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Editor

ऋतम् • Ritam

Volume 2 • Issue 1 • August 2004



A Journal of Material and Spiritual Researches in Auroville
Sri Aurobindo International Institute for Educational Research

RITAM

A bi-annual journal of material and spiritual researches in Auroville

Our aim:

- This is a journal under SAIER connecting the various units under its umbrella with the focus on education and other related areas of research.
- The purpose is to create a space where we express and share our work in Auroville and also invite others to share their perceptions with a view to look at where we stand with reference to the ideal.
- It will publish articles, interviews etc. which are relevant to the Charter of Auroville, both from people in Auroville as well as those from elsewhere.
- This journal is for both Aurovilians as well as others who are looking to Auroville for pioneering work in many fields.
- The goal is to understand better the spirit of Auroville and in that context what we are doing and what further we can do.

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RITAM

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CONTENTS

2 Prayers and Meditations *The Mother*

3 On Time and Space *Sri Aurobindo*

8 Yoga and Science *Sergei Tretiakov*

12 In Search for a New Approach
to Humanitarian Knowledge ... *Vladimir Iatsenko*

16 A Theoretical Basis for
an Aurovilian Economy *Jean-Yves*

20 Renewable Energy in Auroville *Jos van den
Akker and Judith Lipp*

22 Value-Oriented Education
in Transition School *Mary Kapur*

26 Meetings *The Mother*

28 Discoveries of Science III *Sri Aurobindo*

Prayers and Meditations

The Mother

Let us shun the paths that are too easy and ask no effort, the paths which give us the illusion of having reached our goal; let us shun that negligence which opens the door to every downfall, that complacent self-admiration which leads to every abyss. Let us understand that however great may have been our efforts, our struggles, even our victories, compared with the distance yet to be travelled, the one we have already covered is nothing; and that all are equal – infinitesimal grains of dust or identical stars – before Eternity.

But Thou art the conqueror of all obstacles, the Light that illumines all ignorance, the Love that vanquishes all pride. And no error can persist in front of Thee.

January 8, 1914

On Time and Space

Sri Aurobindo

31-8-1926

Disciple: There is a difficulty with regard to time and space: they are always taken together as if they were inseparable, but space is reversible for man while time is not.

Sri Aurobindo: Why not?

Disciple: One can go back in space but one can't go back in time, physically.

Sri Aurobindo: Because time is not a physical entity, it is supra physical. It is made of subtle elements and so you can go back only in the subtle way.

Disciple: Space is three-dimensional. The question is: cannot time have two dimensions, since time for us is in a line?

Sri Aurobindo: Time represents itself to us as movement or rather succession; it is dynamic.

Disciple: Can it have two dimensions?

Sri Aurobindo: What do you mean by that?

Disciple: It is very difficult to imagine two dimensions of time.

Sri Aurobindo: You can say that on a plane higher than the mind time becomes static, that the past, present and future appear in a line (without a break) and are static.

Disciple: What is Time?

Sri Aurobindo: 8-30 p.m. (*laughter*); I have never bothered myself with these mental definitions. What difference is it going to make to you if you know the definition?

Disciple: But space is something material.

Sri Aurobindo: Why should it be material?

Disciple: Only matter occupies space, consciousness cannot occupy space.

Sri Aurobindo: Why not? How is it that you occupy space? You have a consciousness!

Disciple: But such things like mind etc. do not occupy space.

Sri Aurobindo: How do you know? and what is space?

Disciple: Space is the point of intersection of two points.

Sri Aurobindo: Why should it be always material? When you feel angry, for instance, you also get a disturbance in the physical nerves. It occupies space.

Disciple: But that is not my consciousness; it is only the reaction of anger, not myself.

Sri Aurobindo: That is because it does not suit your argument! How do you know what is your consciousness? What do you understand by consciousness?

Disciple: "I think", "I feel" — that is consciousness.

Sri Aurobindo: That is not your consciousness, — that is the result of your consciousness. Do you think consciousness is a mere abstraction so that it exists nowhere?

In a way, you can say that everything exists in consciousness, even space, etc. In fact, everything exists in consciousness and it exists nowhere outside of it. Then you come to Shankara's position: everything, therefore, is Maya — illusion. That is the most logical conclusion unless you admit, like the materialists, that everything comes from matter.

Disciple: Well, the conventional idea is that.

Sri Aurobindo: What have you to do with conventions? You have to see the Truth, never mind what people believe. You will find that thought, feeling, etc. take place in a certain space which, of course, is not physical space. It is something like the ether which pervades everything.

The question may be asked: how far does space extend? You go from earth to the interstellar region, and then? Do you think there is no other kind of space? To my mind space is an extension of consciousness.

Disciple: But extension is a property of Matter.

Sri Aurobindo: Do you mean to say that when I get the experience of wide, extended consciousness, my consciousness becomes material?

Disciple: No. But Matter has extension.

Sri Aurobindo: That is what your mind tells you!

Disciple: That is what we see.

Sri Aurobindo: How do you see? Only through your mind, is it not? You can only say that these things — like Matter, etc. — represent themselves in this way to the human mind. And what is time, when you come to deal with subtler things? It is not a mere abstraction; it is a force, you can say it is the action of a force. It acts and produces effects by itself without any other factor. Time, you can say, is consciousness in action working in Eternity and space is consciousness as being in self-extension.

Disciple: Why are the hostile vital powers mistaken for gods?

Sri Aurobindo: They represent themselves so to the vital being and it is easy to mistake them for true gods, because the vital being in man lends itself easily to such deceptions. The second reason is that they satisfy, or promise to satisfy, desires of the vital being of man, or if there is vanity they pander to it.

Disciple: In that case it seems that many of the gods worshipped by men are vital gods.

Sri Aurobindo: I think so; many of the people who get possessed by Kali and such other gods are only possessed by these vital beings and much of the worship offered to them in the temples goes to these vital beings.

Disciple: Then it is dangerous to worship these gods.

Sri Aurobindo: If you mean “spiritually” dangerous, yes.

Disciple: Do the true gods also harm men?

Sri Aurobindo: Not knowingly. That is to say, they have no *himsā vritti* — harming impulse. But if a man goes and butts against the gods then he knocks

his head. But no god harms intentionally. It is you who go to get your head broken. It is your folly and stupidity which is responsible for the knocks.

Disciple: The gods do not care whether man is killed or not.

Sri Aurobindo: Not in the human, sentimental way. They go on doing their work and if man becomes happy or unhappy, or rich, or poor—they do not care. Do you think that if the Gods were running after human happiness there would be so much misery left in the world? The gods are merciful because the Divine is merciful.

Disciple: It seems that the Devil is powerful in life.

Sri Aurobindo: You think the gods are weaker than the devils and they can't destroy the devils? They are merciful and good because God is merciful and good but it does not mean they have no power. They simply go on doing their work with their eyes on the Eternal Law of Truth. To them it is that which matters and nothing else.

Disciple: Are they very busy?

Sri Aurobindo: Not ‘busy’ in the human sense. They are eternally engaged in doing their work, — but not busy.

25-12-1939 (Evening)

Disciple: According to Einstein there is no gravitation. That is to say, there is no force of attraction exerted between objects. He says that what we call gravitation is due to curvature of space.

Sri Aurobindo: What is all that?

Disciple: He says that Euclidian geometry is not applicable to the material world. That is to say, space is not flat, a three-dimensional analogue of a two-dimensional flat surface. Euclidian figures like the square and solids and straight lines are abstract, not real or actual. He also says that material space is “boundless but not infinite”.

Sri Aurobindo: How do you know? Perhaps it is not space that is limited but our capacity to measure space that is limited. Besides, how can you say that space is limited to Matter? There is a non-material space beyond this material universe. A being can leave behind our material space.

Disciple: Einstein began his contribution by proving that simultaneity of events, constancy of mass and

length etc. are all relative and not absolute. If the same length is measured from a body moving with great velocity at a distance the length would change. Besides, he showed that in a system of reference if the whole frame of reference moves uniformly then no measurement within the system can give you the proof of the uniform motion.

He has also shown that time is an indispensable factor in the measurement of dimensions of an object.

Sri Aurobindo: Time is not an indispensable factor of dimension. Movement is absolutely necessary to feel time. When an object is stationary the consideration of time does not enter in measuring the dimensions unless you move it to some other point. Really speaking, one has to know space as the extension of being and time as an extension of energy.

Disciple: According to science everything is moving. Earth is going round the Sun and revolving on its axis. If we tap on the same place twice Einstein would say we have not tapped on the same place, for for the earth has moved 18 miles per second in the meantime.

Sri Aurobindo: But the taps do not change the dimensions of the board! Only, you can say that a consideration of time is necessary to complete your measurements of space.

Disciple: Einstein has introduced a fourth dimension of time, in addition to length, breadth, and height; their combination he calls the time-space continuum. It can be conceived as a cylinder over which a spiral is wound.

Sri Aurobindo: It is only a phrase! Time cannot be relegated to the position of a mere dimension of space, it is independent in its nature; Time and space may be called the fundamental dual dimensions of the Brahman.

Disciple: Ouspensky has an idea in his Tertium Organum that our three-dimensional world is a projection from a subtler fourth dimension which is suprasensual but real. He means to say that to each solid form we see here there corresponds a subtler form of it which is in the fourth dimension.

Sri Aurobindo: That is perfectly true, the cube would not be held together and therefore would not be a solid if some thing in the subtle dimension did not maintain it. Only, it is not visible to the physical eye but can be seen with the subtle eye.

Disciple: Sir Arthur Eddington in his Gifford Lectures (1934) says that science began with the aim of reducing the complexity of the material world to a great simplicity. But now, it seems, science has not been able to keep its promise and no model of the material universe is possible. A good deal of mathematics and specialisation is necessary now to understand what science says about the material world. Eddington says that the table on which he is writing is not merely a piece of wood. Scientifically speaking, it is a conglomeration of electrical particles, called Electrons, moving at a very great velocity, and even though the particles are moving, his hands can rest on the surface and not go through.

He has also argued against the scientists who insist that the so-called objective view is the only view that is permissible or intended. The rainbow is not intended only to give man the knowledge, or experience, of the difference in the wave-lengths of light. The poet is equally entitled to his experience when he says, "My heart leaps up when I behold a rainbow in the sky."

So also a 'ripple' in water is not meant only to give man the knowledge of the pressure of the air, and the force of surface-tension.

