

INTERNATIONAL SUMMIT ON POST-MATERIALIST SCIENCE, SPIRITUALITY, AND SOCIETY: Summary Report

History, Participants, Questions, Meeting, Consensus Decisions, and Representative Publications

Gary E. Schwartz, Ph.D., Host and Co-Organizer

The University of Arizona and Canyon Ranch

Lisa Miller, Ph.D., Co-Organizer

Columbia University

Mario Beauregard, PhD., Co-Organizer

The University of Arizona

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1. Introduction and Purpose

The purpose of this International Summit was to advance the evolution (and acceptance) of Post-Materialist Science and the emerging Post-Materialist Paradigm (PMP), for the betterment of science, spirituality, and society.

The Summit's emphasis was twofold: (1) to explore the philosophical and theoretical benefits for science, spirituality, and society, and (2) to consider the short term (and longer term) practical benefits for humanity and the planet as well.

2. Core Questions Discussed at the Summit

The following fifteen core questions were raised and discussed at the Summit:

1. What is your definition of "Post-Materialism"
2. Briefly, what factors have led you to a Post-Materialist Science perspective?
3. How has Post-Materialist Science contributed to your understanding and personal experience of spirituality?
4. How have your personal spiritual experiences influenced your professional role as a scientist, especially your becoming a Post-Materialist Scientist?
5. What do you consider to be the best evidence (e.g. areas of research) which clearly point to the emergence and evolution of Post-Materialist Science?
6. What were your primarily reasons and purposes in attending this Summit?
7. What did you find especially meaningful and memorable about this Summit concerning the evolution of Post-Materialist Science and Spirituality?
8. What specific recommendations for the future development of Post-Materialist Science and Spirituality do you believe are important to implement, especially after attending the Summit?
9. What specific actions do you plan to take as a result of this Summit?
10. What implications do you believe Post-Materialist Science has for major societal and world challenges (e.g. religion, ecology, sustainability, world peace)?
11. Anything else you would like to share about the Summit and this historic evolution of science and spirituality?
12. What is something that science can investigate that has previously been seen as outside the prevue of science?

13. What is the next question over the horizon for you?
14. In this new field of Post-Materialist Science, for you, where is the awe and wonder?
15. How would you recommend presenting Post-Materialistic Science and Spirituality to the general public in an engaging and nonthreatening manner? (asked by the CEO of Canyon Ranch)

3. Brief History of the Summit

The inspiration for this International Summit originally occurred to Gary E. Schwartz following his memorable experiences as an invited participant at a 2009 meeting hosted and organized by Lisa Miller at Columbia University on Post-Materialist Science. Prior to attending Miller's invited meeting, Schwartz had not heard the term "Post-Materialist Science."

Miller's meeting reminded Schwartz of an invited meeting he had hosted and co-organized when he was a professor at Yale University which advanced the evolution (and acceptance) of the then nascent field of Behavioral Medicine. He organized this meeting with Stephen Weiss, Ph.D. (then at N.I.H.). The Yale Conference on Behavioral Medicine turned out to be a watershed moment in the evolution (and acceptance) of the emerging interdisciplinary field of Behavioral Medicine.

The published report by Schwartz and Weiss (1978) summarizing some of the wide ranging scientific and political recommendations and actions which unfolded from this meeting is included as Appendix A. This scholarly report illustrates how a watershed meeting can sometimes have major effects in terms of advancing research, funding, education, and public policy.

At the Columbia PMP meeting, Schwartz was struck by the apparent tension between:

(1) Participants who wanted to restrict PMP to those effects of consciousness which were the least controversial, and presumably mediated by the brain (e.g. research documenting mind to mind telepathy and the effects of mind on physical objects), versus

(2) Those participants who wanted to feature the emerging integration of science and spirituality as inspired by – and some would say, *as required by* – the evolution of PMP (including applications to health and healing, ecology, and the evolution of consciousness broadly defined).

When Schwartz discovered that Miller shared his strong commitment to (2), and Schwartz learned that the donor who had funded the Columbia meeting was willing to help fund a future follow-up meeting at the University of Arizona, Schwartz approached Jerry Cohen, the CEO of Canyon Ranch, in 2012. Schwartz asked Cohen if Canyon Ranch might be willing to help support a follow-up meeting focusing on PMP and the emerging integration of science and spirituality, by hosting the meeting at the Ranch. With the assistance of Carrie Kennedy, then Corporate Program Director at Canyon Ranch, and the blessings of Mel Zuckerman, the founder and Chairman of Canyon Ranch, the formal planning for the meeting began.

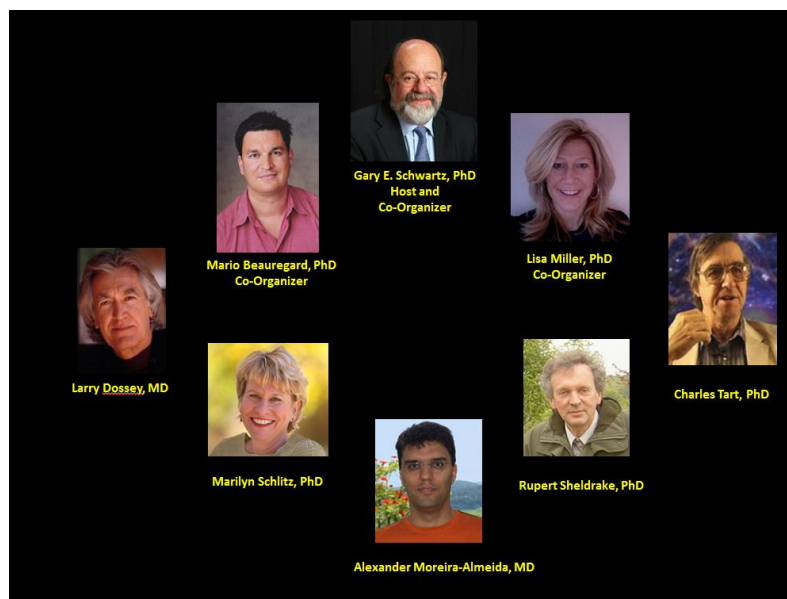
When Schwartz shared this proposed meeting with Mario Beauregard in 2013 (he was then at the University of Montreal), Beauregard indicated that he was strongly committed to #2 as well, and he joined Schwartz and Miller as a co-organizer.

4. Overview of the Summit

First, our goal was to invite carefully selected senior scientists spanning physics, biology, psychology and medicine who had a genuine interest in bridging post-materialist science and spirituality. Our letter of invitation (minus the names of the original list of invitees), is included as Appendix B. All but three of the original invitees elected to attend the meeting. It turned out that the three who did not accept the invitation were physicians; one indicated he had a family conflict (daughter's birthday), one indicated he was too busy, and one indicated that he disagreed with some of the content of the meeting on personal religious grounds. A total of eleven scientists agreed to attend the Summit.

Unfortunately, a week prior to the Summit, Dr. Henry Stapp (a distinguished physicist) had to cancel for personal reasons. Then, two days before the Summit, Dr. Pim van Lommel (a distinguished cardiologist), had to cancel because his wife was just diagnosed with a serious medical condition. Finally, a day before the Summit, Dr. Julio Peres had to cancel due to unforeseen issues with his visa.

A collage of photos of the eight participants who attended the Summit is shown below:



The eight participants (including the three co-organizers) were invited to a special dinner at Canyon Ranch on the evening of February 6, 2014. The formal Summit was held all day on February 7 and 8, and the morning of February 9.

In addition to the senior scientist participants, a carefully selected group of over thirty individuals including scientists, students, special colleagues, spouses, and Canyon Ranch staff, were invited to attend the meeting as guests.

February 7, Day 1, was devoted to each participant briefly reviewing salient aspects of their research careers (including publications and training) which had led them to adopt PMP professionally as a scientist, and personally in terms of their spirituality.

Since this unique collection of participants (and guests) had never convened as a group before, it was highly valuable for everyone to come to know each other and understand their overlapping yet unique histories and perspectives on post-materialist science and spirituality.

Prior to the Summit, all participants (including the co-organizers) were requested to prepare a brief document summarizing core aspects of their research as well as their training. These brief reports are provided below.

The participants were invited to share, if they wished, salient spiritual experiences which had informed their post-materialist science, and vice versa. To ensure that the Summit was not focused on particular experiences or participants, written accounts of their experiences were tweaked to make the accounts anonymous. These exemplary spiritual experiences are provided below.

February 8, Day 2, was focused on specific themes and challenges concerning the evolution of post-materialist science and spirituality. Six of the participants served as coordinators of group discussions about these themes. The discussions included mind and brain, spirituality and health, life beyond death, parapsychology and post-materialism, paradigm change and skeptics, and spiritism and health.

February 9, Day 3, was especially important because it emphasized concrete recommendations and actions for advancing post-materialist science and spirituality. The topics included the preparation and dissemination of a consensus manifesto, outlining needs for future basic and applied research, and making recommendations for changes in public policy and education, media, and funding.

The Summit was designed to be structured yet flexible. Its intent was to encourage dialogue, discovery, creativity, vision, and synthesis. Guests were encouraged to participate along with the senior scientists.

Brief descriptions and bios of the eight participants are provided in Appendix C.

Exemplary spiritual experiences of a subset of the participants which relate to Post-Materialist Science are provided in Appendix D.

A list of sources of evidence which point to Post-Materialist Science and Spirituality is provided in Appendix E.

5. **Schedule of the Summit:**

Friday, February 7, 2014 – 9:00 am to 5:00 pm

Who are we? What brings us to Post-Materialist Science and Spirituality?

9:00 am Welcome and Overview to Purposes of Summit

9:15 am Brief Introductions of Participants and Guests

Session I – The Co-Organizers

9:30 am Gary E. Schwartz, PhD

9:50 am Lisa Miller, PhD

10:10 am Mario Beauregard, PhD

10:30 am ***20 Minute Break***

Session II – Psychology, Biology

10:50 am Charles Tart, PhD

11:20 am Rupert Sheldrake, PhD

11:50 am General Discussion of Themes Appearing Thus Far

12:10 pm ***1 Hour and 20 Minutes Group Lunch***

Session III – Medicine, Anthropology

1:30 pm Larry Dossey, MD

2:00 pm Marilyn Schlitz, PhD

2:30 pm ***20 Minute Break***

Session IV – Psychiatry, Social Psychology

2:50 pm Alexander Moreira-Almeida, MD

3:20 pm Julio Peres, PhD

Session V – What Connects Us – Scientifically and Spiritually?

3:50 pm Gary E. Schwartz, PhD – Coordinator of *Group Discussion Focusing on Science Themes*

4:30 pm Lisa Miller, PhD – Coordinator of *Group Discussion Focusing on Spiritual Themes*

5:10 pm **Dinner**

Evening **Free for Spontaneous Conversations and Meetings**

Saturday, February 8, 2014 – 9:00 am to 5:10 pm

Advancing Post-Materialist Science and Spirituality

9:00 am Mario Beauregard, PhD - Coordinator of *Group Discussion on Nonlocal Mind and Brain*

9:50 am Lisa Miller, PhD – Coordinator of *Group Discussion of Spirituality and Health*

10:40 am **20 Minute Break**

11:00 am Gary E. Schwartz, PhD – Coordinator of *Group Discussion of Life Beyond Death*

11:50 am **1 Hour and 10 Minute Group Lunch**

1:00 pm Charles Tart, PhD – Coordinator of *Group Discussion of Parapsychology and Post-Materialism*

1:50 pm Rupert Sheldrake, PhD – Coordinator of *Group Discussion of Paradigm Change and Skepticism*

2:40 pm **20 Minute Break**

3:00 pm Alexander Moreira-Almeida, MD – Coordinator of *Group Discussion of Spiritism and Health*

3:50 pm Marilyn Schlitz, PhD – Coordinator of *Group Discussion of Post-Materialism and Divinity*

4:40 pm Gary E. Schwartz, PhD – Preparing for Manifesto and Action Plans

5:10 pm **Dinner**

Evening **Free for Spontaneous Conversations and Meetings**

Sunday, February 9, 2014 – 9:00 am to 1:00 pm

Manifesto and Essential Actions and Commitments

9:00 am Mario Beauregard, PhD – Coordinator of *Discussion of Consensus Manifesto*

9:50 am Lisa Miller, PhD – Coordinator of *Discussion of Research and Applied Actions*

- 10:40 am** **20 Minute Break**
- 11:00 am** Gary E. Schwartz, PhD – Coordinator of *Discussion of Policy, Media, Outreach, Organizations, Funding, Other Essential Actions, Next Steps*
- 11:50 am** ***Celebration, Gratitude, and Group Lunch***
- 1:00 pm** Summit Adjourned

POST SUMMIT INTERVIEWS FOR SUMMIT DOCUMENTARY (SD) AND WHAT THE BLEEP NOW WHAT (WTBNW) DOCUMENTARY

Sunday, February 9, 2014 – 1:00 pm to 6:00 pm

- 1:00 pm** Marilyn Schlitz, PhD (SD and WTBNW)
- 2:15 pm** ***Break for Lunch for Film Crew***
- 3:00 pm** Gary E. Schwartz, PhD, Lisa Miller, PhD, Mario Beauregard, PhD (SD)
- 4:00 pm** Charles Tart, PhD (WTBNW)
- 5:00 pm** Charles Tart, PhD, Larry Dossey, MD, Alexander Moreira-Almeida, MD (SD)

Monday, February 10, 2014 – 9:00 am to 5:00 pm

- 9:00 am** Rupert Sheldrake, PhD (SD and WTBNW)
- 11:00 am** Lisa Miller, PhD (WTBNW)
- 1:00 pm** ***Lunch***
- 2:00 pm** Julio Peres, PhD (SD)
- 2:30 pm** Students (SD)
- 3:00 pm** **Wrap-Up:** Gary E. Schwartz, PhD, Lisa Miller, PhD, Mario Beauregard, PhD (SD)

6. Recommendations and Actions Following the Summit

Below is a list of seven consensus decisions that were reached at the Summit [statements in brackets were finalized after the Summit].

1. We are creating a CAMPAIGN FOR OPEN SCIENCE (COS) website. It will be headed by Rupert Sheldrake, PhD. The eight scientist participants will serve as the Founding Trustees. [Jim has offered to provide the funding to build the website. Jill (who provided travel funds for the two previous conferences plus this one) has offered to employ her lawyer (who works with the White House) to help provide legal advice and assistance as needed.] Some of the concrete activities of COS are included below.
2. We (COS) are preparing a summary report of the Summit (Gary E. Schwartz, PhD, is taking the lead on this) [it will be published on the COS website].
3. We are writing a “Declaration of Openness” – a Manifesto for Post-Materialist Science. Mario Beauregard, PhD, will take the lead on this. [Larry Dossey, MD has agreed to have the Manifesto published in the journal EXPLORE. It will also be published on the COS Website.] Scientists around the world will be invited to endorse this consensus statement.
4. We are producing a short documentary which will include key moments at the Summit as well as exemplary statements made in the post-Summit interviews. [This documentary will be created by Lisa Miller, PhD and a group of her PhD students who attended the Summit.]
5. We are planning to prepare two edited books for publication. One will be academic, edited by the three co-organizers (Schwartz will take the lead on this). The other will be for the general public (Miller will take the lead on this).
6. We will be holding future meetings, primarily for future scientists (undergraduates and graduate students) to provide a safe place for them to bridge post-materialist science and spirituality. In addition, we will be holding future “Think Tanks” of leaders in the field (maybe at Canyon Ranch again as well as the University of Arizona).
7. We plan to create an on-line course for students and lay persons to learn post-materialist science and spirituality, focusing on evidence, experience, and values.

Appendix A – Yale Conference on Behavioral Medicine (Schwartz and Weiss, 1978) – reproduced on the next pages

Journal of Behavioral Medicine, Vol. 1, No. 1, 1978

Yale Conference on Behavioral Medicine: A Proposed Definition and Statement of Goals¹

Gary E. Schwartz^{2,4} and Stephen M. Weiss³

Accepted for publication: September 6, 1977

The Yale Conference on Behavioral Medicine brought a diverse group of behavioral and biomedical scientists together for the purpose of arriving at an interdisciplinary yet consensual definition, statement of goals, and set of recommendations regarding the emerging field of behavioral medicine. It was proposed that behavioral medicine be defined as "the field concerned with the development of behavioral science knowledge and techniques relevant to the understanding of physical health and illness and the application of this knowledge and techniques to prevention, diagnosis, treatment, and rehabilitation. Psychosis, neurosis, and substance abuse are included only insofar as they contribute to physical disorders as an end point." The rationale behind this definition and proposals for future developments in the field are discussed.

KEY WORDS: Yale Conference; behavioral medicine; interdisciplinary; integration.

¹ Conference held at Yale University on February 4-6, 1977. Supported by the Department of Psychology, Yale University, the Department of Psychiatry, Yale University School of Medicine, and the National Heart, Lung, and Blood Institute, National Institutes of Health. The opinions expressed at the conference do not necessarily reflect those of Yale University or the National Institutes of Health.

² Departments of Psychology and Psychiatry, Yale University and Yale University School of Medicine, New Haven, Connecticut 06520.

³ Behavioral Medicine Branch, Division of Heart and Vascular Diseases, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, Maryland 20014.

⁴ Address correspondence to Gary E. Schwartz, Department of Psychology, Yale University, New Haven, Connecticut 06520.

INTRODUCTION AND OVERVIEWS

In the fall of 1976, the authors initiated plans for a working conference at Yale University to help stimulate and coordinate efforts emanating from various quarters to formally establish the field of “behavioral medicine.” It had become clear to us that despite the growing awareness in funding agencies as well as the general public regarding the role of behavioral factors in the etiology, treatment, and prevention of disease, the lack of a commonly shared definition concerning the scope and subject matter of this area undoubtedly was delaying its recognition by many key sources of research funding. For example, prior to the time of the conference, the National Institutes of Health had no formal procedure for comprehensively evaluating the increased number of grant applications being submitted on the role of behavioral factors in health and illness. Because there was no explicit definition of the areas encompassed by this research, efforts at consolidation of these investigations were being hampered.⁵

It was also becoming clear that there was an increased need for interdisciplinary communications of theory, research, and applications in these areas. We were aware of the growing interest in some quarters to create new forms of publications and scientific meetings to help advance the field as well as to establish new laboratories, divisions, and centers within institutions with the goal of fostering this orientation.

The Yale Conference on Behavioral Medicine brought together a diverse group of behavioral and biomedical scientists to devise an interdisciplinary yet consensual definition, statement of goals, and set of recommendations for the emerging field of behavioral medicine. In seeking to establish this field, it was recognized that the potential for significant advances in knowledge in this area lay in the *integration* of behavioral and biomedical expertise in the search for solutions to problems of health and illness. Although parallel research had been conducted in each area for many years, it was believed that the concept of “the whole being greater than the sum of its parts” was relevant: that explorations which integrate the biomedical and behavioral hold opportunity for developing different and more useful scientific knowledge than separate studies can.

Further, the differentiation of this area from one of its closest forebears, psychosomatic medicine, involves *direct* interaction of biomedical and behavioral science, with psychiatry as a coequal participant rather than a mediator as before. This reflects the maturing of the behavioral sciences in their development of research strategies and methodologies which directly affect health and health care.

⁵ Since the conference, the National Institutes of Health has established an *ad hoc* study section on behavioral medicine using the guidelines developed at the Yale Conference on Behavioral Medicine.

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It was our belief that theory and research linking the behavioral sciences to medicine had advanced sufficiently to warrant clarification of their terminology and scope. Toward this end, a relatively small yet representative group of behavioral and biomedical scientists was invited to Yale.

DESIGN OF THE CONFERENCE

Listed in Table I is the group of biomedical and behavioral scientists invited to Yale under the cosponsorship of the Yale University Departments of Psy-

Table I. List of Invited Participants^a

W. Stewart Agras, M.D. Stanford University School of Medicine	Neal Miller, Ph.D.* Rockefeller University
John Basmajian, M.D.* Emory University School of Medicine	Adrian M. Ostfeld, M.D.* Yale University
Herbert Benson, M.D. Beth Israel Hospital	Evan Pattishall, Jr., Ph.D., M.D.* The Pennsylvania State University College of Medicine
M. Margaret Clark, Ph.D. University of California at San Francisco	Richard H. Rahe, M.D. Naval Health Research Center
Wendell R. Garner, Ph.D.* Yale University	Morton Reiser, M.D.* Yale University School of Medicine
W. Doyle Gentry, Ph.D.* Duke University Medical School	Judith Rodin, Ph.D.* Yale University
David Glass, Ph.D.* City University of New York	Gary E. Schwartz, Ph.D.* Yale University
David Hamburg, M.D. Institute of Medicine	Norman Scotch, Ph.D. Boston University Medical School
J. Alan Herd, M.D.* Harvard Medical School	Alvin P. Shapiro, M.D. University of Pittsburgh School of Medicine
Irving Janis, Ph.D.* Yale University	David Shapiro, Ph.D. University of California at Los Angeles
C. David Jenkins, Ph.D. Boston University	Albert J. Stunkard, M.D.* University of Pennsylvania Medical School
Mirian Kelty, Ph.D.* National Commission for the Protection of Human Subjects	Richard Surwit, Ph.D. Harvard Medical School
Richard S. Lazarus, Ph.D. University of California at Berkeley	Hussain Tuma, Ph.D.* National Institute of Mental Health
Hoyle Leigh, M.D.* Yale University School of Medicine	Stephen M. Weiss, Ph.D.* National Heart, Lung, and Blood Institute
Joseph Matarazzo, Ph.D.* University of Oregon Medical School	Louis Wienckowski, Ph.D.* National Institute of Mental Health
David Mechanic, Ph.D. University of Wisconsin	Redford Williams, Jr., M.D.* Duke University Medical School

^aNames with asterisks indicate those who were able to attend the conference. Written working statements were obtained from a number of invited participants who were not able to attend the meeting.

chology and Psychiatry and the National Heart, Lung, and Blood Institute of the National Institutes of Health.

