

Co-evolution and Contradiction: A Diamond Model of Designer-User Interaction

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Abstract

This paper explores how the engineering design process might balance conflicting constraints of technical product design and the social demands of users. Some insights from Buddhism, cybernetics, phenomenology and neurophysiology set the scene to help illustrate how Designers and Users build or access their respective 'experienced-' and 'expected world' and achieve their aims. A prototype 3D 'diamond model' is presented, which expands on previous work by the authors of this paper and is compared with Beer's [1994] Team Syntegrity protocol, to structure conversations and activities between two groups with apparently opposing aims. This provides a necessary common purpose and worldview, through which conversations and activities can become innovative, mutually informing, co-evolving and emotionally satisfactory at both the individual and team levels.

Keywords: Innovation, co-evolution, non-dualism, Buddhism, phenomenology, cybernetics, VSM, Team Syntegrity

Biographies



Anja-Karina Pahl is currently a Research Officer and staff PhD candidate in the IMRC of the Department of Mechanical Engineering at the University of Bath. From a back-ground in Structural Geology, she trained in TRIZ methods in 2000 and developed a short course for the Swinburne School of Management MBA and Executive Development Programme in Innovation and Entrepreneurship in Melbourne before moving to the University of Bath. Her previous 3-year contract involved knowledge transfer between Biology and Engineering. During this time she was also responsible for setting up the MSc in Biomimetic and Technical Creativity. Her current research concentrates on the development of a new synthesis of commercial and non-western methods for creativity and innovation. The test-bed is a part of a full-industry-funded multi-national project in European Aerospace engineering.

Dr. Linda Newnes is currently Senior Lecturer in the Innovative Manufacturing Research Centre [IMRC] of the Department of Mechanical Engineering at the University of Bath. From a background in Engineering Design, her current research interests include: Printed Circuits, Engineering Management In-

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