

## *New science, old tradition*

1. Believing in science?	1
2. India's living tradition	4
3. Knowing an object	6
4. Old ideas and modern physics	12
The five elements	12
Living energy	15
5. Asking for truth	17

### 1. BELIEVING IN SCIENCE?

Why do people believe in modern science? For one thing, it can be an excellent training of mind. In schools and universities today, physical sciences and computing technologies are among the best organized of disciplines. And further, among the people whom we come across (either directly or through the media), the clearest and most articulate are often those who have a scientific background.

But there is something more compelling, which rather forces our beliefs. Science is so obviously successful. We depend on its technologies for so many of our obvious needs: like food and clothing, shelter and communication. Here, our technologies produce results that would seem quite miraculous, without an understanding of modern science.

It's in this understanding that we have a major problem. The technological results of modern science are obvious. But even scientists are far less clear on how we are to understand the results and use them sensibly. In the end, most people don't believe in science from any depth of understanding. Instead, they believe it just because it works so many seeming miracles that we can't do without.

Sadly, many scientists and intellectuals are believers in this way. They even justify this kind of belief, by saying that the only test of truth is whether a theory makes the right predictions and produces the right results. The problem with this approach is its assumption that power is more important and more fundamental than knowledge.

But is that really true? As we learn from experience, we can develop powers and capabilities, to predict results and thus to achieve particular objectives. But are such powers and their limited results the only thing that decides what is correct and true? If so, the power to work miracles must clearly be the most decisive test of truth. For then, the more amazing the predictions made, and the more miraculous the results produced, the more we would be forced to accept a theory and its beliefs as true.

The miracles of science can of course be very useful, but they come at a price. Miracle working has always had a downside. It has harmful side effects: which can add up to overwhelm the benefits, when it is overdone. And miracles do have a tendency to make us overdo them; because they blind us to other ways of doing things.

As modern science gives us power to achieve miraculous results, we are still badly short on education to use that power well. So our achievements are too narrow. They miss out on other things, in a way that makes an awful mess of our environment. We

are left wondering at how our growing knowledge has somehow put us into greater trouble.

Some 'post-modern' intellectuals would go from here to a grand critique that all knowledge is merely contextual and there is really no such thing as 'independent truth'. But how about a little common sense? How do we actually use science to improve our everyday ideas?

In modern physical science, ideas and theories are used in a particularly calculating way. They are used mathematically, to calculate external results, in a physically objective world. The results are tested and applied through physically fabricated instruments and engineered machines.

Is this the only way of using knowledge and testing truth? In actual practice, no. Calculation is a rather limited approach, insufficient in itself. What it achieves is narrow: like using a map to calculate instructions for a journey. 'Go  $n$  miles in  $x$  direction, then  $m$  miles in  $y$  direction...', and so on. Such an approach is only good for getting to some chosen place.

A map is not just a calculating instrument. It has a more basic use: through *education*. It represents an entire territory, including many places. So it enables one to look at the territory as a whole. That educates one's understanding of where one is; and it helps develop the living ability through which one gets around and goes about one's business.

Like a map, ideas and theories are used in two ways: through calculation and education. The calculating use is inherently narrow and specialized. It cannot take the whole environment into account. So it depends on living education, for an integrated understanding that puts its narrow aims into perspective. In the modern world, as our computing and physical sciences achieve spectacular results, we clearly lack the broader education that is needed to use them sensibly.

However, when ideas and theories are used for living education, their testing and application is not confined to the restricted methods of our physical sciences. Such sciences restrict their field of study and application to a physical aspect of experience. Accordingly, they are tested and applied in a restricted way, through the material instruments and machines that they develop.

Modern physics is of course educational, but its educational effect is not a direct part of its testing and application. It is material instruments that test physics directly; not the developed minds and faculties of physicists. Those minds and faculties must go through standardized material instruments, to test the ideas and theories of physics.

What about other disciplines: like philosophy, psychology, biology, even astrology and alchemy? In their field of study and application, they include aspects of mind and life, in a way that merely physical sciences do not. Accordingly, where physics is applied by the material instruments that it develops, other disciplines are applied more directly through the living faculties they cultivate in those who use them.

For example, philosophy is tested and applied through its clarification of understanding, psychology through its cultivation of mental insight and therapy, biology through living management and health.

Must these other disciplines be somehow less reasoned, less rigorously tested? Must their living application make them less scientific? Not really, though it does put them outside the jurisdiction of modern physics and its material instruments.

A map may be digitized and fed into a computer for the purpose of guiding a missile to its target. That is one kind of map, with one kind of truth and accuracy. But it

does not diminish the need for a different kind of truth and accuracy, in a map that is educational. When truth is educational like this, there's no less need for it to be carefully reasoned and tested against experience. In fact, it needs a more delicate reasoning, and a more sensitive testing, than truth that is merely technical.

Then surely, modern physics is not the only discipline that may be called a 'science'. Other disciplines may also be considered 'sciences', though of a different kind.

That would include older disciplines, like astrology and alchemy. Astrology, in particular, has been very carefully reasoned, over a long period of time, very often by the same people who made astonishingly accurate observations and calculations in ancient astronomy.

Yet, many modern physicists dismiss astrology: as a 'pseudo-science', not genuinely tested by experience. Sadly, the dismissal is made without seriously considering the basis of astrology. This basis is not physical. Instead, it is a mental and living correspondence: between the macrocosm of the outer universe and the microcosmic journey of individual life.

Such a correspondence does indeed make astrology a rather different kind of science, not to be considered on a par with modern physics. But does the difference warrant a summary dismissal, without a genuine study of the questions involved? Is that dismissal genuinely tested? As far I can see, it involves an unexamined prejudice.

The prejudice is against the correspondence of outer macrocosm and inner microcosm. It seems unwarranted to assume that the objective world at large should correspond to an individual's life. Upon what reasonable ground can such an assumption be made?

The ground is simple and compelling, though it is not physical. All knowledge of the world is perceived through our living personalities. Such knowledge thus inherently assumes a correspondence between our microcosmic lives and the objective macrocosm.

In fact our knowledge of the world consists precisely in this living correspondence. All education is essentially a cultivation of this correspondence, through physical and mental instruments.

Like the rest of us, physicists fall back reflectively into subjective experience, to deepen their understanding of the outside world. Modern physics is founded upon the searching reflections of physicists like Newton and Einstein, who freely acknowledged the spiritual and philosophical foundations of their thought.

