

Ethical Values: A multiscale scientific perspective

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Ethics and value systems are of central interest in both informal and formal philosophy. Some of the discussion seeks to identify the right values, and therefore implicitly or explicitly assumes that the same values apply to everyone. Others allow that different values or value systems may be valid, with the relativist extreme that any set of values are valid. These ideas still often consider value systems as either inherently valid or invalid and therefore their validity, or lack thereof, applies to everyone. It is considered possible however, according to some views, that context plays an important role in the validity of values, resulting in one set of values that are valid in one context, while others are valid in another.

Here we consider value systems within the assumption that human civilization is an integrated global collective with mutual dependencies among differentiated socio-economic systems, corresponding to a single biological organism with differentiated biological tissues [1, 2]. We consider human ethical behavioral systems to correspond to cellular behaviors of tissues of a multicellular organism. The inferences we obtain about value systems are different from much of traditional philosophical thinking. Our approach has some similarity to that of Wilson's *Darwin's Cathedral* [3], which considers value systems as evolutionarily competitive systems, important for the relative success of individuals and groups. However, rather than competitors, here we consider multiple social value systems associated with tissues of a collective organism in which all are participating.

There are many different types of multicellular organisms, and within those organisms, the behaviors of cells that are part of tissues differ widely, yet, each is specific and the health of the organism depends on the specifics of those behaviors. We can summarize the relevance of these observations to social values as follows:

Ethical value systems serve the larger scale, longer term health of civilization and it is difficult to see how the value system and the associated behavior of the individual is related to the overall health of the system.

Value systems can differ widely, but the existence of manifestly conflicting values systems does not contradict the possibility that both, or many, value systems all contribute to the health of the system as a whole, and therefore are true and valid ethical value systems.

Value systems are not arbitrary, and the existence of multiple value systems that are valid does not mean that all value systems are valid. Indeed, value systems that are valid are

only a few carefully determined ones compared to the large number of possible value systems.

Knowing what values systems are that are valid or how they should change over time is difficult, and using one value system to evaluate another one is incorrect.

It is not a paradox that individual value systems are highly restrictive, differ one from the other, and yet each individually and together are valid.

The idea "when in Rome do as the Roman's do" reflects geographically specific roles of tissues and organs. However, just as in biological organisms, we can expect areas of mixed, and proximate different value systems and behavioral types. And mobile (traveling) individuals may carry their history, roles and values with them.

Individual cells deviating from value systems can cause harm and there must be systems of behavioral enforcement that are part of the ensuring the system's health.

Despite the divergence of value systems, universal values exist and ethical behaviors can be recognized from universal principles:

1) With few exceptions, individual cells and tissues do not harm or disrupt the behavior or health of other cells and tissues. Harm should be understood to be in any dimension, including physical, mental, emotional and relational. Such disruption would be counter to the health and functioning of the organism as a whole.

2) Individual sacrifice for the collective good is an essential aspect of the social collective (as it is of biological organisms) in the form of military service, work ethic, bearing children and other forms of altruism arising from a value system. In contrast to this, sacrifice imposed by one on another is an unethical behavior of causing harm.

The primary exception to these principles is the complex task of enforcement of universal and local values due to divergence from those value systems. This task, that of the immune system in multicellular biological systems, and by the justice and police systems in social contexts, is both necessary and fraught with the danger of inaction or over-action (immune disorders). These principles are therefore the basis of need for and complexity of justice and behavioral enforcement.

Because a value system may be valid as highly restrictive, intolerance in its proper context is justified, just as it is not in other contexts.

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[1] Y. Bar-Yam, Complexity Rising: From human beings to human civilization, a complexity profile, EOLSS (UNESCO, 2002), <http://www.necsi.edu/projects/yaneer/Civilization.html>.

[2] Y. Bar-Yam, Dynamics of Complex Systems (Westview

Press, 1997).

[3] D. S. Wilson, Darwin's Cathedral (University Of Chicago Press, 2003).