

Last September a handful of scientists and academics

from diverse disciplines came together on the IONS campus to discuss the growing evidence for a science of peace.

This small but potent colloquium was created in collaboration with Integrity Entertainment, which filmed the event along with a series of breakout interviews as part of an upcoming feature documentary titled The Science of Peace (www.thescienceofpeace.com).

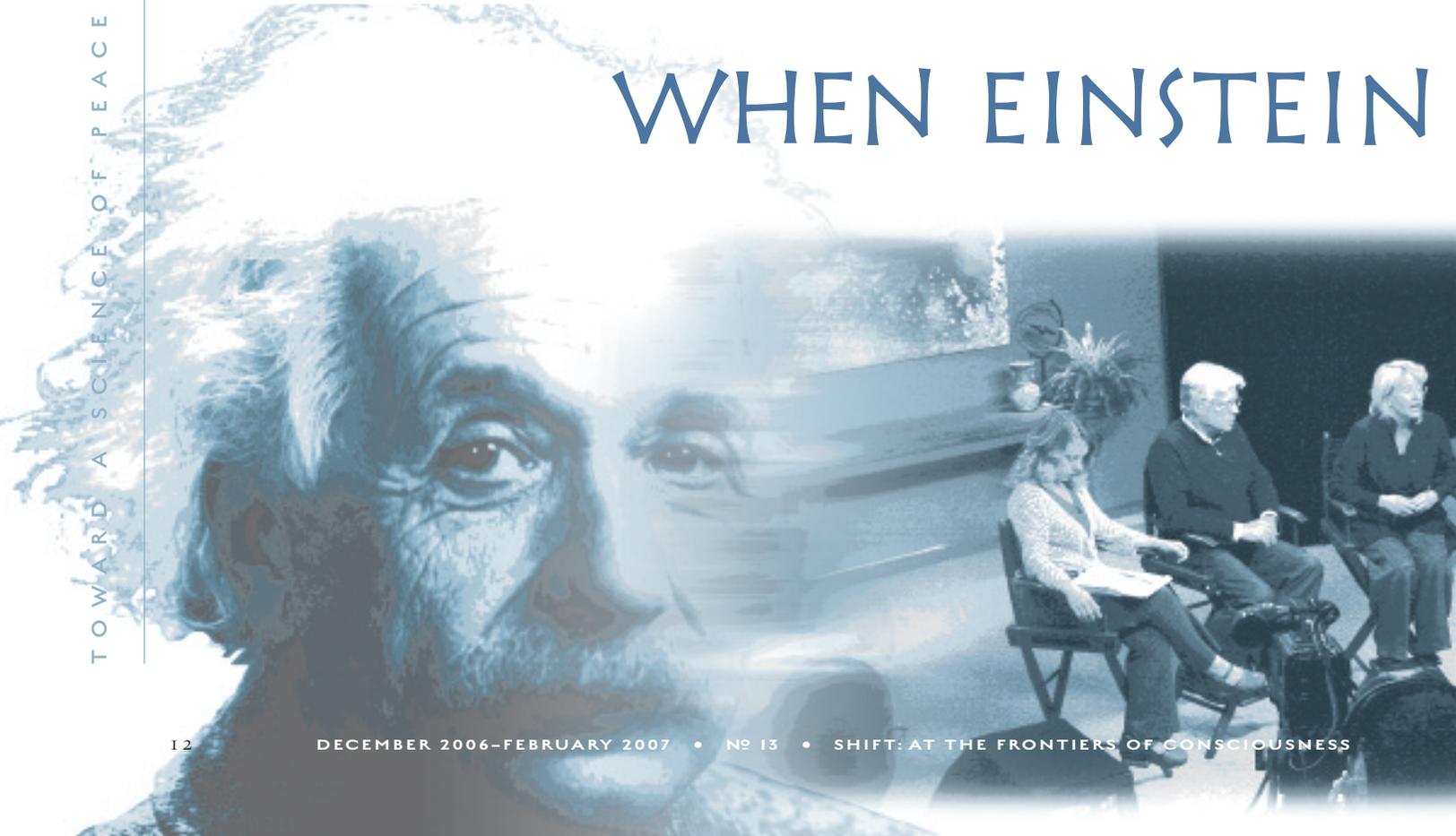
The following excerpt—abridged and edited—gives a sense for the richness of the topic and its importance to a world still searching for the keys to human flourishing and sustainable coexistence.

