Universal Mind

Brian Josephson

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Brian Josephson was only thirty-three years old when he won the Nobel Prize in 1973. His award-winning work on superconductivity, carried out when he was still a graduate student, in the early sixties, marked him as the ultimate science prodigy, a man whose career in physics knew no bounds.

Yet today Josephson has left mainstream physics far behind. He describes his current research interests as "higher states of consciousness and the paranormal, intelligence, and language." His primary goal: to develop a theory that synthesizes the work of Western theorists like Jean Piaget with that of the Maharishi Mahesh Yogi. (Josephson began to practice transcendental meditation in 1970, and in 1979 he started the more advanced TM-Sidhi program, which is said to develop the student's paranormal powers. He now meditates a couple of hours each day.)

Josephson is a small, wiry Welshman. Born in Cardiff, he earned his doctorate at Cambridge University in 1964, two years after publishing his breakthrough paper. His manner is shy and retiring, a striking contrast to both his awesome scientific accomplishments and his unconventional taste for the paranormal.

Now forty-four, Josephson maintains that he is "not doing anything different from what scientists have done in the past." He is just using an extra instrument, the "meditative experience," to gain new ideas

Photograph: Robert Dowling

about the structure of reality, which he will then attempt to test in more orthodox ways.

If Josephson is open to subjects that some of his colleagues find odd, it may be because his early research confronted him with the unexpected, even the bizarre. He had been studying superconductors — materials that, when chilled to at least −422°F, lose resistance, allowing electric current to pass through at ultrahigh speed. He tried to calculate what would happen to the electricity if it ran into a barrier, or junction, in this case a layer of insulating oxide separating two adjacent superconductors. Common sense implied that the current would be stopped cold, just as a speeding car is stopped by a tree or brick wall. But his equations told a different story: electrons would tunnel right through the barrier, impenetrable though it seemed. Josephson's calculations predicted another oddity as well: the direction and speed of these electrons would be powerfully affected by subtle shifts in magnetic field.

Josephson's fantastical discovery has momentous implications for technology. Already, the junctions are being used to measure minute changes in magnetic fields, allowing scientists to detect anomalies of the human heart, subtleties of the brain, and far-infrared radiation from distant galaxies. More important, these superconducting junctions can serve as superfast computer switches, with magnetic controls steering electronic signals from one circuit to another. Such computers would function twenty times faster than the fastest computers in use today, says Josephson. And because superconducting devices require so little energy, a few million switches would consume only a few watts. Thus, they could be packed together as tightly as fabrication technology allows, leading to more computing power in a smaller space than ever before.

Though Josephson junction switches are not yet in use, Bell Laboratories is studying the technology, and IBM reportedly has spent $100 million to develop a computer based on it.

Psychologist and science writer John Gliedman interviewed Josephson in 1982 in the physicist's cluttered office at Cambridge University's Cavendish Laboratory. Their conversation ranged from the lapidary world of physical theory to the intangible realm of psychic phenomena. The story of Josephson's work and personal metamorphosis continued into the night as the two picked their way across footpaths and fields made icy by England's worst blizzard since 1948. I took up

the trail in Cambridge, Massachusetts, long after the snow had melted, in 1983. This time the discussion took place in a large old house bought by Josephson's sister-in-law and her husband. Because the furniture had not yet arrived, we sat on beach chairs in a bay-windowed room full of boxes. Josephson's red-haired daughter, Miranda, four years old, played on pillows nearby. A synthesis of the two interviews follows.

OMNI: Professor Josephson, what exactly is superconductivity?

JOSEPHSON: As you cool a metal or other material, its electrical resistance falls toward a lower limit. However, in many pure metals and metallic compounds all electrical resistance abruptly vanishes at a critical transition temperature. This is never higher than minus 422 degrees Fahrenheit and often is much lower. Once a conductor enters the superconducting state, it will sustain a current indefinitely.

OMNI: How does your own work in superconductivity fit into this picture?

JOSEPHSON: I tried to calculate what would happen if you connected two superconductors with a very thin layer of insulating oxide. According to quantum mechanics [the theory that explains the behavior of subatomic particles], only a small number of electrons should have penetrated through. But to my great surprise, my equations predicted that an *appreciable* current would flow between the two metals, even when there was no voltage difference between them. This, in a sense, is comparable to an automobile going over a hill even if it doesn't have the fuel to propel it. In other words, it's a weird effect of the sort never seen in the world we're *used* to perceiving.

