

ON-GOING SCIENTIFIC DISCOVERY OF SENSORY RECEPTORS WHICH ACCOUNT FOR MANY SUBTLE PERCEPTIONS

Ingo Swann (12 September 1996)

[NOTE: The following is a reworked version of a paper I was invited to present on 21 March 1994 at the United Nations on behalf of the Society for Enlightenment and Transformation (SEAT).] SEAT is a reformulation and enlargement of the former unofficial UN Parapsychology Association. SEAT, however, has been granted Non-Governmental Organization (NGO) status and now occupies a meaningful place within the greater U. N. system. For further information regarding SEAT and its purposes, please be in touch with Mr. Mohammad A. Ramadan, Room S-1755, GCPO Box 20, NY, NY, 10017 (fax (212) 963-4879).

[The original title of the paper was YOUR SEVENTEEN SENSES - THE CRUMBLING MAINSTREAM RESISTANCE OF THE PARANORMAL AND NEW SCIENTIFIC CONFIRMATION REGARDING THE EXISTENCE OF CERTAIN PSI FACULTIES. This original paper consisted of two major topics: (1) the major characteristics of 20th century mainstream resistance to psi faculties; and (2) recent scientific advances which now substantiate the existence of those faculties. For the purpose of this document I have separated the two topics and will integrate the substance of the first one in a forthcoming essay regarding the anti-psychic mindsets of the twentieth century. This present document focuses on new scientific confirmation regarding the existence of certain psi faculties. The elements presented in the 1994 paper are germane in today's larger picture of human consciousness development and have increased in meaning regarding the near future.]

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NEW SCIENTIFIC DISCOVERIES REGARDING THE EXISTENCE OF CERTAIN PSI FACULTIES

**Synopsis of a paper presented on 21 March 1994 at the United Nations
to members of the Society for Enlightenment and Transformation**

Ingo Swann

How many of you here today would like to know you have at least SEVENTEEN senses rather than just five of them? How many think that seventeen would be better than just five? How many of you here

already know that you have more than five senses?

When Mohammed Ramadan and Clarence Robins asked me to come here and talk about something, we had a little difficulty deciding upon a topic worthy of your interest. Finally it dawned on me that there exists what we might call a Particular Situation regarding psychic or metaphysical perceptions and it was decided that the nature of this Situation should be presented.

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This Particular Situation consists of three aspects or parts.

FIRST: During the modern past, the real existence of psi faculties was rejected within science, psychology and psychiatry. The rejection was based in a number of factors which seemed rational and logical in the scientific past and thus achieved wide acceptance in scientific, academic and media mainstreams of the twentieth century.

SECOND: Those factors which seemed rational and logical in the past have now been superseded by significant scientific discoveries and advances which substantiate the real existence of at least certain psi faculties. Some of these discoveries are now fifty years old. These new discoveries absolutely require a swift and large-scale reevaluation not only regarding psi faculties in particular, but with regard to the larger scope and subtle functions and transformation of human consciousness.

THIRD: However, in spite of the notable scientific advances which affirm the real existence of psi faculties, this necessary and advisable reevaluation is NOT underway in the three important mainstreams - and which mainstreams continue to support, adhere to, and proliferate the now out-dated concepts which, in a broad cultural sense, permitted the past, absolute rejection of psi faculties.

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There is one outcome of this Particular Situation, and which can be described by a term frequently used within United Nations parlance, a term familiar to me as a past employee of the Secretariat. It is used in many United Nations documents.

The outcome referred to is that if the past rationales which permitted the rejection of psi continue to be proliferated by mainstream pressures, then the scientific advances which substantiate the real existence of certain psi faculties must be ignored or pushed into the shadow of unawareness.

Thus, the discoveries CANNOT and WILL NOT be integrated into advancing scientific thought, academic tutoring and fair media representation. And in this suppressed or hidden state, the discoveries cannot be integrated into the overall goals of the Society for Enlightenment and Transformation which I have the honor of addressing today.

