolutionary*. They are not only self-organizing but they evolve, they tend to evolve in the direction of greater complexity.

Now, these four schools of magic, mystery, miracle, and marvel are realities of knowledge and the evolving singular summations of that totality is what we might call human knowledge.

Let's look at what is sometimes called science. Let's look at a scientist, a knowing being. Now, a kusalapa had plenty of time to work on being because he minimized the amount of knowledge he needed. A science qua scientist minimizes being while in the laboratory in order to maximize knowledge. Now the individual scientist may also be somebody working on their being but then they have to deal with a very complex and demanding set of operations, perhaps dozens compared to the kusalapa's three. How do they work intensively being perceptions when they have to pay exacting attention to far more functions than the traditional kusalapa?

This most extraordinary invention made by Bacon et al. was that these 'scientists' qua scientists were not interested in extraordinary or higher states of consciousness. A scientist isn't interested in anything if it doesn't work in the ordinary state of consciousness. 'If I send some people up there to Mars and some stupid mother doesn't do his exercises and he degenerates down to the average shithead walking down the street I still want that expedition to work, you understand me? I don't want to depend on no genius, no yogi. I want just an average guy: American or British or French or nut from somewhere, he's going to press the right button at the right time with 99.99 percent chance of it working.'

So all of these work in the ordinary state of consciousness however intensified and prolonged. You can take somebody more or

less off the street and stick him in the chemical laboratory and if they do step a, b, c, d, e, m, g they're going to wind up with nitroglycerine or whatever.

This means that you can have vast pools of humanity working on science, at least as skilled technicians, expanding fields of knowledge. As they used to say at the Colorado School of Mines when it still was a genuine top engineering school, you become an engineer and under you are 100 technicians. The average technician ought to be able to have 100 skilled people under them. .

What is an engineer? It means *ingenious*. An ingenious one is somebody that make this know into a how, into a do or as it's technically said, engineers can make an economical application of the laws of science. If you have a science engineer like Oppenheimer for example or Pasteur or Lord Thompson, then you have the equivalent in science to the shaman or the priest or whatever.

Now the ordinary state of consciousness is so interesting. It doesn't mean these guys can't have a higher state of consciousness. It means they don't believe that it's knowledge. They might well perceive it as being. Einstein for example was quite