OMNI: Let's see if I can put it another way. At room temperature, an electrical current flows only where there is a voltage difference, just as water flows through a garden hose connecting two swimming pools only if one pool is higher than the other. Is that correct?

JOSEPHSON: Yes. The big surprise was that there could be an appreciable current flow even when the two swimming pools were level with each other — when there was no voltage difference between the superconductors. This was my basic discovery. Previously it had been thought that any such effect would be extremely small.

OMNI: Were you able to confirm your equation's unexpected prediction quickly?

JOSEPHSON: No. I tried to look for these supercurrents, as we now call them, and I failed. Later, other experiments were successful in demonstrating the supercurrent.

OMNI: Why was the discovery so important?

JOSEPHSON: Well, the equations also predicted that electrons flowing across the insulation, or the Josephson junction, would be exquisitely sensitive to magnetic fields, and the experiments confirmed that. This has turned out to have practical applications, such as measuring the magnetic field of the heart. Josephson junctions also allow one to detect very weak electromagnetic signals in the infrared frequencies, which are not easy to handle with other kinds of equipment.

OMNI: Many scientists believe that it will soon be possible to build high-speed computers based on the Josephson junction. Can you explain how they will work?

JOSEPHSON: They will use a magnetic field to control the current flow across the junctions. An increasing and decreasing magnetic field can switch a current on or off extremely quickly, on the order of a hundred billionths of a second. A computer using Josephson junction switches may be twenty times faster than one using the best competing technology. Another advantage is that very little heat is generated by a Josephson junction switch. This allows you to pack computer components more closely without producing enough heat to impair the computer's reliability. A computer based on Josephson junction switches could be as powerful as the most sophisticated present IBM model, yet fit into a cube six inches on a side.

OMNI: You won the Nobel Prize for your work in superconductivity at the age of thirty-three. How did that feel?

JOSEPHSON: Well, I'd won a number of awards already in my lifetime, but it was obviously a more significant one. I suppose I had the Nobel in the back of my mind, especially with all the applications for my work. It wasn't really unexpected.

OMNI: You just took it in stride?

JOSEPHSON: I suppose so, but one *is* rather overwhelmed by all the attention. And I haven't yet recovered from the increase in my mail. I thought that after about six months I would deal with the backlog, but the backlog is still with me.

OMNI: What has happened in superconductivity research since your breakthrough in the early sixties?

JOSEPHSON: I don't think there have been any very major developments since then.

OMNI: You yourself have left superconductivity research far behind. Why?

JOSEPHSON: When I was doing my work in superconductivity, I regarded it as highly important. Afterward, I started seeing things from a wider viewpoint, and I realized that many of my initial discoveries were not as important as I had thought, but I did not immediately have anything to replace my former interests. Then, when I was a senior research fellow at Trinity College in the late sixties, I talked a lot with another fellow of the college who had changed his views radically on a visit to the States. He kept trying to persuade the other members of the college that they had a limited perspective on reality. I was about the only person who took him at all seriously.

Then, some time later, I interacted with another fellow of Trinity, Dr. George Owen, who is now in Toronto. His side interest is in psychic phenomena, and I talked with him as well. He opened me up to the possibility that there may be a range of phenomena that were more or less rejected by conventional scientists.

OMNI: How did you reconcile such ideas with your background in hard, classical physics?

JOSEPHSON: Well, I was aware of Bell's theorem, postulated by the theoretical physicist John Bell in 1965. To me, it's one of the most important advances in recent physics. The theorem is related to a paper written by Einstein, Podolsky, and Rosen in 1935. The argument given in this paper appeared to show that if quantum mechanics were correct, then you could split two connected particles, sending each one traveling in opposite directions, and *still* influence one of the particles by disturbing the other, *even* if the partner had been flung miles away. In essence, the particles would be communicating instantly, faster than the speed of light.

Einstein, of course, believed this was impossible. But John Bell and, later, Henry Stapp used the well-accepted equations of quantum mechanics to show that such "superluminal" communication is just what one might expect. The theorem raises the possibility that one part of the universe may have knowledge of another part — some kind of contact at a distance under certain conditions.

OMNI: Some popular writers have claimed that the link between

Bell's separated systems may be typical of most processes in the universe. In other words, when a polar bear jumps into Arctic water, in some weird way it may cause a train wreck in the south of France.