The well-used, sometimes over-used United Nations term for this kind of situation is "deplorable" - and so the Particular Situation I have outlined above is, well, deplorable. After all, advances in scientific discovery are supposed to vitalize enlightenment and transformation if they are made openly accessible. But when such discoveries are ignored, they cannot contribute to much of anything.

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Because of the Particular Situation I've outlined above, most people are not aware that significant scientific advances HAVE been made regarding substantive support for the real existence of a number of psi faculties.

Many scientific papers have been published regarding the discoveries. But because of the Particular Situation these remain ignominiously dispersed through the various literatures and their implications are not enthusiastically reviewed or endorsed in formal scientific, academic or media forums.

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Messieurs Mohammad Ramadan and Clarence Robins, both indefatigable workers on behalf of enlightenment and transformation, agreed that I should attempt to present at least a nut-shell overview of the developments which have not at all yet been socially permitted to reach down into transformative social consciousness.

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To enter into this overview, it is first necessary to set the stage as to why psi faculties were rejected in the scientific past.

A historical review of the phenomena of rejection of psi shows that there were multiple reasons for it. In their modern sense, some of these reasons reach back at least three centuries.

Some of the reasons had to do with simple matters of tolerance and intolerance both at the individual and social levels. But others had to do with what was to be established as acceptable or unacceptable knowledge at politico-social levels. Others had to do with what was to be accepted as normal or abnormal social and mental behavior, especially as regards the first six decades of the twentieth century.

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The larger historical overview of the rejection thus presents a fairly complicated picture, one which is difficult to negotiate.

In modern scientific terms, however, the major thrust of the rejection was early consolidated within the concepts of philosophical materialism which came to govern early modern scientific overviews and expectations.

As a philosophical commitment, then, the early modern sciences held that whatever constituted scientific reality had to have a physical basis in matter, in the material. And so the consolidation of the rejection of psi was straightforward and simple: That psi could not be accepted until a quantifiable, material-physical basis for it, or any part of it, was identified.

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What this meant in simple terms was that the human could ONLY access information for which physical receptors could be shown to exist. The five physical senses were based in the physical tactile mechanisms which resulted in the sensations of sight, hearing, tasting, smelling, and touch. But psychic information could not be attributed to any of these, since all of them functioned only within the local environments of the physical body.

As a general result, the existence of additional senses was denied, both scientifically and philosophically, and it was this denial which resulted in the Five-Senses-ONLY theory which was pervasively proliferated throughout modernist societies.

This scientific principle, for it indeed functioned as one, thus served as the rationale and logic for the rejection of psi faculties. I.e., no physical receptors for those faculties were expected to be scientifically discovered. So the on-going rejection of psi faculties was considered justified.

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It is worth pointing up something here which has dropped out of modernist thinking. Anthropologists have established that in general pre-modern societies did not think in terms of having SENSES. As we might put it in today's computer lingo, they thought more in terms of accessing information or knowledge and achieving perception appropriate to them.

The conversion of the concept of accessing information to the concept of having senses appears to have occurred only AFTER the European Renaissance period. Indeed, it can quite easily be shown that most of the major thinkers of the Renaissance were profoundly preoccupied regarding HOW to increase and stimulate the accessing of information.

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Thus, the concept that we are dependent on our physical senses rather than dependent on accessing

information dates from AFTER the seventeenth century - while the concept of accessing information is at least 6,000 years old.

In this light, the idea that we access information only via our five physical senses IS modern. The concept that we are completely limited to what we perceive by the physical five dates from only about 1845, and was from the outset solely a scientific hypothesis which has never been demonstrated by conclusive scientific fact.

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Nevertheless, the hypothesis that human awareness is limited to the five physical senses has been a very powerful one within modernist philosophical and scientific contexts. So powerful, indeed, that early modern scientists never expected to discover the existence of bio-physical receptors additional to the famous five.

Information derived from other than the physical five senses was thought to be impossible, at least in theory. And it was upon this theory that psychic information, so-called, was scientifically rejected.

Indeed, many leading scientists between 1845 and about 1960 let it be known that there was "one scientific demand" which would never be fulfilled: the discovery of bio-physical receptors which would account for psychic information. So, scientific brotherhoods united around the conviction that until physical receptors for psychic information were discovered, then the information should be considered as illusory or psychopathological in origin.