Sri Aurobindo: Validity of human knowledge is not dependent on physical science alone. Physical science is only one side of knowledge. The poet's and the mystic's and the artist's experience have equal validity.

Disciple: Eddington argues that even in so-called objective scientific knowledge it is mind that is asked to judge ultimately: 8×4 is 32 and not 23. Why?

Sri Aurobindo: It is by an intuition and repetition of experience and not merely by reason that man finds that one is right and the other wrong.

Now even the scientists have been forced to admit that their conclusions are not all based on reason. Their formulas have become like magic formulas.

Disciple: They say that they can demonstrate their conclusions.

Sri Aurobindo: Yes, demonstration to the mind again.

26-12-1939

Disciple: N was puzzled about time and space because it is not clear whether time and space are properties of matter.

Sri Aurobindo: Time and space can't be properties of matter, at least time is not material. Space and time are the extensions of the Brahman. For instance, you feel when you go deep in meditation that there is an inner space, – *cidākāśa* which extends to infinity, and our material space is only a result of it. So time also is extension of Brahman in movement.

You can see that time and space both are not the same for man every time. When your mind travels from Calcutta to London it is not in the material space and not in the time that you feel with the outer mind. It is in the mind itself that you move.

Space also is a movement of the Brahman inasmuch as it is an extension, but there is a difference as far as time is concerned.

Disciple: We are conscious of the movement of Brahman as time because we live from moment to moment and we can feel time only by events. So also the world is an extension.

Sri Aurobindo: In that way everything is an extension – expression, projection, manifestation, – of the Brahman. It is only a way of saying.

Disciple: Some say that time does not exist at all.

Sri Aurobindo: Who says it? It depends upon the point of view and state of consciousness from which you say it, i.e. whether one says it only intellectually, or from an experience.

Disciple: Time may not exist in a consciousness where the universe does not exist.

Sri Aurobindo: Quite so.

Disciple: The scientists define gravitation as only a curvature of space– and, as we know matter only by weight, matter is curvature of space.

Sri Aurobindo: But what about matter being the same as energy?

Disciple: Einstein admits their identity and says that energy has weight.

Disciple: How can energy have weight?

Disciple: If you wound your watch and unwound it – there would be a difference in the weight? (*laughter*)

Sri Aurobindo: But what you have to ask is: “what is Energy?”

17-9-1940

Disciple: According to science there is no empty space anywhere, that is to say, there is no emptiness in space. There are two schools of physicists: Some believe that there is what they call “cosmic dust” in all space. Others say that the ray of light being material can pass through “nothing” — there is no necessity to imagine anything between.

Sri Aurobindo: “Nothing” means what? Does it mean non-existence, or nothing that we can, or do, sense? If you say it is non-existence then nothing can pass through it; you empty a tube or a vessel of the air or gas it contains and say it is a vacuum. But how do you know there is nothing in it?

Disciple: If there was anything in it, there would be resistance.

Sri Aurobindo: Why should you assume that everything must offer resistance? If ‘nothing’ means non-existence then if any thing enters non-existence it becomes non-existence. If you enter non-existence you cease to be. A ray can only arrive at nowhere through nothing.

Disciple: That may be occult knowledge.

Sri Aurobindo: It is not merely occult knowledge but occult knowledge and common sense.

Disciple: What is space?

Sri Aurobindo: The question remains: either it is a conception or any entity. If it is a conception only, then your observations can also be only conceptions, that is to say, they happen in you only. Then you come to Mayavada: nothing but you exist.

Disciple: The latest idea is that space is curved.

Sri Aurobindo: What is the meaning of space being curved? Einstein speaks of curvature of space round the Sun and when a body gets near it, it goes down the curve. But the question is: what is that curve and in what does it exist?

For instance, some say the universe is expanding. In what? There must be something in which it is expanding. And why is a ray of light deflected in the sun's neighbourhood? You say: because there is a curve. But why is there a curve? And in what is that curve?

And then, what is expanding? Is it Matter? You will say: no. Then Energy? You say: yes. But the energy

is expanding into what? You say space is bent: the question is, is matter bent or space?

Disciple: The amount of Matter in the universe is limited — it is finite.

Matter has weight and the weight of all matter is known.

Sri Aurobindo: But what is matter? Is it a wave or a particle?

Disciple: According to the quantum theory it is a particle which is matter and energy at the same time.

Sri Aurobindo: If you say that matter is finite then there must be some medium which supports matter and which is infinite. You say matter has weight, — what is weight?

Disciple: Some of the scientists say that the sun is losing weight at a certain rate and the time when it will be exhausted is calculated!

Sri Aurobindo: How do you know that the sun is not renewing its weight?

Disciple: What else can science do? It must take the data and make a hypothesis.

Sri Aurobindo: In the real science:

i. You must have the right data.

ii. Then you should draw the right inference. The difficulty is that you can never be sure of having all the data for any phenomenon.

Disciple: There are so many calculations: earth's age, the rate of the expanding universe, the sun's birth, the age of the sun etc.

Sri Aurobindo: I sympathise with Shaw who says: "they don't know what it really is." Something escapes from their calculations like the fish from the fisherman's net.

From 'Evening Talks' recorded by A. B. Purani

Q. At what moment does Time begin? The Consciousness that chooses — is it in Time as soon as the unrolling begins?

Mother: No, Time is a succession; you must be able to conceive that the Supreme Consciousness, before objectifying itself, becomes aware of Itself in Itself. There is a global, total and simultaneous perception and there, there is no Time. Likewise one cannot speak of "Space", for the same reason, because all is simultaneous. It is something more; it corresponds to a state of consciousness subjective rather than objective, for the aim, the motive of creation is objectivisation; but there is a first step in this objectivisation in which there is a plenary consciousness, total and simultaneous, beyond Time and Space, of what will constitute the content of this universe; and there, the universe is pre-existent, but not manifested, and Time begins with objectivisation.

Q. Can it be said that Time begins with the supramental plane?

Mother: It is not the same kind of Time. There is only a beginning of Time and a beginning of form. Time there is of a very different quality. There is a global, static consciousness before arriving at the supramental level, in which everything appears simultaneously — Time is the result of the fact that there is a succession in the organisation of the whole. While the totality you perceive all at once, on the supramental level, is not a static totality — the static totality gives place to another totality which gives the impression of Time. These are inner relations within the Supermind, in the sense that one is not aware of something which happens outside oneself; one is conscious only of something within oneself, internal, but the internal relations vary, and this gives a first impression of Time.

Q. In this state of consciousness one does not have the impression of things being born, passing, disappearing, does one?

Mother: Oh, no ! nothing of the kind.

The Mother
Questions and Answers 1950-51, pp. 161-162

Yoga and Science

Sergei Tretiakov

This article has started with the idea of giving a scientific assessment of Sri Aurobindo's statements related to science (as recorded in the *Evening Talks* by A. B. Purani). This attempt constitutes the first part of the article. In the second part, I will try to understand the value and meaning of science from the spiritual or yogic point of view. Many topics mentioned below may require lengthy explanations and special detailed treatment but here I am able just to touch them. This is only a sketch, a tentative analysis.

I

The talks in the section I am referring to (*Evening Talks by Sri Aurobindo*; recorded by Purani, *Pondicherry*, p. 73-87) are provoked by some echo of the theory of relativity, i.e. probably by the book speculating (scientifically, correctly or erroneously) on the Einstein's theory of relativity.

Sri Aurobindo was not talking to scientists: disciples rarely could satisfactorily answer his questions when he tried to elucidate their statements and make the scientific picture clear – there was a lack of scientific clarity in their minds. And probably the aim of Sri Aurobindo was to clarify their mental difficulties in a broader sense. So instead of answering questions raised by science – which I would prefer – he had to deal with the mental problems of disciples related to their yoga. But still it is possible to take Sri Aurobindo's statements as they are and try to recreate his dialogue with the science. What could science say about the validity of his statements? What could he say about the validity of statements made by science?

We know that Sri Aurobindo did not get a scientific education. He did not study physics, chemistry or biology and seemingly did not know mathematics either. Can yogic knowledge provide for this deficiency? Or would he talk nonsense from the scientific point of view? Or, conversely, would he say something of enlightening value for modern science? I have chosen a few statements (about space-

time, vacuum, scientific laws) which are easy to interpret technically or which had their correspondences in the later development of science.

1. Space-time in the theory of relativity

All happenings (events) of the physical world in the theory of relativity are represented as points in 4-dimensional space-time (three dimensions of space – “where” and one of time – “when” this event happened). In a mathematical apparatus of the theory, the time-dimension (or time-coordinate) is hardly distinguished from space-coordinates and, essentially, it is relegated to being an additional dimension of space. Some properties of time familiar to us in everyday life, such as irreversibility and direction, are not to be found in this scientific picture – which very successfully describes gravitation using this basis. Are these properties just illusions of our human experience?

*Sri Aurobindo: Time cannot be relegated to the position of a mere dimension of space, it is independent in its nature; time and space can be called the fundamental dual dimension of the Brahman.*¹

Irreversibility and particular direction of time “the arrow of time”² is exactly the point where the modern chaos theory – the theory describing complex systems in states far from equilibrium – differs from the treatment of time by classical physics and by the theory of relativity. Time is considered to be fundamentally different from space and the treatment of time in classical physics and in the theory of relativity to be unsatisfactory. It would not be so forty years back – before the appearance of these new theories working with new classes of more complex objects – but now we can happily say that Sri Aurobindo's views on time if interpreted in this sense are scientifically justified.

Disciple: He [Einstein] has also shown that time is an indispensable factor in measurement of dimensions of an object.

Sri Aurobindo: *Movement is absolutely necessary to feel time. When an object is stationary the considerations of time does not enter in measuring the dimensions unless you move it to some other point.*³

Surprisingly Sri Aurobindo corrects here the disciple's misrepresentation of Einstein's views. According to the theory of relativity, when the object is at rest, considerations of time (i.e. simultaneity of events as you have to record the positions of the ends of a rod simultaneously to measure its length) are not coming into consideration; these measurements of mass and length give you "rest mass" and "rest length" which are in fact absolute and not relative. Only in case of a *moving* object its length diminishes and its mass increases as compared to the rest length and rest mass.

Sri Aurobindo: *Really speaking, one has to know space as the extension of being and time as an extension of energy.*⁴

Energy and time are paired in physics: from isotropy of time, the law of conservation of energy can be derived and in quantum mechanics, time and energy are complimentary variables.

