Rev. 1.2 of 08 June 2000. Begun 01 June 2000.
For: Proceedings, *Subtle Energies and Uncharted Realms of Mind*, Esalen Institute, July, 2000.

A Two-Worlds Model for Consciousness

by

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Dedicated to
John William Dunne (b. 1875)

Abstract. A model is proposed in which communication and action are extended both into the past and into the future. The chief feature of this model is its duality, manifest in a pair of parallel space-time worlds. Interaction between these worlds — consciousness — is effected through a moving window, through which influences pass by a process of resonance.

CONTENTS

1. Introduction

A number of simultaneous paranormal or psi phenomena have been explained, or understood perhaps, through the medium of a hypothetical field, or immaterial force. [13] Indeed, even some normal phenomena have received hypothetical explanations of this sort. [16] Quantum mechanics is frequently mentioned in these contexts. [11, 13, 14, 17]

These constructions are helpful for psi phenomena such as telepathy, which do not involve a dislocation in time. But precognition remains a challenge in the psi-field context, and additional constructs have been proposed, such as serial worlds [10] or two-dimensional time. The phenomena involving revision of the past, such as influencing a tape-recording of a random number generator, is even more of a challenge. [15]

In this brief paper, we are going to meet this challenge by proposing a minimal extension of the world-view of conventional science, namely, by the addition of a second space-time world, parallel to the ordinary one. This is partly inspired by the serial worlds model of Dunne [10], and partly by the morphic resonance idea of Sheldrake [16]. We are aiming here at a chaontic world-model that can accommodate the data of transtemporal psi research.

Note: By *world*, we mean a four-dimensional, space-time universe. By *model*, we mean a mathematical model (geometry plus dynamics, in the spirit of chaos theory) intended as a cognitive strategy. *Chaontic*: from *chaontology,* meaning ontology informed by chaos theory.

2. The step-time world.

By the *step-time world* we mean all of the space-time world of ordinary reality, as modeled by conventional modern science, including the whole universe of material particles, waves, fields, forces, and all of the biospheric miracles of life, societies, and individual and collective consciousness.

The chief feature of this familiar world, or more precisely, the way it is seen in our present world-view, is the discreetness of its time. That is, time is seen as cut by a moving, spatial, three-dimensional hyperplane. Behind it, everything is determined, and cannot be changed. And ahead, everything is — to some degree — undetermined, inchoate, unknowable. In other words, the definiteness of the world follows this moving hyperplane, changing as it passes from nothing to all, from zero to one, like a Heavyside (step) function (see Figure 1).

This assumption, hidden so deeply within our world-view that it does not even have a name, is among the primary reasons that the results of well-done parapsychological research are rejected by our scientific establishment, and to some degree, by most people.

So, to give this nameless assumption a name, we may refer to it as *the hypothesis of step tim*e. And hence, we call this world *the step-time world*.

3. The slope-time world.

By the *slope-time world* we mean a new construct, which is nearly identical to the step-time world, and parallel to it. We may even think of two parallel hyperplanes in euclidean five-dimensional space, rather close together. It does no harm, for our present, informal purposes, to think of them each as a flat three-dimensional space, extended by a flat one-dimensional time. Both worlds have physics, chemistry, planets, people, history, and so on. But there is one hypothetical feature of the slope-time world by which it differs substantially from our familiar step-time world. And that relates to its time. It lacks step time. Instead, it has *slope time*. By this we mean, roughly, that instead of the instant of passage of the knife of the present, cutting known space away from the unknown, we have a window, the *extended-now window,* in which the future gradually freezes into the past.

The *width* of the extended-now window is a parameter of the slope-time model which we have not specified. Appropriate width values might best be obtained experimentally, from transtemporal psi experiments. Also, the *shape* of the extended-now window might be determined by experiments. A few shapes are shown in Figures 2, 3, and 4. For the *alignment* between the extended-now window of the slope-time world and the *instantaneous-now* of the step-time world, we propose to locate the now instant of the step-time model in the center of the extended-now window of the slope-time model, and they move together. But this alignment also might be determined experimentally.

