The following essay was written in 1979, but never before published. It appears in the *Yggdrasil* with only minor grammatical and explanatory changes. No changes have been made in the theoretical content. The essay is presented in the hope that it will stir the imaginations of the journal's readers and invoke comments on the use of a five-dimensional model to explain psi. A revised and updated version of this theory, based upon a Kaluza-Klein model of space-time, will appear in a future issue of the *Yggdrasil*. References in the present paper are only made to work published before 1979, even though important work pertaining to these ideas has been published in the intervening years. Citations of later work will be made where appropriate within the coming revision.

## A New Theory of Psi

By James E. Beichler

Prior to the 1970s, there was a great deal of speculation that a theory of psi was beyond the scope of physics and physical science. That attitude has been changing for the past two decades. New advances in physics seem to leave room for the action of psi even though most theories offered are modern revamps of basic concepts ranging back nearly 250 years. For example, psi has been explained as either electric, magnetic, electromagnetic or hyperspatial in some shape or manner dating back to the Scientific Revolution. Even modern quantum mechanical theories of psi bear a strong resemblance to much older concepts unifying mind and matter, once again dating back at least to the seventeenth century. Only a few theories offer any real originality in the way of new viewpoints while only one class of theories, the electromagnetic, attempts to base a theory of psi on present physics without invoking (incurring) untestable hypotheses or unknown (unsensed) variables and quantities. But such theories are being proposed and seriously considered. So, it now seems that it would be wrong to claim that present beliefs in physics are inadequate to offer an explanation for psi. As long as theoretical physics is in a state of flux, as it now is, it certainly seems unfair to castigate modern physics for its present inability to explain psi.

Einstein began his development of the theories of relativity by questioning the scientific definitions of such fundamental concepts as space, time and mass. More than two centuries earlier, Newton began with the basic definitions and postulates of these same quantities, so it would seem that any truly fundamental change in the 'laws of nature' would entail a corresponding change in how science regards these and other fundamental concepts. It is very likely that such fundamental changes are necessary in order to construct a theory of psi, but whatever path is taken it is far too early to discount a possible physical theory of psi based on either the present state of science or changes likely to occur in the near future. The question then follows: How can one go about building a theory of psi?

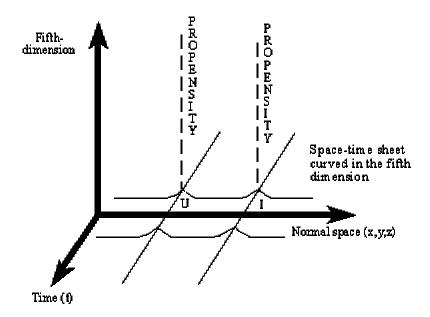
In the past it seems to have been easier for scientists to find correlations between a few of the characteristics of psi and known physical anomalies and paradoxes as a starting point for a theory of psi, but by doing so they only created further anomalies and paradoxes for accepted physical theories. The main problem faced by anyone wishing to develop a theory of psi is the fact that neither our concept of consciousness and nor any of the biological sciences are adequately represented in physical theory even though living organisms play a large part in the physical world. The characteristics and properties that are normally used in the development of physical theories of psi can be boiled down to a few trite and overworked physical properties, while the vast majority of biological and psychological properties of psi are left intact and unused in physical theories of psi. The basis of biology as a function of the simple existence of living organisms in a physical world must be found in order to build a theoretical foundation upon which a physical theory of psi can be developed just as the basis of consciousness must be found even if these concepts necessitate a change in our fundamental concepts of space, time, mass and physical objects themselves.

This leads to the question, what is life within the context of physics? Or, to be more specific, what is a living entity? Very few physicists have ever considered this question even though it is easy to see that living entities or organisms display some very special characteristics in any physical situation that distinguish them from non-living material bodies. To be more exact, living organisms interact with their environment in such a way that they have at times been considered negentropic, or energy sinks: Living organisms metabolize. They absorb energy from their surroundings and establish highly ordered structures. They then duplicate themselves through procreation. These characteristics distinguish them from the normal bodies of matter that are described and studied in the physics of mechanics, yet an even greater and far more basic difference lies in the fact that some of the energy absorbed by organisms is internally converted into motion in a very non-mechanistic manner. In classical physics (the Newtonian view), motion results from either the application of a force through by a field (gravitation, electric or magnetic) or through some physical contact between material objects (such as through a collision). Motion of a material body is understandable to a physicist under these circumstances, just as is the concept of a material object. However, in this case, the material object is made of animate matter, which I shall assume to mean (in view of better and more comprehensive definition of life and living matter) matter which through a natural absorption of energy is physically self-motivating without the mechanistic contact of fields, forces or other physical bodies.