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Early psychical researchers and later parapsychologists of course protested this rejection based solely on this "one demand" of science. They indicated that if psi faculties were purely psychological in origin and nature, then no bio-physical receptors would ever be found.

However, by the same turn-around of the scientific argument against the real existence of psi, should physical receptors for accessing so-called psychic "information" be discovered, then science proper would be obliged to accept that its one demand was fulfilled.

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What has just been presented has long been characterized as the "conflict" between science and parapsychology. This conflict has often been distorted to include other factors. But the basic factor clearly and unambiguously hinged on the absence of bio-physical receptors which would account for the

subtle kinds of information so-called "psychics" deal with.

In parapsychological parlance, this kind of information came to be called "extra-sensory" or "non-sensory." These two terms unambiguously demonstrate that psychical researchers and parapsychologists themselves did not consider that bio-physical receptors for psychic information would ever be discovered.

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And it is from this context that the basic definition of "psychic" is derived: i.e., lying outside of matter, physicality, the physical sciences or knowledge of the physical universe.

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There is now a very interesting aspect to this conflict which should be pointed out because it has great bearing on later developments.

If the conflict is dissected carefully, it reveals that scientists, psychical researchers, or parapsychologists expected that any bio-physical basis for psi faculties would be discovered.

Indeed, early psychical researchers looked for supernatural explanations outside of any materialistic basis. By their own name, paraPSYCHOLOGISTS clearly opted for a psychological explanation, not a bio-physical one. And there is no evidence at all in the parapsychological literature that parapsychologists invested any time either theorizing or researching for a bio-physical explanation.

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This is to say, that any possible bio-physical explanation was, and is, just as alien to parapsychology as it was to the material sciences proper.

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Here matters rested - until the first electron-microscope was developed in Germany in 1932, and later evolved in the United States and Canada. After World WAR II, cellular biology underwent a great jump in importance because of the electron-microscope and even more penetrating and precise later technical advances.

Now began the slow process of comprehending that biological cells were not the simplistic things once thought. Rather, they were composed of ultra-minute factors which functioned in very remarkable ways.

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Also, during the 1930s another development occurred which was to have enormous importance and impact, an impact which is yet in progress today.

The fact that biological organisms have some kind of electromagnetic substrate was discovered about 300 years ago. But this substrate was considered weak and unimportant in the face of the chemical substrate which was thought to be very strong.

During the 1930s, however, researchers in various parts of the world, and especially in the former Soviet Union, began to realize that although the electromagnetic substrate was "weak" it nonetheless played very important roles within the bio-chemical whole of ALL biological organisms.

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Advances in bio-electromagnetism were somewhat delayed, however, until appropriate technology could be invented to deal more adequately with subtle bio-energy forms. The technology began to be available during the 1960s, and by the late 1970s the extraordinary importance of the bio-electromagnetic substrate could begin to be seen.

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A meaningful factor, somewhat amusing, now needs to be introduced, one with which most people are probably not familiar.

Science and technology are often thought of going hand in hand. But this is often not the case. The nearly invisible reason is that the technically-minded and the scientifically-minded don't appear to be the same kind of thinkers.

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Largely speaking, scientists are more likely to be theoreticians. But technicians are more likely to be engineers.

Scientists theorize and try to test their theories. But technicians build things, often just to see what the things can do. Indeed, technical advances can often be several generations AHEAD of scientific thinking. This is certainly the case with the computer industry evolved largely by technician-types, not by scientists. Indeed, many technological advances have been achieved by technologists who possessed

little in the way of legitimate or conventional scientific backgrounds.

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The bottom line of all these developments is that during the last forty years a very large series of new research disciplines have come into existence. These new disciplines constitute an intermixing of science, technology, microscopy, subtle chemical exchanging, and electromagnetic and bio-electromagnetic expertise.

Ahead I give a partial list of these new disciplines. But the punch line here is that it was left to these NEW disciplines to increasingly discover (much to their surprise!) the expanding bio-organic basis for many faculties once merely thought questionably "psychic."