JOSEPHSON: If the two systems have been together in the past, there's going to be some correlation between their subsequent behavior when they are physically separated. The main questions are how much correlation there is and whether random collisions with other particles make them negligible in most cases.

I certainly wouldn't expect the polar bear's leap to cause a wreck in southern France, although one couldn't rule it out.

OMNI: Are you saying that psychics may somehow be able to gain knowledge about what is going on elsewhere in the universe by making use of this effect?

JOSEPHSON: Yes. But we still don't have a precise model to explore this question.

OMNI: Bell's theorem seems similar to the equations that helped you develop the Josephson junction: both predict effects that blatantly defy everyday Newtonian physics. This departure from accepted reality in your work must have had a powerful effect on you.

JOSEPHSON: Absolutely. As a scientist, I became interested only in seeking fundamentally new insights into the nature of reality. Unfortunately, conventional physics didn't offer much opportunity to achieve this sort of breakthrough. So I became interested in Eastern mystical teachings.

OMNI: How did that happen?

JOSEPHSON: In 1971, shortly after I met George Owen, I spent some time at Cornell University in Ithaca, New York. I was listening to the radio when I heard an announcement for a lecture on transcendental meditation. I went and found that the lecturer's statements about reality were very consistent with my own beliefs. So I took the course, and learned the TM technique. I've been doing the meditation most of the time since then, and in 1979 I learned the more advanced TM-Sidhi technique.

OMNI: Have you changed as a result?

JOSEPHSON: I think that meditation has improved me in various ways. I used to make all decisions on the basis of rational arguments. Now I am much freer about things. I had some good experiences

with meditation from the very start. It was as if, instead of being immersed in a kind of mental fog — immersed in my thoughts — I suddenly became aware of the outside world. I also think that I've become more spontaneous in relationships with other people — again, through not rationally deciding what I should say. Getting beyond the intellect is quite important in that sort of thing.

OMNI: I assume that the philosophy of TM as developed by Maharishi Mahesh Yogi influenced your scientific research. Can you explain how?

JOSEPHSON: In the TM course itself, naturally, you're given only the simplest description of the Maharishi's philosophy. Basically, you're learning how to meditate. But a couple of years after my stay in Ithaca, I started talking with some one visiting my lab. We were both interested in the question of how the brain works, and he told me about the Maharishi's theory, which is called the Science of Creative Intelligence.

OMNI: Can you summarize that?

JOSEPHSON: It's impossible to give a good feel for the theory in just a few sentences. The best one can do is to say that it's a kind of epistemology, or science of knowledge, with a strong biological orientation. Its emphasis is the idea that under favorable conditions living systems are always moving in the direction of a kind of ideal.

There is considerable similarity between the Science of Creative Intelligence and the ideas of the Swiss psychologist Jean Piaget. [Piaget said that specific cognitive abilities, or thought processes, develop as children advance in age. With each stage of development, the range of cognitive ability will increase.] But Piaget's work didn't embody the idea of evolution being directed toward a final goal, nor did Piaget discuss in any deep sense the role of consciousness.

OMNI: The Maharishi's theory as you've just described it seems too general to be of much use.

JOSEPHSON: That's the criticism leveled at the Maharishi by scientists. Our group in the Cavendish Laboratory has for some time been trying to reformulate his ideas in a more concrete and useful form.

OMNI: How?

JOSEPHSON: By examining the vague statements and trying to understand what they really mean. Then one's ideas can be tested

by seeing to what extent they provide a convincing account of phenomena such as intelligence.

OMNI: The Maharishi talks about a "field of pure creative intelligence" that exists outside of us altogether. What are your views on that?

JOSEPHSON: That's a line of inquiry with which I haven't got very far as yet. My views are close to those of the physicist David Bohm, who infers from quantum mechanics the existence of an "implicate order." [Bohm's concept is that our brains construct *concrete* reality by interpreting a code from another time and space. If we could unravel the code, he says, we could glimpse true reality. He refers to this true reality as the implicate order.] I feel the implicate order might correspond to the Maharishi's field of pure intelligence. Bohm is concerned mainly with the physical aspects of this implicate order, while I'm more interested in the intelligence aspect.

OMNI: Can you give me an illustration?