An organism that is constructed of animate matter can be best analyzed for the purpose of deriving a theory of psi within the space-time framework of special and general relativity. The vehicle for this analysis is a five-dimensional extension of a simple Minkowski space-time diagram. Living organisms are macroscopic objects, smaller than planets or stars, but still larger than atoms or sub-atomic particles. The framing of living organisms in such a relative manner is convenient since it has already been established that the characteristics of psi are similar to those of field quantities. Making this correlation is scientifically legitimate, but it is also necessary to assert that there are many other areas that need to be considered for their special consequences (i.e. living organisms as naturally complete entities within fields other than gravitational fields).

At this level, only whole objects need be considered, neglecting the internal reactions and structure of an object that have no bearing on the model. With this taken into account, it can be seen that inanimate objects exert gravitational forces on all other inanimate objects as a result of the curvature their matter causes in the fifth dimension. Animate organisms can also be represented as a curvature in the fifth dimension due to their matter content as measured by their mass, but living organisms have the additional property of self-motivation or self-induced motion. Motion, or rather relative motion, falls into the category of special relativity. Since living organisms display self-induced motion, they have the ability to change their masses according to the relativistic equations in a self-induced non-mechanistically connected manner. It could be accurately stated that organisms have a special potential to change their masses through self-motion that inanimate objects do not share. This potential can then be interpreted within the context of the general theory of relativity in such a way that we can consider organisms to have a self-induced potential of change of curvature in the fifth-dimension, so (and this is the key point) animate objects or organisms have a special potential of gravitational change which is not known in inanimate (mechanistic) objects.

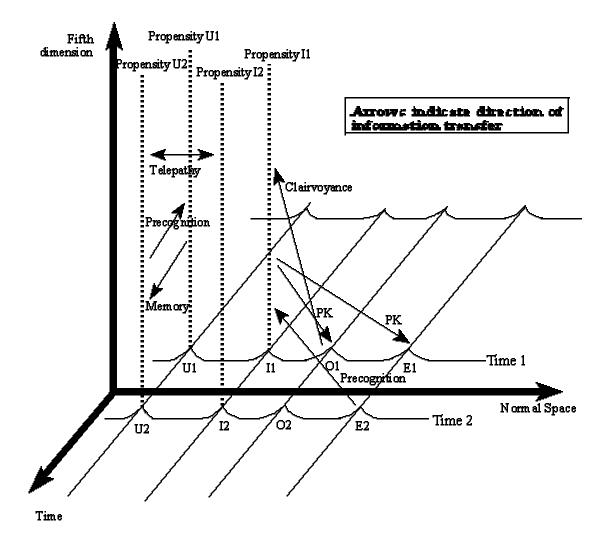
This new potential, which can be called a 'fifth-dimensional propensity,' is the root cause of psi phenomena. Consider the following graph:



This graph shows two bodies or organisms of inanimate matter as specified by their curvature in the fifth dimension. The dotted lines show the "five-dimensional propensities" of the two at the same time t, designated as U and I. The propensities can also be regarded as the probabilistic capabilities of the two animate objects (or curves). The time axis is directed out of the page, but can be disregarded at this stage. These propensities exist (at least probabilistically) at all times and are characteristic of living

organisms simply by the fact that they can self-accelerate to change the curvature along the lines of the propensity. The propensities are perpendicular to the space-time continuum (t,x,y,z) which is on the average flat although it exhibits Riemannian curvature on the very large scale according to general relativity. These propensities are thus parallel to each other in the fifth direction and have a special connection both across as well as at all points in the fifth-dimension of space-time.

In the second diagram, an inanimate object O and an event E have been added. U, I, E and O are shown at two different times  $t_1$  and  $t_2$  where the direction of time out of the page is increasing such that the objects with subscripts of 2 represent a later time.



There is a form of non-physical contact across the fifth dimension between these propensities as well as between the propensities and O, the inanimate object in physical space, or E, an event. The contact is non-physical only in that it does not necessarily take

place within the surface of the normal space-time continuum although it can take place through that particle 'space' as well as at any point along the propensities. The contact can not (as yet) be described since it is not necessarily within the physical space of the space-time continuum. ESP or mental phenomena can be represented as this a manifestation of hyperspatial contact between the different propensities. The memory of the person  $U_2$  is contact with what was the person at  $U_1$  on the diagram. Telepathy is contact in the same time frame between two persons, for example  $U_2$  and  $I_2$ . Clairvoyance is contact between the object O and the person's propensity  $I_1$  in the same time frame. Precognition is contact between the person's propensity  $I_1$  and a later event  $E_2$  or between the same person's propensity  $U_2$  and  $U_1$ .

PK is a bit more difficult to explain, but follows the same argument. You will note that the propensities exist all through the fifth dimension including that part which intersects the space-time continuum. Since PK phenomena such as telekinesis involve energy transfer or rather a utilization of energy, the contact is limited to the space-time continuum. However, information transfer is not so restricted and can occur outside of the normal space-time continuum. Since contact was not made within the normal space-time continuum, ESP is non-energetic or non-mechanical in the physical sense. But PK is a form of contact between the propensities, for example I<sub>1</sub>, which are not within the space-time continuum and a physical object, O<sub>1</sub>, or event, E<sub>1</sub>. Since the contact is between the propensity and the object or event, the contact itself is non-energetic but can trigger an energy release or transfer energy since both object (or event) and propensity are in the same space-time continuum that is physical space.