Newton was actively and openly interested in alchemy and theology, to which he devoted a great part of his prodigious energy and reasoning. His laws and principles of physics are deeply inspired and influenced by this.

Einstein saw a fundamental identity of spirit between physics and religion. To quote his own words (from *Mein Weltbild*, Amsterdam, Querido Verlag, 1934):

... the scientist is possessed by the sense of universal causation... His religious feeling takes the form of a rapturous amazement at the harmony of natural law: which reveals an intelligence of such superiority that, compared with it, all the systematic thinking and acting of human beings is an utterly insignificant reflection.

By thus reflecting back into their minds to understand the world outside, physicists implicitly acknowledge a living correspondence between our subjective microcosms

and the objective universe. The correspondence is of course outside their field of study. But that does not make it any less essential to education.

So I'd suggest that in our living education, room is needed for older disciplines as well, alongside our newfangled physical sciences. Not just as a 'soft option' to 'hard science'; but as a deeper, harder look at how things really are.

## 2. INDIA'S LIVING TRADITION

Though we often speak of our physical sciences as 'hard', there is a way in which they have taken a 'soft option': by impressing people with spectacular and gross results. Questions of life and mind require a much harder and subtler investigation. That investigation is very ancient, in many old traditions.

In India, the tradition is particularly rich and very much alive today, though in a process of rather rapid change from a recently medieval phase to a more modern one. This change is being brought about through the use of printing and other media of communication.

In the mid-nineteenth century, about a century and a half ago, the use of printing began to have a dramatic effect upon the Indian tradition. Since then, there has been a sort of cultural renaissance here in India, as we Indians have been looking at our old traditions in the more questioning and freer way that modern media make possible. This is the same kind of modernization that has been taking place in the west over the last five hundred years, since printing came to Europe and sparked off a great renaissance there.

In India, our medieval past is relatively close behind. In many ways, its riches are exemplified in the life of Shri Rāmakrishṇa, in the nineteenth century. He was himself traditionally trained, to an extraordinary degree of depth and breadth, in a great variety of disciplines. And he passed on his comprehensive learning to Swāmi Vivekānanda and other disciples, who had a more modern education. So they have left us with a rich and accurately documented record of the ancient teaching, as a living knowledge that keeps on being handed down in the present. And they began to express this living knowledge in a more questioning and modern way.

In the twentieth century, the process has continued, through teachers like Ramaṇa Maharshi. A shift of emphasis is taking place: from the authoritarian approach of mystical religion to a more independent-minded kind of enquiry that is based on individual reasoning.

Thus Ramaṇa Maharshi spoke of 'ātma-vicāra' or 'self-enquiry' as central to the living tradition. Yes, he said, yoga and religious devotion are useful preparations, to train and purify a person's character. But their final aim is a truth that must be experienced directly, through an individual questioning of one's own experience. It's not enough to fall back on some mystical authority of yoga or religion. In the end, to find true knowledge, one has to question back into one's own direct experience, beneath all prejudiced assumptions that limit and distort one's understanding.

In the living tradition, as it is today and as it always was, true knowledge cannot be dogmatic. It must be tested thoroughly, against direct experience. This has of course been recognized in every genuine tradition. But when a tradition is unfamiliar, or has become so, it is all too easy to miss out on how its ideas are tested by those who use

them. And then of course it is all too easy to condemn traditional ideas as untested and merely dogmatic.

In particular, the Indian tradition is still expressed in a medieval way, which makes it easy to condemn as based on mystical authority without a well-considered reasoning against experience. At first the condemnation seems quite plausible, because the old manner of expression was authoritarian. It started out by making bare statements, which had to be learned by heart. That's how students had to learn, when information was not mechanized, before the use of printing. That old method was laborious, and it did discourage questioning at first. But it was meant to be an initial preparation, leading on to an eventual questioning that was all the more thorough for having been so hard and long prepared.

Thus, behind the authoritarian manner of traditional statements, they too were meant essentially for a thoroughly examined testing. But, at a time when information was so much more laborious to transmit, they had to be highly condensed. In their transmitted forms, their reasoning is not explicitly elaborated, but left to be interpreted by living teachers and students. The degree of interpretation is much more than we are familiar with today, but that should not fool us into thinking that traditional ideas are any less concerned with accuracy of knowledge and correctness of truth.

In fact, as the Indian tradition sees itself, it is centred upon a search for truth. All techniques, ideas and attitudes are meant as stepping stones to truth. In this search, there are three aspects: *sat* or existence, *cit* or consciousness and *ānanda* or happiness. Corresponding to these aspects, there are three approaches: *yoga* or union, *jnyāna* or knowledge and *bhakti* or devotion.

- *Yoga* is the way of practice and control. Through physical and mental exercise, a practitioner is meant to arrive at special states of experience, beyond the usual limitations of our ordinary capabilities. This is a mystical way to truth, because it goes through altered states that seem mysterious to our ordinary faculties.
- *Jnyāna* is the way of reasoned enquiry. Here, there is a sceptical questioning of one's own beliefs, to find out their mistakes and thus to correct them. This is a philosophical way to truth. By a reflective reasoning, it questions back into the basis of experience, beneath all the appearances that we perceive and think and feel.
- *Bhakti* is the way of feeling. Here, petty wishes and partialities are given up, for love of someone or something valued in the end beyond and beneath them. This is a deeply emotional way to truth, beneath the calculated deliberations of thought and the achieving powers of action.

It must be understood here that *yoga* is not just a development of power and control. More essentially, it is a joining back, into an inner truth from where all powers are controlled.

Similarly, *jnyāna* is not an intellectual theorizing that has to be applied through some further technologies and practices. Instead, it is a reflection back into an underlying ground of truth, from where all practices arise.

And *bhakti* is not just attachment to some worshipped form. It is instead a holding on to an ultimately valued truth that is represented by all forms. It's only for the sake of truth that pettiness and partiality are given up, to find what's real in the seeming show of limited appearances that we perceive.

Thus even the most traditional of *bhakti* can be devoted to the same truth as the most impersonal of pure science and abstract reasoning.