After the invitations to participate had been sent, all invitees received a second letter containing a series of questions relating to “behavioral medicine” with a request for “working statements” in response to these questions. All invitees were requested to submit such responses whether or not they could actually attend the conference, to provide relevant and balanced discipline representation.

The actual instructions and questions requested of the invited participants were as follows:

In the process of preparing the final report, we would like to insure that all views be distributed and evaluated. Unlike many conferences, which discuss science in an “unscientific” manner, we would like to assess your opinions in a more organized and comprehensive fashion. Toward this end, we are requesting that each invited participant prepare a brief working statement of his views regarding:

- (1) a description and/or definition of behavioral medicine (from a few sentences to a few paragraphs, whichever you feel is necessary);
- (2) a listing of specific subareas that
 - (a) should be included
 - (b) are of questionable relevance, and
 - (c) should be excluded,
 from the heading of behavioral medicine;
- (3) a description of each subarea (a few sentences per subarea is sufficient);
- (4) specific conceptual, organizational, research and/or training issues that you feel should be addressed in behavioral medicine in the years to come.

We want these statements to be working documents in the real sense of the term. Hopefully, they will change in some ways for each of us as a result of the conference. Our plan is to collate *all* of the responses, removing names so that they can be utilized by each of the participants. The data will provide the foundation for everyone to become aware of similarities and differences in views among the invited participants, without having to personally defend one’s working statements since they will be distributed anonymously. It also will insure that everyone’s views will be expressed, and included in the formal analyses made of the responses.

The conference format focused on sets of four working groups, each taking primary responsibility for reviewing different portions of the written “working statements” sent in earlier by the participants.⁶

The tasks of the working groups were to carefully review all of the statements for which they had primary responsibility for the purpose of (1) developing a brief definition of “behavioral medicine” and (2) preparing a list of subareas to be included under the heading of behavioral medicine.

⁶ Although these statements were unsigned, the conference coordinators, through coding, arranged the distribution of statements so that no member reviewed his or her own statement as part of his or her group’s *primary* assignment. *All* statements, however, were available to *all* groups so that ideas could, at each group’s option, be incorporated from *any* statement.

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Each of the eight (4×2) working groups was balanced by discipline and leadership between biomedical and behavioral scientists (as was the origin of the working statements considered by each group).

All original working statements were presented *unsigned* so that each participant would not feel constrained to defend a given position as the conference progressed. These statements illustrate the similarities and differences in opinion expressed *before* the conference began. All major conclusions described in this article represent the composite thinking of the plenary sessions following each set of working group deliberations.⁷

RESULTS

The four major conclusions reached at the conference, including a brief description of how these conclusions were drawn, are outlined below.

Conclusion 1

It is possible to arrive at a general definition of behavioral medicine that is acceptable to a broad spectrum of researchers in the behavioral and biomedical sciences. The definition reads as follows:

Behavioral medicine is the field concerned with the *development* of *behavioral science* knowledge and techniques relevant to the understanding of *physical health* and *illness* and the *application* of this knowledge and these techniques to prevention, diagnosis, treatment and rehabilitation. Psychosis, neurosis, and substance abuse are included only insofar as they contribute to physical disorders as an end point.

In arriving at this definition, the group engaged in a lively discussion regarding the pros and cons of (1) defining behavioral medicine as a basic science, a science, a discipline, an approach, or a field (the last was deemed most appropriate since it emphasized the interdisciplinary nature of the area), (2) distinguishing between “development in the behavioral sciences of knowledge and techniques” vs. “development of behavioral science knowledge and techniques” (the latter was chosen because it has the advantage of not excluding persons lacking formal credentials in the behavioral sciences from working in the field of behavioral medicine), (3) emphasizing both health and illness, rather than stressing disease, and (4) needing to clarify when traditional psychiatric cate-

⁷The working statements were published as part of the appendix to the *Proceedings of the Yale Conference on Behavioral Medicine*, February 4-6, 1977, New Haven, Connecticut. G. E. Schwartz and S. M. Weiss (eds.), DHEW Publication No. NIH 78-1424.

gories not specifically concerned with physical health and disease are appropriate to the field of behavioral medicine.⁸

The group deliberately refrained from defining “behavioral science knowledge and techniques” explicitly, since it was recognized that the definition of behavioral science may change in the future. Also, considerable discussion was directed toward proposing a definition of behavioral medicine that was neither too narrow nor too broad. There was general agreement that the field of behavioral medicine should not be defined solely in terms of a specific discipline (e.g., psychology) or orientation (e.g., behavior modification) in the behavioral sciences or in terms of specific discipline (e.g., internal medicine) or orientation (e.g., homeostasis) in the biomedical sciences. On the other hand, it was agreed that specific areas and examples need to be provided in supplementary text to ensure that the definition of behavioral medicine is understood.

A point that was repeatedly voiced throughout the conference was the need for the field of behavioral medicine to emphasize the *development* of behavioral science knowledge and techniques rather than the uncritical application of current knowledge to clinical practice. To paraphrase a comment of one of the participants, Dr. Neal Miller, prevailing sentiment voiced at the conference was one of “being bold in what you try, but cautious in what you claim.”

Conclusion 2

It is possible to specify the content and subareas composing behavioral medicine. The following amplifies the proposed definition of behavioral medicine:

Behavioral medicine is a field concerned with research into the basic mechanisms whereby behavioral phenomena influence the epidemiology, etiology, pathogenesis, prevention, diagnosis, treatment, and rehabilitation of physical disorders. The disciplines contributing to the study of these phenomena include psychology, sociology, anthropology, education, epidemiology, biostatistics, and psychiatry. These disciplines must be coupled with the biological and medical sciences relevant to understanding the disease processes under study. Behavioral medicine is also concerned with the epidemiology, etiology, pathogenesis, diagnosis, prevention, treatment and rehabilitation of behavioral conditions such as appetitive disorders and failure to adhere to therapeutic regimens only insofar as they influence physical health and disease as an end point.

⁸ This definition was evolved to serve as a point of departure rather than as “the final word.” For example, although this definition purposely excludes traditional behavioral disorders *per se* from the scope of behavioral medicine, such disorders could be construed as being relevant to a broader conception of behavioral medicine. In fact, if behavioral disorders are redefined to reflect underlying functional disorders of the central nervous system (with the brain as the end organ in question), then it would follow that psychosis, neurosis, and substance abuse *per se* could be included in the present definition. This shift in emphasis would reflect more than a change in semantics. It would reflect an important change in conceptualization, in which mental disorders would no longer be described in purely psychodynamic or behavioral terms but rather would be seen and studied from an integrated, psychobiological perspective.

Specific examples in which principles of behavioral medicine have been used in the study of physical disease can be found in disorders such as hypertension and rheumatic heart disease. Behavioral medicine research on hypertension includes epidemiology of social, ethnic and racial influences, the role of environmental stressors in the etiology and pathogenesis of high blood pressure in experimental animals and humans, biofeedback and behavior modification procedures in the treatment of hypertension, and the behavioral facilitation of adherence to anti-hypertensive regimens. Behavioral medicine research on rheumatic heart disease includes the role of social factors in prevalence of streptococcal infections and their sequelae, adherence to prophylactic drug therapy, and the behavioral rehabilitation of patients recovering from surgical repair of deformed heart valves. Thus, it can be seen that research in behavioral medicine relates behavioral-science knowledge and techniques to basic sciences, clinical sciences and the application of findings through clinical therapeutic trials in the prevention and treatment of physical disorders.

The group proposed that a matrix could be helpful for organizing the kinds of problems with which behavioral medicine is concerned. This matrix is illustrated in Fig. 1.

Each problem may only fill in certain cells in the matrix, and not all aspects of all problems fit well into the matrix. But the matrix is an effort to demonstrate the fundamental similarities in the structure of research in behavioral medicine to that of traditional biomedical research.

The group decided that it is possible to make a general list of problems in behavioral medicine that can be applied to any physical disorder. The following list is based on the set of lists generated at the conference.

1. Sociocultural influences on physical health and disease, including epidemiological, anthropological, and sociological studies.
2. Psychosocial factors contributing to physical health and disease, including social psychology, personality, and psychophysiological studies investigating social, behavioral, and emotional stresses and their consequences.

[illegible]

Fig. 1. Matrix of problems in behavioral medicine.

3. Health behavior, illness behavior, and sick-role behavior.
4. Cognitive determinants of physical health and disease, with special recognition of placebo factors.
5. Development of behavioral diagnostic techniques, including psychophysiological assessment procedures (e.g., in stress testing).
6. Pain and its regulation.
7. Factors contributing to adherence to medical regimens (including compliance studies) and relevant research on behavioral approaches to the control of substance abuse.
8. Behavioral contributions to the treatment and rehabilitation of physical disorders, including stress management and self-regulatory therapies such as biofeedback and relaxation, and the evaluation of different types of psychotherapy and behavior change techniques.
9. Behavioral approaches to the prevention of physical disease and the promotion of health, including interdisciplinary research derived from education, economics, and social systems theory.

Finally the group proposed that examples be offered of areas of research *excluded* from behavioral medicine. These examples are as follows:

1. Traditional mental illness (psychosis, neurosis) *per se*.
2. Substance abuse *per se*.
3. Mental retardation *per se*.
4. Social welfare problems *per se*.

Conclusion 3

A major body of scientific research now exists that can and should be brought together under the general heading of behavioral medicine. This research is currently spread over diverse behavioral and biomedical publications, often hampering interdisciplinary communication and collaboration necessary for the continued development of the field. Specialized journals such as *Psychophysiology*, *Biological Psychology*, *Biofeedback and Self-regulation*, *Psychosomatic Medicine*, and the *International Journal of Psychiatry in Medicine* represent parts of the field of behavioral medicine, but no one journal provides a single comprehensive forum that is widely read by both behavioral and biomedical scientists concerned with biobehavioral research.

It was agreed, therefore, that there is a need for an interdisciplinary journal that emphasizes excellence in theory and research in the broad area of behavioral medicine. The consensus of the group emphasized the need for a publication of the highest quality. As an indication of such commitment, each conference participant volunteered a specific example of his or her current (or

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pending/proposed) research that he or she would be willing to have reviewed for a behavioral medicine journal of the quality envisaged by the group.⁹

Conclusion 4

The group agreed to explore the feasibility of forming a Society for Behavioral Medicine. It was emphasized that the society, like the journal, should emphasize excellence in basic research in behavioral medicine as well as controlled investigations dealing with clinical application. It was suggested that a survey be conducted to determine national interest in forming such a society. However, the mechanics for conducting such a survey were not established at the conference. It was generally agreed that although the journal could be sponsored by the society, there was no necessity in having the development of one be contingent upon the development of the other.¹⁰

Other issues discussed at the conference emphasized the need for workshops in such areas as biobehavioral research design as well as research training in behavioral medicine. Also, it was generally agreed that the above structures (journal, society) could serve to better acquaint interested audiences, e.g., the National Institutes of Health, the U.S. Congress, and the general public, with the potential for improving and maintaining health through the integrated research efforts of the behavioral and biomedical communities.

CONCLUDING REMARKS

The four major conclusions reached at the Yale Conference on Behavioral Medicine document the emergence of a new conceptual integration linking the efforts of the behavioral and biomedical sciences in problem areas of mutual concern. This article cannot adequately portray the interest, concern, and enthusiasm of the individual participants at the conference. We have not attempted to record the wealth of historical anecdotes mentioned at the conference regarding the evolution of theory and research in psychosomatic medicine and psycho-

⁹ Prior to the conference, Plenum Publishing Corporation indicated its intention to publish a journal in behavioral medicine, pending the selection of a suitable editorial board. An advisory board was selected by Plenum to assist in the selection of such an editorial board. This advisory board, consisting of conference participants Drs. David Glass, Joseph Matarazzo, Neal Miller, Gary Schwartz, Albert Stunkard, and Stephen Weiss, also recommended to Plenum that the basic principles herein endorsed by the participants of the Yale Conference on Behavioral Medicine serve as editorial guidelines for the new journal.

¹⁰ In a letter to Dr. Schwartz following the conference, Dr. Neal Miller suggested that "Inquiries about [the feasibility of forming] a Society for Behavioral Medicine could be sent out on behalf of the people meeting at our conference, containing the names of all those attending at the time we discussed this matter, and perhaps others, if they agree."

physiology. Nor have we illustrated the difficulties that prior conferences of this type have had in getting their groups of behavioral and biomedical participants to agree on common goals and strategies. Rather, what we have done is briefly summarize the encouraging progress made at the Yale Conference in formulating concrete proposals for a new definition, statement of scope, and set of goals for the evolution of the field of behavioral medicine. It is to be hoped that this information will be instrumental in stimulating awareness, reaction, and further discussion among researchers, clinicians, and laymen concerning this important scientific development.

Appendix B – Letter of Invitation (minus names of Invitees)

DATE: February 4, 2013

RE: Post-Materialist Science and Spirituality Meetingmeeting in February 2014

Dear Colleague,

Few scientists are aware that the modern scientific worldview rests on a few assumptions (actually, metaphysical speculations) based on classical physics. Materialism—the idea that everything in the universe is made of minuscule billiard balls—is one of these assumptions.

Nearly a century ago, quantum physics (QP) demolished this assumption by showing that atoms and subatomic particles are not really objects—they do not exist with certainty at definite spatial locations and definite times. In addition, QP demonstrated that particles being observed and the observer—the physicist and the method used for observation—are linked, and the results of the observation are influenced by the observer’s conscious intent. This effect implies that the consciousness of the observer is vital to the existence of the physical events being observed. That is, QP acknowledges that the physical world cannot be fully understood without making reference to mind and consciousness.

In other respects, an ever growing body of empirical evidence (e.g., neuroscience studies showing that humans can consciously and volitionally self-regulate brain activity; research on psi phenomena and near-death experiences; and laboratory experiments on mediums) supports the view that mind and consciousness cannot be simply reduced to the activity of nerve cells in the brain.

The dominance of the materialist ideology in the academic world has seriously hampered the development of consciousness research and the scientific study of spirituality. From a social perspective, this ideology is very detrimental since it depicts human beings as nothing more than biological machines completely determined by physical processes. Moreover, Materialism also has firmly dismissed the possible existence of a scientific engagement or embrace around a guiding and intelligent ultimate Source of consciousness in and through the Universe.

In our view, it is now time to free ourselves from the shackles and blinders of the scientific materialist credo and to revise our core assumptions about the nature of reality.

In line with this, we are writing to invite you to participate in a meeting on Post-Materialist Science and Spirituality to be held in Tucson in February, 2014 (the exact Friday - Sunday to be determined). This is a follow-up to a meeting of invited participants on Post-Materialist Science and Education held at Columbia University and organized by Lisa Miller, PhD.

The present meeting is hosted by the University of Arizona, Columbia University, and Canyon Ranch. The meeting is supported partially by a private donor and partially by Canyon Ranch.

The donor's funds will be used to cover your travel expenses up to \$750. ; Canyon Ranch (an internationally acclaimed health resort corporation, with headquarters in Tucson), will cover your hotel and food expenses (you will be staying at the Tucson resort; see www.canyonranch.com).

The main goals of the present meeting are: 1) To review the best empirical evidence for the justification of post-m-Materialist science; 2) To address the importance of post-materialist science taking us to spirituality; 3) To discuss a book project based on the meeting (every participant will write a chapter; the book will probably be published by Oxford University Press, a follow up to the Oxford Handbook of Psychology and Spirituality, Lisa Miller, Editor, which includes chapters from a number of the participants as well as the organizers); 4) To review a Manifesto for a Post-Materialist Science (which the organizers are drafting); 5) To consider scientific, educational, and political needs for the future (e.g., forming an Association for the Advancement of Post-Materialist Science and Education?; an Academy for Post-Materialist Science and Education?); 6) To examine possible future collaborations between the participants. The meeting will also include our sharing of relevant personal spiritual experiences which have informed our theories and research, and vice versa.

The list of invitees, arranged alphabetically, is provided below. Their disciplines include physics, biology, psychology, anthropology, neuroscience, medicine, psychiatry, and radiology. Fifty percent of the invited participants have MD's, and two-thirds have PhD's.

[List removed]

We very much hope you will be able to join us.

In your response, please indicate which Friday through Sunday dates in February you are available.

With kind regards,

Gary E. Schwartz, PhD

Professor of Psychology, Medicine, Neurology, Psychiatry, and Surgery

Director of the Laboratory for Advances in Consciousness and Health

Department of Psychology

University of Arizona

Lisa Miller, PhD

Professor and Head, Clinical Psychology Program

Department of Clinical Psychology
Columbia University

Mario Beauregard, Ph.D.
Associate Research Professor
Departments of Psychology and Radiology,
Neuroscience Research Center
University of Montreal

Senior Research Associate
Laboratory for Advances in Consciousness and Health
Department of Psychology
University of Arizona

Appendix C - Research Statements and Brief Bios of the Participants

International Summit on Post-Materialist Science, Spirituality and Society Research Statements and Biographies

Overview and Explanation:

To facilitate the invited participants (as well as the invited visitors / guests attending the Summit) having shared knowledge about the participant's relevant research and biographies, each of the participants (including the three co-organizers) was requested to prepare a brief research statement and biography.

The co-organizers prepared their brief statements and biographies first, and we distributed them as potential models. Though the participants were encouraged to follow the models, the participants were given the flexibility to present their information in the manner they chose (e.g. in terms of relative length, inclusion of references, degree of formality, etc.).

The order of the participant's research statements and biographies (presented below) follows the schedule of the Day 1 presentations. The documents include the statements and biographies of two of the participants who had to cancel shortly before the Summit was held.

The order of Day 1 was determined partly by role (the host of the Post-Materialist Science and Spirituality Summit / Schwartz, the host of the previous Post-Materialist Science meeting / Miller, and the third co-organizer / Beauregard), followed by the seniority of the eight invited participants.

Each participant's materials begin on a new page.

Session I – The Co-Organizers

Gary E. Schwartz, PhD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

My research which most directly and visibly relates to PMP concerns experiments on the topic of “survival of consciousness” after physical death. Much of this research has been summarized in three books: *The Afterlife Experiments* (2002), *The Truth about Medium* (2005), and *The Sacred Promise* (2011). The conclusion I have come to is that the totality of the evidence strongly supports the conclusion that consciousness survives physical death, and that the brain is a receiver system for consciousness (it is not the source of consciousness).

The Afterlife Experiments book addressed the basic question “Are any mediums real?” In other words, could any claimant mediums obtain accurate information about people’s deceased loved ones without resorting to fraud or trickery? Trained in the materialist paradigm (MP), I was taught that consciousness was a product of the brain (e.g. an emergent property of complex neural systems), and therefore when the brain died, consciousness ceased. Therefore, anyone who professed to be able to communicate with the deceased had to be (1) deceiving themselves or (2) deceiving others.

To insure that I would not be fooled by “fake mediums” (professionally known as “psychic entertainers”) I read secret books in how to be a fake medium, I took a formal course in how to become a fake medium, and I became a pretty good fake medium. Contrary to the false claims of certain strong skeptics (e.g. Mr. James Randi once labeled me “Gullible Gary”), I was cognizant of fraud and trickery and prepared for it from the outset.

Many of the experiments reported *The Afterlife Experiments* book were single blinded (i.e. the mediums were blind to the identities of the sitters and the sitters’ deceased loved ones); some experiments were double-blinded (i.e. the mediums were blind to the identities of the sitters and the sitters’ deceased loved ones, and the experimenters were blind to details about the sitters’ deceased loved ones). In two of the experiments, the mediums were not allowed to see the sitters (the sitters sat behind the mediums, and a floor to ceiling screen separated them), nor could they hear the sitters (the mediums were not allowed to ask questions, and the sitters were not allowed to speak). Individual Items were scored in terms of categories of names, initials, personal histories, descriptions of temperament, and “other” (e.g. “messages” allegedly from the deceased). The totality of the research clearly indicated that some mediums could obtain highly accurate and specific information under these conditions increasingly stringently controlled experimental conditions.

The Truth About Medium book replicated and extended these observations and included the presentation of a triple-blinded experiment which was subsequently published in the journal *Explore* (Beischel and Schwartz, 2007). In previous published experiments, the sitters were always present during their respective readings; therefore they were not blind to the information. In this experiment, a “proxy sitter” paradigm was used where an experimenter who only knew the first names of the sitters’ deceased loved ones contacted eight different mediums and readings were done over the phone. The sitters were not present during the phone readings. Afterwards each sitter completed item by item ratings of two readings; one was for their intended deceased loved one, the other reading was for someone else’s intended deceased loved one. The results indicated that blinded sitters rated their own readings significantly higher in terms of accuracy than their respective control readings, even though they were not told which reading was actually theirs.

The Sacred Promise book focused on what I term “self-science”; the process of applying the scientific method to the laboratory of our personal lives. This book divulged some unplanned instances in my personal life concerning deceased persons, for example, which resulted in the creation of new experimental designs which strongly pointed in the direction of consciousness beyond the brain. For example, I revealed the surprising birth of the “double-deceased paradigm” where one deceased person brings a second deceased person to a medium under blinded conditions.

