3. REALITY AS EXAMINED APPEARANCES

This chapter sets forth an operational definition of reality that accommodates some aspects of the nature of time, thus far unsuspected.

Dictionary definitions of “reality” are not very enlightening. What they all say, in so many words, is that reality comprises of what is real. Philosophical views, many and varied, are more interesting. But they all seem to share the belief that there is a final reality, one that may be approachable through successive approximations even if it may never be completely known. Contrary to this broadly shared belief, the essay that follows suggests that nothing in nature does or even could correspond to the notion of final reality. It maintains that reality is neither “in the mind” nor is it “out there.” Rather, it is a relationship between the knower and the known. It is a family of examined appearances. It is a set of working assumptions that is continuously tested for its usefulness for making predictions about the future, and for explaining the past.

The notion of reality as a relationship between the knower and the known was first suggested, about a century ago, by the German theoretical biologist Jakob von Uexküll. He maintained that the external world is not a store of unambiguous information from which each organism may select, such as a reader may select a word from a dictionary. He proposed that, what we call “reality” is the result of a creative process, of an interaction between an organism and its environment. Reality, for each organism, is the result of the integrated functions of its receptors and effectors. It is these functions that determine its worlds of possible stimuli and actions and hence, the nature and scope of its universe. Members of a species share features of their reality because of the biological or (in man) the psycho-biological uniformity of the members of the species. Von Uexküll called this shared reality the umwelt of a species. What is not in the umwelt of the members of a species must be taken as nonexistent for that species.

This holds for us, humans, as well. For instance, ultraviolet patterns on butterflies are real for other butterflies because they can see in the ultraviolet spectrum. But they are not real for vertebrates, because they cannot see in the ultraviolet. Those patterns on butterfly wings entered human reality only when we learned how to expand our umwelt—our species-specific reality—by photographing in the ultraviolet domain, then transposing the
ultraviolet images into images in that part of the light spectrum which is visible to humans.

The vetting process applied to appearances, on their way to being admitted as real, has never been simple. Aristotle gave good reasons why the world cannot be infinitely large, Savonarola was burnt at the stake for having insisted that it is infinite. One of the models of the universe in contemporary cosmology described it as finite (its volume may calculated) but unbounded (it has no edge). Such a claim would have been judged by Aristotle, by Savonarola, as well as by Savonarola’s murderers as self-contradictory and hence impossible or, to call a spade a spade, outright crazy.

The essay that follows extends Jakob von Uexküll’s umwelt principle. Through that extension, through the understanding of reality as a set examined and tested appearances, it removes Bertrand Russell’s concern with “the distinctions that cause most trouble in philosophy—the distinction between ‘appearance’ and ‘reality,’ between what things seem to be and what they are.”[2]