JOSEPHSON: In one scenario, you might picture some kind of universal structure that has thoughts, makes plans, and then causes those plans to be executed. This universal intelligence would have three levels: first, the intelligence itself; second, the thought processes; and third, the concrete reality — the things the intelligence actually creates and perceives.

OMNI: Do you mean tangible products and artifacts like those created by human intelligence — this house, for instance?

JOSEPHSON: This house and everything else seen at the classical level — rocks and plants and so on.

OMNI: What's the process? How would this creation take place?

JOSEPHSON: I think the answer lies in quantum mechanics. According to quantum theory, it's impossible to predict the characteristics of a subatomic particle before it's measured — the particle exists merely as a wave of energy, as potential. But the likelihood of its acquiring each one of many possible characteristics is predicted with astounding accuracy by an equation called the wave function.

The wave function was derived through experimental observation — but nobody really knows why it works. Quantum theory becomes less puzzling if you say that there's some intelligence operating at a very basic level. You might say that the wide-ranging possibilities described by the wave function are really thoughts generated by the

intelligence. The intelligence is simply imagining a variety of possible worlds, and when it actually chooses one of those possibilities, that becomes tangible reality. All the other potentialities simply collapse. That would explain where the wave function comes from — it simply describes the way this universal intelligence works.

OMNI: Does this universal intelligence connect up with our own? Are we part of it?

JOSEPHSON: Yes. I think that our thought processes are oddly dependent on it, and not entirely localized in our brains. For instance, say you have a problem, and you solve it only after inspiration comes to you. That inspiration may be the universal intelligence communicating with your brain.

OMNI: What you're saying is that we can perceive more than we might expect if we relied on our five senses alone. For instance, people who have had extraordinary insight may have been spoonfed by this greater, cosmic intelligence.

JOSEPHSON: Yes, that's about it. Ideally, you ought to learn how to interact with this cosmic mind. Some people may experience that interaction through meditation, using their skill to observe on a sort of universal scale. It's probably the same sort of channel that's used in remote viewing — the ability that some people seem to have to describe physical settings that they have never directly observed. It's as if you can see inwardly things that you cannot see directly. In my case I see only luminous clouds of various kinds and things like that — nothing very spectacular. And of course you can say that these are merely hallucinations on my part.

OMNI: But what do you think they may be?

JOSEPHSON: Well, there may be a paranormal component to the sense of sight, one that doesn't depend upon light converging on the eye.

Here is where I think that a study of mystical tradition comes in. The mystics talk of an astral plane. And what one perceives fits in with movement on this plane.

OMNI: Do you believe in the existence of an astral plane?

JOSEPHSON: Well, the experiences I have had are consistent with it, yes.

OMNI: Does the intelligence operating from this astral plane merely provide us with information, or does it actually control us?

JOSEPHSON: It's just one of the controlling factors. We also have

our individual thoughts and plans. Of course, you may become emotionally disturbed if you wander too far from what's been specified. In addition, according to some views, there is a still higher level that can be identified with God.

OMNI: How does your concept of intelligence change our view of evolution, particularly the evolution of *Homo sapiens?*

JOSEPHSON: Everything that has evolved existed previously, in some kind of thought form. There's a tendency for these thoughts to become reality.

OMNI: Where did this intelligence come from? Was it always there? And how does it coincide with the theory of the origin of the universe?

JOSEPHSON: I think this intelligence has probably always existed in some kind of equilibrium state. It formed the universe and the laws of nature, just as it directed the evolution of intelligent species. The creation of the universe is really only evolution at a different level.

OMNI: What do you think would happen if all of humanity suddenly tuned into this universal intelligence?

JOSEPHSON: The Western world as a whole currently has a faulty, immature, incomplete view of the way we are — a materialistic orientation. This materialistic approach puts man at the top. But if we can show that that's not true, we'll start to shift people's perspectives.

OMNI: What you're talking about is a paradigm shift much like the one precipitated by Copernicus when he showed that the earth wasn't the center of the universe.

JOSEPHSON: Yes, but I have a better example. When people landed on the moon, everyone was saying how seeing the earth from outside would change our view of man. Some claimed it would stop the worst features of human behavior. Well, that didn't happen. There's no particular reason that it should have happened, since the moon itself doesn't really affect us. But if we expand in an inward direction and see that we're part of a spiritual universe, well, that would be much more likely to alter perspectives: in essence, people would realize that they were being watched.