—MG

Marilyn Mandala Schlitz (MMS): It is profoundly clear that we have tremendous potential for violence and aggression. At the same time we can celebrate the fact that we are conscious agents in our own evolutionary development. By reconsidering our potentials through the lens of science, we have an opportunity to redefine who we are and what we are capable of becoming. Science is based on objectivity and a world out there,

detached from our inner self. If consciousness is nothing more than an epiphenomenon of this physicality, then how can we understand the potency of our consciousness? This suggests that there is something fundamentally wrong with the epistemology on which our dominant truth system is based. As we consider the limits of the prevailing view, new scientific discoveries create an opportunity to see ourselves in a new way. We are active

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participants in a new story that is being born at the interface between a rational-intellectual-scientific impulse and one that leads us toward peace and prosocial behaviors.

Hans-Peter Duerr (HPD): Last year marked one hundred years after Einstein's big discoveries and fifty years after the Russell-Einstein manifesto, which Einstein wrote with Bertrand Russell. It says that if we do not learn to stop war completely, humankind will have no way of surviving. Last year I was asked to update this wonderful manifesto. "That is impossible," I said. What can we say today when we have not only [the] danger [of nuclear weapons] but 10 or 12 other ones? We have to go one level lower and ask the question, "What is the reason that a rational, thinking human being is making these irrational things?" I picked up a line in the manifesto that said, "We have to learn to think in a new way." To think in a new way doesn't mean that we go in a different direction from the old way of thinking, but that we go beyond thinking. And, you know, scientists do not like that. Scientists want to have knowledge that you can grasp in order to manipulate.

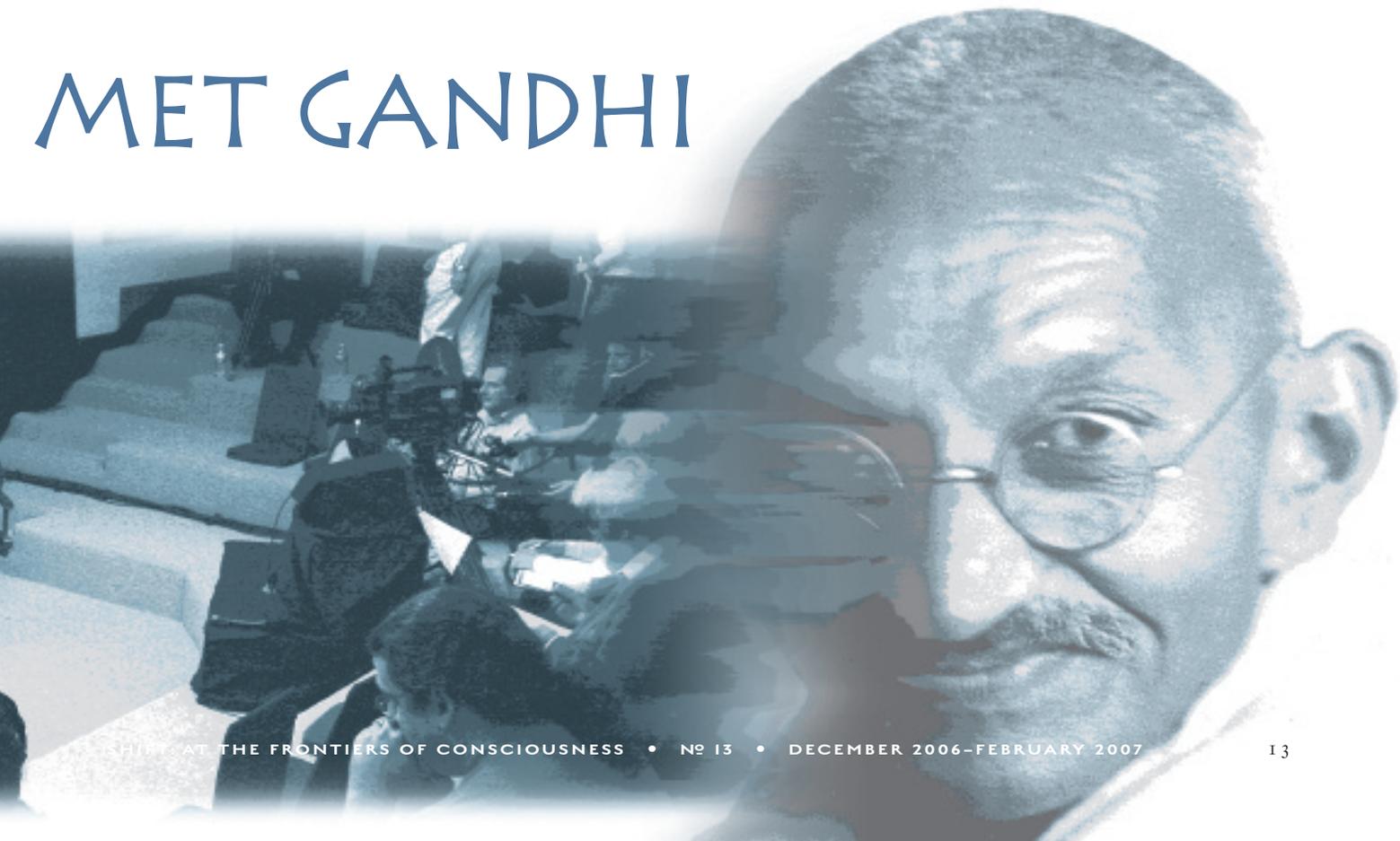
We are dualistic from the very beginning. Subject and object are separated. If I can separate from the subject, I can separate the subject from another subject, and so we start dividing and dividing and dividing. If you do

