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Sander van der Leeuw is the founding director of the School of Human Evolution and Social Change at ASU, and the emeritus dean of its School of Sustainability. He currently is a Foundation professor in both Schools. Prior to joining ASU, van der Leeuw taught in Amsterdam, Leyden, Cambridge and Paris (Sorbonne), and conducted archaeological studies in the Near East, the Philippines, Syria, Holland, France, and Mexico.

Van der Leeuw's expertise lies in the role of invention, sustainability, and innovation in societies around the world. He is a corresponding member of the Royal Dutch Academy of Arts and Sciences and an external professor at the Santa Fe Institute. In 2012, the United Nations Environment Program named van der Leeuw the "Champion of the Earth for Science and Innovation" for his work on human-environmental relations. He currently directs the ASU-SFI Center for Biosocial Complex Systems at ASU.

### **Are We Part of the Solution or Part of the Problem?**

This paper takes a distant, holistic look at the various crises that we are currently encountering worldwide, and argues that these are all part of one and the same phenomenon. The difference in dimensionality between our societies' cognitive capacities and the sphere that is affected by their interventions in the environment is such that each and every intervention causes numerous unintended consequences. As known, frequent risks are dealt with, unknown longer-term risks accumulate. Our world is unable to deal with the multiplicity of unintended consequences of its own earlier actions that are currently emerging. To remedy this, we need to invert the 'resource-to-waste' economy that has for centuries driven the concentration of natural and human capital in the developed world. Its innovative capacity is limited to our current 'value space', and that has caused a demonstrable leveling off of growth. We need to build a different economy that derives growth from the spreading, rather than the concentration, of information, and the creation of new values by stimulating the development of non-western ideas. To begin with, we need to change the current sustainability discussions from 'burden sharing' to 'opportunity creation'. The current ICT revolution offers a unique opportunity to do so. But this requires non-equilibrium economic models that enable the modeling of transitions. Maybe infra-marginal economics offers a way forward.