We know well how to conceptualize the knife of step time. But how can we conceive of this moving window? We suggest thinking of the whole slope-time world as a vibration in an immaterial field. The vibration stretches along the direction of time as a moving soliton, like a solitary wave in the sea. A tsunami, perhaps. And where its crest passes, the illusion of a present moment is the greatest. Were this soliton to be a delta function — that is, the width of the wave shrunk to zero — we would then have step time.

Another conceptual strategy is provided by the image of a rolling pin, rolling down the thickness of a pad of pizza dough. Or, the steam-roller of fate, speeding down the highway of time, crushing possibilities down to certainties. The larger the roller, the wider the window.

4. Interaction between worlds.

So now we have two models. One is the usual world, in which the present lasts only a moment. The other is very similar, but the present lasts for awhile. Why have two model worlds? Could we not just swap the old one for the new?

Well yes, in principle, we could. However, the present instant of the step-time world has become ingrained in our world-view because that is how we experience time. It appears as an experimental law of consciousness. Perhaps that is an artifact of our neurophysiology. But in any case, it behooves us to keep the old model alongside the new. At least, that is the strategy of this paper.

So let us regard the old, step-time world as a low-resolution model, convenient and traditional for ordinary mortals, and the new model as a high-resolution supermodel, useful for kings, philosophers, and parapsychologists. Then we may regard conscious perceptions, as well as scientific observations, as communications between worlds. Precognitions are communications from the early part of the moving window of the slope-time world to the knife-edge of the step-time world.

And psychokineses into the past are communications from the sharp present of the step-time world into the latter part of the window into the slope-time world.

Besides providing more room for our conceptualization of transtemporal effects, the two-worlds model may offer a context for a new wave mechanics, in which the Schrödinger equation is replaced by nonlinear dynamics, wave functions are not collapsed by observations, nonlocality is normal, and so on.

5. Conclusion.

We set out to provide a minimalist extension of our world-view in which transtemporal phenomena may be fit. And we end up, perhaps, with rather more. In the two-worlds model, we may interpret perceptions, and individual conscious awareness. In the future, we have in mind combine this model with our earlier models for telepathy via vibrational resonance in the morphic field. [1-7] In these models we placed individual conscious agents, and effected semiphoric messaging between them. [8] This style of communication is best understood by computer graphic simulation. [9]

Thus we may envision our two parallel four-dimensional worlds, placed in parallel within a five-dimensional geometry, and embraced by an immaterial vibrating field which is a medium of communication. Collective consciousness among an ensemble of individual minds might be modeled in this way.

References

1. Abraham, Ralph H., Vibrations and the realization of form, in: Erich Jantsch and Conrad H. Waddington, eds., *Evolution and Consciousness: Human Systems in Transition*, Reading, MA: Addison-Wesley, 1976; pp. 134-149.
2. Abraham, Ralph H., The role of math in the evolution of the noosphere, in Erich Jantsch, ed., *The Evolutionary Vision: Toward a Unifying Paradigm of Physical, Biological, and Sociocultural Evolution*, Boulder, CO: Westview, 1981; pp. 153-168.
3. Abraham, Ralph H., Dynamical models for thought, *J. Social Biol. Structures* 8, 1985, pp. 13-26.
4. Abraham, Ralph H., Mechanics of resonance, *Revision*, 10(2) 1987, pp. 13-19.
5. Abraham, Ralph H., Cellular dynamata, in: *From Topology to Computation: Proceedings of the Smalefest*, M.W. Hirsch, J.E. Marsden, M. Shub, eds. New York: Springer-Verlag, 1993.
6. Abraham, Ralph H., Human fractals: the arabesque in our mind, *Visual Anthropology Review*, 9, 1993, pp. 52-55. Reprinted in *IS Journal #15/16*, Summer 1995, pp. 75-79.
7. Abraham, Ralph H., Erodynamics and the dischaotic personality, in: *Chaos Theory in Psychology*, F. D. Abraham, and A. R. Gilgen, eds., Greenwood, Westport, CN, 1995; pp. 157-167. Reprinted in *IS Journal #15/16*, Summer 1995, pp. 80 - 85.
8. Abraham, Ralph H., Vibrations: communication through a morphic field, *Proc. Intl. Conf. Synthesis of Science and Religion*, Calcutta, 1996, to appear.