that over and over again, hoping to understand it, you become a nuclear physicist. You believe that you've finally come to the end of the process, that you *really* know what exists at the end. Then comes a big surprise: There is nothing left. Matter disappears and only the relationship remains. This is "the new physics."

Cassandra Vieten (CV): What excites me about the new physics perspective is that it maps directly onto what we're learning about the psyche from both wisdom traditions and science: Part of the key to cultivating inner peace is recognizing that consciousness and even our sense of self, which we perceive to be a fixed entity, is just a movement. Our feelings, our thoughts, our concepts, our beliefs—all of these are movements, though we perceive them and get quite attached to them as being very solid and real. There's a paradox in that if I let go into the movement of my consciousness, a peace emerges from that place of love, which Hans-Peter referred to, that is underlying and unchanging—the ground of being. So we can cultivate a sort of agility, where finding inner peace is not about forcing our consciousness into being a calm pond; it's more like surfing.

Bruce Lipton (BL): For me as a biologist, the concept of science and peace is very interesting because we're trying to live with 6½ billion other people. If you look

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inside the human body, you see that it isn't a single anything. It's a community of upwards of 50 trillion individual citizens living in harmony with a technology far beyond what we as human beings have been able to provide so far in this world. The things that we are looking to create on this planet—peace and harmony and relationships among individuals—already exist in a healthy human body.

HPD: It seems to me that if you want to enslave people without physical force, you have to feed the population with a little fear so that they're very vulnerable. You need an environment of confidence to let go, to open yourself up. But if you say, "I am afraid because I have no armor," and if you arm yourself . . .

BL: Biological systems are designed to be in growth or in protection, but they can't be in both at the same time. The reason is that growth is open to the environment, assimilating, taking things in, going toward the stimulus. Protection is the complete opposite: moving away from the stimulus and closing yourself down. The reality is that as soon as you put fear into the system you throw a monkey wrench into growth; evolution, which is the reflection of that growth, is also inhibited. So the amount of fear that we are filled with today is shutting down the process of evolution and shutting down the health of every individual in that field of fear, because you cannot sustain yourself if you don't sustain growth. Nature never designed anything to be in protection 24/7, 365. Protection was only supposed to be used for an acute reason and then shut off immediately.

CV: Can we overcome our human nature? Our genes? Our inherent ancient aggression? These are the questions that people are asking, but we've also bought a bit of a lie about what human nature really is. We are only *partially* flight-or-fight systems. There is new evidence that a completely complementary system underlies the capacity to affiliate with others. There

are studies now showing brain rewards for not only affiliation within a kinship circle but also affiliation outside of kinship circles. It's like there's this atrophied part of our biological system that hasn't received enough attention but is capable of being fully formed given the right environment.