As Swāmi Sārādānanda tells us about his teacher Rāmakrishṇa (in *Rāmakrishṇa – the Great Master*, III.2.13-14):

While offering everything to the Mother, he had said, “Mother, here is Thy knowledge and here is Thy ignorance; here is Thy good and here is Thy evil; here is Thy vice and here is Thy virtue; here is Thy fame and here is Thy calumny. Grant me pure devotion to Thy lotus feet and show Thyself to me.” ... But the Master’s was not a cheat’s mind like ours.... [He] could never claim anything as “mine”, if he had once made an offering of it to the Mother....

We would like to add another thing in this connection. The Master could not say to the Divine Mother, “Here is Thy truthfulness and here is Thy untruthfulness, O Mother!” though he made to her an offering of everything belonging to his mind and body, merit and demerit, vice and virtue, good and evil, fame and calumny and the like. Once the Master himself told us the reason of it. “If I give up truthfulness in this way,” said the Master, “how can I keep the truth that I have offered everything to the Mother of the universe?” And ah! what a great devotion to truth did we witness in the Master, who had surrendered everything else to the Mother!

And, as Shri Shankara tells us in *Viveka-cūḍāmaṇī* (stanza 31):

Among all ways of striving to be free,  
it’s love that is the best, one must agree.  
To question one’s own truth, to ask what’s there:  
that is the love of those who ask with care.

### 3. KNOWING AN OBJECT

In the Mahābhārata, there is a story about the focusing of mind. When the princes have been trained at arms, their teacher Droṇa puts them to a test. In the branches of a tree, he fixes a target, which has been crafted to represent a bird. Then he calls the princes, and says to them:

‘You will be called in turn. When called, take careful aim, to cut the head clean off the bird. I’ll tell you when to shoot.’

First is Yudhishṭhira, the eldest. As he stands aiming, with his bow drawn, Droṇa asks:

‘Do you see the bird, in the tree?’

‘Yes Sir, I do.’

‘Very well. Now, can you see the tree, or me, or your brothers and cousins here?’

‘Yes Sir, I see the tree, and you, and all the others here.’

‘Then step aside. You’ve had your turn.’

Duryodhana is next. The same thing happens again. Duryodhana takes aim, is questioned, and told to step aside. As the princes take their turns, the same thing keeps happening again. Finally, it is Arjuna’s turn.

Droṇa asks: ‘Do you see the bird?’

‘Yes Sir.’

‘Well, can you see the tree? Or me? Or the others here?’

‘No Sir. I see the bird.’

‘Then describe it.’

‘Sorry Sir. I don’t see its body. Just the head.’

At last, Droṇa is satisfied: ‘Shoot!’ he says.

The arrow flies to its target, and the head falls to the ground.

Like many old stories, this one tells a moral tale. But it does something else, as well. It’s meant to show a truer picture, of how things are.

Nearly all the princes think that they see many things. They look around, and see a world outside. Most people picture their experience in this way. In this picture, there is a knowing person at the centre, surrounded by a world that’s somehow known. An illustration is shown in figure 1.

Of course, this picture can be rather misleading. In it, one’s mind and body seem the centre of the world; and that can make them seem unduly important. So there is something basically confusing here: in this picture that we see a world around, with many things in it.

As Arjuna stands aiming at the target, he has left this confusing picture behind. He sees no world that mixes many things. Instead, he is quite clear that what he sees is just one object which appears in mind. He does not see the world at large, nor the princes beside him, nor his teacher Droṇa, nor the tree in front of him, nor even the body of the bird he’s aiming at. He cannot even describe the bird. For what he sees is just the head, as a single point on which his attention is focused.

Outside the single focus of attention, Arjuna sees nothing. All else is understood, at the background of experience. From that background, all of his experience is drawn forward, to focus on the object that appears. This gives us another picture of our subjective experience. It is shown in figure 2. Here, the mind is focused upon a limited object: by drawing attention from an underlying basis of understanding, at the background of experience.

In the Mahābhārata, the second picture is dramatized as an ideal of mental concentration, in the life of an epic hero. It’s dramatized that way to make people take notice of it. But it is more than a prescribed ideal. It’s also meant as a more accurate description of our subjective experience: as we know it actually, at each moment of time.

In fact, no one sees the whole world, all at once. Over a period of time, one

Figure 1

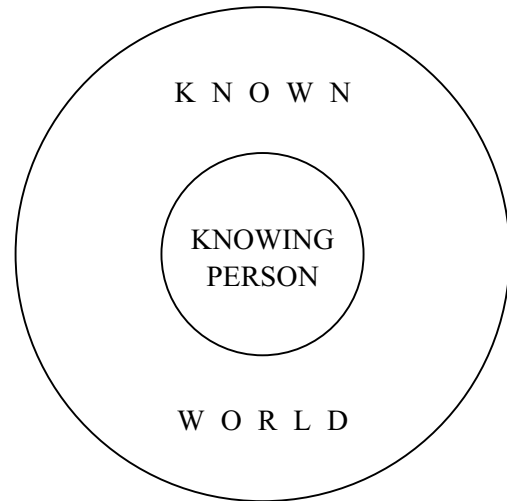
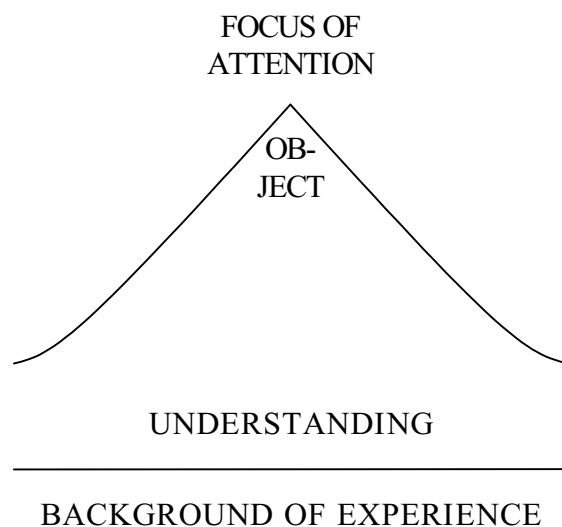


Figure 2



may see many things; and then think of them together, in a single thought. Or one may see some single thing; and then analyse it into many things, in the course of further thoughts. In either case, it takes time for different things to show up in one's mind.

In the present moment, as it is immediately experienced, there is no time for different things to show or to be analysed. What appears is just one object, in the narrow focus of attention. The narrow focus makes the object limited. It excludes other objects, at the apparent surface of the mind. These other things that don't appear are understood below the surface, at the background of experience.

