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Revisiting the Challenge of Intentional Value Shift: Reply to Ives and Fischer

Manfredo, M.J., Bruskotter, J.T., Teel, T.L., Fulton, D., Schwartz, S.H., Arlinghaus, R., Oishi, S., Uskul, A.K., Redford, K., Kitayama, S. and Sullivan, L.

Manfredo et al. (2017) had a dual purpose: to present a social-ecological systems approach to understanding social values and, given that approach, to describe the difficulty that would be faced in trying to change society's values in order to meet sustainability and conservation goals. Ives and Fischer generally agree with our systems approach. They insist, however, that efforts to change societal values are nonetheless important for achieving sustainability goals. We argue that intentional change in societal values is unrealistic.

To clarify, we agree that values are at the root of action. As Ives and Fischer point out, the "culture and values stemming from enlightenment, the industrial revolution, and the principles of capitalism" make it difficult to achieve sustainability in our modern global society. Indeed, beyond the realm of conservation, findings suggest that values play a critical role in determining the success of social, economic, and political development across countries (Harrison & Huntington 2000). If values could somehow be shifted, that shift might lay a foundation for effective biodiversity conservation and broader sustainability.

We also agree that Meadow's concept of leverage is a useful research framework for examining ways to influence social-ecological systems and to understand socio-cultural change. Abson et al. (2016) propose six areas of possible deep leverage. However, recognizing the possibility of leverage does not demonstrate that change is achievable. Accordingly, we suggest that deep leverage routes, directed at behavior rather than values, would be more fruitful in achieving sustainable societies (e.g., rules of system, structure of information flows). There is an extensive literature on behavior change in the social sciences that could assist in driving such efforts (e.g., Osbaldiston & Schott 2012).

Finally, we agree that the social sciences can take the lead in helping humans adapt to the growing threats to sustainability and biodiversity conservation. Approaches such as developing a science of intentional behavioral and culture change may be an important step in that direction (Wilson et al. 2014; Wilson 2016). This approach would entail a multi-disciplinary social science effort guided by an evolutionary framework that recognizes the need for actions to match problems at different scales.

Although we agree with Ives and Fischer on many points, we reach different conclusions based on different views of the problem. Ives and Fisher's disagreement with our conclusion appears to be rooted in the world's desperate need for effective conservation and the belief that if we do not try to change values, we will not know if we can effect change or not. They express hope for a desired outcome but offer scant research no actual case studies or other guidance to support their hopes. Rather than hoping or speculating, we proposed that action to achieve social change should be guided

by the information science has to offer at this point. We formulated our conclusions based on a synthesis of current thinking and literature about values.

Our contrasting views pose important questions for conservationists such as, to what extent can humans influence the direction of culture? We take an evolutionary perspective. Although values affect intentions and expected behavior, they are backward looking, not forward looking. Value formation and adoption at the societal level occurs after changes in cultural practice and behavior. There are strong feedback loops between practice and values, but values do not arise and then spawn new behavior. Rather, new behaviors become advantageous and routine, giving rise to new values. The appearance of new values within a population is not the result of intentional deliberation and selection among societal members. Human agency may be in the process of becoming more important in the evolution of cultures, as Bandura (1989) argues. However, we agree with Wilson (2016:190), who asserts: "To a large extent, cultures work without anyone designing them or knowing how they work."

Our inability to affect cultural shift as we wish is reflected in many examples throughout human history that involve forcing change upon groups of people. Such efforts have had unpredictable consequences and are fraught with human suffering. For example, missionary initiatives or military conquests often attempt to impose new norms and values upon the converted (or the vanquished) as in the case of the many unsuccessful attempts to acculturate native Americans (e.g., Tinker 1993). In other examples, political leaders such as Stalin (Hoffmann 2003) or the leaders of post-Mao China sought to change cultural thought and practice in order to accelerate modernization in their country. To illustrate, China implemented the "one child" (per couple) birth

policy to reduce population growth. Lauded for its pro-environmental outcomes, the primary rationale for this action was to increase the standard of living per capita GDP growth (Feng et al. 2013). Applying the Abson et al. (2016) framework, this serves as an example of deep leverage because it changed the rules of the system. In doing so, it sought to create a more modernized, economically well-off culture and shift values relating to family structure (Feng et al 2013). In this scenario, value shift was initiated by changing system rules through a policy that limited reproductive behavior. Although the policy succeeded in reducing fertility rate, it had another profound and unintended impact on family values, ultimately weakening the tradition of filial (values of respect and caring for elderly) as fewer children were present to care for elderly (Zhan & Montgomery 2003; Feng et al. 2014). Likewise, this policy had the unintended effects of sex-selective abortion, population aging, and violation of basic human rights. Moreover, the fertility rate decline may have happened even without the one-child policy due to a demographic transition already under way (Feng et al. 2013). In many ways, we find truth in the quote that "All history is the history of unintended consequences" (Cohen 2013).

Ives and Fischer proclaim that value shift need not be dreamy or ideological. But we are clearly a long way from being able to achieve desirable value shifts or even to know if it is possible. In fact, one of the most challenging hurdles would be finding a starting point. Realistically, value differences are likely to be intractable and consensus difficult to achieve in a world as diverse as ours, with competing value hierarchies both within and across societies. Given current conditions, it seems unlikely that we will ever reach agreement regarding the values that should predominate in an ideal world. In the

88 future, as in the past, a significant task of conservation will be understanding, reconciling,
89 and respecting diverse values relating to achieving sustainability and biological diversity.

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