In addition, *The Sacred Promise* included two chapters which discussed new research using state-of-the-art technology to detect the energy and information of “spirit.” I included detailed discussions of two sets of experiments, one using a silicon-photomultiplier system which can detect single photons of light in a pitch black environment, another using a super low light CCD camera system cooled to -77 degree centigrade (originally purchased on an NIH grant for biophoton imaging research). Both sets of experiments were published in *Explore*.

For the silicon-photomultiplier experiments, specific “departed hypothesized co-investigators” were invited to enter a “box within a box within a box” (a pitch black chamber) for 5 minute spirit intention trials compared to 5 minute control baseline trials. Three experiments showed significantly greater photons counted in spirit intention trials compared to matched control trials.

To rule out potential experimenter presence effects (in terms of physical energy and consciousness) as a possible explanation of the observations, I designed a completely computer automated experiment which presented the instructions for running the research visually and aurally via PowerPoint. The sessions were run at night after 11 pm when no experimenters were physically present (and at least the lead experimenter – me – was asleep). The computer conducted the entire experiment, including the collection and storage of the data. In two experiments using the super low light CCD camera, the results showed significantly greater evidence of organized photonic activity in the spirit intention trials compared to pre and post matched baseline control trials. Both of these sets of experiments were published in *Explore*.

A small group of parapsychologists have speculated that maybe the unconscious mind of the experimenter, while he was asleep, was secretly going to the laboratory in the middle of the night and manipulating the data, in other words “deceiving” the experimenter (and society) to reach the erroneous conclusion that it was the consciousness of collaborating spirits that was producing the effects. Though this possibility cannot be ruled out entirely, I have discovered that my conscious mind (as well as my research assistants’ minds) cannot willfully produce such effects.

In my 2012 chapter on consciousness, spirituality, and post-materialist science in the Oxford Handbook of Psychology and Spirituality, I illustrate how the three primary experimental methods used in neuroscience research – correlation, stimulation, and ablation / removal – are the same three experimental methods that electrical engineers use to diagnosis and repair receiver technology. In other words, findings using correlation, stimulation, and ablation / removal methodologies do not require the conclusion that the system is the cause or source of the information. Additional experimental methods (e.g. the use of independent receivers such as the minds of mediums) are required to determine whether a given system is the source of the information or is a receiver for the information.

I am currently focusing my research efforts on attempting to design and build a practical spirit detection and communication technology system (i.e. a system that would not only definitively establish

the existence of consciousness beyond the brain, but a system that could be used as a “soul phone”). This research involves the apparent active collaboration of senior scientists “on the other side.”

Besides this primary research, I have been collecting field observations of “naturalistic synchronistic events” and exploring the possible post-materialist mechanisms which could produce such events. I have completed, but not yet published, two books based on this research. In addition, Alan Bourey (a lawyer) and I have completed a book *A Common Path to Truth*.

Part II – Brief Biography

I began my undergraduate career as an electrical engineering student at Cornell University. I transferred into the College of Arts and Sciences in my sophomore year, becoming a pre-medical student with a psychology major and chemistry minor. I graduated magna cum laude, Phi Beta Kappa, Psi Chi, and Alpha Epsilon Delta.

In addition, during high school and college I played soul, funk, rock & roll, and jazz guitar in professional bands (and seriously considered a career in music).

I originally planned to do a joint PhD / MD program focusing on research. I began my graduate work in clinical psychology and psychophysiology at the University of Wisconsin in 1966 and then transferred to Harvard for my MA and PhD in 1967. Because research came so naturally to me (I had 21 publications by the time I finished my PhD in 1971), and I was offered an Assistant Professorship at Harvard, I delayed my formal medical training, and ultimately decided it was easier to collaborate with physicians than become one.

I was recruited to Yale in 1976 when I was 32 years old and served as a Professor of Psychology and Psychiatry, Director of the Yale Psychophysiology Center, and Co-Director of the Yale Behavioral Medicine Clinic. I received an Early Career Award for Distinguished Research from the American Psychological Association in 1979 and served as the third President of Division 38, Health Psychology. In those days I was considered to be a leader of Health Psychology and Behavioral Medicine, focusing on research in psychophysiology, biofeedback, meditation, emotion, and repression. I also co-edited a multiple volume book series called *Consciousness and Self-Regulation* which began at Harvard and continued at Yale.

However, partly because of my background in physics and quantum physics, and my fascination with the nature of light and feedback processes, coupled with some anomalous experiences I began to have (shared in *The G.O.D. Experiments* book), I began to question my materialist upbringing and education.

When I was recruited to the University of Arizona, and discovered it was a more open environment for this kind of theory and research, I felt a “calling” to move to the Southwest. Little did I realize that I would be moving to a university which would establish a leading Program in Integrative Medicine and a Center for Consciousness Studies, and that I would have the opportunity to collaborate with leading health resorts such as Canyon Ranch and Miraval.

I should mention that I fell in love with Native American (including Southwest, Pacific Northwest, and Plains Indian) Art as an undergraduate, and this passion has continued (and increased) over the years.

I am presently a Professor of Psychology, Medicine, Neurology, Psychiatry, and Surgery at the University of Arizona and Director of the Laboratory for Advances in Consciousness and Health. I also serve as Corporate Director of Development of Energy Healing at Canyon Ranch.

I received one of two National Centers for Frontier Medicine in Biofield Science from the National Center for Complementary and Alternative Medicine from NIH, and summarized this research in *The Energy Healing Experiments* book, a gold winner of the 208 Nautilus Book Awards.

I have published more than 450 scientific papers, including six papers in the journal *Science*, and co-edited 11 academic books. My latest award was a 2012 Distinguished Contribution to Psychology Award from the Arizona Psychological Association for my research integrating psychology, spirituality, and health. I am a Fellow of multiple societies, and my research has been featured in numerous TV and documentary films, most recently *The Life After Death Project* by Paul Davids in 2013.

However, my favorite title and role is being the “Assistant Curator” for the “Schwartz Tribal Native Arts Museum and Gallery.” The “Curator” is my leader and love, Rhonda Rae Eklund Schwartz. Rhonda and I share a passion for feathered creatures (especially ravens, Mexican blue jays, and ducks, which we celebrate in their natural habitats).

Session I – The Co-Organizers

Mario Beauregard, PhD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

A significant portion of the research I have conducted so far supports a post-materialist perspective. This research concerns mainly the impact of mental phenomena on brain activity, and near-death experiences (NDEs) during cardiac arrest. I have summarized and discussed this research in two books: *The Spiritual Brain* (2007) and *Brain Wars* (2012).

One of the assumptions within materialist theories is that the mind is causally impotent, i.e. our thoughts cannot have any effect upon our brains and bodies, our actions, and the physical world. To test this assumption, I have carried out several functional magnetic resonance imaging (fMRI) studies. In some of these studies, participants were asked to volitionally self-regulate their subjective responses to emotionally-laden pictures or film clips. The results of these studies (published in journals such as *The Journal of Neuroscience* and *Biological Psychiatry*, and discussed in the academic book entitled *Consciousness, Emotional Self-Regulation and the Brain*) revealed that healthy people can consciously and intentionally modulate the activity of brain regions and circuits involved in emotional processing. I also used positron emission tomography (PET) to investigate whether people can influence the activity of serotonin, a chemical messenger crucially involved in mood and the control of emotion. Participants were asked to self-induce transient states of sadness and happiness. To do so, they were instructed to relive and re-enact intense, genuine emotions associated with specific autobiographical memories. After the scanning session, they were asked to report the intensity of the emotions they experienced on a self-report scale. All of the participants reported that they significantly experienced the target emotional states, and the PET results mirrored their subjective reports in distinct ways: their reported level of sadness was correlated with a reduction of serotonin production in the *brain's emotional regions*; in contrast, the intensity of the happy feelings was associated with increased serotonin production in emotional areas of the brain (this study was published in *The Journal of Psychiatry and Neuroscience*). This finding suggests that it is effectively possible to volitionally influence brain chemicals related to emotions and mood.

In brief, my research has shown that changes in thoughts and feelings have the power to transform the brain. My research team and I confirmed this with a group of young women suffering from arachnophobia. This irrational fear of spiders can be so intense as to trigger panic attacks, even when a living spider is not actually present. In our experiment, we asked these spider phobics to watch film excerpts of live spiders in motion while we scanned their brains with fMRI. All of the participants experienced intense fearful feelings as they watched the spiders on the screen, and the fMRI scans revealed that the fear reaction was associated with a strong activation of the hippocampal formation (an important component of the emotional brain). One week later, our phobics began a cognitive-behavioral therapy designed to lessen their fear of spiders. At the end of the therapy (which lasted one month), all of the participants were able to touch a huge, live tarantula. This is quite remarkable, considering that before therapy, most were so phobic that they were unable to touch even *pictures* of spiders. A week after the end of therapy, we again scanned the participants as they watched film excerpts of moving spiders. This time, the film excerpts did not produce fearful feelings, and the scans backed up their responses: they showed no activation of the hippocampal formation. These impressive findings (published in *NeuroImage*) suggest that the participants had functionally “rewired” their own brains, over a period of only a few weeks, so that they no longer felt the fear that had restricted their lives.

I also examined the implications of the neuroimaging studies of the placebo effect. In my view, the results of these investigations provide convincing evidence that beliefs, expectations, and hope for improvement can markedly modulate neurophysiological and neurochemical activity in brain regions involved in a variety of

functions (e.g., perception, movement, pain, emotion). In other words, the subjective nature and the intentional content of mental processes significantly influence the various levels of brain activity and, therefore, mentalistic variables have to be seriously taken into account to reach a correct understanding of the neural bases of behavior in humans (I addressed these issues in *Progress in Neurobiology* and *Philosophical Transactions of the Royal Society B: Biological Sciences*).

Materialist scientists and philosophers commonly argue that what appears to be instances of mental influence on brain activity is, in reality, the result of the action of certain cerebral structures on other areas of the brain. If this claim is valid, then the mind cannot operate when the brain is non-functional. To test the validity of this claim, I decided to investigate NDEs. These vivid, realistic, and often deeply life-changing experiences occur to people who have been physiologically or psychologically close to death. NDEs can be evoked by cardiac arrest and coma caused by brain damage, intoxication, or asphyxia. They can also happen following such events as electrocution, complications from surgery, or severe blood loss during or after a delivery. Enhanced mental activity, a clear memory of the experience, and a conviction that the experience is more real than ordinary waking consciousness are core features of NDEs. Other common features include an out-of-body experience (OBE), i.e. a sense of having left one's body and watching events going on around one's body and, occasionally, at some distant physical location; feelings of peace and joy; passage through a region of darkness or a dark tunnel; encountering deceased relatives and friends; seeing an unusually bright light, sometimes experienced as a "Being of Light" that radiates complete acceptance and unconditional love and may communicate telepathically with the near-death experiencer (NDEr); seeing and reliving major and incidental events of one's life, sometimes from the perspective of the other people involved; and returning to the physical body, often unwillingly.

Nearly half of the NDErs report an OBE. Reports of OBE perception of events (e.g. attempts of medical personnel to resuscitate the NDErs) are quite important because they can be independently corroborated, i.e. proven to coincide with reality. With respect to this question, several reports of OBE perception have been corroborated by independent witnesses. Moreover, NDEs occurring in cardiac arrest pose a major problem for materialist theories of the mind. During cardiac arrest, breathing stops, and blood flow and oxygen uptake in the brain are rapidly interrupted. When this happens, the electroencephalogram (EEG) becomes isoelectric (flat-line) within 10–20 seconds and brainstem reflexes disappear. The individual having the cardiac arrest is then considered to be clinically dead. Because the brain structures mediating conscious experience and higher mental functions are severely impaired, such patients are expected to have no clear and lucid mental experiences that will be remembered. Nonetheless, studies have revealed that approximately 15 percent of cardiac arrest survivors do report some recollection from the time when they were clinically dead. In those studies, more than 100 cases of full-blown NDEs were reported. In some of these cases, NDErs provided evidence for veridical OBE perception. In keeping with this, I have published a case of veridical OBE perception during cardiac arrest in the journal *Resuscitation*.

Moreover, I have argued that the fact that enhanced mental experiences and accurate OBE perception can occur at a time when brain activity is greatly impaired or seemingly absent (during clinical death) indicates that mind and consciousness do not result solely from brain activity. Importantly, from an ontological perspective, NDEs occurring in cardiac arrest suggest that there may be other levels of reality that are non-physical.

As for my current research efforts, I dedicate my time and energy mostly to the elaboration of a theory about the psyche (called the Theory of Psychelementarity) and the articulation of a new scientific (post-materialist) paradigm (this emerging paradigm is based on multiple lines of empirical evidence). I will also undertake soon a research project about love and spirituality (in collaboration with Gary Schwartz and Natalie Trent von Haesler).

Part II – Brief Biography

Since my childhood, I had been fascinated by the relationship between the brain and mind, consciousness, and spirit. Given this fascination, I decided after I reached my teens that I would study both psychology and neuroscience. In line with this, I began my undergraduate career as a psychology student at the University of Montreal. Following the obtention of my bachelor degree (1986), I joined the University of Montreal's graduate program in neuroscience.

As a university student, I fully realized the limitations of mainstream psychology and neuroscience. Clearly, the kind of science I was looking for did not exist yet. Intuitively feeling that I would later become involved in the elaboration of a new scientific paradigm, I also understood that in order to achieve this, it was crucial for me to build a successful academic career. It is in this frame of mind that I underwent postdoctoral fellowships at the National Institute of Mental Health (NIMH) (1992-1994) and the Montreal Neurological Institute (MNI) (McGill University) (1994-1996). During my postdoctoral work, I developed an expertise in cognitive and affective neuroscience, as well as in brain imaging (PET, fMRI). I was recruited to the University of Montreal in 1996 and served as an Assistant Professor of Psychology and Radiology. A few years later, I received an Early Career Award for Distinguished Research from the Quebec Health Research Fund. At about the same time, my research team and I conducting the first neuroimaging study seeking to investigate the neural correlates of conscious and voluntary regulation of emotion (the paper reporting the results of this study has been cited 800 times since its publication). In 2003 I became an Associate Professor of Psychology and Radiology.

Feeling that it was now time to expand the boundaries of neuroscience, I created a research program aimed at identifying the neural mechanisms mediating various types of spiritual experiences (this program was funded by the John Templeton Foundation). This groundbreaking research on the neurobiology of spiritual experiences has received international media coverage, and a documentary film has been produced about this work (*The Mystical Brain*, 2007). I also co-organized symposia entitled *Neuroscience, Consciousness and Spirituality* (Freiburg, Germany, 2008) and *Beyond the Mind-Body Problem: New Paradigms in the Science of Consciousness* (United Nations, New York, 2008).

To date I have published more than 100 publications (articles, essays, book chapters) in neuroscience/psychology/psychiatry, and co-edited a number of academic books. My research has been funded by the Natural Sciences and Engineering Research Council of Canada (NSERC) the Canadian Institutes of Health Research (CIHR), the Quebec Health Research Fund, and private foundations. I have appeared over several radio programs in the U.S.A., Canada, and Europe, Asia, and Australia. My research has been featured on TV, in documentaries, and in many newspapers and magazines (e.g. *Nature*, *Science*, *The New Scientist*, *Scientific American Mind*). I have also received a number of distinctions, including the Joel F. Lubar Award (*International Society for Neuronal Regulation*, USA) and the Spectrum Award (*The Institutes for the Achievement of Human Potential*, USA). In addition, I have been selected by the World Media Net to be one of the "One Hundred Pioneers of the 21st Century." Being also an author, I have published *The Spiritual Brain* and *Brain Wars*. Recently, I participated in a dialogue with the Dalai Lama in regard to the science of mind (Melbourne, Australia). I also participated in *What the BLEEP: Now What!?*, a sequel to *What the BLEEP Do We Know!?*

Because my anti-materialist stance and some aspects of my research were judged highly controversial (and even heretical) by some of the people in charge of the University of Montreal, I did not get tenure and was expelled from this institution. Thanks to Gary Schwartz, I am now a Senior Research Associate affiliated with the Laboratory for Advances in Consciousness and Health, Department of Psychology, the University of Arizona.

Session I – The Co-Organizers

Lisa Miller, PhD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

My work is dedicated to illuminating the centrality of spiritual reality, and supporting spiritual awareness. A post-material spiritual clinical psychology unifies inner experience and outer events, such that the Universe compels us further along the spiritual path, to a place of deeper love and connection with the with way of the Presence.

My clinical research has focused on bringing Spiritual Awareness, as a post-material spiritual frame to treatment, particularly with underserved populations. Together with my doctoral students and colleagues, we offer spiritual visualization, spiritual interpersonal and more generally, spiritual awareness psychotherapy..

Spiritual Awareness Psychotherapy (APA Video, 2005) specifically holds that if we can be present to the Spirit guiding and holding the moments in our lives, then we will see our way through suffering to an expanded nature. The purpose of our path is to deepen our love, erode our ego, and expand spiritually. The events of our lives are by nature foundationally spiritual events, offering this chance to love and give.

Spiritual awareness is the key to healing. Suffering comes from working against the path or ignoring the path.

I have found that the children who face acute limitations in care form a direct relationship with the Ultimate Presence. Painful events, that violate what our ego wanted, accelerate spiritual growth. Naturally this has been observed by many others, and called many things. When we encounter the edges of incarnate life and death, we have great access to spirit.

The spiritual awareness of homeless children, women who have miscarried, and families who encounter sickness and death is wide open awareness. My outstanding graduate student at Columbia University, Liz Murray once homeless, and who wrote “Homeless to Harvard” put it beautifully, “when the container cracks, your parents are ill or loose it, you do not have what you need, you can see clearly.” I work with graduate students in psychology who are on a spiritual path; their own spiritual attunement really is the only way that a foundationally spiritual treatment can effectively work. Together we work out of a transcendental space.

A complimentary line of research within more basic science investigates spirituality as foundational in the etiology of highly prevalent forms of disorder in youth. Here I have published roughly 80-100 articles and chapters on spirituality in health and wellness in children and adolescents. The questions I ask in this work are best understood through the rubric of post-materialism, but my method is quite standard. My work has in its method not directly engaged post-materialism, but has been foundationally about spirituality as understood at multiple levels of analysis using observable

methodology. The data culled through traditional labs very often finds best explanation through a post-material lense.

PART II – Brief Biography

I graduated Magna Cum Laude, with honors in the major in Psychology from Yale University, and then a Ph.D. in Clinical Psychology from University of Pennsylvania where went to study under Martin Seligman during the time he was launching the positive psychology movement. Marty and I took long walks just about every week, talking freely about ideas- he confirmed for me the power of scientific imagination, use of intuition and to be a “psychologist who writes more reads” by which he meant an innovator. Strolling to the coffee shop, I saw Marty build his own ideas, from the inside out, drawing from his inner wisdom, non-reactive to non-scientific attack. He held clear, open-minded and strongly committed to a vision. During doctoral study in the difficult academic years following, Marty was a great support and constant ally, even when he might have disagreed with the specifics of my ideas- he supported me as an independent voice and scientist.

The seeds of a view of a foundational spiritual psychology, a post-material spiritual psychology, were planted prior to university education, during my lived experience in childhood and adolescents. I could see with the clear eyes of a child the unfolding relationships in the universe- the morality built into the fabric of manifestation, the love and consciousness in and through every moment. Naturally there were not always confirmatory voices, but that did not matter, because I also could see the daily actions of spiritual people (often the very same people), who operated by these observations.

During my postdoc at Columbia Medical School, I spent hours and hours on the 1-9 Broadway subway. I noticed hundreds youths, children, teens and families, many of whom were in poverty. It seemed to me that most of what I read at the end of the subway line, in the academic journals, basically proposed an inert treatment with these youths in any deep and important way. It was abundantly clear on the subway that the youths who were thriving, whether poor or not poor, educated or not educated, had a spiritual connection or sense of personal alignment with the spiritual nature of reality.

Many days on the subway brought instructive synchronicities. As I got off the subway, I reflected on the significance of the sacred drama on understanding the phenomena of spirituality in youth. I then spent the day at Columbia bringing the valuable knowledge of the subway into the method, practice and language of my field. As a ground to integrate spiritual awareness, I worked through clinical psychology, and more specifically research on struggle (depression, anxiety and substance use), risk and resilience.

I grew up in a highly religious community in the Midwest. Everyone knew in this otherwise devout and religiously homogenous world that my family was a religious minority- yet our faith was very much respected, and as family we were loved and gave love to fellow families. I got used to be a conceptual minority, or a minority in specific intellectual approach, while assured that our relationships as people were loving- and that life is made of love.

This was an ideal preparation for a life of loving people and connecting with people, many of who had different cosmologies. I have always been blessed with friends to share and honor the spirituality reality. Yet, this has not been the dominant culture I which I live. My adult life's work has emerged as bringing witness to the spiritual reality into which we are so blessed.

I have dedicated nearly twenty years to putting spirituality in to psychotherapy, our foundational model of the family, child and adolescent, development, wellness and resilience, particularly in the first two decades of life. This can only really be done by validating the true knowing of the child as a spiritual being- and seeing the child as interwoven with the fullness of the universe.

With this view, I have worked with some of you, as well as our colleagues, and look forward to future collaborations to build a field of post-material spiritual psychology.

The work to date includes Editor of *The Oxford University Press Handbook of Spirituality & Psychology* and Co-Editor of the new APA Journal, *Spirituality in Clinical Practice*.