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There is only one impediment regarding an integration of these new disciplines with psychical and parapsychological research. This involves the new nomenclature being evolved with these new disciplines.

The new nomenclature is as alien to science as it is to parapsychology, and at present both these venerable institutions are having difficulty integrating it both conceptually and contextually. I will show many examples of this ahead.

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But beyond this little difficulty, there is no doubt that many of the advances being made in those new disciplines can be "married" to many otherwise well-known psychic faculties - as I will demonstrate at the end of this paper.

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At this point, I can't resist making one sardonic comment. Earlier in this paper I have complained about the lack of scientific and popular integration of the implications of these new discoveries.

But there is one group that has taken adequate and accurate interest in these astonishing discoveries and which seems to be more or less up to date regarding them. This group consists of the producers and scriptwriters of the TV series STAR TREK and similar offshoots.

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The new and now on-going discoveries of biological bases for many psi faculties is now best expressed, perhaps, as PARABIOLOGY, meaning "beyond" past conventional concepts of biology.

Or, perhaps, the term PARAPSYCHOBIOLOGY is convenient - which, if translated into Russian, would become the term translated back into English as bio-communications or bio-information transfer.

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So far, the new discoveries regarding the biological bases for psi faculties roughly fall into five categories. I have to get a little technical here, but I'll simplify just ahead.

These five general categories are:

- Minute chemical receptors and sensors
- Minute chemico-electro receptors and sensors
- Neural-network exchanges of information in the bio-internal body substrates
- Bio-electromagnetic information receptors and sensors
- Bio-information transfer networks at the atomic, molecular, and neurological levels

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If these new terms are somewhat confusing, well don't worry too much.

They simply mean that we are FAR BEYOND the five-senses-only fallacy and that our bio-mind bodies have multitudes of exceptional senses by way of delicate systems of receptors and sensors at the cellular, nervous, chemical and bio-electromagnetic levels and their interfaces.

A nice way to conceive the whole of this is to comprehend that every cell, possibly every atom, in our bio-physicality is a receptor or sensor of some kind.

In other words, we are walking, talking, eating, defecating ARRAYS of exquisitely elegant and sophisticated receptors and sensors. ALL of these receptors and sensors are busy ACCESSING information - and knowledge, IF what is accessed can be organized into recognizable thinking patterns.

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By extended meaning, these delicate systems of receptors can also integrate with our normal five - and, given adaptive learning regarding them, can also integrate with our mental cognitive powers - to result in, yes, what have otherwise generally been called "psi faculties."

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Now, to give you here some broad idea of the cutting-edge, largely technical disciplines involved, I'll quickly read through a list of twenty-one of them:

Electro-chemical physiology

Neurobiology

Neurobiology

Neuropsychology

Bio-radiation studies

Hormone and Hormonal transmission research

Chemical signal research

Bio-electric research

Brainwave research

Bio-sensitivity research

Bio-electric information transfer research

Sensory coding research

Bio-magnetic navigation research

Bio-electronic systems research

Bio-electric field detection research

Electrophysiological studies

Pheromone and pheromone transfer research

Multi-stability in perception research

Subliminal perception research

Neuro-magnetic response research

Bio-infrared and bio-ultraviolet perception research

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At this point, I could adumbrate upon more than a thousand scientific papers about these discoveries published in the science literature, even in the esteemed leading science periodicals such as NATURE, SCIENTIFIC AMERICAN and DISCOVER.

The authors of those papers, though, never use the terms psi, psychic, or parapsychology, etc., since the mere introduction of them would cause their papers to be rejected.

The editors and peer-review systems of such publications apparently don't realize, for example, that "bioinformation transfer over distance" means about the same thing as "telepathy" and/or "clairvoyance," or "remote viewing." But this is merely part of the Particular Situation I referred to at the beginning of this talk.