2. Vacuum

Classical physics took vacuum as a volume in absence of all particles and waves. Since "ether" – an all-pervading medium – was banished from physics in the beginning of the 20th century, light was considered to be travelling through the "empty space"; there is nothing between the stars, for example, but light needs nothing to travel there.

Sri Aurobindo: *"Nothing" means what? If you say it is non-existence then nothing can pass through it; you empty a tube or vessel of the air or gas it contains and you say it is a vacuum. But how do you know there is nothing in it? ... If "nothing" means non-existence then if anything enters non-existence it becomes non-existence. ... A ray can only arrive nowhere through nothing.*⁵

Another comment on a different occasion:

*"If you say that matter is finite then there must be some medium which supports matter and which is infinite."*⁶

By the second half of the 20th century, vacuum in physics became "well-populated". The process started in the '30s with the theory of P.A.M. Dirac which

stated that negative-energy electrons are present everywhere in space (and as they are everywhere they are not noticed) - but if you give them enough energy, then a pair of particles, normal electron (brought up from this negative state) and positron (anti-electron, the empty space left behind by the electron) are born. Events of this type are routinely observed by elementary particle physicists nowadays. Development of quantum electrodynamics and modern field theories (second half of the 20th century) presents us with the picture of vacuum vibrating with fields corresponding to all possible particles. These *virtual* particles are present everywhere and are affecting all the processes on the level of elementary particles and the properties of the real ones. This picture of "bubbling" and "alive" vacuum is at the very core of modern fundamental physics.

And still this densely packed vacuum and space time and matter – in other words the modern field theory and the theory of gravitation (general theory of relativity) resist attempts of researches to merge them into one unified theory – a quantum theory of gravitation.⁷ So the questions: "What is space? What is mass? What is energy?"⁸ are as relevant as ever in modern fundamental science.

3. Scientific law

All science stands on the concept of law. Most of the time in 18th-20th centuries the focus of science was on the *quantitative law*; other sciences were trying to follow the suit of physics, the most successful one.

Sri Aurobindo: *Now with the law of numbers, it merely states the organisation of the physical part of the universe, and even there it gives knowledge of only a part. But, there is not merely a quantitative law of formation, but also a qualitative law, which is more important than the quantitative.*⁹

This in an amusing way corresponds to the development of the modern theory of complex systems, systems which are too complex for the traditional qualitative methods of physics. These "complex" systems seem very simple in our everyday experience. Most real objects or situations are like that, but during the course of the development of modern physics, it was realised that to get a quantitative description of their behaviour was nearly impossible. So their properties have to be studied qualitatively e.g. studying their phase diagrams with topological methods.¹⁰

But the question about the nature of scientific law – though nowadays we speak more about theories, conceptual units, producing laws from within – this question is one of the central in understanding science. A law describes the behaviour of Nature under certain conditions and usually a law is the logical outcome of a theory, a conceptual whole, which is able to produce laws and even predict behaviour of Nature under new circumstances. Theory is a creation of mind and it exists in the mental realm, law is the interface of the theory with observable realities of the physical Nature. If there is no correspondence, the theory is modified or rejected if modification is impossible. Are these laws something eternal, fixed once and for all? Or are they evolving with the universe and changing when new powers are entering the manifestation?

*Sri Aurobindo: An ordinary law merely means an equilibrium established by Nature; it means the balance of forces. It is merely a groove in which Nature is accustomed to work in order to produce certain results. But, if you change consciousness, the groove is also bound to change.*¹¹

*All these ideas about the universe are based on the assumption that the Infinite can organise the universe only on these particular lines with which mankind is at present familiar. But that is purely an assumption.*¹²

In modern science, where the idea of evolution, broken out of the confinements of biology came into physics as the theory of the Big Bang and the evolution of the universe, the question whether laws evolve or change is the pressing one.

Is a law something inevitable in this universe or it is just a habit? Does Nature change her habits? Most scientists are just studying her present ones – this is possible in physics. The habits (if they are really habits) of matter have been established for billions of years. But in areas of psychology and biology, where evolution is faster than in the realm of matter and the sphere of physics, these questions are difficult to ignore. There are reports, for example, that a behaviour once learned by a certain number of individuals is easier learned by other individuals later (formation of a new habit, which can later become instinctive). Advocates of evolutionary approach to laws such as Rupert Sheldrake¹³ are challenging the existing static paradigm conceptually and experimentally.

4. Non-scientific statements – the example of time

One can comment scientifically only on a minority of statements by Sri Aurobindo related to science. Science has not yet caught up! As an illustration we can look at his comments on time. He says that time is not a physical entity, it is supraphysical and made of subtle elements¹⁴; that planes and states of consciousness other than physical have their own time and space; that time is an action of a force and can produce effects on its own¹⁵, that time and space are created by an “Infinite with extension” as opposed to a self-gathered Infinite¹⁶ and that time is consciousness in action working in eternity.

In reality, Sri Aurobindo never comments on science in scientific terms or from the realm of science. Instead he brings out things in the yogic experience which correspond to it. He is speaking about facts, but these are not as a rule facts objectively verified; rather these are certitudes of the inner experience and should be verified by yogic methods. It is not possible to make scientific sense where he is speaking about Brahman, Infinity and Consciousness: science is not dealing with these things and these statements go beyond its scope. But it is a statement of reality. What are the differences between scientific and yogic ways of knowing reality?

II

5. Science and Yoga

Science is an incarnation of the main driving force of the present civilisation – the old world, the normal non-yogic and non-supramentally transformed world, the only world known to most of us. The authority of science is high, its effectiveness convincing, its at least partial firm grasp of reality is undeniable. Its mental honesty (clarity of methods and transparency of conclusions) is alluring. It is a wonderful and exciting intellectual game. Learning the rules of the game and the knowledge of the famous playing of its great masters strike us with its beauty.

There is another side to science: its effectiveness relies on its limited and limiting methods of study and criteria of knowledge which results in an incomplete and distorted picture of the world. One can mention also its intellectual arrogance, its blind impetus, its merger with or rather servitude to industry, business and ruthless ruling forces of the modern world. But still the characteristics mentioned above stand and their appeal to the high elements of the human nature always draws to it creative and open people.

What is common between science and in yoga? Both are studies of reality. Can they work together? What is the essential difference? Sri Aurobindo explains some of it in the *Talks*.¹⁷

We can say that the knowledge of yoga is unifying and direct (and not confined to one plane only) and that of science is detailed and derivative, harnessing mostly the elemental inert and unconscious forces of the physical plane. The question of Science versus Yoga can be better understood as a question about the nature of knowledge. Let us try to make it more clear by interrogating both:

What is the true object of knowledge?

Science: Objective world and its principles.

Yoga: The One, the Divine.

What is the right method of knowledge?

Science: Meticulous objective observations, guided by theories and themselves guiding the development of theories. Reason and experiment are the supreme judges.

Yoga: Meticulous observations, discernment, purification of experiences. Opening up to the reality and identification with it. Intuition, enlightenment. Constant development and constant qualitative change of methods of knowledge. “Enlightened common sense” and “super-reason” as a guide for the beginning.

Another useful distinction between occult knowledge and spiritual (yogic) knowledge can be made. Spiritual knowledge is the knowledge enlightened by its central aim, the One, the Supreme, the Divine. All other things are known as the manifestations of the

Divine, as the powers essentially belonging to the Divine; all tasks and all practical details of this knowledge have their meaning only as related to the manifestation of the Divine will in the world. Occult knowledge is the knowledge of the powers, forces, objects, beings in the world and the ability to utilise this knowledge effectively. This knowledge is related to physical, vital, mental and overmental planes; it is hidden from humanity as a whole, but known to a few. This knowledge and the powers which it gives can be an aim in itself. There it differs from spiritual knowledge, and is open to misuse and corruption.

Modern science can be seen then as an enormously developed field of occult knowledge of the physical plane, using powers proper to this plane and getting impressive results. But this knowledge is subject to limitations and mistakes (in particular because of deficiencies its attitude and methods) and open to egoistic distortion and misuse.

What could be the steps for the transformation of science, if this is possible? Overcoming the subject-object paradigm, taking the position of oneness with the world, accepting that consciousness is the main actor and is present everywhere; being able to overcome the egoistic limitations of the being which at present is shut in itself and separated from the world, get to know universal forces directly, as powers of consciousness and as beings.

But basically for the transformation of science there are only two things needed: the change in aspiration – turning to the Divine – and a corresponding opening towards new methods.

References :

¹ Evening Talks with Sri Aurobindo, Pondicherry, 1995; p.83.

² Prigogine I. and Stengers I. 1984. Order out of Chaos.

³ Evening Talks with Sri Aurobindo, Pondicherry, 1995; p.83.

⁴ *ibid*, p.83.

⁵ *ibid*, p.86.

⁶ *ibid*, p.86.

⁷ See: Steven Weinberg. *Dreams of a Final Theory*. NY, 1992 and Roger Penrose. *The Emperor’s New Mind*. Oxford, 1999.

⁸ Evening Talks with Sri Aurobindo, Pondicherry, 1995; p. 86-87.

⁹ *ibid*, p.75

¹⁰ Fritjof Capra. *The Web of Life*.

¹¹ Evening Talks with Sri Aurobindo, Pondicherry, 1995; p.76.

¹² *ibid*, p.74.

¹³ Rupert Sheldrake. *The Presence of the Past*. 1989.

¹⁴ Evening Talks with Sri Aurobindo, Pondicherry, 1995, p.79.

¹⁵ *ibid*, p.81.

¹⁶ *ibid*, p.72.

¹⁷ *ibid*, p.75-76.

In Search for a New Approach to Humanitarian Knowledge

Vladimir Iatsenko

“Education is that what remains, when everything else is forgotten.”

Anonymous

There is a growing interest in the modern world to a new possibility of human consciousness to be integrated around a higher consciousness, as in a field of humanitarian studies for all branches of humanitarian knowledge to be centered around one Knowledge. There is a need to create a new educational environment, where all major faculties of human consciousness could be studied and exercised in the studies of the humanitarian subjects in the most comprehensive and intelligible way.