9. Abraham, Ralph H., and Peter Broadwell, Vibrations: communication through a morphic field, Part 2: Simulation results and video. Preprint.

10. Dunne, John William, *An Experiment with Time*. London: A. & C. Black, 1927. London: Faber and Faber, 1939, 1958.

11. Herbert, Nick. *Quantum Reality: Beyond the New Physics*. Garden City, N.Y.: Anchor Press/ Doubleday, 1987, 1985.

12. Jenny, Hans, *Kymatik = Cymatics*. Basel: Basilius Presse, 1967.

13. Laszlo, Ervin, *The Whispering Pond: a Personal Guide to the Emerging Vision of Science.* Rockport, Mass.: Element, 1996.

14. Penrose, Roger. *The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics*. Oxford; New York: Oxford University Press, 1989.

15. Radin, Dean I. *The Conscious Universe: the Scientific Truth of Psychic Phenomena*. New York, N.Y.: HarperEdge, 1997.

16. Sheldrake, Rupert, *A New Science of Life: the Hypothesis of Formative Causation*. London: Blond & Briggs, 1981.

17. Walker, Evan Harris, *The Physics of Consciousness: Quantum Minds and the Meaning of Life*. Cambridge, Mass.: Perseus Books, c2000.

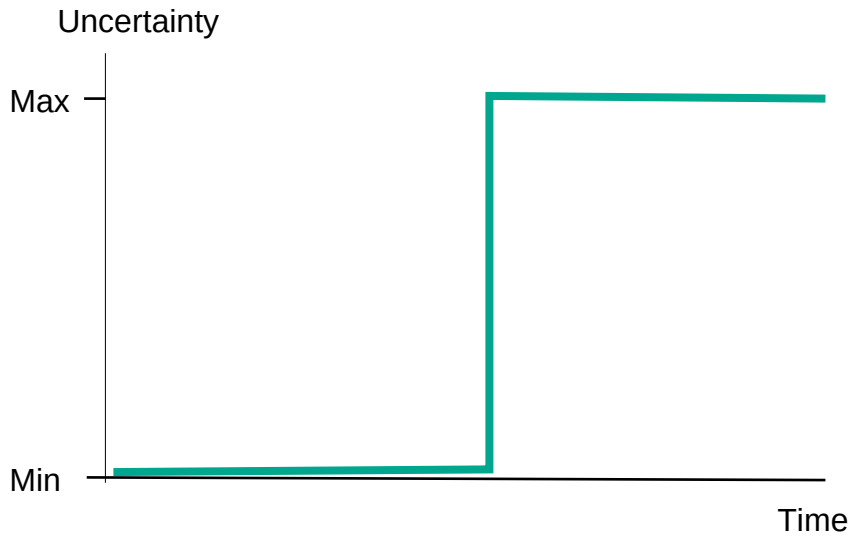

Figure 1. Heavyside step function. As time increases to the right, this step moves along to the right, and maximum uncertainty is instantly collapsed to minimum uncertainty.