BL: The genome in the cell is in every sense of the term a programmable chip: The nucleus is a hard drive with read/write programming, which is different from read-only, which is the belief system we come with. Epigenetics says that a single gene can make 30,000 different variations based on how [a person] responds to the environment. All of a sudden we are not a static, fixed anything; we are potentials waiting to be realized

in response to the programming of the environment.

CV: I was reading an article the other day about a social scientist, Kristen Renwick Monroe, who is doing work on altruism—selfless service. She found that altruistic people were having a deep experience of interconnectedness and belonging, and their altruism was emerging from that. It wasn't, "I should be . . . I need to . . . in order to be a good person"; instead, it was emerging from a noetic understanding. She concluded that our cognitive models based on rational self-interest are completely inadequate to explain much of human behavior that is important to our

quality of life and our sustainability as a culture. The science of peace is going to challenge science to evolve because the current models are not going to be able to adequately explain extraordinary behaviors. What we're trying to straddle is the relationship between our rational inquiry-based system of knowing, which is science, and this aspect of our self that has an innate knowing. How do we begin to reconcile those in the context of a science of peace?

Noel McGinnis: I want to address the fact that peace is hardwired in each one of us. When we were infants, it didn't matter who put their finger in our hand. It



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didn't matter the race, the gender, the age. It didn't even matter which finger they put in our hand—we just clasped it and then let go of it when it was removed. The meaning of this in Taoist terms is “When you come, we welcome, and when you leave, we do not pursue.” My hypothesis is that this is the initial rule of engagement for human transaction, but that this hardwiring gets short-circuited by our enculturation. I would like to see a major scientific effort to get beyond what many people say, “Oh, that's just a meaningless reflex action,” and [toward], “Okay, if it's reflexive, it reflects *something*. What is it that it reflects? Some state or level of consciousness? Is that state hardwired within us?”

MMS: Let's build on this idea of hardwiring for peace and prosocial behavior. We know that our brain is structured for on/off kinds of information and communication. How can we begin to use our brain to become more flexible and adaptable to the kinds of constructs that we're talking about here?

Phil Shaver (PS): The infant comes out ready to be taken care of by someone and incapable of surviving on its own. Its genome is expecting that somebody's going to be there to receive it and not abuse it, neglect it, and so on. But of course there are many cases where that kind of optimal parenting environment is not present. We know that the capacity for trust, for shared kindness, for physical affection, can go awry in various ways if that receiving environment is not appropriately affectionate.

MMS: Your career has focused on using the methods of science to study compassion, empathy, and security, and what factors need to be present for someone to reach outside of their kinship circle. This thing that's both genetically hardwired and responsive to early nurturing—can it be trained later in life?

PS: Yes, psychotherapy is basically like this. It's a corrective relationship with a new attachment figure. In psychotherapy the goal is to be a stable, trustworthy

figure for this person so they can gradually explore the idea that there are alternative ways of behaving. We have found ways, experimentally, to cause a person to feel more secure, and we can do it either superluminally in a kind of Buddhist meditation way or subliminally, because now a computer can present things—pictures or words—to a person below the conscious level and have measurable effects on their brain and behavior. If we use those kinds of methods and make people more secure, we have found that they are more open to members of other groups. I think we need to hold in mind the capacity of people for empathy, caring, openness, tolerance, all of those kinds of things, and at the same time [acknowledge] what the baby researchers

saw in the first place: If a baby is tired, hurt, or sick, it starts screaming—“It's all about me”—until somebody rescues it and shows that there is a kind of comfort and resolution for this.