In a way, it's like the difference in behavior between children by themselves and children who know there's an adult present. If you

know that there's an external agency that can affect you and send some feedback, you might change your actions and start taking long-range, global consequences into account. The trouble, of course, is persuading people to accept facts that lie outside the ordinary reality.

OMNI: Are you doing any concrete experiments that may persuade people by proving your theories correct?

JOSEPHSON: Well, if you're working from general concepts, as I am, then you have to make things specific. At the moment I'm considering how the individual human intelligence might operate. I'm using a computer to simulate a simple motor skill — learning to hit a collection of targets, a task that is roughly equivalent to reaching out for the controls of a car. The idea is that intelligence is determined by a set of principles, and the computer is programmed to simulate a simplified form of these principles. In this case, I've drawn from the Science of Creative Intelligence to postulate that the learning process itself is directed toward a specific goal, perhaps by some higher force. It's a bit like embryology — the genes, not mere trial and error, determine the end product. Very simply, the algorithms of my computer program allow the system to evolve rapidly from its initial state to the state in which it has mastered the target-hitting skills. The computer can accomplish its target-hitting task with relative ease, because I've programmed it with a series of processes, each one taking the machine one step closer to its ultimate goal.

OMNI: Any other concrete projects?

JOSEPHSON: I'm also working on human language acquisition, trying to fit the problem of how children learn to speak into a conceptual framework that has both Eastern and Western roots. My work draws heavily upon the theory of language-learning outlined by Maharishi Mahesh Yogi, as well as conventional theorists, such as Mitchell Marcus and S. D. Dik.

OMNI: Can you be a bit more specific?

JOSEPHSON: I believe that children have innate mechanisms that permit them to learn how to speak and understand language. Most of my work consists of describing these mechanisms and showing how they make language-learning possible. However, instead of postulating anything like the existence of a built-in grammar, along Noam Chomsky's lines, I believe that the child constructs his model

of language from experience. No part of his language model is innate. It is the set of language-acquisition mechanisms that is innate.

Suppose a child is exposed to a particular syntactic construction. According to my theory, he will be changed in a very specific way by that utterance, and in the future he will be sensitized to any influences that are roughly the same.

OMNI: You sound a bit like a behaviorist.

JOSEPHSON: Only up to a point. The way a person reacts to hearing language is partly innate. Children are programmed to explore certain kinds of interpretive possibilities and to ignore others.

OMNI: Can you identify the set of possibilities that the child investigates and the other possibilities that the child is programmed to ignore?

JOSEPHSON: I don't see language-learning so much as an investigation. I see it as a channel that the child is tuned into. In other words, the brain is essentially a receiver with innate systems that are sensitive to grammar, others that are sensitive to meaning, and so on. I'm actively studying the properties of these programmed systems.

OMNI: Has meditation helped you to develop your psycholinguistic theory?

JOSEPHSON: I think it has enabled me to use intuition effectively to a much higher degree than I used to be able to. I think one wouldn't get too far sorting things out in psycholinguistics by rationally running through the possibilities. It's much more a matter of intuiting how things are and then thinking through to see whether the intuition fits the facts.

OMNI: If you rely to such a great degree on intuitive information gleaned through meditation, don't you ever worry that you're learning only how to project new and fascinating images on the mind's inner screen?

JOSEPHSON: One has to put one's ideas to the test in the usual way. But my point is that as you develop along the usual lines in science and in life, you add more and more beliefs to your picture of the world's structure. This process restricts your ability to appreciate the richness of reality, because each time you take seriously a new belief, you exclude its converse from consideration. The higher state of consciousness achieved through meditation is supposed to

be added to the everyday state. You don't lose your ability to reason logically. One has the knowledge that's been acquired as an adult, but also the ability to get beyond the constraints of this knowledge in case there's something better out there.

OMNI: How do you protect yourself against self-delusion? Suppose that during meditation a voice instructs you to paste up a portrait of Hitler in your office and organize a group of Brown Shirts in England. Would you act upon this vision because it meets all the subjective criteria for a powerful mystical experience?

JOSEPHSON: One occasionally does have powerful experiences in meditation, and well, one is advised not to take them too seriously, not to act upon an idea just because it occurred to one in meditation.

OMNI: But in that case aren't you applying the rationalist filter to these experiences?