Over the past twenty years, I have tried to contribute to putting a foundational post-material spiritual view into clinical psychology and wellness. I deeply cherish and find thrilling the prospective moment of us together at Canyon Ranch. Here where the spiritual presence is overtly discussed and understood as the scared bedrock from which we live, work and form relationships.

When I started out in pursuit of scientific and clinical engagement with spirituality, I was warned by junior colleagues that I would "never be funded" or have a difficult time getting tenure. But actually, there has always been support from curious and spiritual senior faculty, particularly when I needed help. Early in my career I won the William T Grant Scholars Award (five years of funding to go develop ideas), the work which I was awarded tenure, eventually voted a Fellow of the APA, and now am Director of Clinical Psychology at Columbia University, Teachers College, all on account of the focus on spirituality in youth.

Session II – Physics, Psychology, Biology

Charles Tart, PhD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

I will refer to a few relevant publications, with a brief commentary on each. But basically just about all my career work has been toward a post-materialist paradigm.

Books:

Altered States of Consciousness. 1969. Laying the ground for opening to many ways for mind to function.

On Being Stoned: A Psychological Study of Marijuana Intoxication. 1971. Demonstration of how an altered state can be phenomenologically studied.

Transpersonal Psychologies. 1975. Showing psychologies embedded in various spiritual traditions.

States of Consciousness. 1975. Systems approach to nature of any state of consciousness, induction, de-induction.

Learning to Use Extrasensory Perception. 1976. Demo that serial screening and feedback training can produced high level ESP.

Mind at Large: Institute of Electrical and Electronic Engineers Symposia on the Nature of Extrasensory Perception. 1979 (Tart, C., Puthoff, H., & Targ, R., Editors and Contributors). Rigorous scientific study of psychic aspects of mind, especially remote viewing,

Waking Up: Overcoming the Obstacles to Human Potential. 1986. Adaptation of Gurdjieffian ideas to mindfulness training, a basic practice in spiritual growth systems. Also *Living the Mindful Life*. 1994 and *Mind Science: Meditation Training for Practical People*. 2001. Alternate presentations, as in *Waking Up*, stressing formal meditation practices as well as mindfulness in life.

The End of Materialism: How Evidence of the Paranormal is Bringing Science and Spirit Together. 2009. Overview of major parapsychological phenomena showing that while material brain is important, mind is something more.

Professional Journal Articles:

Physiological correlates of psi cognition. 1963. *International Journal of Parapsychology*, 5, 375-386. Our bodies may show evidence of reacting to ESP even if our conscious minds don't get it.

Experimenter bias in hypnotist performance. 1964. *Science*, 145, 1330-1331. (Troffer, S., & Tart, C.). Demonstration if bias in sophisticated psychologist experimenters even though they know they are being tested for bias.

Toward the experimental control of dreaming: A review of the literature. 1965. *Psychological Bulletin*, 64, 81-92. Dreams can be investigated in more active ways, not just passively.

A psychophysiological study of out-of-the-body experiences in a selected subject. 1968. *Journal of the American Society for Psychical Research*, 62, 3-27. An exotic phenomena like OBEs can be studied physiologically in the lab, and correct guessing of a 5-digit target number strongly suggests a person can really be out of body, it's not just imagination.

Self-report scales of hypnotic depth. 1970. *International Journal of Clinical and Experimental Hypnosis*, 18, 105-125. Experience is not simply beyond scientific measurement, it can be scaled.

Transpersonal potentialities of deep hypnosis. 1970. *Journal of Transpersonal Psychology*, 2, 27-40. Mystical experiences arising from extension of hypnosis.

Improving real-time ESP by suppressing the future: Trans-tempo-ral inhibition. 1977. *Proceedings of the IEEE Electro 77 Convention*, 1977. Discovering a known information processing mechanism operating in ESP functioning.

The controversy about psi: Two psychological theories. 1982. *Journal of Parapsychology*, 46, 313-320. Psychodynamics involved in irrational rejection of ESP.

Mind embodied: Computer-generated virtual reality as a new, dual-istic-interactive model for transpersonal psychology. In K. Rao (Editor), *Cultivating Consciousness: Enhancing Human Potential, Wellness and Healing*. Westport, Connecticut: Praeger, 1993. Pp. 123-137. Formal dualistic model with psi being the connecting link between mind and body.

Toward the objective exploration of non-ordinary reality. 1995 *Journal of Transpersonal Psychology*, 27, No. 1, 57-67. Distinguishing what is real in the "spiritual" realm from the imaginary.

On the scientific foundations of Transpersonal Psychology: Contributions from Parapsychology. 2004. *Journal of Transpersonal Psychology*, 36, No. 1, 66-90.

Part II – Brief Biography

I was born in 1937, and grew up in Trenton, the capitol of New Jersey. My father, Charles Samuel Tart, was a singer and band leader in Trenton, and my mother, Alma Mathilda Pfleger, worked part time at secretarial kinds of jobs. Neither were formally religious, although my maternal grandmother was, and her great love for me strongly shaped my initial religious convictions. An early bout with rheumatic fever, for which prolonged bed rest was the only treatment at the time, kept me out of the usual athletic parts of boyhood, although eventually I recovered enough to be active in the Boy Scouts for many years, and I still have a love of hiking and camping.

I graduated from Hamilton Township High School and was part of the school's debating team, as well as a radio amateur (K2CFP – "King Two Chocolate Flavored Pickles," as I expressed it phonetically when chatting with other hams over the radio). I taught myself electricity and electronics while still in high school, passed the Federal examinations for a First Class Radiotelephone License, and was employed as an engineer at various radio stations to work my way through college. I was the first

person in my family to have any schooling beyond high school. I also started becoming disillusioned with organized religion during high school and, being a voracious reader, discovered the world's spiritual traditions and psychical research. The latter was an influence that has guided and is still active in my life, for it recognized that a lot of religion and spirituality was indeed mistaken and superstitious, that science had made enormous progress, but why couldn't we apply the methods of science to sifting the wheat from the chaff, discovering what aspects of religion and spirituality were real and which were indeed nonsense? That has been the theme of my entire professional career – as well as just plain curiosity about all sorts of things...

Convinced I was going to be an electrical engineer, I attended MIT for two years, studying electrical engineering. Finding I was not good at advanced math, and having already met some of the prominent parapsychologists of the day, like J. B. Rhine when they lectured in Boston, I transferred to Duke University to pursue parapsychology and psychology. Parapsychology, the modern version of psychical research, what's true and not true in the spiritual, psychology, what is the nature of the mind?

While a student at Duke I met and married my beloved wife of more than 55 years, Judith Ann Bamberger. Duke was then way too expensive for me so I transferred to the University of North Carolina at Chapel Hill, first earned my BA there, then went on to a PhD in psychology in 1963, followed by two years of post-doctoral training at Stanford University. At Stanford I had the great fortune of working with Ernest Hilgard, one of the leading American psychologists, who was focusing on hypnosis research. He was a great mentor, although I think he was disappointed that I wouldn't give up my interests in parapsychology.

Those two years were also the time of what many have called the psychedelic and spiritual revolution in California, so I was exposed to a wide variety of spiritual and psychological growth techniques. One of the main things I learned from that was how important it was to not get carried away by clever ideas about human psychological and spiritual nature, but to try to ground them in direct experiential knowledge.

Then followed a year at the University of Virginia in Charlottesville, working to some degree with Ian Stevenson, the world's foremost reincarnation researcher and befriending Robert Monroe, author of the classic *Journeys Out of the Body* and other books describing his many out-of-body experiences. I then became a professor and taught and carried out research at the Davis campus of the University of California for 28 years. My 1969 book *Altered States of Consciousness*, now considered a classic, established an international reputation for me as a pioneer researcher, helping to open this exotic area as a legitimate field of study. I've published more than a dozen other books and hundreds of scientific journal articles, and my altered states of consciousness class at UC Davis was one of the most popular elective courses on campus.

After retiring from UC Davis in 1994, I began teaching part time at the Institute of Transpersonal Psychology in Palo Alto, a graduate school devoted to training PhD level teachers and researchers in the new field of Transpersonal Psychology, a field that my book *Transpersonal Psychologies* (1975) also helped to establish. This field is about looking at the spiritual side of humanity with an open mind, rather than automatically dismissing it as fantasy, distinguishing what is real and healthy from what is indeed imaginary and psychopathological, and learning how to help people have direct, personal experience of their spiritual nature and integrate such experiences into their lives in health ways. Knowing how irrationally resistant people, even scientists

who should know better, can be to parapsychological phenomena, though, I scarcely mentioned them in the Transpersonal Psychologies book, focusing on psychological aspects of spirituality.

I was raised as a Lutheran, but experienced a typical crisis of faith as a teenager. Through my extensive reading and exploration, though, I came to believe that genuine, open-minded science and genuine, open-minded spirituality were compatible and, indeed could help each other and that we already had basic scientific proof that there was something real and vital under the heading of the spiritual, even if our knowledge was quite distorted. My personal life and professional career has mixed rigorous psychological and parapsychological research with spiritual training in various paths, especially G. I. Gurdjieff's teachings on mindfulness and, in the latter part of my life, Buddhism. My conclusion that a person could (and should) be both rational and spiritual is argued in my life-work's book, *The End of Materialism: How Evidence of the Paranormal is Bringing Science and Spirit Together* (2009). Although I am over-fascinated by ideas, I have generally been very practically oriented. I've taught meditation and mindfulness techniques to many people and written several books on this, as well as, with my wife Judy, earning a Black Belt in Aikido in 1987.

I have two children and two grandchildren, and, to my pleasure and amazement, my daughter-in-law, Candyce Tart, now has a PhD in clinical psychology and specializes in mindfulness-based therapy! My wife Judy and I meditate and study various spiritual teachings regularly, and I hope to continue to spend as many years as possible building bridges between genuine science and genuine spirituality, to the enrichment of both.

Session II – Physics, Psychology, Biology

Rupert Sheldrake, PhD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

Near the beginning of my scientific career, while I was working as a Royal Society Research Fellow at Cambridge, I was confronted with the problems of understanding biological morphogenesis. My work on plant development made it clear that a purely mechanistic account would not work, and I became interested in more holistic concepts in biology, especially the idea of morphogenetic fields, first introduced into developmental biology in the 1920s. In thinking about how these fields were inherited, I came up with a radical hypothesis, the idea of morphic resonance, a transfer of memory across time from similar system for subsequent similar self-organising systems. This theory made many predictions in the realms of morphogenesis, crystallography, animal behaviour, and human learning. This hypothesis was first published in my book *A NEW SCIENCE OF LIFE* in 1981, and developed in more detail in my second book *THE PRESENCE OF THE PAST* (1988). There was of course a great deal of controversy about this idea, but no one showed that it was illogical, contradicted by the evidence, or scientifically impossible. The main criticism was that it was unnecessary because mechanistic science would sooner or later explain all unsolved problems. That has not happened and in the new editions of *A NEW SCIENCE OF LIFE* and *THE PRESENCE OF THE PAST*, published recently, I show how subsequent developments in biology have reinforced, rather than undermined, the need to go beyond the limitations of the mechanistic approach.

In my 1994 book *SEVEN EXPERIMENTS THAT COULD CHANGE THE WORLD*, I propose simple low-cost tests in different areas of science that could take us beyond the standard materialist paradigm. Two of these experiments form the basis of subsequent books, *DOGS THAT KNOW WHEN THEIR OWNERS ARE COMING HOME* (1999) and *THE SENSE OF BEING STARED AT* (2003).

In the 1990s I investigated unexplained powers of animals, particularly telepathy and premonitions, and subsequently studied similar phenomena in humans, particularly in relation to mother-baby telepathy and telephone telepathy. I devised a number of new experimental procedures and have published more than 40 papers on my research on the sense of being stared at, telepathy in animals and humans, premonitions of earthquakes and other disasters, morphic resonance, and experimenter effects.

My most comprehensive and radical contribution to a post-materialist science is my book *SCIENCE SET FREE* (2012) (called *THE SCIENCE DELUSION* in the UK). In this book I turn the 10 principal dogmas of materialist science into questions and examine how well they stand up to scientific scrutiny. None of them do. I also show how the questioning of these dogmas opens up whole new areas for scientific investigation. I argue that a post materialist science would be more interesting, more exciting and more productive than continuing along established lines.

Part 2 – Brief Biography

Rupert Sheldrake is a biologist and author of more than 80 scientific papers and ten books. He studied natural sciences at Cambridge University, where he was a Scholar of Clare College, took a double first class

honours degree and was awarded the University Botany Prize (1963). He then studied philosophy and history of science at Harvard University, where he was a Frank Knox Fellow (1963-64), before returning to Cambridge, where he took a Ph.D. in biochemistry (1967). He was a Fellow of Clare College, Cambridge (1967-73), where he was Director of Studies in biochemistry and cell biology. As the Rosenheim Research Fellow of the Royal Society (1970-73), he carried out research on the development of plants and the ageing of cells in the Department of Biochemistry at Cambridge University.

While at Cambridge, together with Philip Rubery, he discovered the mechanism of polar auxin transport, the process by which the plant hormone auxin is carried from the shoots towards the roots. From 1968 to 1969, as a Royal Society Leverhulme Scholar, based in the Botany Department of the University of Malaya, Kuala Lumpur, he studied rain forest plants. From 1974 to 1985 he was Principal Plant Physiologist and Consultant Physiologist at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in Hyderabad, India, where he helped develop new cropping systems now widely used by farmers. While in India, he also lived for a year and a half at the ashram of Fr Bede Griffiths in Tamil Nadu, where he wrote his first book, *A New Science of Life*, published in 1981 (new edition 2009). Since 1981, he has continued research on developmental and cell biology. He has also investigated unexplained aspects of animal behaviour, including how pigeons find their way home, the telepathic abilities of dogs, cats and other animals, and the apparent abilities of animals to anticipate earthquakes and tsunamis.

He subsequently studied similar phenomena in people, including the sense of being stared at, telepathy between mothers and babies, telepathy in connection with telephone calls, and premonitions. Although some of these areas overlap the field of parapsychology, he approaches them as a biologist, and bases his research on natural history and experiments under natural conditions, as opposed to laboratory studies. His research on these subjects is summarized in his books *Seven Experiments That Could Change the World* (1994, second edition 2002), *Dogs that Know When their Owners Are Coming Home* (1999, new edition 2011) and *The Sense of Being Stared At* (2003, new edition 2012). In his most recent book (2012), called *The Science Delusion* in the UK and *Science Set Free* in the US, he examines the ten dogmas of modern science, and shows how they can be turned into questions that open up new vistas of scientific possibility. This book received the Book of the Year Award from the British Scientific and Medical Network. In 2000, he was the Steinbach Scholar in Residence at the Woods Hole Oceanographic Institute in Cape Cod, Massachusetts.

From 2005-2010 he was the Director of the Perrott-Warrick Project, funded from Trinity College, Cambridge University. He is also a Fellow of the Institute of Noetic Sciences in California, a Visiting Professor at the Graduate Institute in Connecticut, and a Fellow of Schumacher College in Devon, England. He lives in London with his wife Jill Purce www.healingvoice.com. They have two sons, Merlin, a graduate student in Plant Sciences at Cambridge University and a research fellow at The Smithsonian Tropical Research Institute, and Cosmo, a musician www.cosmosheldrake.com.

Session III – Medicine, Cardiology, Anthropology

Larry Dossey, MD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

My professional contributions to a post-materialist paradigm (PMP) have been largely literary — a dozen books and hundreds of chapters, editorials, essays and articles promoting, in one way or another, a PMP. In addition, I have served as a kind of “roving ambassador” for a PMP, giving hundreds of talks in the U. S. and abroad since the early 1980s.

I co-founded two peer-reviewed journals in the field of alternative/complementary/integrative medicine. I have served as executive editor for each of them: *Alternative Therapies in Health and Medicine* (1995 to 2003) and *Explore: The Journal of Science and Healing* (2005 to present). In both these journals, my editorial team and I have published research supportive of a post-materialistic approach to health and healing. In our openness to these views, we have been fairly unique among peer-reviewed medical journals, which often shun this material.

These contributions have existed alongside my professional life as a physician of internal medicine.

Many of my books have been “out front” with ideas and concepts that were pioneering at the time, but which would later be embraced by the wider culture, including my profession of medicine. Examples:

Space, Time & Medicine (1982) was perhaps the first thorough attempt in medicine to show how approaches to health and healing differ, depending on whether one holds a classical, mechanical, Newtonian view or a quantum-relativistic worldview.

In *Beyond Illness* (1984) I explored the ways in which health and illness inform each other and “mutually condition” each other as a true complementarity, in Bohr’s original meaning of the term.

In *Recovering the Soul* (1989) I coined the term “nonlocal mind.” I have been unable to discover any earlier use of this term in the written English language. Today, “nonlocal mind,” “nonlocal consciousness,” and “nonlocal awareness” are commonplace. I also introduced the “era” approach to medicine: Era I (mechanical medicine), Era II (mind-body medicine), and Era III (nonlocal medicine). This model has become widely adopted as a way of understanding the spectrum of therapies that have arisen in Western cultures over the two centuries.

Healing Words (1993) was the first book to take an in-depth look at the evidence for the effects of remote or distant healing intentions and prayer. When the book was published, only three medical schools in the U. S. featured any course work in the curriculum dealing with the correlations of spiritual practices and health and longevity. Now, over 90 medical schools have adopted such, and they often use *Healing Words* as a source-book.

Be Careful What You Pray For (1997) remains perhaps the only book to deeply examine the negative effects of human intentions/prayer, in terms of both experience and experiments.

Reinventing Medicine (1999) expanded the my exploration of why modern medicine must pursue not just a mechanical approach to health, but also a mind-body and a nonlocally informed approach as well. It updated the experimental evidence supporting nonlocal intentionality and its clinical significance.

Healing Beyond the Body (2001) is a collection of essays reinforcing the nonlocal perspective in health.

The Extraordinary Healing Power of Ordinary Things (2006) asserted that the most important contributions to human health and longevity are not high-tech, expensive interventions, but plain and simple preventive measures that are often overlooked.

The Power of Premonitions (softcover title: *The Science of Premonitions*) (2009) is an in-depth exploration of precognition. It emphasizes the empirical evidence for precognition as well human experiences that point to a temporally nonlocal aspect of consciousness.

One Mind: How Our Individual Mind is Part of a Greater Consciousness and Why It Matters (2013) puts the mind back together, as opposed to the 20th-century project of taking it apart. It provides evidence for a boundless, limitless aspect to the mind, in which all individual minds come together in unity. The implications for heightened health, wisdom, creativity, joy and fulfillment are profound. I explore the implications of the spatial and temporal nonlocality of consciousness for immortality.

References:

One Mind: How Our Individual Mind Is Part of a Greater Consciousness and Why It Matters. Carlsbad, CA: Hay House. 2013.

The Power of Premonitions: How Knowing the Future Can Shape Our Lives. New York, NY: Dutton/Penguin. 2009.

The Extraordinary Healing Power of Ordinary Things. New York: Harmony/Random House. 2006.

Healing Beyond the Body. Boston: Shambhala. 2001.

Reinventing Medicine. San Francisco: HarperSanFrancisco. 1999.

Be Careful What You Pray For. San Francisco: HarperSanFrancisco. 1997.

Prayer Is Good Medicine. San Francisco: HarperSanFrancisco. 1996.

Healing Words: The Power of Prayer in the Practice of Medicine. San Francisco: HarperSanFrancisco. 1993.

Meaning & Medicine. New York: Bantam. 1991.

Recovering the Soul. New York: Bantam. 1989.

Beyond Illness. Boston: New Science Library. 1984.

Space, Time & Medicine. Boston: New Science Library. 1982.

Part II – Brief Biography

Dr. Larry Dossey is a physician of internal medicine. He was a co-founder of the Dallas Diagnostic Association and is former Chief of Staff of Medical City Dallas Hospital.

After graduating with high honors from the University of Texas at Austin, he received his M. D. degree from Southwestern Medical School (Dallas) in 1967. Following internship he served as a battalion surgeon in Vietnam in 1968-9, where he was decorated for valor. He later completed his residency in internal medicine at the Veterans Administration Hospital and Parkland Hospital in Dallas.

Dossey is past president of The Isthmus Institute of Dallas, an organization dedicated to exploring the possible convergences of science and religious thought.

Dossey lectures widely in the United States and abroad about the role of consciousness and spirituality in health. In 1988 he delivered the annual Mahatma Gandhi Memorial Lecture in New Delhi, India, the only physician ever invited to do so.

Dr. Dossey is the former co-chairman of the Panel on Mind/Body Interventions, National Center for Complementary and Alternative Medicine, National Institutes of Health. He was a founder and executive editor of the journal *Alternative Therapies in Health and Medicine*. He co-founded and is currently executive editor of *Explore: The Journal of Science and Healing*.

Dossey has published numerous articles and is the author of twelve books, including *SPACE, TIME & MEDICINE* (1982), *BEYOND ILLNESS* (1984), *RECOVERING THE SOUL: A SCIENTIFIC AND SPIRITUAL SEARCH* (1989), *MEANING & MEDICINE* (1991), *HEALING WORDS* (1993; a New York Times bestseller), *PRAYER IS GOOD MEDICINE* (1996), *BE CAREFUL WHAT YOU PRAY FOR* (1997), *REINVENTING MEDICINE* (1999), *HEALING BEYOND THE BODY* (2001), *THE EXTRAORDINARY HEALING POWER OF ORDINARY THINGS* (2006), *THE POWER OF PREMONITIONS* (2009), and *ONE MIND: HOW OUR INDIVIDUAL MIND IS PART OF A GREATER CONSCIOUSNESS AND WHY IT MATTERS* (2013).