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I now hold up in my hand before you, so you can see that it really exists, a book published in 1984 via Simon & Schuster, by Robert Rivlan and Karen Gravelle. This book is complete with bibliography of scientific sources, but is easy to read. It's entitled, somewhat misleadingly, as DECIPHERING THE SENSES: THE EXPANDING WORLD OF HUMAN PERCEPTION.

Well, the world of human perception is NOT expanding. Rather, ignorance of that world is shrinking a little.

The book might have been called something like THE DISCOVERY OF THE BIOLOGICAL BASIS FOR PSI AND OTHER ANOMALOUS PERCEPTIONS.

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The discoveries brought together and presented in this book, although in popular style, are based on hard scientific discoveries that have been achieved in other disciplines outside and independent of parapsychology.

And, as such, the sum of them clearly fulfills - at least regarding certain forms of psi - the earlier scientific demand that a bio-organic basis for psi be discovered.

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I'll quote from the book's fly-leaf; "For centuries we have used an oversimplified and inaccurate model to explain the human senses. Even now, high school biology classes still teach the 'five senses'. But recent scientific research has discovered that there are many more than five senses, and these discoveries have radically changed our understanding of what the senses are and how they work. Rivlan and Gravelle redefine for the general reader the spectrum of human perceptions from the normal to the newly discovered to the extra-sensory."

As chapter one indicates, the book discusses "The seventeen senses" additional to our usual five ones, and then goes on to place the newly-discovered senses in context with the usual five. The authors consume eight chapters to prepare the reader - before they reach chapter 9, entitled "Extra-sensory perception." Probably because of this chapter, the book was now well-received and is now out of print. But it's well worth tracking down a copy of it.

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Now, lest there be some misunderstanding here, the two authors are NOT describing psychological or mental functions.

They are discussing the actual existence within our biology of minute physical-chemical-bioelectromagnetic "receptors" and "sensors" that interact within networks of the "information-processing resources of the organism."

It is quite easy to ascertain that five senses are obviously NOT ENOUGH to account for the huge range of sensory possibilities of which the human species is capable, while seventeen senses is probably a more accurate count, with more probably yet to be discovered.

No one can survive very well on just five senses. Just ask any seafarer, mountain climber, football or basketball player, explorer or inventor, martial arts expert, or even someone seeking sex. The moment "automatic reflexes" or "intuitive" stuff enters into their talk, know that you have departed the realm of the physical five and entered into the realms of additional senses.

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As to what these seventeen new senses are. The seventeen new senses interact with each other to provide a rather extensive list, many of which have in the past been referred to as "psychic." Since we don't have

time here to go through them, I've brought a few copies of that list to hand out, along with some copies of this lecture, and all of which you are free to duplicate.

But, for example, the bio-body is now known to have a functioning vomeronasal system containing receptors enabling, at the bio-subliminal level, the detection of minute amounts of chemical signals that tell us about another's sexual receptivity, fear, anger, and other emotions - an aptitude more commonly referred to as "psychic vibe-sensing."

In another category, through the use of a newly invented device called the SQUID, scientists can and have measured and begun to classify the brain's electrical activity outside of the scalp -

Which in turn has led to discoveries that bio-electric activity extends to some distance beyond the skin -

Which in turn has led to the discovery of bio-electric sensors not only in the skin, but in the neuropeptide activity that transmits all kinds of subtle senses information through the immune system and into the brain - and back again into the body's extremities and all its internal organs, including into its surrounding bio-electromagnetic field.

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Now, discovered bio-electromagnetic fields extending outside the scalp and outside of the skin clearly equate to the "auras" that many clairvoyants have specialized in "seeing."

Drawing on authoritative scientific sources, Rivlan and Gravelle even hypothesize that, and I quote, "thoughts may, indeed, have wings, and some of us may have the ability to sense what others are thinking" via these newly discovered bio-electromagnetic receptor-sensing networks.

The two authors wonder: "Do some psychics and mystics have this ability, vastly magnified, so they can sense the electricity from considerable distances?" Well, there would have been no question of this in antiquity - or even among Arabian or Mongolian nomads today, as well as "street-smart" New Yorkers.

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Actually, this is the same question that those researching electromagnetism and bio-electromagnetism have been wondering about for over fifty years.