This does not only happen at rare moments of mental concentration. It happens everyday, all the time. The old ideal of concentration shows us how we see things everyday. It shows our common, everyday experience. That's what is described in the preceding figure 2.

To make things more concrete, let me give you an everyday example. Suppose that I am driving a car, and I notice that the engine is sounding a little odd. At this moment, sound appears, at the tip of my attention. But, in the attention that I give to the sound, many things are understood. I hear the sound; but in that hearing I understand how the car was sounding before, what other things have been happening to the car, who else drives the car, who needs it and for what, the sort of car it is, how it can be repaired, my previous experiences with cars and machines and mechanics, and so on. All these and other things are drawn upon, from the background of experience.

This background understanding is an inner basis, which supports the limited perceptions of our minds. At any time, what we see is limited, excluding other things. But we understand it on a broader basis, which relates it to the rest of our experience. This broader basis is *subjective*. It is found by reflecting *inward*: to what we understand, beneath the objects that appear in mind.

At the surface of the mind, attention turns from one thing to another. So there's a stream of limited perceptions. It is a stream of changing show, rather like the moving pictures on a video screen. The question is: what's underneath this changing stream of mental show? What is there at the depth of mind, beneath its mental pictures?

When we speak about the depth of our minds, we often use the words 'unconscious' or 'subconscious'. We are then thinking of the mind objectively, as a sort of computer. The surface show of mind is the computer screen. Beneath the surface, the mind stores data and makes complex calculations. The results are shown in changing pictures and appearances, seen at the surface of the mind. In this conception, the mind is a highly complex process of activity, which records information and makes use of it. Most of the mind's activity is hidden, but it produces the appearances we see. The hidden part is what we call 'subconscious' or 'unconscious'.

So, beneath the surface of our minds, there seems to be an inner depth that is both dark and mysterious. In the Upanishads, this dark-seeming depth is described as 'antar-hriday-ākāsha' or as an 'inner space within the heart'. And it is further pictured by the word 'guhā', which means a 'cave' or an 'inner recess', with all the sense of hidden mystery that this picturing suggests.

But the Upanishads don't stop there. They say that it is not enough to construct an objective picture of the mind, as we do in the science of psychology. All such picturing belongs to just the surface of the mind. And when the depth of mind is viewed thus superficially, from the pictured surface, this depth must of course seem hidden



and dark. What's actually beneath the surface cannot in the end be found by any objective psychology or any mental picturing.

It's not enough to stay at the pictured surface and look down from there, to what seems hidden and thus dark beneath. Instead, one has to go down oneself, reflecting back into the subjective depth of one's own experience. That subjective reflection is achieved through a relentless philosophical enquiry, which won't take anything for granted, but asks uncompromising questions about one's own pictures and the assumptions on which they are based.

In particular, the Upanishads question our habitual assumption that consciousness is an activity of mind. Our mental activities – of perception, thought and feeling – produce a changing stream of apparent objects that come and go in each person's experience. At any given moment, the mind acts so as to make some seeming object appear. The Upanishads point out that this mental action can never amount to 'prajnyāna' or 'consciousness'.

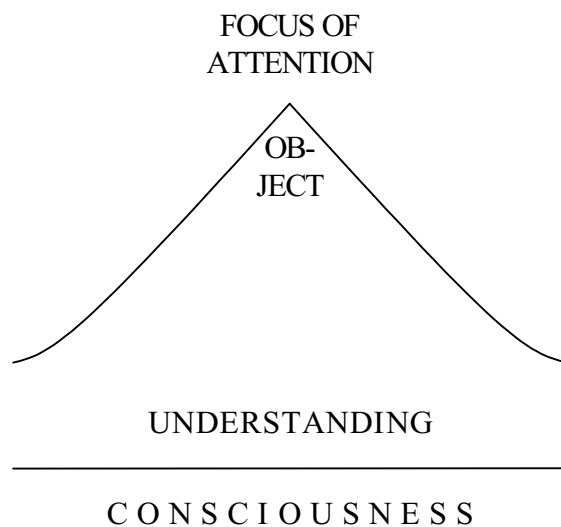
Without the illumination of consciousness, no object nor any action could appear. In the course of experience, objects and actions keep appearing and disappearing. They come and go; but every one of them is lit by consciousness. Thus, consciousness is always present, illuminating all appearances and disappearances. It is that principle of knowing light which is shared in common by all moments of experience, beneath all differences and changes of appearance.

That's what is meant by the word 'consciousness'. 'Conscious-' means 'knowing'. The suffix '-ness' means a 'common principle'. Putting the two together, we get the word 'consciousness'. It thus implies a common principle that underlies all states of knowing.

In different states, different things are known. But nothing can be known without the light of consciousness. That light is common to all states that we experience. It underlies the changing stream of states that come and go.

That light is consciousness itself. It is not an object, nor an activity. Instead, it is what lights all objects and activities. And it is found beneath all changing states, of mind and understanding. In all these changing states, it is their common background: remaining always present, while they change and pass. This conception is illustrated in figure 3. It is much the same as the previous figure 2, except that the underlying background is now called 'consciousness'.

But here, it must be understood that the word 'consciousness' is being used in a special way that has been clarified by philosophical reflection. The word no longer means a 'knowing' that is identified with our changing perceptions of apparent objects, nor with our changing thoughts and feelings about such objects. Instead, it is a background knowing which lights the mind from deep within. Here knowledge carries on, as quiet understanding. This is a knowing which does not distract atten-



tion. Instead, it continues quietly, beneath the clamouring perceptions, thoughts and feelings that keep replacing one another at the surface of the mind. Through its quiet continuity, it enables us to take into account what our partial minds don't make appear. Thus, it is the source of all co-ordination and integrity.

