The Empirical Modelling Project

What is Empirical Modelling?

principles for constructing 'construals' of phenomena, in particular computer models

emphasis not on the product, but on model-building that assists cognitive process of construal

key concepts: agency, dependency, observables, explored within a pragmatic framework

significant in respect of pre-articulate activities, pre-formalisation, situated modelling,

Two major themes

1. broadening the foundations of science

modelling that precedes / complements mathematical modelling

computing applications beyond the scope of traditional theory

requirements analysis and specification, VR, agent-oriented modelling

interdisciplinary applications: concurrent engineering, CAL,

areas of application on fringe of science: psychology, education, management

2. supporting the learning process in a novel way

conventional view of learning (esp. computer-assisted) as mediated by language

cf learning via private, particular, tentative experimental interaction with phenomena

creative, discovery-led processes supported by the construction of artefacts

giving an experiential account of knowledge (cf. William James)

Conceptual Foundations for Modern Computing, with potential applications to

geometric modelling (*Arca* 1982, AJC 1989, Matra Datavision 1994-7, Pasko, Aizu 1997)

behavioural modelling (British Telecom 1986-88, IBM 1993-6, Adzhiev, MEPhI 1993-97)

new machine architectures (*DAM* and *JaM* 1995-7)

concurrent engineering (EPSRC 1993-6, *tkeden* 1995, Sonnenwald, UNC Chapel Hill 1996)

educational project (NCET 1997)

cognitive technology (1997)

business systems (1998)