JOSEPHSON: I have nothing against being rational.

OMNI: How can you escape the blinders of science if you do that?

JOSEPHSON: If one does one's meditation properly, one gradually removes those beliefs while remaining a rational being.

OMNI: Would you call yourself a mystic?

JOSEPHSON: At most, half a mystic. I see myself as following along the standard scientific tradition. I am just enlarging the scope of things and trying to construct more comprehensive theories. My approach is that of the scientist who reasons about phenomena and hopes to be able to give acceptable intellectual pictures of them. I always try to find concrete explanations of things. The world is full of mysterious entities.

OMNI: Do you believe in God?

JOSEPHSON: As I said, that highest level of intelligent being — the universal intelligence — probably corresponds to God.

OMNI: What about an afterlife?

JOSEPHSON: Many Eastern mystical traditions describe life and death as just being two different states. In meditation, one may cross the boundary and experience some of these afterlife states, though that's only speculation. For example, if one were in a meditative state where one's body didn't exist, that might be a precursor of what it's like to be dead.

OMNI: How do you defend yourself against your scientific critics?

JOSEPHSON: One tries to educate them as best one can.

OMNI: What about private reactions to your ideas?

JOSEPHSON: Well, some people are quite interested, but probably the majority are not very conscious of the issues involved. Discussions with people who don't share my openness toward the paranormal and Eastern mystical ideas don't get far. So the question about how I deal with their objections doesn't really arise.

OMNI: Have you found yourself ostracized because of your heretical views?

JOSEPHSON: Not particularly, no. I just get on with the job of trying to prove that my views are correct.

OMNI: A number of other physicists are trying to integrate Western science with Eastern mystical traditions. How do you assess their efforts?

JOSEPHSON: I think a lot of the people trying to join Eastern and Western perspectives have a good qualitative picture of how things are. But no one has the mathematics to make this picture quantitative. And I think it's basically a mathematical problem. Someone has to find the right mathematics to fit the situation.

OMNI: Are you actively working on a mathematical solution to this problem?

JOSEPHSON: No, not actively. It's a thing I would like to be able to make some progress in, but I don't devote much time to it.

OMNI: Just waiting for the moment of clarity?

JOSEPHSON: Yes, and I think these powerful meditation techniques make such breakthroughs more likely. But not many intellectual people meditate. So there's a split between people who do science and people who practice meditation techniques to raise their consciousness.

OMNI: Are you at all troubled by the ethical issues raised by the social consequences of your conventional and unconventional research?

JOSEPHSON: I'm fortunate in that these questions have never intruded to a noticeable extent in my own research.

OMNI: Take the worst possible case, the strong likelihood that supercomputers using Josephson junctions may be involved in World War III. How do you feel about that possibility?

JOSEPHSON: Well, my work seems more likely to have defensive applications. Defense against incoming missiles, for example, would

seem to be the main kind of military application. My not having made my discovery would have had virtually no effect on the arms race.

OMNI: What is the scientist's moral responsibility toward his discoveries and inventions? Does he have any special responsibilities to prevent their misuse by society?

JOSEPHSON: I don't think the fact that a person happens to originate something new has any great bearing on whether he should try to prevent its misuse. I am against the misuse of all scientific research, not just my own. Of course if something you helped to develop had harmful social consequences, you might well have stronger guilt feelings. But I don't know whether the fact that you are the creator of a new idea gives you much influence over the way society uses it.

I can't quite see what effect it would have if I were to tell IBM that it should stop developing high-speed Josephson junction computers because these machines might be used by the military. I'm more concerned with expanding public acceptance of higher states of consciousness, which may help to produce a more peaceful world. But I do think that scientists are often irresponsible. Most scientists have little sense of values and therefore they don't choose projects very wisely, but only on the basis of self-advancement. A lot of research is trivial when seen in any global context. This goes back to a basic point about values. Perhaps one can change people's values so that they will see that a certain kind of behavior is suitable and socially harmful actions are not suitable.

OMNI: How does one go about changing values?

JOSEPHSON: By increasing understanding. Values are based upon putting a given action into a wider context. If you can see more consequences of an action, then you'll be able to come to better judgments.

OMNI: How would you seek to reduce the danger of nuclear war?

JOSEPHSON: Well, the intellect doesn't solve all these problems. It isn't just a matter of better understanding. There are forces that lie beyond the intellect.