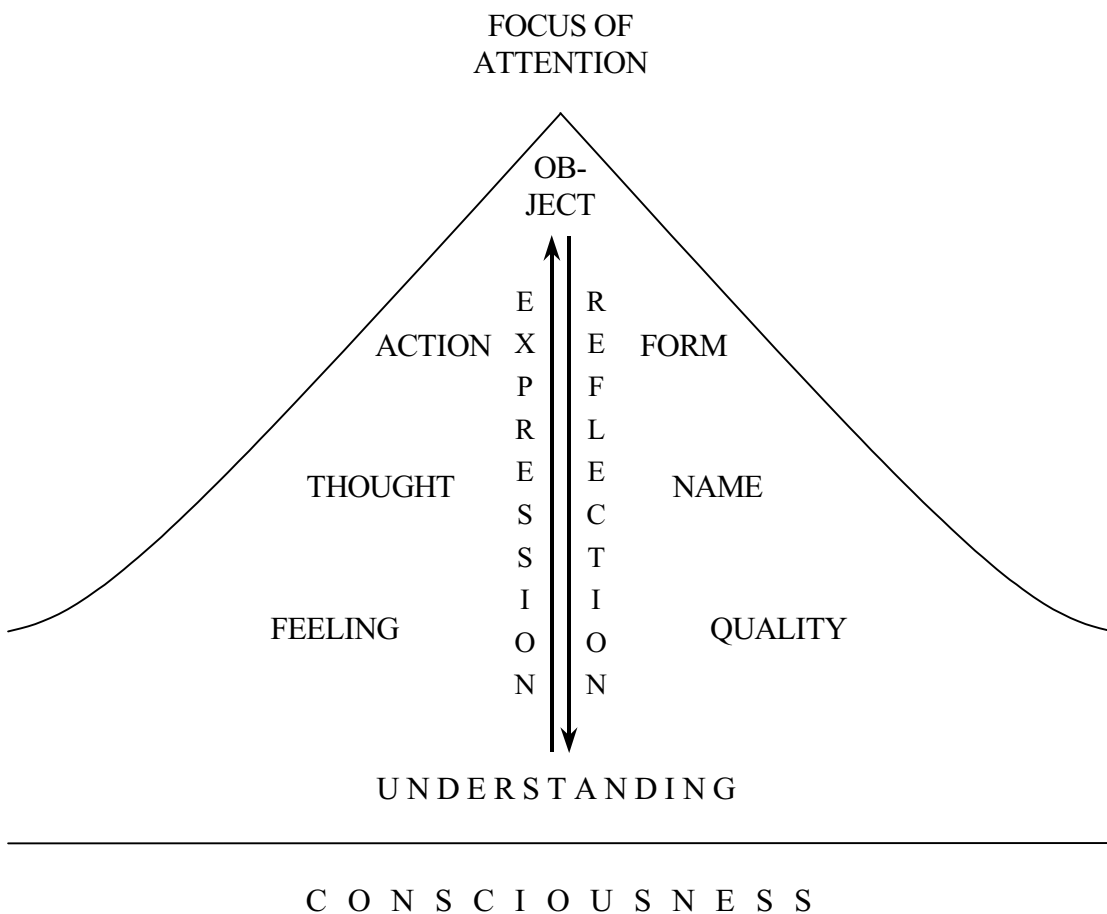
In this conception, consciousness is treated as something fundamental. So there are different ways of looking at it. First, it is the knowing light which illuminates our minds. But it is not a superficial light, found at the changing surface of appearance. Instead, it's the unchanging background, found beneath all appearances that come and go. Thus, it is like a changeless screen, upon which changing pictures are drawn. It is an ever-present screen, behind our mental picturing.

But this screen is not an object that *transmits* or *reflects* light. Instead, as consciousness, it *is* light. In itself, it is just light, unmixed with anything else. But, in the pictures that we see, this light of consciousness gets mixed with changing qualities and objects.

Beneath the pictures in our minds, consciousness is their unpictured background, and their unmixed light as well. These are two ways of looking at it.

How are the pictures drawn, upon the screen of consciousness? How does its light get mixed, to form the pictures that we see? These questions are answered by the traditional idea of 'life' and 'living energy', or 'prāṇa' as it is called in Sanskrit. This is a further way of looking at consciousness. Here, consciousness is seen as underlying life. It is the inner source of life, expressed in all our feelings, thoughts and living

Figure 4



acts. This conception can be illustrated by adding to our previous diagram, as in figure 4 (previous page). The addition shows a cycle of expression and reflection.

From underlying consciousness, our understanding is expressed in what we think and feel and do. Thus our attention turns to objects that we see. Then, as each object is perceived, there's a reflection back. Through the object's form and name and quality, its perception is taken back into the depth of mind. There each perception is assimilated into understanding.

By thus assimilating our perceptions, we learn from experience. As each perception is absorbed, it brings about a further state of understanding. That is again expressed in further feelings, thoughts and actions: which turn attention towards further objects. Their perception is again absorbed, by a reflection back to underlying consciousness. From there, the cycle keeps repeating, thus enabling us to learn.

If you look again at figure 4, you will notice that it shows five levels, in our experience of the world.

- At the top, there is a level of objects, where our limited attention gets focused.
- Next is a second level, of action and form. Here, action turns attention to various objects, and our experience is given shape.
- Third is a level of thought and name. Here, thoughts direct our actions, and names are used to describe the forms that we perceive.
- Fourth is a level of feeling and quality. Here, feelings motivate our thoughts and acts, through an intuitive judgement of qualities and values.
- And fifth, there is a level of understanding: which expresses knowledge and assimilates what has been learned.

In the Indian tradition, these five levels are called 'koshas' or 'coverings'. They are five layers of personality, through which the world is known. One by one, these layers are meant to be uncovered, thus going down through deeper levels of experience.

- The outermost layer is called the 'annamaya kosha' or the 'covering of food'. It is a person's body, seen as a material object. Through this body, other objects are perceived, in a world of matter.
- Proceeding inwards, the second layer is called the 'prāṇamaya kosha' or the 'covering of energy'. Here, the body is seen as a living organism, made of flowing energy. The flow takes place in resonating currents, called 'nāḍis'. These currents function organically, as they resonate in sympathy with each other and with the world outside. Thus, they form an organic pattern of living activity, which perceives a functioning world of fluid energy and happening.
- The third layer is called the 'manomaya kosha' or the 'covering of mind'. It is the conceiving intellect, made up of thoughts and descriptions. Through the interpretations of thought, it conceives an intelligible world of meaningful information.
- The fourth layer is called the 'vijnyānamaya kosha', or the 'covering of discernment'. Here, quality and value are discerned. The discernment is made up of our intuitive judgements and our inner feelings. They carry out the contrasts and comparisons that show a qualitative world of motivating value.
- The fifth layer is called the 'ānandamaya kosha' or the 'covering of happiness'. Here, the word 'happiness' refers to harmony and integration. This is the co-

ordinating layer of personality. It is made up of assimilated understanding. Through it, we comprehend the continuity of common principles, beneath the change and the variety of superficial appearances.