So it's worth pointing up here that the existence of extensive bio-electromagnetism essentially was demonstrated late during the last century, but its existence has not figured very much either into scientific psychology or in scientific parapsychology - both of these two fields having managed mutually to ignore it altogether.

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Did you know that in addition to yourself being a bio-meat body with eyes, livers, hearts, and appetites of various kinds, you are also a bio-electronic one? Have you ever thought of yourself as such? If you begin to, well, something interesting might begin to happen.

Dr. Robert O. Becker is one of the leading researchers in the United States regarding electromagnetism and bio-electromagnetism. With Gary Selden, he published, in 1985, a book entitled **THE BODY ELECTRIC: ELECTROMAGNETISM AND THE FOUNDATION OF LIFE** (William Morrow, New York), and which "tells the story of our bioelectric selves."

A companion book is Harold Saxton Burr's **BLUEPRINT FOR IMMORTALITY: THE ELECTRIC PATTERNS OF LIFE** (Neville Spearman, London, 1973, republished 1988). Burr, by the way, is an American researcher but could not find an American publisher for this seminal book.

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Bob Becker has made many unequivocal statements regarding the psi implications of bio-electromagnetism.

For example, he published in **PSYCHOENERGETIC SYSTEMS**, 1977, Vol. 2, pp. 189-196, an article entitled "An Application of Direct Current Neural Systems to Psychic Phenomena." He stated that "The concept of a primitive electronic communication system in all living things can be a useful tool in understanding both `normal' and `paranormal' phenomena that have lacked a rational biological explanation. Indeed, it appears that human beings are tied to the universe in a web of electromagnetic energy."

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At this point, I believe I've now presented for you consideration the rudiments of the Particular Situation I referred to at the beginning.

The Particular Situation consists of three factors:

- (1) science demanded that a bio-organic explanation for psi faculties be found before it could accept them as real;
- (2) bio-organic explanations have been found for many kinds of psi faculties; and
- (3) everyone seems to be ignoring both the facts and the implications of (2) as just stated.

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As to more of what our additional senses are:

Did you know that the soles of your feet and the palms of your hands contain minute magnetic receptors and sensors that "recognize" minute and gross changes in local magnetism?

Here are the rudiments of dowsing, healing, and various rough forms of psychometry which means psyching-out what something is by merely holding it.

Alas, though. If you haven't built neural pathways linking these sensors to your cognitive faculties, you probably won't be able to sense what the receptors in the soles of your feet picking up.

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In bringing this talk to a conclusion, recall that earlier I mentioned the problem of the nomenclature which is acting as a barrier between the new discoveries and more recognizable concepts of psychical and parapsychological research. This same nomenclature is also acting as a barrier between the new research and the problems of enlightenment and transformation which are the objectives of this Society for Enlightenment and Transformation.

To help begin the nomenclature bridge, I'd now like to give some examples by which the two nomenclatures can be compared.

Recently Discovered Bioorganic Basis for the Following Additional Senses

1. Receptors in the nose sensing systems that "smell" emotions, and that can identify motives, sexual receptivity, antagonism, benevolence, etc. (All these are formats of what are commonly referred to as psychic vibe-sensing.)
2. Receptors in the ear sensing systems that detect and identify differences in pressure and electromagnetic frequencies (formats of ESP.)
3. Skin receptors that detect balance and imbalance regarding what is external to the bio-body, even external at some astonishing distances (formats of remote-sensing, a mixed form of ESP and clairvoyance.)
4. Skin receptors that detect motion outside of the body, even when the body is asleep (a format of subliminal ESP.)

