

# On Imaginary Space

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Imaginary space is the complement of real space, and the two of them together constitute complex space, or complex space-time, if we have to include time.

Normally, of course, we don't consider complex space, rather we think in terms of real ([Euclidean](#)) space only. In movies we simulate real space-time, but for analytical purposes, we have to construct a 4-dimensional space, from which only 1-, 2- or 3-dimensional sections can be visualized at once. In mathematics and physics the 4-dimensional representations are called [Minkowskian](#) or [Riemannian manifolds](#). A Minkowskian manifold is the mathematical setting in which Einstein's theory of special relativity is most conveniently formulated; it represents a flat space-time. In contrast, a Riemannian manifold is the mathematical setting in which the theory of general relativity has been formulated; it represents a curved space-time.

Now, until 1905, hardly anyone felt a need to go beyond the notions of Euclidean space. Subsequently, however, good reasons arose to do those steps. Likewise, it will need convincing reasons to introduce the proposed complexification. But, of course, it will neither be easy to comprehend, nor to gauge imaginary space-time.

For me, the primary reason to go beyond the conventional set-up was the impossibility to accommodate inner experience into the framework of Euclidean, Minkowskian or Riemannian space-time: We do know a lot about correlations between biological signals ([neurotransmitters](#), [EEG-recordings](#), [brain PET-scans](#) etc.) and psychological conditions; but this doesn't obviate the need for finding the inherent foundation of such experiences. Or, as David J. Chalmers coined it in his groundbreaking article "[Facing Up to the Problem of Consciousness](#)" (1995): Why is it that when our cognitive systems engage in visual and auditory information-processing, we have visual or auditory experience: the quality of deep blue, the sensation of middle C? How can we explain why there is something it is like to entertain a mental image, or to experience an emotion? It is widely agreed that experience arises from a physical basis, but we have no good explanation of why and how it so arises. Why should

physical processing give rise to a rich inner life at all? It seems objectively unreasonable that it should, and yet it does.

More on this topic can be found – among others – at the websites of The Society for Psychical Research as well as The American Society for Psychical Research.

Generally speaking, psi phenomena can be seen as the paranormal aspects of subjective experience, which means that a proper understanding of subjectivity should be able to accommodate these phenomena as a special case of psychological interaction. Such interactions always require a sender and a recipient, as well as a message and a medium, where the form of the medium embeds itself in the message ([Marshall McLuhan](#)), creating a symbiotic relationship, by which the medium influences how the message is perceived. This includes that the medium is able to affect a recipient's sensorium, comprising in case of extrasensory perception that the mind itself (manas) acts as a sixth sense.

Consequently, the primary question is about the medium and sensorium for extrasensory perceptions – their nature and composition. Initially, a metaphor of a sender and a recipient suggests itself to favour a model with a kind of radio communication between minds. However, in light of radio waves losing their intensity as the square of the distance from the source, with no such fall off seen in psi experiments, such a causation is devoid of credibility. Furthermore, experimental data show that accuracy and reliability of remote viewing are equally significant from inside or outside an electrically shielded Faraday cage (1).

Countering the inverse square fall off in signal strength, electromagnetic vibrations with extremely low-frequencies (wavelengths in the range of 300 to 1000 km) have been investigated in the 1960s and 1970s. But such waves naturally fail to provide an explanation for precognitive psi, which has the same reliability and efficacy as real-time psychic perception (1).

In order to counter this shortfall, various authors proposed advanced waves and tachyon particles to act as the mediators of psi phenomena. As to that, however, [Rauscher & Targ](#) objected (1) that *the gain in temporal advantage would be only one nanosecond per foot of distance, whereas the data for precognition show that events are frequently described and*

*experienced hours or days before the occurrence of an event. The advanced wave or tachyon would provide an hour's warning, only for events at a distance of  $10^9$  miles or greater. All electromagnetic or radio wave descriptions of psi suffer from these same limitations.*

In the same article (1) E. A. Rauscher & R. Targ conclude that they “*are confident that two factors will remain: namely that (psi) phenomena are not a result of an energetic transmission, but rather they are an interaction of our awareness with a nonlocal hyper-dimensional space-time in which we live.*”

Likewise, we started our Microvita seminars in 2003, first considering [vacuum fluctuations](#), then shifting focus towards hyperspace ([Burkhard Heim](#)) and quantum space-time ([Lee Smolin](#)), just in order to arrive at complex Minkowski space, fundamental to my book. In all these cases, the essence of Microvita was situated in space rather than energy, giving more and more emphasis to geometry instead of fields. The significant step, however, was to introduce imaginary dimensions, which allow for a clear distinction between physical (Akasha) and mental (Manas) space-time. From this perspective, the role of Microvita gets demystified: As minutely described, they now appear as an interface between the real and the imaginary. And as such, their function can be simulated by a calculus, comprising of a complex  $4 \times 4 \times 4$  tensor, processing matrices containing space-time coordinates and polar qualities, each real (a) and imaginary (b), as well as a ‘core’ matrix (c), supplying the initial energy.

But there is also a crucial difference to Rauscher & Targ’s Complex Eight-Space Picture, as they say: “... *we cannot explain why these phenomena manifest in consciousness and apparently not in the rest of physics. Nor can we presently describe the mechanism by which consciousness has access to the complex space.*” In this respect, however, our picture is complete, as it defines imaginary space-time as a grid, basically made of the multiplied cognitive and operative aspects of the ‘supreme causal factor’. Consequently, the cognitive aspects are the ones to provide the ontological basis for subjective experience; and the changing distances to their operative counterparts allow for free will, i.e. non-random feedback onto our physical reality. Real space-time, on the other hand, is created by multiplication with a particular operator:

Squaring the imaginary  $i$  gives a real  $-1$ , which is supposed to induce a quasi-coagulation in the medium hitherto susceptible to cognition.

- 1 *The Speed of Thought: Investigation of a Complex Space-Time Metric to Describe Psychic Phenomena* by Elizabeth A. Rauscher and Russell Targ, *Journal of Scientific Exploration*, Vol. 15, No. 3, pp. 331–354, 2001