Within these five coverings, there is an inmost self, called ‘ātman’. In it, there is no trace of body, nor of mind. There are no objects, actions, thoughts, feelings, or states of understanding. All change and difference belong to the coverings of personality.

The self within is consciousness, unmixed with any coverings. It is the unconditioned ground, beneath all change and difference.

At this point, it may well be asked how these ideas are relevant, to people living in the world. What is the point of looking back like this, into the coverings of personality?

Well, according to the old ideas, each covering of personality is also a level of experience. It is a level that we experience in our persons and in the world as well. After all, the world is experienced through our personalities and their five layers. So, through each layer of personality, we experience a corresponding level of the world.

Reflecting back into one’s own experience, through the coverings of personality, one comes to deeper ways of looking into what appears. Reflection thus uncovers deeper levels of the world. These are the traditional five elements: ‘earth’, ‘water’, ‘fire’, ‘air’ and ‘ether’. Beneath them is the ground reality of the entire universe: corresponding to the inmost ground of self, at the centre of each person’s individuality. The purpose of reflecting *in* is to return to a direct experience of the ground.

Is there really such a ground? What can be learned by going there? In the end, the only proof is found by looking for oneself. Tradition merely tells us stories, of what’s been said by those who’ve looked and who may have found out. The stories tell at least of a relentless search, by those who by those who have stubbornly refused to compromise with ignorance and lies that most of us are willing to let pass.

#### 4. OLD IDEAS AND MODERN PHYSICS

##### **The five elements**

Given their condensed and sometimes cryptic nature, traditional ideas are liable to a fair degree of interpretation. An example is the conception of ‘five elements’, shared largely in common by Indian and European traditions.

In the Brihadāraṇyaka Upanishad, there is an early account of these five elements. A lady called Gārgī points out that the entire world of earthly things is actually made of the element ‘water’, just as a cloth is woven from thread. What then, she asks, about the element ‘water’? If all things of ‘earth’ turn out to be made of ‘water’, then what is ‘water’ made of?

She is questioning Yājnyavalkya, who replies that ‘water’ is made of the underlying element ‘fire’. And what about ‘fire’? In its turn, ‘fire’ is reduced to the underlying element ‘air’. Similarly, ‘air’ is reduced to underlying ‘ether’.

Like many ancient conceptions, this one is metaphorical. It uses the metaphor of certain physical substances, to suggest a broader analysis of our experience. The metaphorical expression is designed for traditional exercises of contemplation, in disciplines of meditation and religion. Through contemplating the five elements, there is meant to be a progression of increasing subtlety. The metaphor expresses that

Figure 5

<i>Traditional element</i>	<i>A modern interpretation</i>	<i>Level of modern physics</i>
‘Earth’	Matter	Material objects
‘Water’	Energy	Changing configurations
‘Fire’	Information	Relative observations
‘Air’	Conditioning	Conditioned fields
‘Ether’	Continuity	Space-time continuum

progression: starting with the gross particularity of earthly things, and going on to the ethereal pervasiveness of space and light throughout the universe.

But what does the metaphor mean? How might it be interpreted: in more modern terms? It must of course have many different interpretations: suited to the many different people who have used it, and who use it still. This kind of metaphor is meant for free interpretation. You will see that, as I now go on to describe one possible interpretation, which relates to modern physics. It is summarized in figure 5.

As we look out through our material bodies, we see material objects. Each such object is particular. It is a piece of matter, divided from other objects by boundaries in space and time. Thus, as we look outside, we see a world of matter, divided into particular things. This divisible *matter* corresponds fairly obviously to the traditional element ‘earth’. In a classical Indian metaphor, the particular objects of the world are conceived to be formed from the element ‘earth’: as pots are formed from clay.

At first, the world of particular objects seems solid. But, upon further investigation, it is not so. As objects interact, they are caught in a constant process of formation and transformation. When changing time is taken into account, our solid-seeming world is shown to be only an instant snapshot: a momentary picture taken at a particular instant of time. As time flows, the objects of the world keep changing. Each moment that we look, what we have seen keeps vanishing, transformed into something else.

Through this examination, the seeming solidity of objects gives way to a fluidity of changing forms. It is then clear that matter is not the only element in our experience of the world. In addition to the concrete particularity of matter, we experience a second, more fundamental element: which may be called ‘energy’. This second element, of *energy*, is manifested in moving activity; and it thus produces the changing forms of objects in the world. It is associated with the fluidity of change, which makes it correspond to the traditional element called ‘water’.

Through the changing flow of energetic activity, information travels from place to place. This enables us to observe the world. Each observer receives information that represents other things. These represented things are then illuminated by observing them, from a particular point of view.

So, beyond matter and energy, *information* is a third element of our experience. By representing other things, it throws a particular light on them; and it thus corresponds to the traditional element called ‘fire’.

We do not directly observe the matter and energy in the world outside our bodies and our measuring instruments. External matter and energy are only observed through

the representations of information that our instruments have received. In this sense, information is more fundamental than matter and energy.

In its turn, information depends on something further still. In order to represent anything, information depends upon a comparison of represented qualities. For example, a map shows some places closer together and other places further apart. Or it may show how various places are cooler or hotter: by comparative shades of colour, or by numbers that spell out the comparison in a more calculated way.

Thus, beneath the information through which the world appears to us, there is a fourth element: of relative *conditioning*. It shows the world as conditioned by varying characteristics and qualities, in much the same way that the atmosphere is conditioned by climate. So there is another correspondence here, with the traditional element called 'air'.

In order to compare the differing characteristics of different places, there has to be an underlying continuity, which extends through space and time. This continuity is understood in a way that is rather different from our perceptions of matter. Where matter is perceived, space and time are distances that *separate* particular objects and events. Where continuity is understood, space and time are not what separates, but what *connects*. Here, distance is not separation, but a connection in between. It is the intervening connection between parts of a world that has been made to seem divided, by our limited and narrow perceptions.

Thus, beneath the differentiated conditioning of the world, there is a fifth element, of pervading *continuity*. This evidently corresponds to the traditional element called 'ether'. It is described as the subtlest element, pervading the entire world.

In this kind of way, the 'five elements' can be interpreted as different levels, which get mixed up, in our experience of the world. These same five levels can be seen in modern physics.

