Introduction to Philip J. Stewart's "Meaning in Human Ecology"

John Schooneveldt
Fenner School of Environment and Society
The Australian National University, Canberra, Australia

In this paper, published over 30 years ago, Philip Stewart argued that human ecology needs to take *meaning* seriously. For him, meaning is not just a property of language (*linguistic meaning*), nor is it the *patterns of signs* that animals use to get around their world; rather, for human ecology, it is a *framework for synthesis*: one that potentially accommodates both the physical and mental aspects of the human experience.

Unlike narrowly focused disciplines that ignore meaning, Stewart regarded the identification of meaning in context as offering an entry point for an integrated human ecology: one that offers more than just an extension of knowledge about the relationships that people and other living organisms have with each other and with the world in which they find themselves. For Stewart, meaning involved recognizing patterns, and the study of patterns offered a route to a scientifically acceptable *ultimate pattern* within which people could live meaningful lives. All traditional human cultures have evolved such unifying patterns, and Stewart saw human ecology as a means of exploring and developing patterns that bring harmony between the experiencing mind and the world of science.

Stewart, who was with the Commonwealth Forestry Institute at Oxford at the time he wrote this paper, went on to promote an intriguing presentation of the periodic table of elements in a spiral form that better captures the relationships between the elements of nature. The traditional tabular form of the periodic table highlights differences and obscures the way that nature's elements emerged during the evolution of the cosmos. In his later work, Stewart argued that patterns could often be better represented visually and with greater subtlety than with words.

At the time Stewart wrote this paper, most disciplines were actively avoiding *meaning* as too subjective for their scientific methodologies. Only anthropology and a handful of linguists were dealing with meaning directly. Since then, an adequate theory of meaning has become the Holy Grail for many disciplines, especially for neuroscience, information theory (cybernetics), artificial intelligence, and evolutionary psychology. The approaches being taken in these fields to identify meaning typically involve matching external stimuli with internal neural activity or, in the case of artificial intelligence, building models that can recognize stimuli and translate it into meaning. The difficulty with these approaches is that meaning

is contextual. Linguists study the role of context within the new sub-discipline of *pragmatics* (in addition to their traditional work in phonology, syntax, and semantics) but their narrow focus on language *per se* ignores the role of meaning in ethology and human behavior. What Stewart was calling for 30 years ago is still not being adequately addressed, not in human ecology nor in other disciplines.

More than three centuries ago, Gottfried Wilhelm Leibniz thought that it should be possible to identify a relatively small set of meaningful elements that could be used to define meaning precisely and unambiguously: a kind of *alphabet of the mind*. Just as all words (in all languages) can be represented by a small number of orthographic symbols (standardized as the International Phonetic Alphabet) or Chinese logograms or Egyptian hieroglyphics, and just as all matter can be represented in terms of some 100 or so chemical elements, so too can the elements of meaning, of both humans and animals, be simply represented. Since Stewart wrote his paper, linguists such as Anna Wierzbicka (2003) and Cliff Goddard (2013) have developed a technique for defining linguistic meaning in terms of a relatively small set of semantic primes. They also introduced the concept of cultural scripts for dealing with contexts.

Just as the application of standard systems theory to understanding human ecology offers a rigorous new tool for addressing what Boyden et al. (1981) called "the excessive compartmentalisation, fragmentation, and specialism which are so characteristic of education, research and government" (p. xii), the analysis of meaning offers a new tool for human ecology to approach transdisciplinary or integrative science. The standardization of time, mass, and distance enabled the application of powerful mathematical and statistical techniques to understanding the physical world. Now is the time to apply similar standardization and rigor to the subjective experience of meaning.

Living meaningful lives requires a deeper understanding of the way the world works than has so far been available through the rapidly spreading utilitarian values espoused by market economics and consumption. Stewart suggested a way forward, and the intervening time has provided the tools needed to do it.

References

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