What we are looking for is new ways of learning which may result in a concrete change of our consciousness. For example, History can be studied, as we usually do it, passively, through the books and study materials, which make us think and reflect upon the subject; or it could be studied actively, through the immediate application of our consciousness, so to say, to our studies. In this case, what is being studied is our Consciousness, Historically applied, and not History as such. The person who has studied History as a subject may forget after some time all the dates and even successions of events, but the person who has studied his own Consciousness with the material of History cannot easily lose it, for it becomes a part of his own understanding and ability to deal with any new material and to find new true answers.

If we examine the faculties of our consciousness, we will find that there are only a few fundamental faculties, as in the field of humanitarian knowledge there are only a few fundamental subjects. What determines these limited number of faculties and subjects is the very nature of our consciousness, that we have only three accesses to reality: *Seeing, Hearing and Touch*, with their active counterparts *Thinking, Speaking and Feeling (and Sensing)*.

	<i>Active</i>	<i>Perceptive</i>
<i>Self-Knowledge</i>	Thinking	Seeing
<i>Spirit(Relation)-Knowledge</i>	Speaking	Hearing
<i>Manifestation-Knowledge</i>	Feeling	Touch

Studies of the faculties of human consciousness

At first we have to study our individual faculties of consciousness (including senses). Here we will have to learn how we actually see, hear, speak, think, feel etc., and also how we could do it better. Such courses like: “How to think and to be conscious in our thoughts”, “How to speak and to be conscious in speech”, “How to improve visual memory”, “How to improve mental concentration” etc. could be prepared and offered to all. The major object of these studies is to train our consciousness to act within its faculties. A hint to such an approach we have taken from the Vedanta, where the cognitive faculties (to see, to think, to hear, to speak, to breath and to touch) were seen as the main functions of consciousness. Let us take a brief look into the Vedantic approach to consciousness.

Brahman, according to Taittiriya Upanishad 3.1.2, is described as *annam pranam chakshuh shrotram mano vacamiti*, - matter, breath, sight, hearing, mind, speech. If we examine them in detail, we will see that they also correspond to the higher cognitive capacities of Consciousness, which was perceived by Vedic Rishis and translated into the intuitive language of the Vedas and the Upanishads.

SEEING and HEARING , (Chakshuh-Shrotram), is a constant *dvandva*, pair, in the Vedic texts. “*Chakshuh shrotram ka u devo yunakti?*” “Who is the God who unites Seeing and Hearing?” (*Kena Upanishad 1.1.1*)

- 1) SEEING, DRISHTI, CHAKSHUS, was perceived as a faculty of consciousness which puts us into direct contact with the object. It can be translated in terms of a “direct evidence of the truth”. (There is a Russian proverb: “Better to see once, than to hear a hundred times”, which explains it quite well). *Drishhti* in the Vedas is the ultimate faculty of Consciousness, as a revelation of the Truth. It is of direct and self-evident nature.
- 2) HEARING, SHRUTI, SHROTRAM; if Seeing is direct then Hearing is of indirect nature (as Inspiration, for instance). Without this faculty we may not know the relation of the object we see with other objects we do not see. It is like we see a face which tries to tell us something, but we cannot hear it. We do not understand what it wants from us because the intention is not visible. So much so, everything that is not yet manifest, realised, understood, falls into this domain of Hearing, or “indirect evidence of the Truth”. It is of the nature of the all-pervading Space, Spirit, connecting all into the One Reality.

MANAS and VAK, is another constant *dvandva* in Vedanta: *van me manasi pratishthita mano me vaci pratishthitam*, - “My Speech is established in my Mind, and my Mind is established in my Speech.” (*Aitareya Upanishad 1.1.1*)

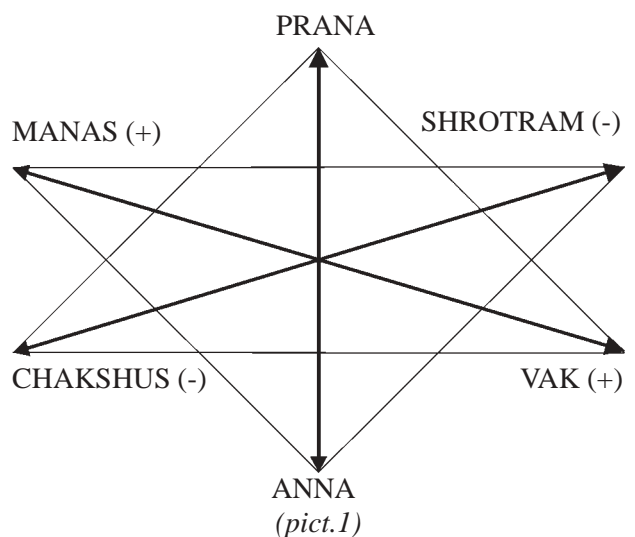
- 3) MANAS, Mind, was perceived by the Vedic seers as the faculty of consciousness equal to Seeing and Hearing and not as their dominant principle, as it was understood later and especially in Sankhya and Yoga. It was considered to be equal to the Word-faculty also, which later was completely submitted and fully dependent on it. In the Vedic paradigm, MANAS was an active counterpart of the perceptive faculty of Seeing, rather than the sixth sense of Sankhya.
- 4) VAK, Speech, was considered to be an independent faculty of Consciousness, having its own power and character. It was seen as an active presentation of the All-pervading Spirit, Hearing. Brahman (*lit.* growing, expanding one) was referred to as Mantra in Rig Veda, and only later as a Spirit.

Thus, these four *chakshus* and *srotram*, *manas* and *vak*, according to the Upanishads, constituted *brahma chatushpad* - “Spirit on four legs” (*Kaushitaki Upanishad* etc.) through which Brahman, the Creator,

was manifested in the world. PRANA very often symbolised the embodiment of Brahman itself, especially in the older Upanishads. It was also understood as the offspring of MANAS, as its father and VAK, as its mother (*Brihadaranyaka Upanishad*). In this way, the process of manifestation of the Spirit in matter was conceived, which made matter animated, *annam* (eatable). Thus we have one more pair: PRANA-APANA, Breathing in and Breathing out, or PRANA-ANNA, Life and Matter (*Prashna and Taittiriya Upanishads*).

There are three pairs constantly mentioned in Upanishads:

- 1) MANAS-VAK, (cp: Agni-Soma in Rig Veda);
- 2) CHAKSHUS- SHROTRAM, (cp: Nama-Rupa in Brahmanas)
- 3) PRANA-APANA, or PRANA-ANNAM (cp: Prashnopanishad)



Seeing and Hearing (Cakshus-Shrotram) are perceptive faculties (see pict.1), marked with (-), whereas Thinking and Speaking (Manas-Vak) are their active counterparts, marked with (+). These four are neutralised or rather realised in the Manifestation of Life and Matter (Prana-Anna). Thinking and Seeing are related to *Rupam*, Form, as the expression of the aspect of Power, whereas Word and Hearing to *Nama*, Name, as the expression of the aspect of Knowledge. These Knowledge and Power are the source for Nama and Rupa, constituting the phenomenon of consciousness in manifestation. It is by these Nama and Rupa that Brahman could enter his creation, according to the old Vedantic texts.

Such an approach to our faculties sheds some light on the profundities of their nature. The major humanitarian subjects also bear their own distinct features which can be identified as those belonging to a particular faculty of consciousness.

Humanitarian studies

The six faculties of our consciousness essentially correspond to the main humanitarian subjects:

- 1) Psychology deals with our subjective processes of thinking and self-evaluation;
- 2) Philosophy deals with our mental faculty to view and to conceptualize;
- 3) Linguistics deals with our subjective faculty of Speech, as a device for communication and self-expression;

- 4) Sociology and History deal with relationships as such: how individual and collective relate to one other, on the scale of space (Sociology) or time (History);
- 5) Art and Culture deal with the subjective refinement of our feelings and senses.
- 6) Science of Nature deals with the Matter as such, the Body in an objective way.

	<i>Subjective</i>	<i>Objective</i>
<i>Self-Knowledge</i>	Psychology	Philosophy
<i>Relation-Knowledge</i>	Linguistics Sociology	Language History
<i>Manifestation-Knowledge</i>	Art Culture	Science

The map of major key-disciplines

	Psychology	Philosophy	History, Sociology	Linguistics, Language	Science	Art,Culture
Psychology	<u>Psychology</u>	Psychology of Philosophy	Psychology of History, Society	Psychology of Language	Psychology of Science	Psychology of Art, Culture
Philosophy	Philosophy of Psychology	<u>Philosophy</u>	Philosophy of History	Philosophy of Language	Philosophy of Science	Philosophy of Art,Culture
History, Sociology	History of Psychology	History of Philosophy	<u>History</u>	History of Language, Literature	History of Science	History of Art, Culture
Language	Language of Psychology	Language of Philosophy	Language of History	<u>Language</u> (Universal Grammar)	Language of Science	Language of Art, Culture
Science	Science of Psychology	Science of Philosophy	Science of History	Science of Language	<u>Science</u>	Science of Art, Culture
Art, Culture	Art of Psychology	Art of Philosophy	Art of History	Art of Language	Art of Science	<u>Art , Culture</u>

Every key-subject can be combined with another subject, giving it a new dimension. For instance: Philosophy of Science, Psychology of Art, History of Philosophy, History of Linguistics, etc. These key-disciplines, of course, may include other subjects and topics into the field of their concern, like, for instance, History of Psychology could include Mythology of Self-discovery (Vedic Mythology, Egyptian Myths, etc.), History of Occultism and Yoga, History of Religion; etc.

So the basic requirements to develop humanitarian consciousness can be defined as follows:

- 1) *Philosophy*: Everyone has to have a metaphysical picture of the world, as a system of mental views or beliefs - a metaphysical paradigm. It includes a hidden hierarchy of understanding of what is first and what is next, what is important and what is less important, and how it constitutes one reality, without which the reality cannot be approached in a rational manner.
- 2) *Psychology*: Everyone has to know oneself to a certain extent and to have a certain personal attitude towards the world. This knowledge of oneself is not in full accordance with one's own metaphysical paradigm. There is a constant ongoing interaction between the two, which correlates, corrects and even changes the mental picture of the world, and vice versa. Without it the reality cannot be approached in a truthful (sincere) manner.
- 3) *Philology*: Everyone has to use some language (outwardly and inwardly). To become conscious of our speech (as an expression of ourselves) and the language (as a system of mental categories by which we think), to know how they function is indispensable for building a metaphysical picture of the world and understanding ourselves psychologically: how our thoughts and feelings relate to our Speech-faculty and how it influences them. Without this knowledge no serious research is possible in either field, and the reality cannot be dealt with in a correct (precise) manner.
- 4) *Sociology*: One has to know one's roots: history, religion, social and national heredity, which state one belongs to, what nation, what community etc., - to know one's own past in order to understand one's present and future. This knowledge is wider than our individual psychology or even philosophical paradigm. It introduces knowledge about relations between individuals and groups in

time and space, beyond our reach. It draws our consciousness to a larger reality of community, country, earth, and finally to the universal and cosmic existence. It brings about the aspect of the Spirit into picture, - a larger reality within and without ourselves. It indicates to us a unifying phenomenon of Space and Time, in which we all live. Without this knowledge, man will not be able to understand his growth and the purpose of his life.