At the first level, we have Newtonian physics, where the world is described as made up from pieces of matter, which act upon one another through force.

At the second level, physical objects are described as configurations of energy. Here, we have Einstein's principle that matter is only a concentrated form of energy. And we have quantum systems: as configurations of co-ordinated activity, which get disturbed by observation and other actions from outside.

At the third level, mass, energy, time and space are seen as relative measurements that depend upon the observer. They are not absolute things in themselves. Instead, they are interdependent components, in the process by which an observer receives and interprets information. Here, matter and energy are not considered by themselves, as independent things. They are only considered as observed phenomena, in relation to measurement and information.

At the fourth level, there are various theories of fields. In physics, the word 'field' refers to a 'conditioned space'. The conditioning is described by attributing a mathematical value to each point of space and time. The idea is to explain phenomena, and to predict occurrences, on the basis of such mathematical descriptions of field conditioning. Relativity and quantum theory have gone a long way in this direction. They use field calculations to describe physical phenomena, in a far more accurate and systematic way than our common sense ideas. And, in building these more accurate descriptions, modern physicists have shown that our common sense assumptions are often wrong. In particular, our notions of separated matter are only approximations, and misleading ones at that. For many everyday purposes, our habitual assumptions

work well enough to make us think that they are right. But, upon closer examination, they break down. Then they have to be replaced by rather different ideas, which look deeper into our experience of the world.

At the fifth level of modern physics, there is the space-time continuum. At the end of the nineteenth century, physicists had a somewhat degraded notion of the traditional element 'ether'. They were puzzled as to how electromagnetic waves, like light, could travel through empty space. So they thought of the 'ether' as a special kind of material substance, which invisibly filled all space. Electromagnetic waves were supposed to be carried by material vibrations in this invisible substance, like sound waves travel through vibrations in physical air.

But, as a material substance, the 'ether' was rather mystifying. To account for the tremendous speed of light, it had to vibrate extremely fast, like a very hard solid. On the other hand, it was like a very thin fluid, which penetrates through everything. To enable the passage of light, the 'ether' had to permeate the vast emptiness of outer space, between the earth and the stars. Similarly, the 'ether' had to be present in the empty space of a vacuum tube; and it had to permeate air and water and other substances in which light travels and electromagnetic phenomena take place.

Moreover, as our planet earth moves around the sun, it must move through the 'ether', like a ball moves through physical air. Thus, on planet earth, there must be an 'ether wind'; and this must affect the speed of light, depending on whether the light travels with the wind or against it or across it. But the Michelson-Morley experiment showed that there was no such wind. So something was badly wrong.

Albert Einstein took a rather different approach. He did not think of light and electromagnetism as the result of any material substance that is somehow *added on* to space. Instead, he saw that the transmission of light is an essential property of space itself. Light and electromagnetism are not transmitted through any material substance, but through the essential continuity that relates together the different points of space and time. Thus, in place of a material 'ether', Einstein developed the conception of a 'space-time continuum'.

In Einstein's conception, the mechanics of matter is replaced by a geometry of space and time. The world is no longer pictured through material objects and substances, mechanically acting upon each other in three dimensional space. Instead, the world is conceived through events: which are related to each other by geometry, in four dimensional space and time. The geometry connects events, into a space-time continuum. All occurrences and happenings are partial manifestations of this continuum, as it is seen differently by the different observers who travel through it.

This space-time continuum is much truer to the ancient concept of 'ether'. In India, the word for 'ether' is 'ākāsha'. It is an old Sanskrit word, which means 'pervading space'. On the one hand, it is commonly used for the overarching space of sky, beyond the atmosphere. And on the other hand, it is philosophically used for the pervasion of space and time within particular objects and locations: as for example when talking of the 'ākāsha' within a pot, or within a person's body and mind.

### **Living energy**

But then, how are traditional conceptions so different from modern physics?

The difference can be seen in the old idea of energy: as 'prāṇa' or 'living breath'. Here, again, the conception is a little metaphorical. Prāṇa is not the physical flow of air that is breathed in and out of our lungs. Instead, the physical flow of breath is

taken to represent a much more subtle flow of moving and vibrating energy. That subtle flow takes place in organic patterns throughout our bodies and the universe outside.

The *Kaṭha Upanishad* describes it like this:

The universe of changing things –  
whatever is created forth –  
it is all made of living energy:  
which moves and oscillates and shines. *from 6.2*

One implication here is similar to modern physics. The whole material world is only a crude appearance: seen through the coarse perceptions of our outward senses. When examined more accurately, it's found to be made up of subtle energy: whose fluctuating patterns are very crudely seen as gross material things.

In relativity and quantum theory, such fluctuating patterns are mathematically described. In this description, different objects or events are related to each other. Here, energy acts only from one object to another, or from one event to another. Physics is restricted to this kind of energy.

Traditional ideas are not restricted in this way. They conceive a *living* energy, which we experience in our faculties. This energy is not just physical, but biological. It does not act just from one object to another, nor just from one event to another. Instead, it acts organically, from underlying life. In its patterns of activity, it expresses living functions, purposes and meanings which we find in our own lives.

According to the old ideas, our bodies and our faculties are resonating patterns of organic energy. They can resonate in sympathy with each other and the world outside. That is how our faculties perceive the world. Their perception is a sympathetic resonance between the living energy in them and the energy that's seen outside.

To see things better, we can fall back into our living faculties, so as to cultivate their resonance with what they see. By working on that resonance – through meditation, reasoning and devotion – traditional disciplines are meant to enable a more accurate and fuller examination of the world. Just as modern physics is applied by developing a material instrumentation, so also the old disciplines are put to test and put into effect by educating living faculties.

But what can be achieved by such an education, falling back into our faculties? How can it help to know the world? The old ideas point out that what matters here is life. Our faculties express it; but they have no monopoly on it. The life that they express is not a personal possession of our bodies and our minds.

Yes, we often think that our lives are personally owned by us. But, according to the old ideas, there's something very wrong in thinking like this. In our attitude to life, the sense of personal possessiveness is a mistake. Life is not a personal possession. It is not restricted to bodies like ours, with sense organs and minds like ours. The life we find expressed in us is found expressed elsewhere as well.

In fact, wherever we look, we may see life or we may not. It depends on *how* we look.