5. Directional finding and locating receptors in the endocrine and neuropeptide systems (formats of dowsing, intermixed with formats of cognitive ESP or intuition.)
6. Whole-body receptors, including hair, that identify fluidic motions of horizontal, vertical, diagonal, even if not visually perceived (as, for example, in the "psychic" portion of the martial art of Akhido.)
7. Skin receptors that "recognize" the temperament of other biological organisms (a format of psi "reading".)
8. Subliminal sensory systems which locate and identify pitch of sound, a sense of heat across great distances, a sense of frequencies and waves, either mechanical or energetic (all being formats of ESP and vibe-sensing, sometimes also referred to as "shaman perceiving.")
9. Receptors that identify positive and negative charged particles at the atomic level. (The term utilized for this in psychical research is "micro-psi" but which is rare. However, it has been convincingly demonstrated, especially in the case of C. W. Leadbeater who published Occult Chemistry (1908). Thirty years before the invention of the electron-microscope he correctly described sub-atomic particles, many undiscovered at the time, but discovered since. Micro-psi faculties are mentioned as one of the ancient Sidhis of ancient India (see, for example, Yoga Sutras of Patanjali).)
10. Microsystem transducing of various forms of mechanical, chemical, and electromagnetic energy into meaningful nerve impulses (all commonly thought of as FORMS OF ESP.)
11. Receptors that sense gravitational changes (a form of PSYCHIC DOWSING.)
12. Neurological senses for interpreting modulated electronic information by converting it into analog signals for mental storage, interpretation, and cognition (one of the bio-mind bases for TELEPATHY.)
13. Bio-electronic receptors for sensing radiation, including X-rays, cosmic rays, infrared radiation, and ultraviolet light, all of these receptors being found in the retina of the eye (part of the basis for various forms of CLAIRVOYANCE.)
14. Receptors that respond to exterior electrical fields and systems (producing forms of CLAIRVOYANCE and AURA "READING".)

Today, the following highly specialized sensing systems are referred to in the new sciences as HUMAN SEMAPHORE CAPACITIES.

15. Skin receptors for sensing perceptions of bonding or antagonism (thought of as forms of INTUITION.)
16. Senses for non-verbal "language" communicating (thought as a form of TELEPATHY or VIBE-SENSING.)

17. Combined sensing systems (neural networks) for making meaning out of at least 130 identified nonverbal physical gestures and twenty basic kinds of nonverbal messages (thought of as INTUITIONAL CHARACTER ASSESSMENT or a particular form of CLAIRVOYANCE.)

18. Receptors that trigger alarm and apprehension before their sources are directly perceived (a particularly valuable type of PSYCHIC FORESIGHT, FORESEEING, INTUITION.)

19. Sensing systems for registering and identifying nonverbal emotional waves (a form of INTUITION and/or TELEPATHY or CLAIRVOYANCE.)

The following are now known to be associated with the PINEAL GLAND if it is healthy and in good working order.

20. Senses and memory-stores cycles of light and darkness, anticipating them with accuracy as the daily motions of the sun and moon change (a kind of PSYCHIC FORECASTING or FUTURE SEEING.)

21. Senses and responds to solar and lunar rhythms, solar disruptions (flares, sunspots) and moon-caused tidal changes (water or geophysical ones), and can sense "coming" earthquakes and storms (a form of PREDICTIVE ESP especially noted in sailors, farmers, but also in cows, dogs, cats, and snakes.)

22. If the pineal gland is fully functional, it acts as a nonvisual photo-receptor (the psychic equivalent being "X-RAY VISION.")

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The following senses or sensing systems are similar to some already mentioned, but they appear to function upon a completely different basis and are additional those senses already mentioned.

It is now thought that this basis is almost certainly the WATER contained in the bio-body, in the physical components of the nerve systems, and the physical part of the brain.

It is not yet understood how WATER is used this way to create a fluidic but elaborate series of interconnected sensing systems.

One of the best guesses, yet to be established, is that the vibrations of the water molecules link together throughout the entire bio-body and form the equivalent of radar or sonar antennae.

These liquid antenna sensing systems appear to detect the following categories. Divided by categories, they can be thought of as individualized and highly refined sensing systems. All of these categories have been thought of as PSYCHIC, ESP, CLAIRVOYANT, or INTUITIVE - which is to say, been thought of as unexplainable and hence impossible.