I happened to be invited to speak with the Dalai Lama and a group of neuroscientists about neuroplasticity—the ability of the nervous system to change. The Dalai Lama said it's interesting to him because that is an ancient Buddhist meditation technique: You sit and try to imbue yourself completely with what it feels like to be loved in the most supportive, kind, loving relationship you've ever felt, and then in your mind you direct that

out to other people. We're studying this within the confines of a half-hour lab experiment. If you start with someone who is easy to love and then gradually, as you become more experienced, introduce a more neutral person (for example, the person who delivers your newspaper), and then eventually extend the practice to people you don't like, to people who have hurt you and so on, it's possible to alter yourself in the direction of openness and kindness. It's been a part of that spiritual tradition for centuries, but it's also demonstrable in various ways in contemporary life . . . in ways that are measurable using science. ➔



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—DIANE POWELL

Diane Powell: One of the thoughts that comes to mind is the saying, “Fake it till you make it.” I actually think there is some truth to that. People trying on these more positive emotions actually find that they are entraining their mind to be that way. And being with other people who are compassionate and loving, being in resonance with that, again reinforces that circuitry. As a therapist I often find that I am not only re-parenting people, but I become, because of my consistency, a safe person for them to love. That opens up some doors for them to open to other people.

I read a quote by Edgar Allan Poe the other day. He said that if he wanted to understand what someone else was thinking or feeling, he would go in front of a mirror and try to get his face and body language to exactly replicate what he saw in this other person, and then actually experience and feel it.

Michael Nagler: We do this in peace research and peace-building all the time. Role play is one of the main models and methods we use for training people for nonviolent action. In fact, I wanted to mention that we are sitting here between portraits of Gandhi and Einstein, and I just discovered that in 1949 Nehru [India’s first prime minister] came to the States and went to Princeton and had a conversation with Einstein, and Einstein whipped out a

piece of paper and did a chart of the developmental stages of the atomic bomb. That happened in the same year as Gandhi’s development of Satyagraha—the philosophy of nonviolent resistance—in South Africa!

I have a friend who has a dog. She used to feed this dog in her backyard, which was at the edge of this forest. She would put out a plate of food, the dog would eat the food, and she’d come collect the plate. So one day the plate wasn’t there. She put out another plate the next night. Same thing happened: The plate disappeared. At this point she was running out of plates and getting very curious. So the next day she put down the plate of food, ran into the kitchen, and peered through the blinds to see what would happen. Her dog, without eating any of the food, picked up the plate in its mouth and trotted off into the forest. She followed the dog, which wasn’t that easy—you know, over these brambles and stuff—and do you know what she found? There was another dog that was caught by its collar on a bush. Her dog was bringing his food and sharing it with that dog. What I get out of this is to stop worrying about the hardwiring. We are not hardwired for peace and we are not hardwired for war. We are hardwired for choice. So we should get in there and start working on how these choices are shaped. 🌍

COLLOQUIUM PARTICIPANTS

Hans-Peter Duerr is former director of the Max Planck Institute for Physics and Astrophysics and professor of physics at the Ludwig Maximilian University (both in Munich, Germany). After the 1986 Chernobyl disaster, he cofounded the David Against Goliath organization to protest a nuclear fuel reprocessing plant in Bavaria.

Marilyn Mandala Schlitz is vice president of research and education at the Institute of Noetic Sciences.

Bruce Lipton is a cell biologist and pioneer in the emerging field of epigenetics, which studies the impact of environmental factors on genes. He is the author of *The Biology of Belief* (Mountain of Love, 2005).

Cassandra Vieten is an associate scientist at California Pacific Medical Center and a research psychologist at the Institute of Noetic Sciences.

Rev. Noel Frederick McInnis is vice president and head of global outreach for International Forgiveness Day. He is on the faculty of New West Seminary in Oregon City and is former editor of Marilyn Ferguson’s *Brain/Mind Bulletin*.

Michael Nagler is professor emeritus of Classics and Comparative Literature at the University of California, Berkeley; president of Metta Center for Nonviolence Education; and the author of several books, including *The Search for a Nonviolent Future* (Inner Ocean, 2004).

Diane Powell is a psychiatrist, neuroscientist, and former clinical director of the John E. Mack Institute at Harvard Medical School.

Phil Shaver is director of the Adult Attachment Lab in the Department of Psychology at the University of California, Davis.

Also participating:

Roger Nelson is director of the Global Consciousness Project in the Princeton Engineering Anomalies Research Laboratory at Princeton University.

Dean Radin is senior scientist at the Institute of Noetic Sciences and author of *Entangled Minds* (Paraview, 2006) and *The Conscious Universe* (HarperSanFrancisco, 1997).