Suppose I am looking at a face. If I see it only superficially – as a formal arrangement of eyes, nose, mouth, chin – then it is just an objective picture, in which no life is seen. But if I see that it expresses thought and feeling, then I look beneath the picture; and I see the life in it. I do this by reflecting back, subjectively, into the life that my own thoughts and feelings express.



It is the same with a rock. I can picture it objectively, either as an external shape or as a structure made of grains and molecules. There, no life is seen. But I can also look beneath the picture, wondering how it expresses nature's functioning. Then I am listening to what it has to say. And so it comes alive, evoking basic intuitions of natural order and meaning and harmony. Then I see nature's life, there in the rock, reflecting back to that same life expressed in my experience.

Reflecting back to nature's life, the old ideas identify a living kinship that is shared by all of us and all the world. From there, all energy is found alive. It all expresses a universal life of nature, which underlies the entire world and each individual personality.

## 5. ASKING FOR TRUTH

What underlies the world of nature? How does nature underlie our bodies and our minds as well? How can we sometimes understand the world, by asking deeper back into our own experience? What common kinship does that show, between our inner lives and what we see outside?

For an old account of these questions, we can go back to the Brihadāranyaka Upanishad, where Gārgī asks Yājnyavalkya about the five elements. That isn't quite enough for her. She wants to know what underlies the fifth element, 'ether'. Yes, she agrees, 'ether' is the continuity of space and time. It's what connects all different things together. But what does this connection show?

In reply, Yājnyavalkya says:

Those who investigate reality  
describe it as the 'changeless'.

*from 3.8.8*

In other words, different things are connected because each shows the same reality.

It's a bit like looking at a table. From different angles, the table looks different. Each angle shows some different thing about the table. Moreover, if one looks selectively, at just one table leg, something different is shown again. If one inspects a small part of the leg with a microscope, more things appear. But, through all these different views, one sees the same table. Its reality is what remains unchanged, no matter how one looks at it, nor what one sees in it.

Yājnyavalkya is talking of a reality that's shown by the entire world. It's shown by every object, every person, all events and happenings. That reality remains the same, no matter how we look, nor what appears, any time or anywhere. And he points out that this reality must be entirely unqualified, impersonal and unlimited. It is beneath the changing qualities we see, in limited persons and things. As he goes on to say:

It is not coarse, not yet refined;  
it is not long or short.

No flame of passion colours it;  
no fond affection is involved.  
In it, no shadow brings obscurity;  
there's no obstruction to be cleared.

It is not 'air', nor 'ether'.  
Connection and relationship

do not apply to it. Nor do  
any qualities, like taste and smell.

It has no eyes, no ears, no speech,  
no mind; it is not sharp, nor has it  
vital energy, nor any face, nor measure.

Nor does it consume, nor is consumed.  
It has no outside, no inside.

*from 3.8.8*

However, there is an obvious problem here, with such a concept of underlying reality. It is a vast generalization. It isn't limited to any particular thing, nor even to any class of things. Its scope extends beyond all the limits that narrow down our perceptions and ideas. How then can we focus attention on it, to find exactly what it is?

So Yājñavalkya goes on to a specific description. Having described reality in general, he finally goes on to how it may be found in particular. Here is what he says:

This same changeless principle  
is not the seen. It is the see-er.  
It is not heard; it is the hearer.  
It is not thought; it is the thinker.  
It is not known; it is the knower.

Apart from it, there is no see-er.  
Apart from it, there is no hearer.  
Apart from it, there is no thinker.  
Apart from it, there is no knower.

In just this unchanging principle,  
the [all-pervading] 'ether'  
is woven, warp and woof.

*3.8.11*

Thus, underlying the entire world, Yājñavalkya identifies a knowing principle of pure subjectivity. He says that it is not what's seen, or heard, or thought, or known. In particular: 'It is not known; it is the knower.' In other words, it is pure consciousness, unmixed with any kind of physical or mental object.

And, he goes on to say: 'Apart from it, there is no knower.' So it's the source of all knowing. It is a consciousness that's shared in common, by each person's experience and by the whole world. In everyone's experience, it's found by a reflection back, beneath one's faculties, into their final knowing ground. According to Yājñavalkya, that knowing ground is the reality of all experience, throughout the universe.

This conclusion is illustrated in figure 6 (next page). The traditional five elements are shown in the first two columns, as levels of the world's appearance. The layers of personality are shown in column three. And the fourth column shows the sciences, which use our layers of personality to examine corresponding levels of world. Underlying all these levels is unchanging consciousness: the one, impersonal reality of all experience.

But it must be admitted that this is not an easy conclusion. It identifies a sole reality which is at once subjective and impersonal. It's the reality of the entire world; and yet it's found by going back into one's own self. This contradicts some deeply ingrained

Figure 6

<i>Traditional element</i>	<i>Appearance of reality</i>	<i>Perceiving instrument</i>	<i>Examining disciplines</i>
'Earth'	Pieces of matter	Physical body	Physical sciences
'Water'	Patterns of energy	Living organism	Biological sciences
'Fire'	Meaningful information	Conceiving intellect	Cultural sciences
'Air'	Conditioned character	Intuitive judgement	Psychological sciences
'Ether'	Continuing existence	Reflective reason	Philosophical enquiry

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### Unchanging consciousness

beliefs which most of us take for granted: about the world and about ourselves. If this contradiction is taken seriously, it raises some very unsettling questions.

Such questions are the actual practice of enquiry. The concepts used are *meant* to raise unsettling questions. It is the questioning that puts the concepts into actual practice, on the way to clearer understanding. However, this works only if one's own beliefs are opened up to genuine questioning. The attack must be upon one's own assumptions, not upon what someone else believes. The reflection back must go into one's own experience. Then it concerns the understanding on which one's attitudes and actions are based. That makes it practical, inherently. Otherwise it is just theory, or dogma, or polemics.

So, in the end, the basis of traditional authority is individual. It is a depth of individuality that's shared in common by us all, beneath the seeming differences that we perceive between our changing personalities. That individual depth is seen as the authentic source from which traditions come. It isn't anyone's exclusive property; but our shared source of independence, knowledge and respect. All discipline and learning means returning there. All questions rise from it and lead reflecting back to it, when they are sufficiently considered.

Beneath the forbidding manner of traditional authority, there's often thus a radical investigation of our individuality. From that, we 'moderns' may have much to learn.