Dossey's books have been translated into languages around the world. His goal in all his books is to anchor the so-called holistic health movement in a model that is scientifically respectable and which, at the same time, answers to humankind's inner spiritual needs.

Dr. Dossey lives in Santa Fe with his wife Barbara, who is a nurse-consultant and the author of several award-winning books.

Visit Dr. Dossey at his website at: www.larrydosseymd.com.

Session III – Medicine, Cardiology, Anthropology

Pim van Lommel, MD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

‘To study the abnormal is the best way of understanding the normal’. William James

A near-death experience (NDE) can be defined as the reported memory of a range of impressions during a special state of consciousness, including a number of special elements such as an out-of-body experience, pleasant feelings, seeing a tunnel, a light, deceased relatives or a life review, and a conscious return into the body. Many circumstances are described during which NDEs are reported, such as cardiac arrest (clinical death), shock after loss of blood (childbirth), coma caused by traumatic brain injury or stroke, near-drowning (children) or asphyxia, but also in serious diseases not immediately life-threatening, during isolation, depression or meditation, or without any obvious reason. Similar experiences to near-death ones can occur during the terminal phase of illness, and are called deathbed visions or end-of-life experiences. Furthermore, so-called “fear-death” experiences are mainly reported after situations in which death seemed unavoidable like serious traffic or mountaineering accidents. The NDE is usually transformational, causing enhanced intuitive sensitivity, profound changes of life-insight, and the loss of fear of death. The content of an NDE and the effects on patients seem similar worldwide, across all cultures and all times. However, the subjective nature and absence of a frame of reference for this ineffable experience lead to individual, cultural, and religious factors determining the vocabulary used to describe and interpret this experience.

Until quite recently there was no prospective and scientifically designed study to explain the cause and content of an NDE, all studies had been retrospective and very selective with respect to patients. Based on these incomplete retrospective studies some believed the experience could be caused by physiological changes in the brain as a result of lack of oxygen (cerebral anoxia), other theories encompass a psychological reaction to approaching death, hallucinations, dreams, side effect of drugs, or just false memories. So properly designed prospective studies in survivors of cardiac arrest are necessary in order to obtain more reliable data to corroborate or refute the existing theories on the cause and content of a NDE. We need to know if there could be a physiological, pharmacological, psychological or demographic explanation why people experience enhanced consciousness during a period of cardiac arrest.

In 1988 a prospective study was initiated in the Netherlands. At that point, no large-scale prospective study into NDEs had been undertaken anywhere in the world. Our study aimed to include all consecutive patients who had survived a cardiac arrest in one of the 10 participating Dutch hospitals. In other words, this prospective study would only be carried out among patients with a proven life-threatening crisis. All of these patients would have died of their cardiac arrest had they not been resuscitated within five to ten minutes. This kind of design also creates a control group of patients who have survived a cardiac arrest but who have no recollection of the period of unconsciousness. In a prospective study such patients are asked, within a few days of their resuscitation, whether they have any recollection of the period of their cardiac arrest, i.e. of the period of their unconsciousness. All patients’ medical and other data are carefully recorded before, during and after their resuscitation. The advantage of this prospective study design was that all procedures were defined in advance and no selection bias could occur. A longitudinal study into life changes was based on interviews after two and eight years with all patients who had reported a NDE and who were still alive, as well as with a control group of post-resuscitation patients who were matched for age and sex, but who had not reported a NDE. The question was whether the customary changes in attitude to life after a NDE were the result of

surviving a cardiac arrest or whether these changes were caused by the experience of a NDE. This question had never been subject to scientific and systematic research with prospective design before. The Dutch study was published in *The Lancet* in December 2001.

We found in our study that 62 patients, 18 per cent, reported an NDE during their period of cardiac arrest. We compared the recorded data of the 62 patients with a NDE to the data of the 282 patients without NDE. To our big surprise we did not identify any significant differences in the duration of the cardiac arrest nor differences in the duration of unconsciousness, so we failed to identify any differences between the patients with a very long or a very brief cardiac arrest. Likewise, it was established that medication played no role. A psychological cause such as the infrequently noted fear of death immediate before the arrest did not affect the occurrence of a NDE either. Whether or not patients had heard or read anything about NDE in the past made no difference either. Any kind of religious belief, or indeed its absence in non-religious people or atheists, was irrelevant and the same was true for the standard of education reached. We were particularly surprised to find no medical explanation for the occurrence of a NDE. All the patients in our study had been clinically dead and only a small percentage reported an enhanced consciousness with lucid thoughts, emotions, memories, and sometimes perception from a position outside and above their lifeless body while doctors and nursing staff were carrying out resuscitation.

Our Dutch study was also the first to include a longitudinal component with interviews after two and eight years, which allowed us to compare the processes of transformation between people with and without NDE. The later interviews in our longitudinal study were conducted using a standardised inventory featuring 34 life-change questions. People who had experienced a NDE during their cardiac arrest were found to be clearly different. In particular, they were less afraid of death, had a stronger belief in an afterlife, and had more interest in spirituality. It is quite remarkable to see a cardiac arrest lasting just a few minutes give rise to such a lifelong process of transformation. We also found that the integration and acceptance of a NDE is a process that may take many years because of its far-reaching impact on people's pre-NDE understanding of life and value system. And the NDE is also a traumatic event, with many years of strong feelings of depression, homesickness and loneliness.

According to our current medical concepts, it is not possible to experience consciousness during a cardiac arrest, when circulation and breathing have ceased. However, in four prospective studies with a total of 562 survivors of cardiac arrest between 11% and 18% of the patients reported a near-death experience (NDE), and in none of these studies it could not be shown that physiological, psychological, pharmacological or demographic factors could explain the cause and content of these experiences. Through many studies with induced cardiac arrest in both human and animal models cerebral function has been shown to be severely compromised during cardiac arrest, with complete cessation of cerebral flow, and electrical activity in both cerebral cortex and the deeper structures of the brain has been shown to be absent after a very short period of time (10-20 seconds). Because no cardiac arrest patient was ever successfully resuscitated within 20 seconds, we have to conclude that in cardiac arrest NDE is experienced during a transient loss of all functions of the cortex and of the brainstem. But how could a clear consciousness outside one's body be experienced at the moment that the brain no longer functions during a period of clinical death, with a flat EEG? And how is consciousness related to the integrity of brain function? Is there a start or an end to consciousness anyway? Scientific study of NDE pushes us to the limits of our medical and neurophysiologic ideas about the range of human consciousness and mind-brain relation, because we have to admit that it is not possible to reduce consciousness to neural processes as conceived by contemporary neuroscience.

Since the publication of these prospective studies on NDE in survivors of cardiac arrest, with strikingly similar results and conclusions, the phenomenon of the NDE can no longer be scientifically ignored. It is an authentic experience which cannot be simply reduced to imagination, fear of death, hallucination, psychosis, the use of drugs, or oxygen deficiency, and people appear to be permanently

changed by an NDE during a cardiac arrest of only some minutes duration. According to these studies, the current materialistic view of the relationship between the brain and consciousness held by most physicians, philosophers and psychologists is too restricted for a proper understanding of this phenomenon. There are good reasons to assume that our consciousness does not always coincide with the functioning of our brain: enhanced consciousness can sometimes be experienced separately from the body. I have come to the inevitable conclusion that most likely the brain must have a facilitating and not a producing function to experience consciousness. By making a scientific case for consciousness as a nonlocal and thus ubiquitous phenomenon we must question a purely materialist paradigm in science.

The conclusion seems compelling that endless or nonlocal consciousness has and always will exist independently from the body. For this reason we indeed should seriously consider the possibility that death, like birth, can only be a transition to another state of consciousness, and that during life the body functions as an interface or place of resonance. This view of a nonlocal consciousness also allows us to understand a wide variety of special states of consciousness, not only near-death experiences, but also mystical and religious experiences, deathbed visions (end-of-life experiences), shared death experiences, peri-mortem and post-mortem experiences (after death communication, or nonlocal interconnectedness with the consciousness of deceased relatives), heightened intuitive feelings and prognostic dreams (nonlocal information exchange), remote viewing (nonlocal perception) and perhaps even the effect of consciousness on matter like in placebo-effect or neuroplasticity, where in EEG, fMRI and PET-scan studies functional and structural changes in the brain are demonstrated following changes in consciousness (nonlocal perturbation).

It often takes an NDE to get people to think about the possibility of experiencing consciousness independently of the body and to realize that presumably consciousness always has been and always will be, that everything and everybody is connected in higher levels of our consciousness, that all of our thoughts will exist forever, and that death as such does not exist. Only if we are willing and able to ask open questions, and abandon preconceptions and dogma's, studies into NDE may help the scientific community to reconsider some unproven assumptions, not only about life and death, but above all about consciousness and its relation with brain function. Moreover, a near-death experience appears also to be a personal rediscovery of an age-old, cross-cultural, but seemingly forgotten knowledge. In the past these experiences were often known under different names, such as visions or mystical, religious or enlightenment experiences. Throughout history there have been many different views on death, but across all times and cultures, people have been convinced that the essence of man, usually known as the soul, lives on after the death of the body. Recent research on NDE seems to be a source of new insights into the possibility of a continuity of our consciousness after physical death, and that unconditional love and compassion are essential to live and survive on our planet.

Part II - Brief Biography

Pim van Lommel, M.D., born in 1943, graduated in 1971 at the University of Utrecht, and finished his specialization in cardiology in 1976. He is married, has two children and five grandchildren. He worked from 1977-2003 as a cardiologist in Hospital Rijnstate, a 800 beds Teaching Hospital in Arnhem, the Netherlands, and is now doing full-time research on the mind-brain relation. He published several articles on cardiology, but since he started his research on near-death experiences (NDE) in survivors of cardiac arrest in 1986 he is the author of over 20 articles (most of them in Dutch), one book and several chapters about NDE. In 2005 he was granted with the *Dr. Bruce Greyson Research Award* van de International Association of Near-Death Studies (IANDS). In 2006, the president of India rewarded him the *Life Time Achievement Award* at the World Congress on Clinical and Preventive Cardiology in New Dehli. Recently he received the *2010 Book Award* van de Scientific and Medical Network.

In November 2007 his book '**Endless Consciousness**' (*Eindeloos Bewustzijn*) was published in The Netherlands, which is a bestseller with more than 140.000 copies sold (18th edition). It was nominated for the 'Book of the Year 2008' in the Netherlands. His book was published in Germany in 2009 by Patmos Verlag: '**Endloses Bewusstsein. Neue Medizinische Fakten zur Nahtoderfahrung**' (already the 6th edition), and it has been published in the English language by Harper Collins in 2010, entitled: **Consciousness beyond Life. The science of the near-death Experience**. In 2011 the Polish edition was published [Artvitae: '**Wieczna Swiadomosc. Naukowa wizja 'Zycia po zyciu'**'], the Spanish translation [Atalanta: '**Consciencia más allá de la Vida**'] was published in March 2012, and in May 2012 his book was published in France by Dunod, entitled '**Mort ou Pas?. Les dernières découvertes médicales sur les Experiences de Mort Imminente**'. By now more than 200.000 copies have been sold in Europa en the USA.

Articles:

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- Van Lommel, P. (2004) About the Continuity of our Consciousness, **Adv Exp Med Biol.**; **550**: 115-132. [**Brain Death and Disorders of Consciousness**. Machado, C. and Shewmon, D.A., Eds. New York, Boston, Dordrecht, London, Moscow: Kluwer Academic/ Plenum Publishers]
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See also www.consciousnessbeyondlife.com .

Session III – Medicine, Cardiology, Anthropology

Marilyn Schlitz, PhD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

When I was an undergraduate, I had several meaningful events that helped shape my life and led me into post materialist science. The first was reading Thomas Kuhn's book *The Structure of Scientific Revolution*. This book, and the idea that our paradigms of reality are socially constructed and not absolute, was nothing short of a conceptual liberation. It gave me hope that the failing vision of society that was around me need not be final or binding. Indeed, even in the context of science, we have experienced different models of reality—one replacing another. What was needed for our society, I felt sure, was a fundamental, whole systems transformation.

Piggybacking on this insight came many conversations with a professor of neuroscience, Robin Baracco. During lengthy discussions, many years before the neuroscience revolution, I learned about how much we knew—and still don't know about consciousness, brain, and mind. One day Dr. Baracco gave me another book, *Psychic Exploration* by Edgar Mitchell, the Apollo 14 astronaut. This volume completely changed my life and sent me on an intellectual odyssey that compels me to this day. The idea that a serious group of scientists were exploring psychic or psi phenomena seemed to me to be the harbinger of a new paradigm I felt sure we needed. Instead of placing my focus on the material aspects of reality, endemic to the dominant culture, I decided to commit myself to understanding the transformative potentials of human consciousness.

Since this early phase of my career, more than three decades ago, I have had many compelling encounters with the Akashic experience. Unlike most people, however, many of my personal encounters have occurred in the context of well-controlled laboratory experiments. Let me consider three specific examples from my formal research.

Remote Viewing:

In 1980 I conducted a remote viewing experiment with Elmar Gruber in which we were both the subjects and the experimenters. We designed a formal study of ten trials over thousands of kilometers between Detroit, Michigan and Rome, Italy. Gruber selected a pool of geographical target sites around Rome that were unknown to me. On each of ten experimental days, the "outbound experimenter" randomly selected and then visited one site. At the same time, I sat down to describe his physical location without any sensory knowledge of where he was at that time. During the experimental periods, we had two colleagues keep copies of our list of targets and the drawings for each day; this was done for security reasons. Following completion of the ten trials, the ten descriptions were randomly presented to five independent analysts. Each was asked to independently visit the different locations and to evaluate the degree to which the site matched each of the remote viewing descriptions. Overall, these "blinded" judges correctly identified the target location in 6 of the 10 trials, a result that's highly statistically significant.

Shortly after this study was completed, I conducted a replication experiment with Jo Marie Haight; this time between Durham, North Carolina, and Cape Canaveral, Florida. The same design produced another significant result that supported the remote viewing hypothesis and my own direct Akashic experience.

Psi in the Ganzfeld

A second striking experience came in the study I conducted with Charles Honorton using the ganzfeld paradigm (a sensory deprivation technique that stimulates visual imagery and in a certain way simulates a dream experience—many psychic experiences are reported in such states of consciousness; it has produced strong evidence for psi phenomena in various laboratories with many experimenters). In this case, we worked with students from the Juilliard School of the Performing Arts. A student was placed in an electrically shielded and soundproof room while another person was in a separate room watching a randomly selected video clip. On one occasion that I recall most vividly, I was the “sender.” As the experiment began, the experimenter would select a pool of four orthogonal clips from a larger set of film clips. These clips were grouped in such a way that the subject, after the session, could objectively select the clip that most strongly matched their impressions during the ganzfeld period.

The randomly selected clip that day was from the movie, *Altered States*. It was the scene of a descent into hell, including a corona sun, a crucifix, and a large lizard opening and closing its mouth. As I watched in fascination, I could hear the student describing his impressions through headphones that sent his voice to me from the shielded room via a one-way communication. I can still recall the feeling of chills up and down my spine as the drama student described what I was watching, including the highly unlikely image of the lizard opening and closing his mouth at exactly the moment I was watching it on the video feed. This experience has stayed with me over the years as I have considered the nature of the evidence for psi phenomena and the debates over what is true about the limits of our consciousness. Perhaps it’s this experience, more than the highly significant statistical result that we obtained, that informed my core belief in a world that includes Akashic phenomena.

The Effect of Distant Mental Intention on Living Systems

A third study that I will mention involves my work on distant intention and healing. For more than a decade, I collaborated with William Braud at the Mind Science Foundation to develop a research protocol that allows us to study the correlation between one person’s intention and another person’s physiology. This is a procedure we eventually came to call distant mental interactions between living systems (DMILS). The idea behind the work was to simulate an experience in the laboratory that would allow us to study psychic healing, only working with healthy people who would serve as models for understanding what happens in the “real world.”

Over a decade, we completed a series of process-oriented studies that resulted in a highly significant statistical deviation from chance expectation across fourteen formal, randomized, and double blind experiments. While our results didn’t prove healing per se, the work helped establish a proof of the principle that healers can affect the bodies of their patients, even at a distance. In this way, we helped establish a research protocol to study what healers across the world and in many cultures believe they

can do when they send healing intention to another person, even under conditions that preclude sensory exchange between them.

These effects were later replicated and expanded upon in partnership with Stephen Laberge at the Cognitive Sciences Laboratory. We again made use of a DMILS design, this time in regard to the remote staring paradigm. Here we were examining the widespread experience people report of feeling someone staring at them from a distance.

The basic design involves measuring the physiology of one person while another person focuses their attention on an image sent via closed-circuit television from one room to another. The “sender” is instructed to send their intention during experimental periods, but not during control periods. At the end of the experiment, we averaged the autonomic nervous system of the receiver and correlated it with the intention periods as compared to the “controls” or non-intention periods. In two experiments, we again produced statistically significant evidence for a psi effect. Based on a meta-analysis, these effects have been shown to replicate in various laboratories across the world.

Building on this work, in the early 90s I began an unusual research collaboration. Working with Dr. Richard Wiseman, a psychologist, magician, and card-carrying member of the skeptical community, we began a ten-year partnership to consider the nature of the “experimenter effect.”

Richard had conducted a series of DMILS studies. While my data resulted in significant deviations between the treatment and control conditions, Wiseman consistently found chance results in his studies. To help us understand why our results differed in this way, we designed two identical experiments that made use of the same laboratory, same equipment, same subject population, same randomization procedure, and so on. The only difference was that I worked with half the people and Wiseman worked with the other half.

In our first study, conducted in his laboratory at the University of Hertfordshire, we both replicated our original findings; I found a significant difference in the mean physiology of the participants between the intention and control periods and he found a chance result. This suggested that we needed to consider our assumptions about the nature of “objectivity” and the value of a randomized double blind study design—both considered fundamental cornerstones of the scientific method. Perhaps consciousness needs different methods and different assumptions?

A second study was conducted in my laboratory at the Institute of Noetic Sciences to see if we could replicate our provocative findings; again we each confirmed our original results.¹⁴

We then designed a third study to test the hypothesis that the differences in our effects were due to a sociability factor; perhaps I was making people feel more comfortable and open than Richard was and that this might explain the differences in our outcomes.¹⁵ Unfortunately, as we conducted identical trial after trial, the project grew to be tedious and boring. Perhaps this is a factor, perhaps not. But in the end we didn’t produce a significant psi effect, although there were some interesting internal effects.

I believe both of us remain curious about the differences in our experimental outcomes. We are both open about working with one another, even if our belief systems and research experiences differ. Through such open-minded collaborations, we may be able to gain greater insights into the nature of Akashic experiences and how we may study them through the lens of science. It's my conviction that breakthroughs come at the points of intersection between worldviews, disciplines, and ways of knowing and being.

Exceptional and Transformative Experiences

Over time, I have sought to understand the nature of psi and other Akashic experiences outside the laboratory. Obtaining a Ph.D. in anthropology, I felt that qualitative methods may reveal details that are left on the cutting room floor in our lab-based studies. I have been interested in how exceptional experiences impact people's lives in ways that are transformative. This has led me to engage in a decade of research on what stimulates transformation, what sustains it, and what results from experiences that open us to a larger set of possibilities.

In a recent book, *Living Deeply: The Art and Science of Transformation in Everyday Life*, my colleagues and I use the term "transformative experience" to refer to those events that lead to lasting changes in people's lives and worldviews. We contrasted these transformative events with other extreme, extraordinary, or spiritual experiences that don't result in long-term changes in consciousness. Many people report Akashic experiences, but not all have ultimately led to deep changes in who they are and what they are capable of becoming. As transpersonal psychologist Frances Vaughn told us during an interview in 2002:

Transformation really means a change in the way you see the world—and a shift in how you see yourself. It's not simply a change in your point of view, but rather a whole different perception of what's possible. It's the capacity to expand your worldview so that you can appreciate different perspectives, so that you can hold multiple perspectives simultaneously. You're not just moving around from one point of view to another, you're really expanding your awareness to encompass more possibilities.

Through this work, my colleagues and I have found that consciousness transformations are most commonly triggered by experiences of pain and suffering. Life events, including illness, divorce and loss of jobs, can serve to disrupt the steady state in a person's life—giving them an opportunity, if they can see it as such, to alter their path and to live with an expanded, meaning-filled worldview. Painful and frightening experiences have the capacity to loosen our control and dissolve our identities in ways that broaden our understanding of what is possible.

Of course, not all catalysts of transformation are filled with pain. Many people report sensations of deep beauty, awe, wonder, and a profound connection to something greater than themselves. These Akashic experiences can often encompass what William James called mystical experiences and what Abraham Maslow later referred to as peak experiences, and also what Carl Jung considered to be encounters with the numinous. These perceptions move us beyond our narrow definition of the self. They can take the form of a deeply rooted, embodied sense of unity, an awareness of great love, and a fundamental sense of interconnection.

In our research we have seen that transformative experiences are often sudden and profound. These sudden personal metamorphoses, called “quantum changes” by Miller and C’de Baca, can include psi experiences that are completely unexpected, as well as epiphanies, “big dreams,” and senses of revelation. They can include various experiences that suggest an extended reach of our human consciousness, including near-death experiences, spontaneous healing, or various other abilities and phenomena that arise in non-ordinary states of consciousness. Transpersonal scholar and archivist Rhea White found that, even though the phenomenology of such experiences may differ (such as seeing an apparition, sensing mystical oneness with the whole of existence, or having precognitive dreams), all these experiences can serve as a portal to a new worldview.

