**SYSTEMATIC INNOVATION, AND A SCIENTIFIC APPROACH TO THE SAME**

**The term ‘systemic innovation’ is increasing in use. However, there is no consensus on its meaning: four**

**different ways of using the term can be identified in the literature. Most people simply define it as a type of**

**innovation where value can only be derived when the innovation is synergistically integrated with other**

**complementary innovations, going beyond the boundaries of a single organization. Therefore, the term**

**‘systemic’ refers to the existence of a co-ordinated innovation system. A second, less frequent use of the term**

**makes reference to the development of policies and governance at a local, regional or national scale to create an**

**enabling environment for the above kind of synergistic, multi-organizational innovations. Here, ‘systemic’**

**means recognition that innovation systems can be enabled and/or constrained by a meta-level policy system.**

**The third use of the term, which is growing in popularity, says that an innovation is ‘systemic’ when its purpose**

**is to change the fundamental nature of society; for instance, to deliver on major transitions concerning**

**ecological sustainability. What makes this systemic is acknowledgement of the existence of a systems hierarchy**

**(systems nested within each other): innovation systems are parts of economic systems, which are parts of**

**societal systems, and all societies exist on a single planetary ecological system. Collaboration is required across**

**organizational and national boundaries to change the societal laws and norms that govern economic systems,**

**which will place new enablers and constraints on innovations systems in the interests of sustainability. The**

**fourth use of the term ‘systemic innovation’ concerns how the people acting to bring about an innovation**

**engage in a process to support systemic thinking, and it is primarily this process and the thinking it gives rise to**

**that is seen as systemic rather than the innovation system that they exist within or are trying to create. It is this**

**fourth understanding of ‘systemic’ that accords with most of the literature on systems thinking published**

**between the late 1970s and the present day.**