23. Sense of non-visual wave motions.

24. Sense of non-visual oscillating patterns.
25. Sense of magnetic fields.
26. Sense of infrared radiation.
27. Sense of electrical energy.
28. Sense receptors for local AND distant sources of heat. (This is an unnamed PSI faculty, but one familiar to Amerindians.)
29. Sense of geo-electromagnetic pulses, magnetic fields, especially biological ones (psychic equivalents unidentified and unnamed.)
30. Although the mechanisms are not at all understood, the liquidic sensing detectors apparently are somehow involved in the remote sensing of anything at a distance, however great. The results, of course, are remote viewing, remote hearing, remote tasting, and so forth.

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Finally (although there is no "finally" here), we come to sensory systems' receptors spread throughout the entire bio-body, and which apparently feed information into the mind-body interface (if "interface" would be the correct concept.)

31. Whole-body receptors (millions of them) to detect pheromones, sexual receptivity, fear, love, admiration, danger, pain in others, intentions in others, etc., (all formerly thought of as inexplicable forms of ESP or so-called VIBE-SENSING and/or PSYCHIC `READING".)

Please note that the list above

is not complete and is presently in process

of being extended.

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With the invention of the electron microscope in the early 1930s, large amounts of data had accumulated by the 1950s which irrevocably substantiated that the human being possessed very many more senses than only the infamous physical five.

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As of the late 1950s, then, there was no longer any justifiable reason to continue teaching and emphasizing the five physical senses.

And, as well, there was no longer any justifiable reason to continue the mainstream debunking of so-called psychic perceptions - because bio-mind receptors have been located and confirmed for a lot of them.

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During the 1960s and 1970s, the scientific information pool of this kind of discovery had increased enormously - the sum of which brought a complete end to the concept of the five physical senses only.

A "complete end" at least in a scientific sense. But not in a cultural sense - because the meaning of these sensory discoveries is still being completely ignored in the cultural and ideological milieus, even though technical and popular books became available.

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One of the better, more easy-to-read technical books was **SENSATION AND PERCEPTION: AN INTEGRATED APPROACH**, by H.R. Schiffman, John Wiley & Sons, New York, 1976. This book is still invaluable today, and provides an extensive bibliography of sources.

As already noted, perhaps the best popular book, certainly very easy to read, was **DECIPHERING THE SENSES: THE EXPANDING WORLD OF HUMAN PERCEPTION**, by Robert Rivlan and Karen Gravelle, Simon and Schuster, New York, 1984. The first chapter of this book identifies and discusses **SEVENTEEN SENSES**, and also has a competent bibliography updating the one found in the Schiffman book.

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Both of these books, as well as others, were almost completely ignored, and the conviction that we possess only five physical senses continues to hold sway today.

You see, it is possible to conclude that these books were ignored because they tended toward encouraging people to take justified interest in their extended sensory systems, and perhaps to begin unfolding them.

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Today there is no justification at all for the continuation of anti-psyche belief systems. There is no justification to teach that we have ONLY five physical senses, and there is every justification to teach that we have very many others.

There is also no justification to continue suggesting that there is a difference between sensory and extra-sensory perceptions and information. The discoveries regarding our numerous senses and sensing systems obliterated the boundaries which, in the uninformed past, tended to artificially separate them.

Instead, we need to think more basically in terms of INFORMATION. It is information that is important, regardless of the manner in which it is acquired, or via which sensory systems are utilized to do so.

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To help more fully integrate the information presented in this paper, I'm obliged to point up something which, to my knowledge, has not been considered elsewhere.

If we think only in terms of senses and/or sensing systems, then in very subtle ways we may be distinguishing between them and ourselves. It is true that we do "have" or "possess" senses and sensing systems. But something else is also true, and it is very important that it should be grasped.

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We ARE our sensing systems. And what we call "WE" or "US" or "SELF" is in some full part neither no more nor no less than our sensing systems are acknowledged, developed, and utilized. Since we ARE our sensing systems, the full nature and realization of them must in some direct sense be completely meaningful to the overall goals of this important Society for Enlightenment and Transformation.

In closing here, please note that all of the books I have mentioned contain extensive and excellent bibliographies of published scientific papers. Please refer to them if you are interested in such sources.

(End)