- 5) *Art and Culture*: Cultural phenomenon can be defined as a refinement of all our activities in life in its aspect of Beauty, Harmony, Perfection. It is what the Spirit has already manifested (=conquered), so to say, in Life as a result of a long period of evolution. It is what makes us cultured, without which we would be simply barbarians. It is the aim of creation and that is its path. To develop ourselves fully individually and collectively, we have to learn to manifest Beauty and Harmony, to seek after it, to become it.
- 6) *Science of Nature*: The knowledge of matter is crucial for the understanding of Manifestation. All changes whether philosophical, psychological, philological, social or cultural are possible only in matter. Matter is a foundation and embodiment of any change. It is fixing everything with a certain stability, so that another change can take place. If matter would not be able to fix it, the next step would have no meaning, for it would have no ground to manifest a new change.

Such an approach to humanitarian knowledge, where all major cognitive functions and capacities of our consciousness could be integrally exercised, is a desideratum for modern education. Having identified the nature of different studies with their cognitive faculties of consciousness, the scholars themselves, in their subjective approach, could become the field of research. This self-education then would be direct and effective. The division of subjective and objective approaches to knowledge would have only a classifying value within the field of studies and the humanitarian disciplines would become a means for self-education, necessary to develop Metaphysical, Psychological, Social (Historical), Artistic, Linguistic and Scientific modes of Consciousness, tuning them to the One Consciousness beyond. Such an integral approach might prepare a wider ground for a truer perception of our life, and lead us eventually to a globalisation of our faculties, opening them up to higher possibilities.

A Theoretical Basis for an Aurovilian Economy

Jean-Yves

The aim of its economics would not be to create a huge engine of production, whether of the competitive or the co-operative kind, but to give to men – not only to some but to all men each in his highest possible measure – the joy of work according to their own nature and free leisure to grow inwardly, as well as a simply rich and beautiful life for all.

Sri Aurobindo

The Human Cycle, SABCL, Vol. 25, p. 257

Our ideas on the economy of Auroville are quite vague, we do not have the key of an economy other than that which we know, that is, of a commercial exchange. The social project of Auroville cannot be manifested by means of a commercial exchange since it is based on self-giving. Can we, therefore, find an economy through which human activity could be reorganised in a way happier than the present commercial one prevalent today on our planet?

A Criticism of Commercial Exchange

The classical liberal economy is the expression of a philosophical view of human life: in his search for personal satisfaction the individual must make use of his reason to optimize his satisfaction. Such is the individual goal of human life and such is also the source of collective happiness, since individuals, in managing their respective advantages, end up by complementing each other and by creating an optimum balanced use of the available resources. According to this view, it is of general interest that everyone should behave selfishly and the competitive appropriation of rare and desirable resources be the ethics of *homo economicus*.

This vision, characteristically defines the human being as a being of desire, whose instinct of acquisition is legitimate and whose reason has become nothing more than a calculator of gains and losses. As a result, the goal of an economy's activity is no longer to free man from material servitude by catering to his material needs, but rather to always produce more desirable objects, in order to keep wants alive

from which originates the desire for acquisition. This constant renewing of desire has become the main factor of economic growth and employment, and a greed for profit along with the fear of loss - fuel of financial markets – but, at the same time, the cause of unprecedented wealth for some, at the cost of poverty and economic oppression for others, as well as of great ecological damage. The ancient Upanishadic description of life as food and hunger is given here an unprecedented illustration. Moreover, growth, when based on frustration, desire (*kāma*) and competition, cannot but destroy all ethical norms (*dharma*) which are based on self-control and lordship over the possession of things, because such values limit its development. For, if desire is to find its place at all in human life, it has to be uplifted by ethical and aesthetic ideals. Otherwise, it tends to fall back on its more instinctive and socially destructive forms of selfish acquisition, thus going against social cohesion, against any possible humanness. The long-term viability of such a model, at the level of ecological costs as well as at the level of basic values embedded in any civilisation, is no longer a matter of doubt. What can be a matter of doubt is whether an alternative may exist. Then, what would an economy based on giving look like and what would be its relationship to money?

Money and the desire for acquisition

The instinct of acquisition evolves a strategy of value-increase by holding back: only what is desired by one and held back by another becomes a measurable and negotiable value. In other words, the value of an object, its price, is not its production cost, but its desirability. The more I keep a desired object, the more its value increases. Therefore, whatever is rare becomes valuable since a publicised scarcity will activate the desire to possess it. Something that cannot be possessed has no commercial value. Money comes in as a means to measure the value of desirable things and price is the adjustment between the power not to give (scarcity of the offer) and the intensity of desire (demand). To an economy producing desirable

utilities, money is indispensable to gauge whatever is desirable and to compare desirable values. This system goes along with a call to hedonistic freedom, to decide between several objects of desire. Such a reduced idea of happiness to a free enjoyment of multiple objects is the price paid to this freedom and the race for money its inevitable outcome. As a result, the function of labour becomes geared to the acquisition of an indispensable instrument of freedom to consume: the salary. Thus, by the very fact that the owners can refuse to circulate the money they own, money itself becomes in turn an object of greed and scarcity. As a justification of this power of withholding, Capital is said to be a factor of production, just as Labour is, and therefore it has to be remunerated. What is misconstrued is that it is not the Capital *per se* which is remunerated, but rather its owners, their right to withhold their money instead of circulating it, and this is *not* a factor of production. The refusal to give is here remunerated by interest and dividend; it is a tax levied by egoism for everyone's right to pursue selfish aims for the "so-called" greatest happiness of all. Thus, there is a strong interaction between the desire for acquisition, paid labour and money, by which commercial exchange is defined. An economy based on giving would make the total difference.

Demonetisation and giving

An economy of giving exists in all societies, but it is not accounted for: domestic and volunteer work is a far more important factor of social cohesion than commercial economy and public services. But because it is based on giving, it is never expressed in terms of money. Yet this work is a fundamental part of the social, and it allows the private and public sectors to develop. But, because it is invisible, its contribution to the total created value of production remains unknown.

In an Aurovilian economy, we would observe a similar phenomenon: the added value produced by work, given but not billed, would not appear in the accounts. What would appear would be only the cost of purchased goods and labour; the given labour would remain unassessed. The economy of giving tends to be invisible because it demonetises economy itself. This implies that any link between produced value and monetary remuneration would disappear, and this would become possible only if work would acquire a new function. It would no longer be a servitude,

aiming at getting money needed for the acquisition of desirable things, but rather the place of progress and self-becoming. Only a change of consciousness and of vision would make such a qualitative leap possible, and Auroville was created precisely for this attempt. But is replacing bargaining by mutual giving enough for an alternative model to emerge? When one studies the act of giving as a social link, it does not appear so simple.

A Criticism of an Economy of Mutual Giving

Any act of giving creates *de facto* an obligation, a debt. The payment with money is a way of cancelling the debt and of freeing oneself from the obligation. Suppressing this freedom could send us back to a patronising type of society: some who could give more than others would be in a position of creating a "clientele" of people put under obligation. They would gain in influence and power what they would lose in wealth. Giving is not so simple; there is always a more or less conscious expectation of being given something in return, even if it is only as recognition. This is what may be called the alienating aspect of the giving, to a person or to a group: the more I give the more I am entitled to demand, the more I receive the more I am put in obligation. But this is a denial of the sovereignty of the soul. Evidently, this cannot be a model for Auroville's economy. If giving there is, it must be impersonal, so that it does not create an obligation. Here comes in the need of a transcendence that no group or individual can make his/her own. Ultimately, to what do we owe ourselves? From what do we receive and to what goes our debt of existence? Is not the Transcendent the only guarantor of our freedom and possibilities of becoming? These philosophical questions assume an economic dimension as soon as one wants to manifest them in the material organisation of life. Is it possible to give one's work to That which transcends all mutual obligation between individuals, or between individuals and groups, as an offering to our common transcendence? Is it possible to receive goods and services needed to our development without feeling that we owe them to any human authority? And how shall we define everyone's needs as well as the rules of resources allocation? The answer to these questions requires the examination of the notion of value production and to redefine the function of work in an economy of giving.

The Origin of Produced Value

Any economic unit produces added value (added to a purchase) with labour and tools. Profit can be defined as the part of the added value which remains once the said labour has been remunerated. The more work is organized, the less it is needed for an equal production. Then, there is an increase of value with equal labour. This is what is called productivity. The tendency to replace human beings by machines is an expression of an increased power in organising matter, under the form of automatisms which multiply human labour's productivity. Thus, productivity can be defined as an increased input of information or of consciousness in material manifestation.

The value thus added has to be acknowledged by market forces. This requires a work of imagination, a creative act of consciousness to design new products. Moreover, there are several dimensions to a product that make up its final value in the user's eye. There is, of course, its practical side but, more and more, this side is complemented by vital and mental values which bring it into the realm of the desirable, even of the ideal: products become more and more the support of images, dreams, identifications, immaterial components increasing their commercial value and becoming almost their constituents. The production and distribution of objects and services are now inseparable from a lifestyle, from a social self-image. Ultimately, what is really exchanged, by means of objects, is a way of life, of being, of which material goods are only occasional supports. In an economy, there is an input of information, of meaning, of consciousness. This cumulative input of immaterial values in material ones increases the added value.