This theory is not strictly gravitational although it is dependent on a space-time curvature due to gravitational matter. It is 'materialist' in H.H. Price's sense in that the propensity exists in physical space, but it is not limited to only this one-level argument (Whiteman's terminology) and can be expanded to J.H.M. Whiteman's higher levels dealing with causality. As defined, the propensities could be related in some manner to the psi-fields discussed in other theories as well as bioplasmas and Ninian Marshall's resonances. The contact between either different propensities or propensities and objects or events becomes equivalent to H. Ruderfer's tachyon and neutrino theories since it is dependent on non-spatial, non-temporal elements (outside of the space-time continuum). But at the same time, psi can operate within the space-time continuum and conform to normal space-time limits in some ways. Most of the previous theories and speculations on psi dealing with hyperspaces can be either included in this theory or dispensed with entirely as inaccurate. Physical characteristics, such as the attenuation of waves and the failure to detect psi, result from the fact that the propensities exist in hyperspace. In other words, this theory is extremely extensible and inclusive in its scope according to Henry Margenau's criterion of extensibility.

This theory also yields testable hypotheses that may lead to verification. For example, this theory is based on a general conception that 'all' living organisms share the 'quality' of having propensities. Thus it can be shown by this theory that all living organisms, all inanimate matter, react psychically, regardless of any definition of consciousness. Consciousness is not necessary for the self-induced motion associated

with animate bodies, just for the awareness of that self-motivation. Experiments, which demonstrate that animals exhibit psi-abilities, have already been completed and other experiments can be designed along this line to test the limits of psi in all living organisms. Also, since animate matter is primary to the operation of psi instead of consciousness, psi-ability is not localizable within any particular organ of a body such as would be the case when psi is localized within the human brain. The physical brain acts after the manner of a 'tuning circuit,' although it is certainly far more than such, and interprets the information that is picked up by the whole body extrasensorally. On the other hand, the whole organism can be regarded as an 'antenna' for psi reception. This characteristic of the theory has partial verification in experiments carried out with a plethysmograph (Rogo, pp.113-114; Mishlove, p.118) whereby emotional stimulations seemed to be psychically transferred between people and measured as the bodily responses of two or more people independent of any conscious awareness of those bodily responses. Other experiments along this line could easily be designed and executed to demonstrate the theory. To this extent, the theory is verifiable.

The role of consciousness must be given some type of explanation in light of this theory. The theory neither implies nor denies consciousness and is outside of the scope of a science of consciousness. In spite of the manner in which consciousness is ultimately defined, this theory is based upon a simpler definition of animate matter and thus living organisms. However, consciousness does enter the picture when it comes to the interpretation and utilization of psi, just as behavior and personality enter when consciousness is considered from the psychological point of view. Consciousness becomes an important factor during experiments dealing with different 'levels' of thought and concentration as shown by yogis and other persons performing meditative rituals. These people tend to show higher than normal rates of psi hits during controlled experiments. However, this increase is not attributed to the higher levels of consciousness, but rather to the fact that meditation better prepares the body, the psi 'antenna,' as well as increasing the mind or brain's effectiveness as an interpreter of psi. Consciousness does play an important role in a theory of psi, but not in the manner of either the receiver, producer or cause of psi. Similarly, the arguments against the brain's biological and physical inability to receive psi signals have no validity in the context of this theory and have thus been circumvented.

The development of this theory is only in its beginning stages. Perhaps it is valid, perhaps not. In either case, this theory is meant to throw light on psi-research and open up new avenues to knowledge. It is an answer to the failure of previous theories, speculations and ideas to fully account for psi or psi functioning within a physical environment. Sooner or later a question will undoubtedly arise regarding whether this theory represents physical 'reality' or is just a mathematical gimmick to account for psi. Psi may or may not be real. What we interpret as psi functioning may actually be the independent action of another agent. The questions raised by this possibility are not that important at this preliminary stage. What is important is that the potential for psi functioning arises directly from physics if a five-dimensional model of space-time is used. Is the fifth dimension real? Are the propensities real? These are philosophical questions, which can only be argued with words at this point in the theoretical

development, not with true knowledge or proof. This theory provides a framework, a workable framework, which is simple, extensible, leads to experimentation and possible verification. It fulfills all necessary criteria of a scientific theory and goes a long way to answering many questions about psi phenomena, perhaps even laying the groundwork for answering the ultimate question of whether psi exists or not as a physical quantity. There can be no doubt that the experimental verification of this theory will sorely challenge our most basic notions of reality, whether we are speaking of physical reality or otherwise.

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