Matters arising ... things to reflect on / to be reflected on in the course of the module!

- **Programming paradigms**: Many styles of programming are represented in CADENCE: *prototype-based object languages*, *functional languages*, *data-flow* and *spreadsheets*. Inspecting the gate.dasm files closely will reveal the influence of these different paradigms.

  Making a multi-paradigm programming environment coherent is a fundamental unresolved research problem.

- **State vs behaviour**: There is a tension in the modelling between observables that are perceived to be subject to continuous change (e.g. the orientation of the Stargate) and those that are subject to discrete changes (e.g. the dimensions of the Stargate). There is a distinction between a **will_be** dependency in which the current value of an observable affects the 'next' value of another observable (perhaps the same one - hence 'cyclic dependency'), and an **is** dependency in which the current value of one observable depends on the current value of another (hence acyclic dependency).

  Dealing with the relationship between the operational state-based semantics and the declarative denotational semantics is a challenge for classical programming.

- **The importance of the experiential aspects**: The Stargate model makes quite intense demands on the hardware. It only runs on certain platforms, and graphics cards etc. The efficiency of the DOSTE engine is very significant in supporting the authentic "Stargate experience". The knowledge of the human agent interacting with the model also contributes to the quality of the experience. What is made visible to the human interpreter, and what affordances the human agent has to interact also shape the experience.

  The emphasis in classical computer science is on how meanings can be made formal and non-negotiable ... in contrast modern practices demand ways of thinking about computing that acknowledge its dependence on specific environments and human interpreters.