My own worldview has been shaped by these scholars and by my experiences in and out of the laboratory. They have given me a language and a lineage line for my explorations of consciousness. For example, more than a century ago, William James wrote about the transformative potential of what he defined as noetic experiences. He described them as “states of insight unplumbed by the discursive intellect.” These noetic forms of the Akashic experience have several essential qualities: They need to be directly experienced, for it’s often the case that they aren’t easily communicated to others. Second is what James called a noetic quality that makes them actual forms of knowledge. As the famed scholar noted in 1902: “They are illuminations, revelations, full of significance and importance, all inarticulate though they remain; and as a rule they carry with them a curious sense of authority.” They are also, according to James, states that are transient and cannot be controlled.

More than a hundred years after James gave this description, my colleagues and I have conducted research at the Institute of Noetic Sciences on the very phenomena he mapped out for us. We have found, for example, that more than 61 percent of the people we surveyed said their transformative experiences were due to circumstances “out of anyone’s control.” This fact reveals yet again the complexities of bringing such experiences under the gaze of a science grounded in classical assumptions of cause and effect.

Session IV – Psychiatry, Social Psychology

Alexander Moreira-Almeda, MD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

I have concentrated my research in two complementary aspects: interdisciplinary investigation of spiritual experiences and methodological/philosophical/historical aspects of scientific investigations of spirituality.

I believe that naïve acceptance of materialist scientism and myths about the history and epistemology of the relationship between science and religion/spirituality are two major blocks to the acceptance and development of PMP. We have worked to show that the materialist perspective of human being and the universe is a worldview, a metaphysical assumption and not a scientific fact. Also, we discuss historical, epistemological and methodological aspects of the investigation of spirituality in order to pave the way for a better scientific approach to this subject, removing several prejudices and misconceptions. Currently I'm involved in historical studies on the studies of mediumship performed by [William James](#) and [Allan Kardec](#).

We have performed several epidemiological studies with clinical ([bipolar](#), dialysis patients, [rehabilitation](#)) and general population ([elderly](#), [college students](#), [pregnant women](#), religious groups, [national representative samples](#)) on the impact of R/S on health outcomes (depression, anxiety, quality of life, pain, substance use/abuse etc). In order to foster new studies on R/S in Brazil, we have translated and validated or developed in Portuguese three different scales on (R/S).

Interdisciplinary studies of spiritual experiences are essential to advance the scientific understanding of them. Most of my studies on spiritual experiences have been focused on mediumship. I started with my PhD investigating the phenomenology and the mental health of 115 spiritist mediums in São Paulo, Brazil. Our findings have shown that mediums, despite having many anomalous experiences that have been called “psychotic” and/or “dissociative” have good mental health. Actually, there were a correlations of the frequency of full trance and hearing spirits with better social adjustment and lower psychiatric symptoms. I've been involved with studies and discussions in the international psychiatric community (through conferences and papers) about the distinction between spiritual experiences and mental disorders.

I've become more focused on the investigation of the sources of spiritual experiences and their implications for mind-brain relationship, especially in the evidence that mind is not reducible to brain activity. In collaboration with Julio Peres, PhD, we've been involved in neurofunctional imaging studies of mediumistic experiences. We performed a study at University of Pennsylvania, USA (with Andrew Newberg, MD) that was published at [PlosONE in 2012](#), and two at Aachen University, Germany (with Ute Habel, PhD and Alessandra Mainieri, PhD) that will be submitted to publication soon. We have just ended a study on the evidence of survival after death provided by the Brazilian medium Chico Xavier, two papers have just been submitted for publication.

Since 2012, we have conducted a prospective study on near death experiences in survivors of cardiac arrest and in 2014 we will start a Brazilian national survey about the phenomenology of NDE with special emphasis on the investigation of reports of veridical out-of-body experiences.

In 2010, I organized in São Paulo, Brazil, an [international symposium on the implications of spiritual experiences to mind-brain relationship](#), supported by several Brazilian university and academic

institutions. Based on it, I edited the book [“Exploring Frontiers of Mind-Brain relationship”](#) that was published by Springer in 2012. Fifteen expert scientists and physicians from six countries representing disciplines ranging from philosophy and history to neurophysiology and physics provided a compelling case for a non-reductionist view of mind. The book has received many reviews and symposia based on the book have been presented at the annual conventions of the American Psychiatric Association (2013), Brazilian Psychiatric Association (2012), and American Psychological Association (2012).

I’ve published more than 100 academic papers and book chapters on R/S in journals like Plos One, Journal of Nervous and Mental Disease, World Psychiatry, Bipolar Disorders, Journal of Religion and Health, Asian Journal of Psychiatry, Transcultural Psychiatry, and RBP-Psychiatry. In 2007, we edited a bilingual (Portuguese and English) [special issue in spirituality and health](#) at the Brazilian journal Revista de Psiquiatria Clinica (Journal of Clinical Psychiatry). This issue has been accessed more than 270,000 times, which makes it the most accessed issue of the journal from those published in since 2005.

In addition to do research, I’ve been involved in several activities to disseminate PMP in professional, and academic environments as well as to the general audience. I’m currently member of the executive board Committee of the [WPA \(World Psychiatric Association\) Section on Religion, Spirituality and Psychiatry](#), and editor of [“Psyche and Spirit”](#), newsletter of this section. Between 2011 and 2013, I served at the Board of Directors of the Parapsychological Association. I’m currently leading the creation of a section on R/S at the Brazilian Psychiatric Association.

I’m founder and director of NUPES- Research Center in Spirituality and Health (www.ufjf.br/nupes-eng), that is integrated to the Graduate Program in Health from the School of Medicine of Federal University of Juiz de Fora (UFJF), providing M.Sc. and Ph.D. programs, as well as postdoc fellowships in Health Sciences. NUPES’s mission is to develop interdisciplinary research about the relationship between spirituality and health. It works with a wide network of national and international researchers to allow NUPES to be an international research center of reference in spirituality and health. It has become the leading research group in spirituality and health in Brazil. We have been involved in constant contact with lay media through interviews and articles in the most prominent Brazilian newspapers, magazines and TV networks.

Part II – Brief Biography

I grow up in a family, like many others in Brazil, with a strong and mixed religious/spiritual interests. I was exposed mainly to Catholicism, Umbanda (an African-Brazilian religion), Spiritism and to a miscellaneous of esoteric/spiritualist movements. At the same time, since early age I have a strong interest in natural sciences and philosophy. I was also influenced by Spiritism in its proposal of using a rational and scientific approach to spiritual issues, of reconciling religion and science.

In 1992 I entered at the medical school of the Federal University of Juiz de Fora (UFJF). Since the beginning, I was involved in scientific projects. The first two were impact of academic stress on cholesterol levels of medical students and the nephrotoxicity of gentamicin in rats. In 1995, I developed a study on the spiritual healing and surgeries performed by John of God, my first study on issues related to spirituality.

Obtaining the MD degree in 1997, I did a residence in psychiatry and specialization in cognitive-behavioral therapy at the Institute of Psychiatry of the University of São Paulo, Brazil. During my psychiatry residence years (1998-2001), I was the co-founder of the of NEPER (Center for the Study of Religious and Spiritual Problems) of the Institute of Psychiatry – USP, a multidisciplinary research group

in religion/spirituality and health that includes psychiatrists, neurologists, pharmacist, psychologists, historian, anthropologist and a philosopher. This was first research group in spirituality and health in a medical school in Brazil. At the same institution, I obtained a PhD in Health Sciences (2004) with the doctoral dissertation: "Phenomenology of Mediumistic Experiences, Profile and Psychopathology of Spiritist Mediums". Between 2002 and 2005 I was the Clinical Director of [Hospital João Evangelista](#), a spiritist psychiatric hospital in São Paulo (Brazil).

In 2005-6, I was a postdoctoral fellow in religion and health at Duke University, mentored by Harold Koenig, MD.

I am a certified psychiatrist by the Brazilian Psychiatric Association and currently Associate Professor of Psychiatry at UFJF's School of Medicine and Founder and Director of the Research Center in Spirituality and Health, Brazil (www.ufjf.br/nupes-eng). I was Vice-Dean of Graduate studies at UFJF. Between 2011-3 I served at the Board of Advisor of the Parapsychological Association. Currently I'm member of the Executive Committee of the WPA (World Psychiatric Association) Section on Religion, Spirituality and Psychiatry, and co-editor of *Pysche & Spirit*, newsletter of the section.

My main research interests involve the exploration of the association between religiosity and health, empirical studies of spiritual experiences as well as the methodology, history and epistemology of this research. My main focus now is on spiritual experiences, especially on their differentiation from mental disorders and their implications to mind-brain relationship.

Session IV – Psychiatry, Social Psychology

Julio F.P. Peres, PhD

Part I – Professional Research contributing to a Post-Materialist Paradigm (PMP)

While studying in college, I felt there was nothing more fascinating than digging into the mysteries of the mind, the spirit and anomalous behaviors. Of course the academy hasn't been enough to give me all answers on spiritual manifestations. During my time at Psychology classes I enjoyed learning about therapeutical approaches, but I realized none of them considered the hypothesis of the spiritual existence. I searched for knowledge, 'directly drinking from the fountain', by living and experiencing. I invested part of my youth/life travelling to 'live the sacred', understanding and experiencing spiritual manifestations and masters/gurus from a number of different cultures in Brazil, India, Japan, China, Egypt, Mexico, Israel, Turkey, Africa and more. Such personal experiences, sometimes wordless, were quite important for reaching a balanced and harmonic spiritual growth.

After some time getting mature, I published several articles about the importance of considering the spirituality/religiousness on psychotherapy. At that time, there has been a lot of resistance to integrate both domains. I have been describing in my work concepts of resilience and post traumatic growth in addition to spirituality/religiousness factors as essential resources from a great part of mankind for dealing with adverse situations. I emphasize that respecting opinions and subjective realities of patients is an ethical duty and a therapeutical need, even if some professionals do not share the same beliefs. For such, being open to talk about spirituality is the first of several steps for an efficient therapeutical process (examples: Peres JF, Simao M, Nasello AG. Spirituality, religiousness and psychotherapy. *Revista de Psiquiatria Clínica*. 2007, 34(1); 136-145. // Peres JF, Moreira-Almeida A, Koenig HG. Spirituality and Resilience in Trauma Victims. *Journal of Religion and Health*. 2007, 46(3): 343-350).

Lately, the article [Should psychotherapy consider reincarnation?](#) published in 2012, was the first scientific work about the balanced interface between reincarnation and psychotherapy, which offered some weighed considerations that discuss the indications and counter-indications of the practice.

I searched for possibilities of putting together science and spiritual experiences, finding research methods that allowed such interface. Years after, I found neuroscience as a promising way to make that interface possible. I observed one of the fastest-evolving areas in health was neuroscience, and in particular the use of the neuroimaging. There has been an exponential surge in the number of neuroimaging publications addressing common conditions – this type of publication is increasingly leading to valuable findings, enabling new and effective interventions to promote health and well-being. Alongside this growing literature, the scope and diversity of research is broadening in terms of both scientific focus and methods. However, the prevailing culture of encouraging a distant research in the field of health tends to increase the gap between researchers and clinicians in many countries. Practitioners are not usually involved in research, and vice versa. This dichotomy limits synergies for effective and efficient contributions, as well as the potential of what could be complementary and interdependent roads. Modern neuroimaging offers tremendous opportunities for creating fresh insights, as most important developments in neuroimaging are those that will lead to direct clinical

applications. Again, such aspect influenced the book “Neuroimaging for Clinicians: Combining Research and Practice” Ed. InTech <http://www.intechopen.com/books/neuroimaging-for-clinicians-combining-research-and-practice> published in 2011. The 20 chapters in the book were a result of some of the world's top brain-imaging research and clinician teams, providing a timely review on neuroimaging impacts in several areas, including psychology, psychiatry, radiology, neurology, and geriatrics. Authors from China, Brazil, France, Germany, Italy, Japan, Macedonia, Poland, Spain, South Africa, and United States of America have collaborated enthusiastically and efficiently to create this reader-friendly but comprehensive work covering the diagnosis, pathophysiology, and effective treatment of several common health conditions. I'm glad to say that “Neuroimaging for Clinicians: Combining Research and Practice” is highly recommended for clinicians and researchers and a must-read for specialists in psychiatry, psychology, neurology, geriatrics, who look for means of integrating neuroscience with their everyday practice of managing patients. For the sake of our patients, we hope the work we have been conducting helps the detection and treatment of problems that have a major impact in their lives, and bring them a much-needed relief for their suffering.

In 2009, I published the book *Trauma and Overcoming: What Psychology, Neuroscience and Spirituality teach* (Brazil, Ed. Roca), which has been translated to English and Spanish. This book was a result of the persistence and motivation to deepen knowledge to help victims of psychological traumas, considering their spiritual beliefs. The book expands the limits of the clinic and head to possible ways of mitigating potentially traumatic events globally, in other words, anything that each one of us can do for making the world a less traumatic and better living place, considering the hypothesis of the spiritual existence, possible factors of the personality and the controversial relations between the brain and the conscience.

I've been also studied neurological effects of psychotherapy using neuroimaging methods in traumatized patients submitted to psychotherapeutical routines. Results show that inner dialogues/mental processes stimulate brain areas different than those associated to traumatic sufferings (i.e. Peres J, Mercante J, Nasello AG. Psychological dynamics affecting traumatic memories: implications in psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice*. 2005 Dec;78(Pt 4):431-47. // Peres JF, McFarlane A, Nasello AG, Moores KA. Traumatic memories: bridging the gap between functional neuroimaging and psychotherapy. *Australian New Zealand Journal of Psychiatry*. 2008 Jun;42(6):478-88. // Peres J, Nasello AG. Psychotherapy and neuroscience: Towards closer integration. *International Journal of Psychology*. 2008 Dec;43(6):943-57. // Peres JF, Newberg AB, Mercante JP, Simão M, Albuquerque VE, Peres MJ, Nasello AG. Cerebral blood flow changes during retrieval of traumatic memories before and after psychotherapy: a SPECT study. *Psychological Medicine*. 2007 Oct;37(10):1481-91. // Peres JF, Gonçalves AL, Peres MF. Psychological trauma in chronic pain: implications of PTSD for fibromyalgia and headache disorders. *Current Pain Headache Report*. 2009 Oct;13(5):350-7. // Peres JF, Foerster B, Santana LG, Ferreira MD, Nasello AG, Savoia M, Moreira-Almeida A, Lederman H. Police officers under attack: resilience implications of an fMRI study. *Journal of Psychiatric Research*. 2011 Jun;45(6):727-34).

For instance, for the first time in 2011, it was possible to examine the neurofunctional reciprocities of a homogeneous set of traumatized individuals through control of complex variables (free of comorbidities and medications, no need for washout, same age of traumatic memory, same traumatic event also

experienced by resilient individuals) in relation to coping (Group 1), continuity (Group 2) and spontaneous resilience to trauma (Group 3) (Peres et al., 2011). After psychotherapy, Group 1 was comparable to Group 3 resilient policemen in terms of symptom scores and neural expressions related to traumatic memory retrieval. The findings underline the importance of psychotherapy in shortening the period of suffering and/or avoiding symptoms to become chronic, since Group 2 PTSD policemen (not subjected to psychotherapy) continued to present the same symptoms with signs of worsening, whereas all those subjected to psychotherapy presented a reduction of at least 37% in total CAPS scores.

In 2008, we led the first research involving mediumship (psychography) and neuroimaging (Peres JF, Moreira-Almeida A, Caixeta L, Leao F, Newberg A. Neuroimaging during trance state: a contribution to the study of dissociation. PLoS One. 2012;7(11):e49360. doi: 10.1371/journal.pone.0049360. Epub 2012 Nov 16.), with results published in 2012. We observed during psychography, experienced mediums showed lower activity in brain areas related to planning, reasoning, language and solving problems compared to the control writing (with no mediunic trance). Writing samples have been analyzed and we find the content generated from psychographies was more complex than the content produced in vigil state of consciousness. The content written during trance involved ethical and spiritual principles and the importance of a splice between science and spirituality. In particular, more experienced mediums showed highly improved scores related to complexity, which usually demands more activity from frontal and temporal lobes, but that was not the case. Mediums say “the authors of psychographics were communicating spirits and they cannot be attributed to their own brains”, thus a plausible hypothesis.

According to my latest publication Neuroimaging and mediumship: a promising research line neuroscience may open up new perspectives for presumed instances of spiritual consciousness expression studies which would have major ethical, social and philosophical implications. We pose a promising new research line in the neurosciences. And, by doing so, discuss certain issues pertaining to the effective use of neuroimaging to investigate mediumship and advance the consensus comprehension of consciousness, alleged spiritual communication and its relations with the brain. We highlight methodological challenges and lessons gleaned from our neurofunctional study of mediumship to be considered for further research in this field when formulating hypotheses to address these phenomena, and discuss useful guidelines for neuroimaging studies of spiritual experiences in general.

By July 2013, we conducted a new research using fMRI in mediunic painters. Voluntaries painted while in trance and also in vigil state, observing real and fake feedbacks during their paints. That was a new approach to investigate dissociation in a trance state and its relations with the brain, which we are going to expose in first hand during our meeting in Tucson.

Lastly, one of my greatest challenges has been linking and balancing my personal life, especially my wife and two daughters, and my professional life, as clinician psychologist and researcher. I hope our meeting here brings practical benefits to a large amount of people. Warmest regards! Julio

Part II – Brief Biography

I am Julio Peres, Brazilian born in São Paulo, 45 years old, married with my beloved wife Valeria and with two daughters – Nicole (8 y/o) and Natalia (2 y/o), our treasures. I've been fortunate for growing up in Brazil and since my childhood I passed through several spiritual experiences which crucially influenced my professional choices. I've always had the curiosity of studying and finding the causes of ordinary and extraordinary manifestations, as well as the etiology of sufferings and pains. Because of that, a skeptical observer and an open heart have been my "colleagues" in this journey so far. With 17 years old, I started my Psychology degree looking for studying and understanding the human spirit to help people getting over their sufferings, building a better life quality. I think that is still my purpose while professional and researcher, even nowadays. I always considered essential to put in practice all my researches, essays and scientific articles to provide a better life quality, solving the suffering or even looking for a cure-wellness.

While studying in the college, I felt there was nothing more fascinating than digging into the mysteries of the mind, the spirit and anomalous behaviors. Of course the academy hasn't been enough to give me all answers about spiritual manifestations. During my time at the Psychology degree, I enjoyed learning about therapeutical approaches, but I realized none of them considered the hypothesis of the spiritual existence. Such limitations impelled me to deeply study the spiritual contribution to the human health, and later to publish scientific articles on psychotherapy and spirituality. Before that, I searched for knowledge, 'drinking direct from the fountain', by living and experiencing. I invested part of my youth/life travelling to 'live the sacred', understanding and experiencing spiritual manifestations, knowing masters/gurus from a number of different cultures in Brazil, India, Japan, China, Egypt, Mexico, Israel, Turkey, Africa, among others. The window in this field cannot be understood just by reading. Such personal experiences, sometimes wordless, were quite important for reaching a balanced and harmonic spiritual growth. The scientist and the open heart within myself have been witnesses for high-impact experiences, then I searched for possibilities of putting together science and spiritual experiences, finding research methods that allowed such interface. Years passed, and after getting my Psychology degree, I found the neuroscience as a promising way to reach my objectives, and then I decided to develop researches for one PhD and two Postdoctorals by using functional neuroimaging.

Briefly, I am a neuroscientist and a psychologist with twenty four years of clinical experience. As clinician-researcher, I combine psychology and neuroscience to develop my interests in the neurobiological effects of psychotherapy, having used functional neuroimaging to study mediumship as well. Those studies led to a PhD in Neuroscience and Behavior from the Institute of Psychology at Universidade de São Paulo, and post-doctorates in University of Pennsylvania and Escola Paulista de Medicina, Universidade Federal de São Paulo (UNIFESP). My work as researcher includes papers on mediumship, reincarnation & psychotherapy, trauma, PTSD, resilience, coping, religiousness, spirituality, and functional neuroimaging. In addition to the research at the Institute of Psychiatry at Universidade de São Paulo, I am professor in charge of Clinical Psychotraumatology training for doctors and psychologists at Hospital Pérola Byington. Also, I am author of the books *Trauma e Superação: o que a Psicologia, a Neurociência e Espiritualidade ensinam* www.traumaesuperacao.com.br [Trauma and Coping: What Psychology, Neuroscience and Spirituality teach] published in Brazil by Ed. Roca, being

translated to English and Spanish, and “Neuroimaging for Clinicians: Combining Research and Practice” Ed. InTech <http://www.intechopen.com/books/neuroimaging-for-clinicians-combining-research-and-practice>.

Among my published papers, here are some related to our meeting (see www.clinicajulioperes.com.br):

Peres JF, Newberg A. [Neuroimaging and mediumship: a promising research line](#). *Revista de Psiquiatria Clínica*. 2013;40(6):225-32

Peres JF, Moreira-Almeida A, Caixeta L, Leao F, Newberg A. [Neuroimaging during trance state: a contribution to the study of dissociation](#). *PLoS One*. 2012;7(11):e49360. doi: 10.1371/journal.pone.0049360. Epub 2012 Nov 16.

Peres JF. [Should psychotherapy consider reincarnation?](#) *Journal of Nervous and Mental Disease*. 2012 Feb;200(2):174-9.