Thus, we find, as the source of the added value surplus, productivity and creativity, both being two activities of consciousness. What is remarkable about it is that it is a resource which is multiplied by its use. It is the result of a cumulative investment in education, not a limited resource consumed in the course of the productive process. Its monetarisation, in the form of a salary, is due to the fact that labour has taken up the function of earning income. Competence has thus become an object of desire, of acquisition and consequently of monetarised evaluation, but there is not necessarily a link between work and money. In fact, the reduction of knowledge to a technological competence is an impoverishment

of man's creative possibilities. The giving up of one's self-determination and free invention of the world is often the price paid for an economic integration in our commercial society. In a society based on giving, the ultimate purpose of work is different, it does not demand self-abdication.

A Redefinition of Work

In a learning or aspiring society, work is first and foremost a field of progress: to stop meeting others and the world is to stop becoming. If work is to find its true function, it has to be completely dissociated from a salary, freed from its enslavement to the production of desirable utilities. It must be linked to self-education, through which it increases its capacity of manifesting consciousness which, as we have seen, is the origin of the created value surplus.

If we go back to the Vedic conception of work, we find that sacrifice (*yajna*) is considered a process of self-becoming. Any energy of my nature offered to That which is greater than myself makes me grow in knowledge, power and joy. In ancient Indian psychology, this was identified with a descent of the gods in response to the sacrifice and the ascent of man into the realms of the gods. This being an endless growth, the human being was considered a place of constant becoming rather than of a fixed nature, ascending towards an ever-transcendent status. That is why the sacrifice of works must be offered to a transcendence and not to the collectivity; so that it will not be self-immolation but self-accomplishment. Redefined in such terms, an economy of self-giving opens onto a becoming and an endless self-education. There is a necessary link between self-giving, demoneterisation and self-education.

A society whose aim is "a constant progress, an endless education and a youth that never ages", would discover anew this principle and would view work in terms of education and progress, for that would be the shortest way to increase in a cumulative way its possibilities of endogen development. In such a context, any rating of work in terms of productivity only would be counterproductive, for learning implies experimenting, discovering, inventing. This would imply getting rid of all our mechanisms of sanction, judgment, exclusion. From this point of view, this is an anti-idealism: its method is essentially pragmatic and experimental. To remain always in a state of

constant progress is the only question we are required to answer. The enslaving link between work and the production of desirable utilities would then be broken; what would be freed is a process of constant progress, a true process of true development.

Such a possibility to progress endlessly, to increase one's capacity of self-discovery and of self-mastery, is the main remuneration and reward of work, its natural outcome, and this is priceless. The freedom to embark on a journey of self-discovery and self-perfection is a luxury money cannot buy and the main wealth of Auroville. For many in the outside world it is an inaccessible dream. Although desirable greed cannot possess it, for this dream requires giving up the utilitarian freedom to buy everything in order to enjoy everything at a minimal cost. That is why this

ideal cannot be imposed, it finds its true value only when freely chosen. What must be "sacrificed" is the attachment to a "freedom" which enslaves us to the objects of desire and their possession by means of money, so that we may be born to a greater freedom.

The fact that this economy can only be manifested when it is freely chosen implies a coexistence with the commercial one. Then would there be a possibility to compare the output of each model in terms of development and costs. Our bet is that such a society based on the search for constant progress, in which labour costs are disconnected from increasing productivity is, in the long run, a winner - whatever its humble beginnings. It would probably be the forerunner of the only viable model that can really be extended to all human beings on the planet.

... The power of money is at present under the influence or in the hands of the forces and beings of the vital world. It is because of this influence that you never see money going in any considerable amount to the cause of Truth. Always it goes astray, because it is in the clutch of the hostile forces and is one of the principal means by which they keep their grip upon the earth. The hold of the hostile forces upon money-power is powerfully, completely and thoroughly organised and to extract anything out of this compact organisation is a most difficult task. Each time that you try to draw a little of this money away from its present custodians, you have to undertake a fierce battle.

And yet one signal victory somewhere over the adverse forces that have the hold upon money would make victory possible simultaneously and automatically at all other points also. If in one place they yielded, all who now feel that they cannot give money to the cause of Truth would suddenly experience a great and intense desire to give. It is not that those rich men who are more or less toys and instruments in the hands of the vital forces are averse to spend; their avarice is awake only when the vital desires and impulses are not touched. For when it is to gratify some desire that they call their own, they spend readily; but when they are called to share their ease and the benefits of their wealth with others, then they find it hard to part with their money. The vital power controlling money is like a guardian who keeps his wealth in a big safe always tightly closed. Each time the people who are in its grasp are asked to part with their money, they put all sorts of careful questions before they will consent to open their purses even a very little way; but if a vital impulse arises in them with its demand, the guardian is happy to open wide the coffer and money flows out freely. Commonly, the vital desires he obeys are connected with the sex impulses, but very often too he yields to the desire for fame and consideration, the desire for food or any other desire that is on the same vital level; whatever does not belong to this category is closely questioned and scrutinized, grudgingly admitted and most often refused help in the end. In those who are slaves of vital beings, the desire for truth and light and spiritual achievement, even if it at all touches them, cannot balance the desire for money. To win money from their hands for the Divine means to fight the devil out of them; you have first to conquer or convert the vital being whom they serve, and it is not an easy task. Men who are under the sway of vital creatures can change from a life of ease, cast away enjoyment and become intensely ascetic and yet remain just as wicked as ever and even by the change turn worse than before.

The Mother
Questions and Answers 1929-31, pp. 45-46

Renewable Energy in Auroville

Jos van den Akker and Judith Lipp

Auroville wants to be the bridge between the past and the future. Taking advantage of all discoveries from without and from within, Auroville will boldly spring towards future realisations.

Auroville Charter

Introduction

Auroville Universal Township, founded on a vision for human unity, has been growing into a place of peace and stewardship since its beginnings in 1968. This community is showing what it means to live and work in harmony with nature and each other. Arising from Auroville's adherence to principles of collective and harmonious living, renewable energy development and implementation have come to feature strongly in the community. On its projected 2000 hectare site, the community can boast many renewable energy applications, including electricity generation from an assortment of solar PV installations, wind and solar water pumping, domestic biogas digesters and a large solar concentrator for communal cooking. In addition there are numerous local enterprises in Auroville which have between them over 50 years of renewable energy expertise which they apply within the community and 'export' beyond. This is the story of the renewable energy activities in Auroville.

The vision is for a community of 50,000 people but at a slow growth rate to allow the community to absorb and accommodate all new citizens. There is a strong environmental focus within the community. Land regeneration and reforestation were some of the earliest activities undertaken to revitalise the area, which had been severely eroded. Any developments in Auroville emphasise low impact and natural techniques and so the community provides an excellent display of various low-cost, low-tech and low-impact building, living and livelihood applications. One of the many areas that has found favour in the community is renewable energy (RE).

Renewable Energy Use in Auroville

The history of RE in Auroville goes back to 1972, when the first windmills for water pumping were erected. These windmills were discarded remains from a failed Government project and offered to Aurovilian settlers free of charge. Robi Trunz recalls: "in those early days I found myself pumping water with a hand-pump. Every day that took me 2-3 hours. I was thinking that there must be a more efficient way of doing this and I started investigating using wind to do the job". This investigation, over many years, eventually led to the development of the AV55 model. This windpump has been scrutinised in an international cost-comparison study and has been found to be, by far, the most cost-effective wind pump in India and possibly the world.

In the early days of Auroville, before the community was connected to the electricity grid, solar photovoltaics (PV) made its debut appearance in the community. The year was 1980 when the first PV panel was hand-carried into the country by an intrepid Aurovilian who desperately wanted some electrical power to light up his house. Airport customs officials were very suspicious of the strange-looking glass plate he was carrying, but finally let him through after much explanation. Today, more than 200 households in Auroville use solar energy for their electrical power supply and/or water heating. The total installed PV capacity of Auroville is estimated to be about 250 kW_p, while the installed solar water heating capacity is in the order of 12,000 litres per day. Apart from lighting, solar PV energy in Auroville is used extensively for water pumping.

A more concerted effort toward the application of RE technologies in Auroville came in 1984, when the Centre for Scientific Research (CSR) was established. Its aim was to pioneer various sustainable technologies, including renewable energy (i.e. wind, solar and biogas), and develop these for wider use by people living in Auroville and the surrounding villages. In 1997, CSR completed its first major RE

project in Auroville, installing a 36.3 kW_p solar PV power plant. Built in a record 29 days, it was one of the first of its kind in India. After more than 6 years of trouble-free operation, this solar plant continues to generate an average of 130 kWh per day, supplying the Matrimandir with a clean, reliable source of power.

Two years later CSR embarked on another major demonstration project, the Solar Bowl, installed at Auroville's collective kitchen, the Solar Kitchen. This 15 meter diameter, inclined, spherical solar concentrator is integrated into the roof of the Solar Kitchen. The bowl's sub-structure is assembled out of 96 prefabricated ferro-cement segments, on the inside covered with 11,000 small mirrors. Walls of compressed earth blocks support the entire structure. A solar tracking receiver probe is suspended above the bowl, which is automatically kept in the focal point at all times by a computer controlled steering mechanism. The Solar Bowl has a thermal output capacity of 75 kW, generating enough steam to cook about 1200 meals on a clear day. The system has two diesel-fired heaters to provide back-up on cloudy days. In 1999, when the Solar Bowl was commissioned, it was India's largest solar cooker. Both solar R&D projects were funded by the Ministry of Non-conventional Energy Sources (MNES), India's dedicated RE ministry.

Another RE application that found in Auroville is biogas digesters. CSR developed a biogas digester made out of ferro-cement, and some 20 of these are operational in Auroville itself. Another 150-odd have been installed outside Auroville, including on the remote Andaman & Nicobar Islands.

Renewable Energy Enterprises

In keeping with Auroville's original intent as a place of experimentation, learning, and teaching, the knowledge and experience gained is shared beyond the community and made accessible to others who want to learn. This applies as much to the RE experience in Auroville as everything else. Various small enterprises active in designing, manufacturing, integrating, installing and maintaining RE systems and system components have sprung up over the years. The main ones are introduced here.

Aureka is a mechanical workshop in Auroville, started in 1986. Aureka produces vastly improved versions

of those first windmills that started the RE history of Auroville, and has installed over 30 windmills in Auroville itself, with another 60 in various parts of India. Employing about 70 people full time, Aureka also produces earth construction equipment, organic waste shredders and track racks for solar PV pumping systems.

Auroville Energy Products (AEP) was founded in 1996 by German electronics engineer Carsten Michelsen. AEP focuses on high quality and efficient electronic control components for renewable energy systems such as solar charge controllers and solar hybrid (wind / hydro) controllers.

