

Toward a New Understanding of Environmental Innovation

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Transitions to sustainable socio-technical systems which satisfy societies need for functionalities (e.g. shelter, transport) are the focus of a growing literature. One key development has been the multi level perspective (MLP), which is intended to assist in this matter. The MLP conceptualizes socio-technical systems as a three level nested hierarchy. Slow moving variables are accounted for at the macro level, in a highly structured landscape. Configurations of heterogeneous elements that work to achieve society's functionalities comprise a meso level socio-technical regime. New configurations which may eventually be taken up at the meso level as part of transition processes are developed at the micro level, in niche environments.

Strategic Niche Management (SNM) is a transition framework that involves building on socio-technical system dynamics to purposively create niche environments in which new configurations may be developed to achieve transition to alternate socio-technical regimes. SNM is thought to offer those interested in transition to sustainable socio-technical systems an opportunity to develop new configurations which may help attain this goal. However, a number of limitations to the MLP and SNM have been identified and their utility questioned. Limitations of concern include, an over emphasis on pre-given functionalities, the instrumental value of socio-technical configurations and supply side agency. Thus as in many instances, research in this field may be useful and valid but provides partial accounts which may be usefully added to.

To address this gap in knowledge, the findings of ethnographic research which focused on how environmental innovation unfolds in niche environments are reported in this paper. These indicate that activity at the niche level is in a constant state of flux, with entities (people and things) and relationships between them constantly changing, being made and remade. From such processes environmental innovations emerge. These cannot be usefully thought of as technologies but as practices which are constituted and reproduced to address environmental problems, identified by actor coalitions as useful to resolve. Just as firms have been shown not to be driven by the singular goal of profit maximisation, there are many logics which compete via actor coalitions in the constitution and reproduction of practices. These were found to include Eco-prenural, long term survival, techno-centric and form the focus of this paper.

Overall the research argues that similar to the work undertaken by Shove and others on innovation in user practices, innovation undertaken within a firm, within a niche environment, is complex, uncertain and contingent. This suggests that environmental innovation is guided by competing logics but is very difficult to control. This is not to deny that there is a capacity for action. Rather, that environmental innovation is uncontrollable in a modernist management sense. Indeed, there is a capacity for action and the pursuit of sustainability is an important if not always prominent, motivator.