Peres JF, Foerster B, Santana LG, Ferreira MD, Nasello AG, Savoia M, Moreira-Almeida A, Lederman H. [Police officers under attack: resilience implications of an fMRI study](#). *Journal of Psychiatric Research*. 2011 Jun;45(6):727-34.

Peres JF, Gonçalves AL, Peres MF. [Psychological trauma in chronic pain: implications of PTSD for fibromyalgia and headache disorders](#). *Current Pain Headache Report*. 2009 Oct;13(5):350-7.

Peres JF, McFarlane A, Nasello AG, Moores KA. [Traumatic memories: bridging the gap between functional neuroimaging and psychotherapy](#). *Australian New Zealand Journal of Psychiatry*. 2008 Jun;42(6):478-88.

Peres J, Nasello AG. [Psychotherapy and neuroscience: Towards closer integration](#). *International Journal of Psychology*. 2008 Dec;43(6):943-57.

Peres JF, Moreira-Almeida A, Koenig HG. [Spirituality and Resilience in Trauma Victims](#). *Journal of Religion and Health*. 2007, 46(3): 343-350

Peres JF, Newberg AB, Mercante JP, Simão M, Albuquerque VE, Peres MJ, Nasello AG. [Cerebral blood flow changes during retrieval of traumatic memories before and after psychotherapy: a SPECT study](#). *Psychological Medicine*. 2007 Oct;37(10):1481-91.

Peres JF, Simao M, Nasello AG. [Spirituality, religiousness and psychotherapy](#). *Revista de Psiquiatria Clínica*. 2007, 34(1); 136-145.

Peres J, Mercante J, Nasello AG. [Psychological dynamics affecting traumatic memories: implications in psychotherapy](#). *Psychology and Psychotherapy: Theory, Research and Practice*. 2005 Dec;78(Pt 4):431-47.

For the sake of our patients and the majority of the global population, we hope the work we have been conducting in the present means a significant and practical contribution the world welfare. Kind regards!

Appendix D - Anonymous Spiritual Experiences related to the Post-Materialist Paradigm (PMP)

International Summit on Post-Materialist Science, Spirituality and Society

Part III – Anonymous Personal Spiritual Experiences

Overview and Explanation:

Since this Summit focused on the evolution and integration of Post-Materialist Science and Spirituality will direct applications to Society, and by extension, the planet as a whole, we (the co-organizers) felt it would be valuable for those participants who felt comfortable doing so to share exemplary spiritual experiences which contributed meaningfully to their scientific evolution from materialism to post-materialism.

Initially, the three co-organizers prepared statements about some of our exemplary spiritual experiences. Upon further consideration, we decided to dis-identify the information and make the accounts anonymous. We did this partly to protect the individual scientists as well as to insure that the Summit would not be distracted by which scientists chose to share which accounts.

Schwartz accepted the responsibility of reading the accounts submitted by participants and dis-identifying them. Only certain dates, places, sexes, and names were changed.

After dis-identifying the co-organizers experiences, and randomizing the order they were listed in the document, we shared the now anonymous accounts with the eight participants, and encouraged the participants on a purely volunteer basis to share some of their experiences. Three of the participants chose to do this in enough detail to include in this document.

Schwartz then dis-identified their accounts. He checked with each of the respective participants to insure that the resulting accounts were anonymous enough yet accurate in terms of the essence of their experiences.

The collection of six anonymous scientist accounts presented below reflects a randomized order of the participants who elected to provide sample spiritual experiences.

Each participant's materials begin on a new page.

Scientist #1:

Part III – Personal Spiritual Experience's (PSE's) contributing to a Post-Materialist Paradigm (PMP)

I wish I had undergone some mystical experiences that were so powerful they changed my life, like God dropping by when I was young and saying “Young woman, you are to study consciousness and health in order to further knowledge that will lead toward the spiritual,” but, for better or worse (“better” = greater and deeper understanding, “worse” = then I’m easily dismissed because I’m one of those “mystics” instead of a practical physician), I think I’ve only had one or two very deep glimpses which, at the time, struck me as having too much potential to inflate my ego, so I deliberately forgot them. I have had some lighter glimpses and a number of personal “psychic” experiences, the kinds of things like telepathy that I think provide a scientific basis for taking the spiritual seriously, as a reality.

PSE 1 : After a night of flu and feverish dreams, in which I was getting golf lessons from the mystical character Shivas Irons in Michael Murphy’s novel *Golf in the Kingdom*, I stepped into my living room to write a requested review of Murphy’s book and there was a golf ball, labeled “Arizona Driving Range” in the middle of the floor. I’ve never learned or played golf, never had a golf ball in my house before, and the University of Arizona is where I met Michael Murphy (who had been invited there to give a guest lecture) while I was doing my postdoc years before. It’s a hundred miles from the University of Arizona to my house ... a long, long drive!

PSE 2 : Back in medical school, moderately ill with a fever, I was talking with a visitor when my visual field became circular, then flowed inward to the “spout” of the “funnel,” a spot on my forehead between and just above my eyes. It opened up to a wide circle again but went inward rather than back out, opened completely and I was in a dream world. After a bit of dreaming it became circular again, flowed to a point again, opened up from that point between my eyes and opened out into the ordinary world, there was my visitor. It went back and forth this way several times. I wondered, was this what was meant by a chakra?

PSE 3 : I was visiting some female colleagues in California. I was driving one night to chat with a newly met medical colleague when I was overcome with a powerful fear. I had images of people with guns where I was going shooting at people, beating people up, and I wanted to turn around and flee. This was so unlike my normal self, and I was ashamed to be feeling so crazy, but I made myself go meet her, and off we went to a coffee shop for a great conversation. A couple of weeks later she wrote me about she was very glad when I arrived, she was irrationally and strongly worried about people with guns while she was waiting for me -- and did I know that the self-styled Symbionese Liberation Army kidnapped Patricia Hearst a little ways down the street shortly after we left for coffee, beating people up, shooting?

Scientist #2:

Part III – Personal Spiritual Experience's (PSE's) contributing to a Post-Materialist Paradigm (PMP)

Throughout my life, I have had several profound PSE's. These experiences have greatly influenced my research. Moreover, they have convinced me of the necessity to embrace a post-materialist perspective. In this section of the statement, I will briefly describe some of these experiences.

PSE 1: The first PSE I can remember occurred in my childhood. The farm of my grandparents was located in Ohio near a small forest. From time to time, I was taking walks in that forest, which seemed so vibrant and full of life and mystery. One beautiful summer day in 1960 (I was 9 years old), I wandered into the mysterious forest. At one point during my "expedition," I became tired and decided to sit on a big grey rock. While sitting on that rock, I watched the pretty trees surrounding me. After a few minutes, I started feeling connected to the rock and the trees. It then appeared to me that the rock, the trees, and myself were part of a Whole much greater than "little Mario."

Following this experience, my purpose in life became clear: I would later become a scientist to demonstrate that the essence of human beings cannot be found in the body.

PSE 2: On February 12th 1972 (I was 21 years old), I woke up as a different person compared to when I went to sleep the night before (I was perfectly healthy before that dramatic morning). I was feeling exhausted and I had pain in multiple joints. I also felt nausea, dizziness, and stomach pain, and I had trouble breathing. In addition, I was experiencing a mental fog and something had changed in my visual perception of the world. Actually I had the impression that all the objects in my visual fields were oscillating.

I was feeling too sick and weird to attend classes. I could not figure out what was happening to me but I suspected something very serious was going on. Fearful I called my parents at night to let them know what I was going through. They suggested to me that I should go back to their house as soon as possible. In order to do so, I would need to take the subway that was going to the San Diego bus terminal. From there, I would take a bus that would stop about 10 miles from where my parents were living (in Southern California, a region close to the border crossing between California and Mexico). Through sheer willpower, I managed that evening to reach my parents' house.

For nearly a year, I was almost completely bedridden and unable to care for myself. Needless to say, I had to quit college. Several medical specialists investigated my case (e.g., neurologist, gastroenterologist, ophthalmologist, psychiatrist, internist, etc.). They could not find anything and did not understand my strange illness. I felt like I was slowly dying. My parents were desperate because they did not know what to do (other than presenting my case to various medical doctors).

One night, I cried out to the Supreme Being for help. A few days later, in the middle of the night, I've had a near-death experience (NDE). I felt myself leave my body from the heart. Next I perceived a beautiful Being of Light radiating immense, unconditional love. This Being told me telepathically that I was going through a transmutation process that had nothing to do with a physical or mental disease. This process was paramount for my spiritual evolution. The Light Being also told me that the symptoms would diminish significantly in the upcoming months. The Being of Light gave me a last piece of information that was not related to my current situation: my brother would find not one but two jobs in the following days. Then I remember reintegrating my body through the heart area.

In accordance with what the Being of Light had told me during my NDE, my brother found two jobs the following week (he had been actively seeking work for a while). And I started to feel much better physically,

cognitively, and emotionally after my PSE. I also became quite psychic and much more connected with the spiritual realm.

PSE 3 : In the summer of 1999, I suddenly felt compelled to make a retreat in a Buddhist monastery not far from San Francisco. The retreat was quite beneficial. Indeed, after a few days I was feeling very calm and reinvigorated. The PSE happened on the third day of the retreat. It was early in the morning and I was still laying down in bed with my eyes closed. The room was filled with silence. Suddenly I felt a sensation of heat and tingling in the spine. This sensation lasted a few minutes. Then I realized that my perception of time passing was slowing down considerably. I also noticed that I was merging with what could be called the Ultimate Reality (Universal Self or Cosmic Intelligence). Furthermore, it became obvious that everything arises from and is part of this Ultimate Reality, which has an infinite number of different expressions.

My “*small self*” disappeared and became united with everything in the cosmos. In this unitary state of being, which was timeless, the duality between subject and object did not exist anymore. The experience was accompanied by intense feelings of bliss.

This state of Cosmic Consciousness appeared to last for a very long time (a few hours according to my watch, which was in the top *drawer of the* night table). Remarkably, after this PSE, I felt completely without mental activity (there was only Awareness) for about a day.

PSE 4: March 2000. It is 11 :45 am Sunday morning. My husband has gone shopping with our son. I am taking a shower. I start feeling nausea and a kind of *simmering* in the solar plexus area. I leave the shower stall. Curiously, I have the impression that I am losing my identity. Being a psychologist, I think to myself that perhaps I am experiencing symptoms related to a brain tumor (even though I’ve had a number of deep mystical experiences before). Strangely enough I do not worry. I am experiencing a profound altered state of consciousness. Actually I feel like under the influence of a powerful psychedelic drug. Being unable to stand up anymore, I go to bed at around noon. My eyes are closed. Powerful waves of energy rush through my body, first in the solar plexus area, then in the heart area and in the head. My heartbeat is becoming faster, my breathing is shallow and jerky. Again I wonder whether what is happening to me is pathological or dangerous. I then hear a voice saying, “Do not be afraid, there is no danger, let it go.” Trusting the voice, I let go of fear and enjoy the experience. The waves of energy continue to rush through me. I feel enveloped in a love that is absolute and unconditional. I am now in a state of ecstasy. Albeit my eyes are closed, I can perceive a white golden Light that is very bright and infinitely loving. I have the impression of being bathed in this Light. To some extent, I can still perceive my body. But at the same time, I feel as being very far from Earth. In that state, I could physically die and this would not be a problem at all! Next I become one with the Light and my “little self” vanishes. After a while (I have lost all sense of time), I understand that I can now jump into the Absolute and surrender to the Source of All That Is. I also realize that everything is perfect (including what appears to be imperfection), and that I do not need to worry about anything (health, work, etc.). Still being one with the Light, it becomes clear to me that I will never be the same again. Furthermore, I can see that everything I need to accomplish my mission in life will be provided, and that I am constantly guided. Progressively, the force of the waves of energy rushing through my body is diminishing and my breathing is becoming deep and slow. Softly I am reintegrating my body. I open my eyes and look at my watch resting on the bedside table: it is now 12:30pm.

Scientist #3:

Part III – Personal Spiritual Experience's (PSE's) contributing to a Post-Materialist Paradigm (PMP)

As I pondered addressing this question, I realized that I have had so many PSE's which have inspired and informed my research addressing PMP that it is extremely difficult for me to highlight any one (s) in particular. In the process of choosing an exemplar, an insight occurred which illustrates one of the deepest intellectual and emotional challenges integrating post-materialist science and spirituality – documented evidence of apparent spiritual guidance and protection spanning a lifetime. What follows is the first time I have integrated these three early PSE's (I estimate I have been blessed to have more than a hundred documented PSE's in my life).

PSE 1: The year was 1960. I was 22 years old, and it was a few days before my graduation from the University of Texas. My then wife (JH, 21 years old) and I were driving south on a six lane turnpike in Dallas in a white 1959 VW Beetle. This cute little vehicle was inexpensive and did not have a strong frame. Our vehicle was unexpectedly totally demolished in a life threatening accident which caused me to experience retrograde amnesia for 24 hours surrounding the event, save for one very clear memory which I will share momentarily. Hence, my account below is mostly based on what I was told rather than what I recall directly from personal experience.

Apparently it was raining heavily, and JH became concerned. JH requested that we get off the turnpike, and I took the first available exit. Apparently there was a large puddle of water in which a BMW was stalled. What I do remember as clear as if it happened yesterday was that I heard a voice "in my head" calmly and forcefully state "put on your seat belts." To the best of my knowledge, I had never heard such a voice in my head before. For some reason I listened. However, we had never used our seat belts, and I did not know how to connect them. I recall slowly and methodically finding the straps for my seat and figuring out how to connect them. I then reached over and connected JH's straps.

About a minute later, a Camaro traveling 55 miles per hour unexpectedly hit us from the rear. We were sandwiched in between the two vehicles. Photos taken at the scene of the accident showed the trunk of our VW literally crushed into the back seat area. JH's seat was ripped out of the car. However, because she was fortuitously wearing a seat belt, she was not thrown out the window.

For some reason, the only injury I received was an occipital concussion. According to JH, in the ambulance I kept screaming "I have retrograde amnesia." What is most curious about this was that the spring semester of my senior year I had conducted research on electroconvulsive therapy in rats which caused them to experience retrograde amnesia. Was this merely a coincidence, or something more?

The next morning I awoke in the hospital. I was told I had been in an awful automobile accident which had totally destroyed our car. I was told that my wife was down the hall with a very serious neck injury (e.g. she was bed ridden for three months immediately following the accident, and later had major neck surgery), and I did not know that I was married!

Most of my memory returned over the next 72 hours, save for the 24 hour period around the accident itself. The neurologist explained that if JH had not been wearing her seat belt, she would have been killed or paralyzed for life.

Three aspects of this apparent PSE are striking:

1. I had unanticipated direct first-hand experience with memory symptoms (retrograde amnesia) which matched research I had selected to conduct a few months earlier.
2. I heard a voice “in my head” which led me to do something which saved JH’s and my life, and
3. I should have sustained very serious injuries (e.g. the steering wheel crushing my chest), and instead had only a few stitches and related bruises.

PSE 2: This experience has never been shared before, and prior to this writing, had not been integrated with PSE 1.

The year was again 1960, a few months after the accident. We had purchased a new red 1960 VW, and we had driven from Dallas to NYC. Because of JH’s back, we could only travel a few hours a day. It took us almost two weeks to make the trip. I was beginning a PhD program at NYU in clinical psychology and also taking first year medical courses in human physiology and biophysics. Sadly JH was mostly confined to bed.

A few weeks into the semester I happened to attend a guest lecture by Professor Smith from UC Berkeley. I was enthralled with his broad vision, creativity in asking questions and designing questions, and joyfulness. I came to realize that I had made a mistake in selecting NYU for my graduate training; its emphasis (for me) was too much on methodology (microscopic) and too little on theory (macroscopic).

I was inspired to write to Dr. Jones at Berkeley who was conducting research on cognition and the brain explained my situation. He wrote back a week later questioning why I would want to leave NYU, but told me that if I continued to be unhappy, I should contact him again. It is important to explain that I did not inform JH about my experience at Professor Smith’s lecture or my writing a letter to Dr. Jones.

A few weeks later JH and I heard devastating news; her mother had committed suicide. JH dearly loved her mother (who had recently moved from Dallas to San Francisco) and her sister (who had also recently moved to San Francisco with her husband was beginning a PhD program in biophysics at UC Medical School in San Francisco). I strongly felt that JH should be with her family. Because of Dr. Jones’s warm letter, I called him and requested that we meet. He arranged his schedule so I could drive to Berkeley from San Francisco the day after the funeral. Our unexpected meeting was extraordinary. When JH and I returned to NYC, I applied to the clinical psychology program at Berkeley, focusing on cognitive neuroscience. Thanks in part to the strong support of Dr. Jones I somehow was admitted to Berkeley.

After I was admitted to Berkeley, I shared with JH how it was a seemingly chance lecture given by a Professor Smith which initially inspired me to entertain transferring to Berkeley. To our utter amazement, it turned out that Professor Smith was JH’s Godfather!

Was this set of events merely a coincidence, or something more? If Professor Smith hadn’t given the lecture at NYU, I would not have initially been inspired to contact Dr. Jones at Berkeley. If JH’s father had not committed suicide, I would not have been further inspired to personally meet Dr. Jones. If he and I had not met under these circumstances, I probably would not have been admitted to Berkeley. And most curiously, all of this was ultimately connected to JH and her family, since Professor Smith turned out to be JH’s Godfather (and therefore had been close to JH’s father and mother).

PSE 3: I rarely share this account because it is so odd. However, as you will see, it follows the extraordinarily improbable set of events which form the background of my early professional career.

One of the most disappointing moments in my life occurred on April 15, 1961, the day I received the letter indicating that I had been accepted to Berkeley. I was very excited as I ran in to share the good news. JH's response was completely unexpected; instead of being elated, she broke into tears. JH told me that she did not want to leave NYC and be with her mother and sister in California. The reason was that she was afraid of what would happen to her mother, and also to me.

First, JH's mother had had a heart attack a number of years earlier in Dallas, and JH was afraid she was going to die. I understood her fear. I explained that since she dearly loved her (JH spoke with her mother long distance on the average twice a day, especially after her father died), it would better for both of them if they could be closer. Sure enough, two years after we moved to Berkeley, and we had spent many weekends with her mother in San Francisco, JH's mother had a second heart attack, and after nursing her back to health, she had a third heart attack and died.

However, JH had another fear, and this one I did not understand. JH was afraid that after being highly successful at Berkeley, that I would become a tenured professor at Stanford University, and that she would be unhappy there. I tried to explain to JH that tenured posts at schools like Stanford were extremely limited, that faculty had to be world leaders in their respective fields, that Departments sought to fill specific areas, and that the probability of me (or anyone, for that matter), being offered a tenured professorship at Stanford in clinical psychology was so tiny as to be virtually impossible. There was no logical reason for JH to worry about us going to Stanford. In fact, neither one of us had ever visited Stanford.

Nonetheless, JH worried, and worried, about Stanford. After I received my PhD, and then was offered an Assistant Professorship at Berkeley (a position I did not apply for), JH worried that I would go to Stanford. After a while I became irritated by JH's apparent "Stanford Phobia." Then, three years into my assistant professorship at Berkeley, Stanford began an international search for a tenured professorship in clinical psychology. I did not apply for this position since I was so junior. Nonetheless, Stanford decided to include me on their list. They ultimately narrowed the search to three finalists, and then to my utter amazement, chose me. I had not even given a colloquium at Stanford. The first time I ever visited Stanford was with an offer of a tenured post at the age of 33.

There were additional fears related to Stanford which JH experienced as apparent "precognitions" which ultimately came to be. I ultimately concluded that if JH experienced certain "irrational fears" which persisted despite my best attempts to address them logically, that it was wise to treat them as potential "messages" which should be given serious consideration.

In sum, my early professional career in "materialist psychology" developed against a backdrop of personal experiences with phenomena which required a "post-materialist psychology" paradigm. It is only now that I am allowing myself to "connect the dots" and accept the broader implications of what has been transpiring over a life time

Scientist #4:

Part III – Personal Spiritual Experience's (PSE's) contributing to a Post-Materialist Paradigm (PMP)

The blessing of daily life is full of guidance. Here we can each only share a few sacred moments. I feel it is right to share with you at this meeting some related special moments of guidance that arose around my quest to become a father. The journey was sacred, full of love and guidance, at times very dark with a stabbing sense of suffering.

My wife and I were healthy, relatively young and hoped to become parents. After a year of “trying” no baby came. We were assured by medical professionals that “nothing was wrong,” yet that standard treatments would facilitate and expedite the fertility process.

We started with a series of standard IUIs, which then gave way to a series of failed IVFs. The process was full of needles, strange or foreign chemically induced moods, and disappointments. Each failed procedure deepened the despair- and unsatisfied hunger for us to become parents.

That this process was somehow sacred and guided was never a doubt. I have always known that life is a living dialogue with the Universe. However the series of “funerals” for the one and two celled children, caste out of my wife's body, became darker and darker for both of us.

My wife, with every conceivable other goal satisfied in her life, strongly felt that “Our lives were hollow and meaningless without children.” Yet through the darkness and suffering, the supported-ness of our quest became over and over again fully evident.

A series of vivid synchronicities guided us along the path to our children. Much of the path was full of loss and suffering, yet the journey felt loving and supported by the Source. Helpers and messengers came along the way.

PSE 1: After a typically intrusive mood-altering IVF, my wife's second one, she went home to spend the requisite time on bed rest. I had a deep inner knowing that for me, it was wrong looking for our child in a medical office. My inner wisdom felt that my wife's IVF would not take. I knew the problem was a “different level of analysis!”