Auroville Solar Service is a small unit responsible for checking the many battery banks in Auroville on a monthly basis. The history of each battery is recorded on a chart so its condition can be monitored over time. Besides this essential maintenance work, Solar Service does installations of small solar home systems for Aurovilians.

Auroville Wind Systems (AWS) specializes in power generation from wind electric generators. AWS manufactures and sells wind battery chargers (WBC) in the 1.5 – 10 kW rated output range. These systems find application in small, remote communities where the utility grid does not extend. WBCs are often installed in combination with solar power or diesel generators. AWS has installed Wind-Hybrid Systems in many Indian states, including Tamil Nadu, Gujarat, Sikkim, Ladakh and West Bengal. AWS is the first company in India to offer an entirely indigenously manufactured wind battery charger – the AWS 1500 Watt – manufactured in Auroville. A bigger 5000 Watt version is under development.

Auroville Renewable Energy (AURORE) is one of the units operating under Aurore Trust. AURORE was established in 1997 to manage the commercial RE activities which develop out of CSR's various research activities. AURORE has concentrated on making RE technologies, in particular solar PV and solar thermal, accessible and affordable for as many people as possible inside and outside Auroville, in rural as well as urban environments. In line with the exponential world-wide growth of solar, AURORE has expanded fast, from just 2 people in 1999, to 12 full-time staff at present.

Over the years AURORE has developed a particular expertise in solar water pumping systems, installing more than 1,000 of these systems all over India, with a total installed capacity of more than 1.6 MW. In close co-operation with Aureka a 2-axis manual solar tracker has been developed to maximize solar gain. These track racks have been gradually improved and enlarged and are now capable of carrying 900 W_p of solar modules each. The design has been so successful that it is now being widely copied by other suppliers.

Conclusion

For a small place and through many small actions, Auroville has big dreams and has achieved big things. It still has a long way to go before it reaches the ideal of being fully self-sustaining in its energy provision, but every day small steps are taken in that direction. What is more important though is that the example Auroville is trying to give to the outside world gets replicated world-wide, and will start transforming our future in a positive, sustainable way.

In the West the highest minds are turned not towards spiritual truth but towards material science. The scope of science is very narrow, it touches only the most exterior part of the physical plane.

And even there, what does science know really? It studies the functioning of the laws, builds theories ever renewed and each time held up as the last word of truth! We had recently the atomic theory, now comes the electronic.

There are, for instance, two statements of modern science that would stir up deeper ranges for an occultist:

- 1. Atoms are whirling systems like the solar system.*
- 2. The atoms of all the elements are made out of the same constituents. Different arrangement is the only cause of different properties.*

If these statements were considered under their true aspect, they could lead science to new discoveries of which there is no idea at present and in comparison with which the present knowledge is poor.

According to the experience of ancient Yogis, sensible matter was made out of five elements, Bhutani: Prithivi, Apas, Agni (Tejas), Vayu, Akasha.

Agni is threefold:

- 1. Ordinary fire, Jada Agni,*
- 2. Electric fire, Vaidyuta Agni,*
- 3. Solar fire, Saura Agni.*

Science has only entered upon the first and the second of these fires. The fact that the atom is like the solar system could lead it to the knowledge of the third.

Beyond Agni is Vayu of which science knows nothing. It is the support of all contact and exchange, the cause of gravitation and of the fields (magnetic and electric). By it, the action of Agni, the formal element, the builder of forms, is made possible.

And beyond Vayu is the ether: Akasha.

But these five constitute only the grossest part of the physical plane. Immediately behind is the physical-vital, the element of life buried in matter. J. C. Bose is contacting this element in his experiments. Beyond is the mind in matter. This mind has a far different form than the human mind, still it is a manifestation of the same principle of organisation. And deep below there are two more hidden layers....

That is the occult knowledge concerning the physical plane only. Science is far behind this knowledge.

The Hindu Yogis who had realised these truths did not elaborate them and turn them into scientific knowledge. Other fields of action and knowledge having been open before them, they neglected what for them was the most exterior aspect of the manifestation.

There is a difference between the scientific mind and the cast of mind of an occultist. There is little doubt that one who could unite these two groups of faculties would lead science towards great progress.

Extract from a talk of Sri Aurobindo with a French Scientist Disciple, 8 May 1926
Questions and Answers 1953, pp. 67-68

Value–Oriented Education in Transition School

Mary Kapur

Transition School, a primary and middle school for the children of Aurovilians and Newcomers, aims to create a learning environment that nurtures the inner development of the children and at the same time help each child to develop and refine the physical, vital and mental faculties according to his/her stage of development. The value-oriented program is the foundation of all of our work, and is integrated throughout the curriculum and in the physical and psychological environment of the school. The classes and the activities offered are all viewed as tools for self-discovery, as well as opportunities for the children to learn to express themselves. They are based on principles that lead to the development of desirable qualities and values. Practices and methods that heighten observation, concentration, self-awareness and creativity are used, and themes such as truth, fraternity, freedom, and progress are introduced so that our children can develop and really explore a sense of values. Special care is taken that material used (books, videos, computer programs) reflect a value-oriented approach.

Comprehensive Value Education

In our attempt to create a comprehensive value-oriented education we use many different approaches. We understand that it is not enough for children to hear about values; to really learn about values, they must experience them at many different levels. Only then will they be able to really make them their own.

- It is important that the children understand what the value is; the meaning of the word. When the value is first presented, the children are helped to define the word, to reflect on it and to think about what it means in their own lives and in their relationships with others.
- We also offer opportunities that encourage the children to develop feelings or emotional commitment to values. Visualisation, imagination and intuition play an important role in the development of children and in the understanding of values. To imagine a world of “Peace” or a world without “Respect” makes the values more relevant to children. In a nurturing environment they grow

- to have the capacity to want to think and behave in ways that demonstrate a commitment to values and to feel good about it, and at the same time develop a desire to change undesirable behaviour patterns.
- Teachers carefully observe the children and offer opportunities to live values, to learn to make decisions and act in ways that are in harmony with values, and to experience and understand the consequences of their decisions and their behaviour. Concrete instances in the day-to-day life at school offer many possibilities to observant teachers. When values are concrete and tangible, real to lives of the children, the children are likely to develop the qualities that lead to positive character development.

Some of the methods and activities that are part of the Transition School value-oriented program are described here. Our students range in age from six to fifteen and we are conscious that children have different needs and see and understand ideas and situations differently at different stages of their development; teachers modify the program to fit the needs of their students. Suggestions and methods are organized under the following headings:

- Integration in the atmosphere and program
- Role modeling
- Teacher facilitation
- Lessons and curriculum

Integration in the school climate and program

The value-oriented program is integrated throughout the whole school and the atmosphere that we try to create. Beauty and harmony in the natural environment is very important. We are very fortunate to have a large campus with trees, flowers and plenty of space for the children to play. The classrooms are comfortable and light, and special attention is paid to keep them clean and attractive. Children’s work is carefully displayed.

We strive for a peaceful, concentrated classroom and school environment, where students and teachers respect the rights of each other to learn and progress

in an atmosphere of protected freedom. Classes often begin with a minute of silence or concentration exercises. The children participate in forming the classroom guidelines and are expected to adhere to them. Positive disciplinary methods are stressed; there should be no fear, but rather a growing awareness that we work within the guidelines for the good of all. Competition is generally not encouraged as we hope to help the children learn to work together, to appreciate each other and to learn to become aware of their own progress. The children are encouraged to do their best, and at the same time be aware of and respect their own and others' strengths and weaknesses, and methods of assessment reflect this attitude.

The children learn to assess their own work, to see their progress and to identify areas that need attention. The teacher, as an observer and guide, takes all opportunities to speak individually to the children and to encourage them. It is important for the teacher to get to really know each child so that they can help them with their growth and development. Everybody is assessed in regard to his/her own progress and a portfolio is kept for each child. The portfolio is an individualized and participatory method of assessing the child's work. Teachers and children both select samples of the children's work and write comments about the selections. The portfolio reflects the child's progress from year to year. Throughout the year parents are invited to the school to meet the teachers and to look at the child's portfolio with the child.

The children contribute to the school in many ways; this contribution is a training in values. Some of the things that the children offer to the school are: serving lunch, cleaning their classrooms, doing clean-up duty after snack, helping on the playground and growing sprouts to supplement their lunch.

Role Modeling

We, as teachers and as a team, know that if we want to guide the students and help them develop desirable qualities, we must always strive to embody these qualities and live the values openly. The teachers are mainly Aurovilians; we have made the choice to live in Auroville and try to live up to the ideals of the Charter of Auroville. We share our ideals with the children. We are a teacher-run school; we have no hierarchy. The children are aware of this and they respect and understand the teamwork, the co-operation and collaboration of the team of teachers. In addition, when teachers feel supported and part of

the collectivity of the school, their qualities and values emerge, enhancing a nurturing teacher-student relationship. New teachers observe classes before beginning to teach in order to understand the emphasis that we place on the student-teacher relationship. A teachers' code of conduct has been developed that keeps the Auroville Charter alive and present.

Teacher Facilitation

Teachers actively facilitate and offer opportunities for students to explore their own values, learn to express them and to solve problems. Teachers present subjects in a way that illuminates the values and try always to transmit values by their manner of presenting the subject and conducting the class.

In class meetings and discussions students are encouraged to face problems that they may encounter in the group, to take responsibility for actions and try to solve these problems. As they have made the guidelines themselves, these meetings lead to self-reflection and greater awareness. Class meetings are not only based on problem solving, but also create opportunities to learn how to discuss all kinds of personal value issues that they meet in life. Through discussion, they learn to express themselves, listen to others' ideas and to make informed decisions. Thinking before acting is constantly stressed. We hope that by creating this opportunity for discussion and forming opinions the children become aware that they have the power to change and to create a better world. The children are also given chances to do something for the school. In addition to the examples given previously, the oldest students organize and facilitate the Monday morning assembly when the whole school gathers to start the week together.

Lessons and School Program

Values are consciously and deliberately included in the school program. This is done in many ways and through all subjects.

- Reading material (fiction, non-fiction and poetry), teaching material, videos and computer software are chosen carefully with the aim of enhancing principles and values. Teachers keep records of material that they have used that is especially interesting; these records are shared and are now being compiled to share with others. Among other things, this list includes stories, biographies, poetry, plays, writings of historical events, articles and books about ecology and other aspects of science

and scientific endeavors .