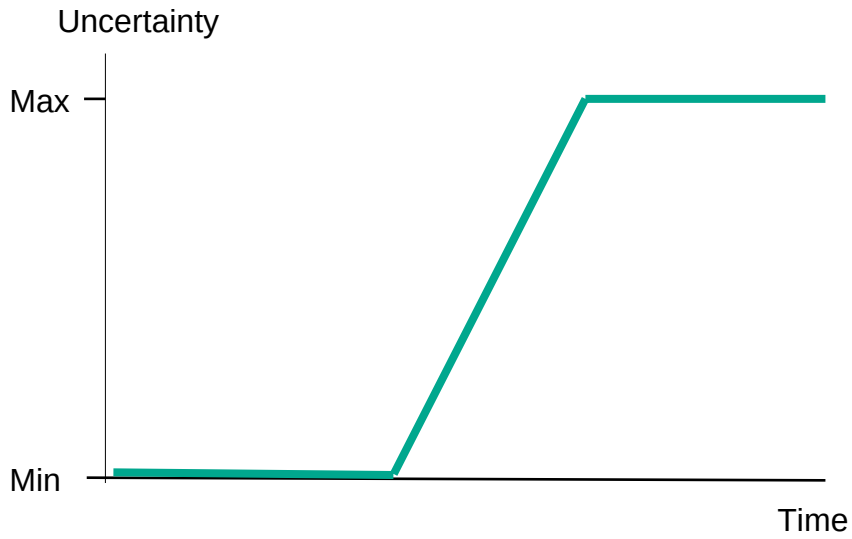

Figure 2. Piecewise-linear sigmoid function. With increasing time, this slope moves to the right, and uncertainty is gradually decreased from maximum to minimum.

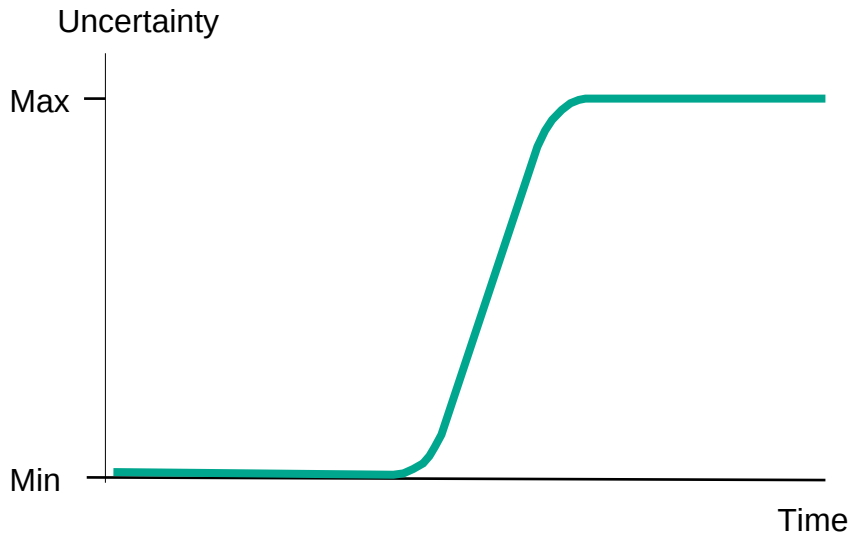

Figure 3. Smooth sigmoid function. Functions like the piecewise-linear sigmoid, but the sharp changes of slope are smoothed.

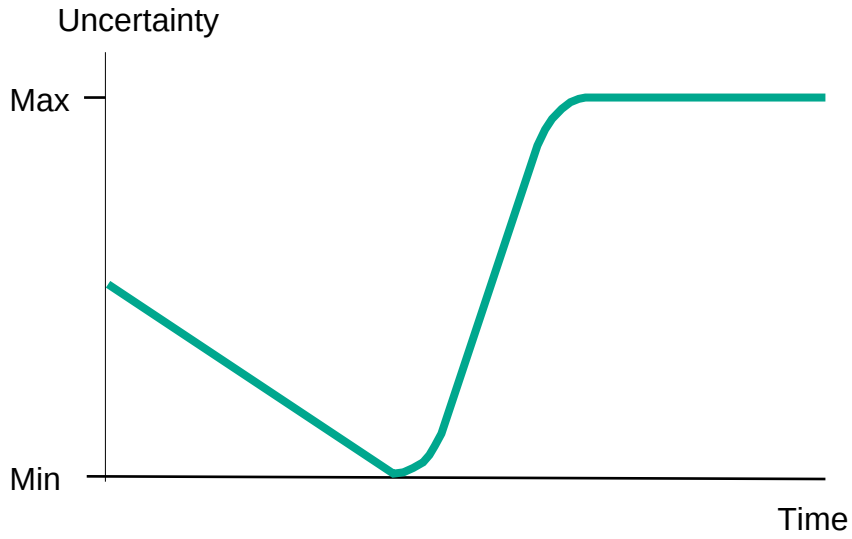

Figure 4. Smooth sigmoid function with forgetful past. Functions like the smooth sigmoid, but after the collapse into certainty recedes into the past, uncertainty slowly returns.