As I walked outside my office, to my horror I saw painful confirmatory evidence. Right on my office door was an embryo of a dead duck miscarriage. A tiny little dead duck miscarriage on her back, moist and frozen. I had never seen anything like this before. It seemed clear what this meant. I sank into depression.

The truth is that I dearly love the ducks. In fact, in the freezing winter months, I feed the ducks. I admire their bravery, courage and resourcefulness in the icy waters of North America, including the lake near our home in Vermont. That they stay together and work together seamlessly is inspiring.

That day of my wife's IVF, as I woke from my sleep I headed back to my office in deep depression. The one room in our home that is really my own is my office, that opens onto the lake. Right outside my door, by which I mean immediately up to the door of my office, a mother duck arrived.

Never in the past five years had a duck come to the door, nor in the 10 years since has a duck neared the house. However, the day of my wife's IVF, this duck came right to me, and in her mouth was a "gift," a plump worm. It was as if she and I were in this together. The duck seemed to know and was offering healing and comfort.

PSE #2: My wife and I flew from Montpelier to Seattle to meet the woman who was to search Poland for our child. A wise and frank woman, the daughter of a Polish minister, she asked us "what kind of child do you want?" My response was equally direct and sure, "we do not care about the race or gender of this child. We do not care what they look like. Please just a child that can bond and connect, a child that can love."

I felt I had stated our case when the wise Polish woman looked at my wife, and stared at her. She was silent, but her gaze did not relent. Under her truth inducing stare my wife said, "yes to all that, but *kind of a boy*."

Having wrapped up our meeting, I then flew directly from the adoption agency to Seattle to Flagstaff to join a Navajo healing ceremony in Northern Arizona. I had not understood the broad idea of healing of the Navajo and that it included far more than the symptom reduction.

I only knew that my inner wisdom said "go" when I received the call to fly to Arizona from my "trail angel," my older cousin, John, with whom I share a name.

The Chief stood up to speak of healing at the spiritual level, after which is materialized the physical expression. He pounds his heart with tears of love in his eyes, he explained "my daughter, who is adopted,.." came to my wife and I through healing.

The ensuing Navajo healing ceremony had no bounds made by humans. The rough one hundred attendees follow the road of the healing time. One by one individual's stand and share their suffering, abuse, and inner torture, in front of the full community, in response to which the entire community would then line up and one by one share wisdom and love. The drums start directing us to the beat of creation. Whether it took 2 hours or 18 hours was not determined in advance. Then we all headed to the Sweat Lodge.

Sitting in the Sweat Lodge with the Navajo I was honored to be space as something of a guest, actually quite a guest. The Medicine Man, who runs the men's ceremony, wondered why I was there - in their traditional healing space, looking like a Californian in his Sweat Lodge. He then taught me forever more how to respond to strangers. "Great Spirit, I do not know who this man is. I do not know him. I do not why he comes. But I see that he comes, so please help me help him." In retrospect, I was anxious, a bit shy in this strange situation with all these Navajo men, and I should have better introduced myself. The Medicine Man then started the ceremony, inviting each man in the circle to state why he has come.

“My son, he is now a teenager, driving around at night, and drinking, I am worried about him.” The first man spoke each person listened with utter attention and respect. Nobody else spoke. Then the next man stated, “My son, now he has not been coming home, he has a wife and children, and I do not know where he goes, but I think that he is drinking.” Each man it was revealed was a father, who had come in prayer for his son. Then we turned to my cousin, one place before me, as I marked the “end” of the circle. “This is my cousin John. I am his older cousin and have brought him here. He has come looking for his child.” They all offered me the same total respect and honor that had been bestowed on the men in their tribe.

Then in unison the Medicine Man made prayers and together, in unison, we sent up the collective prayer of all men in the tent, all for each other, all as a whole, and all individually. A palpable physical presence of light and force went up the center of the Sweat Lodge.

That night while I was in Arizona a call came from Poland to our home machine. The message said: “We have found your child. There are wonderful boys here, as you wanted a son. We can get you a boy if you prefer. But we have found your child, and this is a girl.” My wife had received her wish.

Jane, our daughter, came home with a love of all living beings. She spent hours in the like in all seasons. Jane is now 13 years, lives the values and principles of the Navajo who live with respect and harmony, and make prayers for “all my relations” which includes all living beings.

PSE 3: Once we found Jane on video tape, a red carpet opened up to guide us to her. The journey to your spiritual child is a sacred pilgrimage of love.

As a symbol of our journey to Poland, as we boarded the plane, the flight attendant pulled us out of coach line and walked us up to first class, seated us in the first row, She handed us each a glass of champagne, and with a twinkle in her eye said, “Congratulations- have a good trip!!”

Standing before the judge in Warsaw, with an interpreter before me, I learned that the judge normally was gone in the summer - there was no adoption court, but for this summer his daughter had won the national science prize and they stayed in Warsaw. He was about 55 years old, and appeared wise. I explained. “We are from the US. This is our spiritual daughter. We ask that you please waive the waiting period so that we can take her home to her new family.”

The judge was experienced. He looked right at us. From across the room, his eyes seemed to twinkle like the flight attendants. “Bam!,” the gavel went down hard. Jane was on her way home.

That was the start of our family. One month later was 9-11-01, the world froze, international adoption from Poland was closed for months, and relations fell apart. Our little girl would have been stuck in the orphanage another year, if not forever. The waters had parted just in time, and then closed. My wife and I could not have felt more blessed.

Scientist #5:

Part III – Personal Spiritual Experience's (PSE's) contributing to a Post-Materialist Paradigm (PMP)

PSE 1: The psi gods first came calling when I was just five years old, and their visit is seared into my memory.

I grew up on a cattle ranch in northern Idaho. In the 1950s, life on those bleak blackland prairies was an endless round of bank foreclosures, boll weevils, and drought. As an additional nuisance, during the summertime cattle were in constant danger of attack by screwworms, *Cochliomyia hominivorax*. Female flies would lay their eggs in any open wound of an animal (and sometimes humans — thus *hominivorax*, “human eating”) and the small white maggots would hatch. They would bore through the animal's tissues, tearing away the flesh and leaving gigantic holes in their wake. As a consequence the animal would be maimed for life or, not uncommonly, die of the accompanying infection.

Like physicians making rounds, cattlemen and farmers continually surveyed their cattle during the summer, looking for any cut or wound that had become invaded. Treatment was gruesome. The animal had to be captured and immobilized while the squirming mass of maggots was scraped from the infected site. Then as the animal writhed in pain, the blood-raw cavity was doused with a concoction of foul-smelling chemicals to cauterize it and destroy any remaining screwworms and unhatched eggs. But sometimes the treatment didn't work.

One day, after multiple attempts, my father gave up on treating a young calf with a gaping wound on its flank. It could not walk, was in constant agony, would not eat, and was slowly dying. Looking at the calf, my father simply said, “Let's go get Sara.”

I had never heard of Sara and had no idea what my father had in mind. We drove for miles down a narrow unpaved road into the prairie countryside, eventually turning onto a lane that led to a small, run-down shack situated conspicuously in the middle of a small wheat field. Sara and her Hispanic family lived there, subsisting as farm laborers. After a lengthy conversation in halting Spanish, which I could not understand, she returned with us to our farm and the dying calf, saying nothing the entire trip.

Sara, my father explained, was a *curandera*, a folk healer. The local farmers kept her in reserve for the really tough cases. They frequently preferred her to the expensive local veterinarian.

Sara got out of the car without a word and began walking to the barnyard where the sick calf lay.

“What's she going to do?” I whispered to my father.

“She's going to talk out the worms,” he said. I was completely confused. How could humans converse with worms? I tried to coax an explanation from my father, by nature a reticent man, but could not. I began to trail after Sara,, not wanting to miss anything, but my father, towering above me,

placed his hand on my shoulder and said, “Son, we can’t watch her. She has to be alone.”

Disappointed, I watched Sara from a considerable distance. I saw her kneel before the calf, which was on its side. It seemed oddly unafraid of her. She made several passes with her hands over the animal and then, after she remained still for many minutes, her lips began to move. After a half hour the ritual ended and this mysterious woman signaled to my father that she was finished. Curiously, my father paid almost no attention to the calf; he seemed to have no doubts whatsoever about the results of her treatment. Sara walked with us to the car, and we retraced our route over the country roads back to her house. My father escorted her to the front porch, where they began to converse. He paid her for her efforts and we returned home.

“What did she say to you, Dad?”

“Sara knows why the calf is sick. She says it has a strong will and is always misbehaving. It got the cut on its flank from barbed wire when it tried to escape the pasture and the rest of the cows. She says the infection is the price it has paid, but that it is a very smart calf and has learned its lesson.

Sara made a bargain with the worms. She told them they have succeeded in teaching the calf a lesson. But if they stay, the calf will surely die and they will eventually die with it. It would be better for everyone if they leave now and spare the calf.”

“But what if they don’t?”

“She threatened them with stronger measures if they stay. She says the worms listened to her and are afraid. They are leaving now and the calf is going to be alright.”

“But how does Sara *know* all this?” My father, sensing my pained confusion, looked at me and smiled.

“Sara,” he said patiently, “knows what things *mean*.”

It was late when we arrived home, and while Dad finished the chores in the moonlight I grabbed a flashlight and ran to the barnyard. It all seemed like a fairy tale, and I had to have a look for myself. The calf was standing, for the first time in days, eating from a trough. There were no worms in sight in the gaping wound, which — did I imagine it? — was smaller. In a few days it had healed completely and the calf was fine.

And so it all began: my first exposure to the world of healing intentions, and the ability of compassionate mental actions to nudge the state of the physical world toward greater wholeness and healing.

PSE 2: Personal illness proved to be a major influence on my view of the mind. From early teens I suffered from classical migraine syndrome, associated with severe and often incapacitating headache, nausea, vomiting, and, worst of all, episodes of partial blindness. Nothing helped. During the stress of clinical psychology graduate school, the problem worsened. It became an ethical issue for me, because I

thought it was only a matter of time before I had an attack of partial blindness during a critical situation and might harm or even kill a patient. I tried to drop out of graduate school, but my faculty advisor would not permit it, assuring me the problem would get better. It got worse. By the time I entered private practice during the mid-1980s, I was desperate for relief. It came in the form of biofeedback. When this technique emerged on the national scene, reports surfaced indicating that it was often helpful for migraine. I chased all over the country attending biofeedback workshops, learning how to quiet my mind and body through relaxation, imagery, and visualization, with feedback from sophisticated electronic gadgets that put one in touch with bodily functions that are not normally sensed — muscle tension, skin temperature, and so on. The results were miraculous. Within about a half-dozen sessions my migraine attacks diminished by 90 percent, and remain so to this day. I was so impressed with this mind-body therapy I became certified as a biofeedback instructor, established one of the first biofeedback labs in Idaho, and taught my patients biofeedback as an integral part of my practice of clinical psychology. One does not casually walk away from this sort of experience, and my encounter with biofeedback is one of the reasons I am fascinated with the role of consciousness in health and healing: post-materialism writ large.

PSE 3: During my first year of private practice in clinical psychology, psi returned in the form of precognitive dreaming that left me shaken, and which showed me that the world worked in ways I had not been taught.

In the dream, Justin, the four-year-old son of one of my psychologist colleagues, was lying on his back on a table in a sterile exam room. A white-coated technician tried to place some sort of medical apparatus on his head. Justin went berserk — yelling, fighting, and trying to remove the gadget in spite of the technician's persistent efforts. At the head of the table stood one of Justin's parents, trying to calm him and lend support. The technician repeatedly tried to accomplish her task but failed, as Justin became increasingly upset. Exasperated, she threw up her hands and walked away.

I awoke in the gray morning light feeling as if I had been turned inside out emotionally. I felt as if this was the most vivid dream I'd ever experienced — profound, numinous, "realer than real." But in view of the dream's content, this made no sense. I did not understand why I felt so deeply moved. I thought about waking my wife and telling her about it, but decided against it. What sense would it make to her? We hardly knew Justin, having seen him only three or four times before.

I dressed and went to my office. As the busy morning wore on, I forgot about the dream until the noon hour. Then, while lunching in the staff area with Justin's father, his wife entered the room holding Justin in her arms. The boy was visibly upset, with wet, unkempt hair and tears streaming down his face. Justin's mom explained to her husband that they had just come from the electroencephalography (EEG) laboratory, where the EEG technician had tried to perform a brain-wave test on the youngster. She prided herself on her ability to obtain EEG tracings in children, which can be a demanding task. Her record was virtually flawless — until she met Justin. After relating to her husband how her son had rebelled and foiled the test, Justin's mom left with the disconsolate boy in her arms. Her husband accompanied them out of the dining area and went to his office.

By this time the dream memory had returned. I was stunned. I had dreamed the sequence of events in almost exact detail before they happened. I went to see Justin's father in his office and asked him to share with me the events leading up to the aborted EEG.

Justin, he related, had developed a fever the day before, which was followed by a brief seizure. Although he was certain the seizure was due to the fever and not to a serious condition such as epilepsy or a brain tumor, he nonetheless called a neurologist for a consultation. The specialist was reassuring; nothing needed to be done immediately. He would arrange an appointment for the following day for a brain-wave test, just to make sure nothing else was going on. It was a simple procedure and the EEG technician, he said, had a special way with kids.

Could anyone else have known about these events? I asked. I wanted to know if someone could have leaked information to me that I might have forgotten, which could have influenced my dream. Of course not, Justin's dad said; no one knew except the immediate family and the neurologist.

Then I told my psychologist colleague about my dream. He realized in an instant that if my report were true, his orderly, predictable world had been suddenly rearranged. If one could know the future before it happened, our understanding of physical reality was seriously threatened. He sensed my disturbance as well. Our conversation turned silent as we contemplated the implications of these strange happenings. I turned, left his office, and closed the door behind me. I did not bring up the event with him again.

Within a week I dreamed two more times about events that occurred the next day, and that I could not possibly have known about ahead of time. Why had a cluster of precognitive dreams erupted, when I'd never experienced them before? It was as if the world had decided to reveal a new side of itself, for reasons I could not fathom.

In all three instances time seemed to be reversed, with effects appearing before their causes. Rationally I knew this could not happen. Time simply could not reverse itself and flow backward, carrying information into the present from a future that had not yet occurred. I wondered whether my mind could somehow have strayed from my body into the future, retrieving information about events that would later unfold. Both possibilities violated common sense and every ounce of my psychology training. My consciousness was localized to my brain and to the present; *all scientists* knew that. Or so I thought.

I haven't had a precognitive dream since. It was as if the universe, having delivered a message, hung up the phone. It was now my job to make sense of it — if I could.

Scientist #6:

Part III – Personal Spiritual Experience's (PSE's) contributing to a Post-Materialist Paradigm (PMP)

Where does one's story start? I begin mine with what I don't remember.

At twenty months old, as I am told by my family, I found a can of lighter fluid on the table. Being a curious child, I did what curious children do: I put it into my mouth. For months after, my small body rested and wrestled in a hospital, floating in and out of life as my lungs sought the affirmation of breath.

Perhaps it was here, in the entrusted hands of a dedicated group of health professionals, in the prayers and intentions of my devoted family, in a personal biological quest for life itself, even under dismal odds, that I developed my abiding fascination with healing.

As I trace my history, I am aware of the various seeds and fertilizers that have led me to a career far outside the mainstream, one in which I have sought to understand the interface of science and the nonlocal field. It was a series of small, exceptional experiences that paved the way for both my personal transformation and my professional contributions to an emerging new worldview.

PSE 1: I grew up in Chicago, Illinois in the 1950s and 60s. This was a time when the United States was at war with itself. It was a war of race, of class, and ultimately of what I came to see as a war of consciousness and worldview.

Coming of age in such a complex time and in a setting that fueled rebellion at individual and social levels, I was alive with confusion, anger, and a desire for change. One night, when I was eighteen, I was with someone I should not have been with, doing something I should not have been doing. A drunk driver pulled out of a parking lot of a bar without his lights on and hit the motorcycle I was driving, throwing my body through the air. I clearly recall watching my physical being tumble through the sky and then crash to the ground.

During what I now understand as an out-of-body experience, I felt my awareness transcend my body, looking down on it from a higher vantage point. It was an opening to some capacity that didn't have a frame of reference or a language in my limited life experience. During an extended time in the emergency room, waiting for my parents who were hours away, there was talk of possible amputation. The cut was deep and wide in my left leg. The emergency medical team did their best, putting sixty-six stitches below my knee, and sending me home with question marks about my recovery.

Later, lying on the couch in my family's home, I somehow got the idea that I could and should visualize my immune system healing my leg. I laid there for long periods of time, feeling the tingles of healing. I didn't come from a medical family and I have no memory of having heard about mind-body medicine. Now I can see that I had a direct understanding about what I needed to do to bring about my own healing. Today I have two well positioned feet on the ground and an awareness of some aspects of myself that are more than just the physical.

I began doing very preliminary remote viewing experiments with an experimental psychologist at the University of Illinois. She and I spent the summer of 1977 personally testing the claims made by physicists Russell Targ and Harold Puthoff in their book, *Mind-Reach*, that people can describe geographical locations about which they have no sensory information. We were our own subjects and experimenters; the results were startling and compelling.

On the first day, we invited a self-proclaimed psychic to visit the psychology lab and be our “subject.” I was the “outbound” experimenter in the first session, the one who visited a distant site. The description given by the male psychic didn’t even come close to matching the geographical site that I viewed. We tried a second trial. This time I served as the “inbound” experimenter, sitting with the subject in the lab and asking for his impressions of the location the outbound experimenter.

When the outbound experimenter returned, she asked the “psychic” to describe his impressions. Again, he described almost nothing that matched the site. Remembering that the experimental psychologist and I had both produced strong matches in our initial explorations, she then asked me if I’d had any impressions. I was quick to say no; I was the “objective” experimenter, after all.

She pushed a little; surely I had some impressions? I conceded that a strange symbol (resembling the Greek letter *omega*) had come to my mind and I made a quick drawing. She grew excited and took us to the building where she had been sitting during the “sending” period. Sure enough, there was a fence surrounding the building that was made up of the symbol I had drawn, and etched on the side of the building was the symbol.

This was my first insight into the potential myth of objectivity in our studies of consciousness. It was also one of the first times I gained some direct, first-person experience of the phenomena I was hoping to study.

Reflections

Through my work and my life experiences, I have seen that the transformative process involves a change in self that includes both our inner and our outer realities. It provides links between our direct experiences and our being in the world through action and service. Bridging the nonlocal and the rational has allowed me to develop a deeper and richer sense of connection to myself, my family, my community, and my environment. In this process, I have developed an increasing awareness and appreciation for the sacred in every aspect of life.

As each of us lives into expanded human capacities, we can come back to who we are at our core level of being. Starhawk, a Wiccan teacher and writer, made this point during an interview in 2006. She noted that attending to the collective realms of interconnections, such as we find in the nonlocal experience, is a way of reclaiming our natural consciousness. In her words:

A range of different types of consciousness is available to human beings. It’s a kind of anomaly that postmodern Western culture has narrowed the range of that what we are encouraged to

have. Maybe it's not so much a transformation we are speaking of, but an opening. It's a reclaiming.

A natural consciousness is readily available to human beings as a birthright. It is not so much a supernatural awareness as it is an awareness of being present in this world and open to understanding the interrelations and interconnections. It's about being aware and thinking in terms of patterns and relationships rather than separate isolated objects.

Finding the place within us for both nonlocal insights and rational knowing is important when we seek transformation and greater self-discovery. They are also important for guiding us as we engage in the broader world. Experiences of interconnection remind us of the web that links us all, in ways both visible and invisible. Together we can build a new paradigm that embraces our wholeness, not just our parts. In this process we can co-create a PMP that serves the fullness of who we are—individually and collectively.

Appendix E – Summary Table of Observations and Evidence for PMP

LIST OF EVIDENCE SUPPORTING A POST-MATERIALIST PERSPECTIVE

1. Influence of mental activity on physiological activity

Findings of psychosomatics and psychoneuroimmunology

Placebo and nocebo

Faith healing

Postponement of death

Bereavement and mortality

“Voodoo” death

2. Specific physiological effects induced deliberately

Biofeedback and neurofeedback

Yogic practices and control over the body

3. Specific physiological effects induced by hypnosis

Autonomic effects

Sensory effects

Analgesia

Skin conditions (healing, allergies, bleeding, burns, warts, other skin diseases)

Induction of bleeding, blisters, and markings

4. Psi phenomena

Telepathy

Clairvoyance and remote viewing

Sense of being stared at

Precognition and presentiment

Mind-matter interaction : Psychokinesis, Poltergeists, “Field-consciousness” effects

Direct mental interactions with living systems

5. Near-death experiences (NDEs)

Veridical out-of-body (OBE) perceptions

NDEs in cardiac arrest

6. Postmortem survival

After-death communications

Mediumship experiments, Direct voice mediums, Materialization mediumship

Instrumental Transcommunication (ITC)

Electronic Voice Phenomenon (EVP)

7. Apparitions

Veridical apparitions

Collective apparitions

Deathbed visions

8. Reincarnation

9. Life between lives regression

10. Transcendent experiences

11. Miraculous healing

12. Greater spiritual reality hypothesis

13. Synchronicity

14. Quantum Physics

Observer effect

Appendix F - Representative Publications by the Participants related to PMP

These representative publications by the participants were provided in a separate Zipped File (not included in the body of this Summary Report).