(11) The Strata of Presence:
Evolution, Media, and Mental States

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Abstract

We present an evolutionary account of the psycho-neurology of presence, highlighting three component layers: proto presence, core presence, and extended presence. We suggest that the layers emerged through evolution, but all contribute to common survival goals: distinguishing what currently lies outside the organism from that which is within, and ensuring that attention is directed towards significant external events. *Proto presence* is our term for the most primitive layer, which corresponds to the earliest development of a sense of self versus other. It can be identified with the proto consciousness of sensation and of proprioception, of the body's orientation and of what is happening at the body boundary. *Core presence* can be identified with perception of an external world surrounding the body, of things in space in the proximity of the body in the here and now. *Extended presence* relies on memory and imagination and relates what is happening in the present to stored knowledge from past experiences, but which may also be about possible futures.

Different media address different layers, and the technological trend is to address all layers to some extent – as in immersive virtual environments. We suggest that the degree of experienced presence depends on how well the three layers are integrated, how *focused* they are on the same information (Riva and Waterworth, 2003). The three layer model of presence allows us to explain and predict the effect of different types of media on the level of presence. We interpret this in terms of varying psychological states that may arise in relation to media: *absence*, *presence*, and *hyperpresence*.

Immersive environments are unique amongst media in their ability to produce a sense of presence as high as the maximal levels experienced in the physical world. But, as in the physical world, immersion does not guarantee presence. If what is happening is not of interest or importance to the individual, the layers of presence will not be integrated (or *focused*) and the person will tend to become absent (in life, the absent-minded professor is the archetypical example). Immersion, if appropriately implemented, gives a potential for exceptional presence not provided by media that only address one or two layers. But one can be more or less present in any environment. Content is the key.