- Art and Music are essential to the program. In Transition school we offer a comprehensive and progressive music program that gives the children the experience of harmony, of working for perfection and developing a sense of beauty and creativity. The fact that the work is done in a group helps the children to develop respect for each other as well as encouraging qualities such as patience, calmness and co-operation.
- The children are taught specific exercises and techniques to aid them in their self-exploration. Relaxation, visualization, focusing and expressing feelings are encouraged and included throughout the program. All of the children participate in the *Awareness through the Body* program. As the name of the program indicates *Awareness through the Body* aims to develop awareness using the body as a starting point. The program is adjusted to the age and capabilities of the individuals. The program starts in Kindergarten. At this level the children are exposed through play to the values of truth, wonder, patience, self-observation, and self-control. They start also discovering and training the senses.

When the children arrive at Transition school, we add respect, responsibility, trust, self-confidence, aspiration for perfection, endurance, will power, calmness, peace, and perseverance. The children develop these values gradually, getting deeper into

them over the years they stay in the school. The emphasis on the witness attitude is a common thread that runs through all the years the children spend in Transition. We propose exercises to the children that offer opportunities for them to learn to be true to themselves.

- Expectations for the students are high. We have seen that when we have high and reasonable expectations of students they will generally respond and act according to the expectations. If we believe that the students will develop good character and values they will.

Sometimes the whole school works together on a theme to explore a value. Some of the themes we have worked on are Truth, Fraternity, Responsibility, Gratitude, Respect and Harmony. Since the beginning of Transition School, a value-oriented approach has been underlying all of our work. This is natural, as the underlying aim in Transition school is to try to realize the teachings of Sri Aurobindo and the Mother, and education in itself should be by definition Value-oriented. Still, the all school projects, centered on a chosen value, are part of our new development. These projects have proven to be a wonderful way to link all of our work and in addition, they are popular with the children. We are already planning the theme for the next year as we believe that all of us, students and teachers, have grown through the work.

There are other parents who know that their children should receive education and try to give it. But very few among them, even among those who are most serious and sincere, know that the first thing to do, in order to be able to educate the child, is to educate oneself, to become conscious and master of oneself so that one does not set a bad example to one's child. For it is through example that education becomes effective. To say good words, give wise advice to a child has very little effect, if one does not show by one's living example the truth of what one teaches. Sincerity, honesty, straightforwardness, courage, disinterestedness, unselfishness, patience, endurance, perseverance, peace, calm, self-control are all things that are taught infinitely better by example than by beautiful speeches. Parents, you should have a high ideal and act always in accordance with that ideal. You will see little by little your child reflecting this ideal in himself and manifesting spontaneously the qualities you wish to see expressed in his nature. Quite naturally a child has respect and admiration for his parents; unless they are quite unworthy, they will appear always to their children as demigods whom they will seek to imitate as well as they can.

With very few exceptions, parents do not take into account the disastrous influence their defects, impulses, weaknesses, want of self-control have on their children. If you wish to be respected by your child, have respect for yourself and be at every moment worthy of respect. Never be arbitrary, despotic, impatient, ill-tempered. When your child asks you a question, do not answer him by a stupidity or a foolishness, under the pretext that he cannot understand you. You can always make yourself understood if you take sufficient pains for it, and in spite of the popular saying that it is not always good to tell the truth, I affirm that it is always good to tell the truth, only the art consists in telling it in such a way as to make it accessible to the brain of the hearer. In early life, till he is twelve or fourteen, the child's mind is hardly accessible to abstract notions and general ideas. And yet you can train it to understand these things by using concrete images or symbols or parables. Up to a sufficiently advanced age and for some who mentally remain always children, a narrative, a story, a tale told well teaches much more than a heap of theoretical explanations.

The Mother
On Education, pp.10-11

Meetings

The Mother

What is my place in the universal work?

We all have a role to fulfil, a work to accomplish, a place which we alone can occupy.

But since this work is the expression, the outer manifestation of the inmost depth of our being, we can become conscious of its definitive form only when we become conscious of this depth within ourselves.

This is what sometimes happens in cases of true conversion.

The moment we perceive the transfiguring light and give ourselves to it without reserve, we can suddenly and precisely become aware of what we are made for, of the purpose of our existence on earth.

But this enlightenment is exceptional. It is brought about within us by a whole series of efforts and inner attitudes. And one of the essential conditions if we want to achieve and maintain within ourselves these attitudes, these soul-states, is to devote part of our time each day to some impersonal action; every day, we must do something useful for others.

Until we know the essential thing we are intended to do, we must therefore find a temporary occupation which will be the best possible manifestation of our present capacities and our goodwill.

Then we shall give ourselves to this occupation with conscientiousness and perseverance, knowing that it may well be only a stage and that with the progress of our ideal and our energies, we shall certainly one day be led to see more clearly the work we must accomplish. To the extent that we lose the habit of referring everything to ourselves and learn more and more to give ourselves more completely, with greater love, to earth and men, we shall see our horizons widen and our duties become more numerous and clear.

We shall find that our action follows a general line of progression determined by our own particular temperament.

Indeed, the successive occupations we shall hold before we become conscious of the definitive form of our action will always point in the same direction, be of the same type and mode, which is the spontaneous expression of our character, our nature, our own characteristic vibration.

The discovery of this tendency, this particular orientation, should come about quite naturally; it is a matter of taste and free choice, beyond all outer selfish considerations.

People are often blamed for choosing an action for themselves which does not correspond to their abilities. There is a slight confusion here.

Those who freely set out to accomplish their own favourite work cannot, in my opinion, be on the wrong track; this work must surely be the expression of their own particular tendency. But their mistake lies in wanting to accomplish this work all at once in its entirety, in its integrality, in depth and above all on the surface, forgetting that the very conception of the work is imperfect as they are imperfect and that to be wise, they should add to the knowledge of what they wish to do the more immediate and practical knowledge of what they are capable of doing at the present moment.

By taking both these factors into account, they can employ themselves with a minimum waste of time and energy.

But few people act with so much insight and wisdom. And it very often happens that one who is seeking his way falls into one of these two possible errors:

Either he takes his desires for realities, that is, he overestimates his present strength and capacity and imagines that he is capable of immediately assuming a place and a role which he can honourably fulfil only after many years of methodical and persevering effort.

Or he underestimates his latent powers and deliberately confines himself, in spite of his deeper aspirations, to a task which is far beneath his abilities

and which will gradually extinguish within him the light that could have shone for others.

It seems difficult at first to steer clear of these pitfalls and find the balanced way, the middle way.

But we have a sure pointer to guide us.

Above all, whatever we undertake should not be done for the purpose of self-assertion. If we are attached to fame and glory, to the esteem of our peers, we are soon led to make concessions to them; and if we seek any opportunity to admire ourselves, it becomes easy to make ourselves out to be what we are not, and nothing more obscures the ideal within us.

We should never tell ourselves, openly or indirectly, "I want to be great, what vocation can I find for myself in order to become great?"

On the contrary, we should tell ourselves, "There must certainly be something I can do better than anyone else, since each one of us is a special mode of manifestation of the divine power which, in its essence, is one in all. However humble and modest it

may be, this is precisely the thing to which I should devote myself, and in order to find it, I shall observe and analyse my tastes, tendencies and preferences, and I shall do it without pride or excessive humility, whatever others may think I shall do it just as I breathe, just as the flower smells sweet, quite simply, quite naturally, because I cannot do otherwise."

As soon as we have abolished within us, even for a moment, all egoistic desires, all personal and selfish aims, we can surrender to this inner spontaneity, this deep inspiration which will enable us to commune with the living and progressive forces of the universe.

The conception of our work will inevitably grow more perfect as we grow more perfect ourselves; and to realise this growing perfection, no effort to exceed ourselves should be neglected, but the work we perform must become always more and more joyful and spontaneous, like water welling from a pure spring.

14 May 1912
Words of Long Ago

This then is the true relation between divine and human knowledge; it is not a separation into disparate fields, sacred and profane, that is the heart of the difference, but the character of the consciousness behind the working. All is human knowledge that proceeds from the ordinary mental consciousness interested in the outside or upper layers of things, in process, in phenomena for their own sake or for the sake of some surface utility or mental or vital satisfaction of Desire or of the Intelligence. But the same activity of knowledge can become part of the Yoga if it proceeds from the spiritual or spiritualising consciousness which seeks and finds in all that it surveys or penetrates the presence of the timeless Eternal and the ways of manifestation of Eternal in Time. It is evident that the need of a concentration indispensable for the transition out of the Ignorance may make it necessary for the seeker to gather together his energies and focus them only on that which will help the transition and to leave aside or subordinate for the time all that is not directly turned towards the one object. He may find that this or that pursuit of human knowledge with which he was accustomed to deal by the surface power of the mind still brings him, by reason of this tendency or habit, out of the depths to the surface or down from the heights which he has climbed or is nearing, to lower levels. These activities then may have to be intermitted or put aside until secure in a highest consciousness he is able to turn its powers on the mental fields; then, subjected to that light or taken up into it, they are turned, by the transformation of his consciousness, into a province of the spiritual and divine. All that cannot be so transformed or refuses to be part of a divine consciousness he will abandon without hesitation, but not from any preconceived prejudgment of its emptiness or its incapacity to be an element of the new inner life. There can be no fixed mental test or principle for these things; he will therefore follow no unalterable rule, but accept or repel an activity of the mind according to his feeling, insight or experience until the greater Power and Light are there to turn their unerring scrutiny on all that is below and choose or reject their material out of what the human evolution has prepared for the divine labour.

Sri Aurobindo
The Synthesis of Yoga, pp. 135-136

Discoveries of Science III

Sri Aurobindo

Our science is an abstract cold and brief
That cuts in formulas the living whole
It has a brain and head but not a soul:
It sees all things in outward carved relief.

But how without its depths can the world be known?
The visible has its roots in the unseen
And each invisible hides what it can mean
In a yet deeper invisible, unshown.

The objects that you probe are not their form.
Each is a mass of forces thrown in shape.
The forces caught, their inner lines escape
In a fathomless consciousness beyond mind's norm.

Probe it and you shall meet a Being still
Infinite, nameless, mute, unknowable.

Collected Poems