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Bringing together socio-technical systems theory and autopoietic theory offers insight into the anticipation of risk in emergency management. As socio-technical autopoietic systems, emergency management organizations come into focus as units continually reaffirming their own identity delimited from their environment by a boundary (Maturana & Varela, 1987). Inflows such as funding, information, and technologies enter into the system and are then transformed into outflows through the union of social and technological systems performing work cycles (Trist et al., 1993). As work cycles are completed, they produce outcomes that perpetuate further work cycles, creating a circular process at the heart of identity reproduction. Flowing out of the system are products and services designed to protect communities. Identity reproduction extends beyond these products and services and is tied to their success. The identity of emergency management organizations is constituted by these inflows, work cycles, and outflows, theories about the social and technical systems, and situations that threaten and support identity reproduction (Di Paolo et al., 2017).

From this perspective, anticipation is a component of adaptation. By being adaptive, emergency management organizations can move towards conditions that support identity reproduction, away from those that threaten it, and transform the latter into the former (Di Paolo et al., 2017). The temporal horizon of adaptation becomes extended through the addition of anticipation, where signals indicating eventual threats are acted upon in the present. Anticipation is then grounded in an organization's concern to continually reproduce its identity across time and space. As the organization anticipates, it reaches into the future towards everything that could disrupt the reproduction of identity. It is through this temporal extension that the present becomes intelligible (Stendera, 2015). Recast as an act of finding the future for the purpose of maintaining the identity of socio-technical autopoietic unities, anticipation reveals a landscape where an organization can change inflows, work cycles, and outflows preemptively as it moves across it.

Di Paolo, E., Buhrmann, T., & Barandiaran, X. E. (2017). *Sensorimotor Life: An Enactive Proposal*. Oxford, UK: Oxford.

Maturana, H. R., & Varela, F. J. (1987). *The tree of knowledge*. Boston, Massachusetts: New Science Library.

Stendera, M. (2015). Being-in-the-world, temporality and autopoiesis. *parrhesia*, 261-284.

Trist, E., Gurth, H., Murray, H., & Pollock, A. (1993). Alternative work organizations: An exact comparison. In E. Trist, H. Murray, & B. Trist (Eds.), *The social engagement of the social science: A Tavistock anthology*. University of Pennsylvania Press.

Anticipatory governance – Dealing with uncertain futures