

Modularity, Complexity and Design

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Definition of Complexity

- The complexity of an object is the size of the shortest description of that object with respect to some description method (e.g. some drawing package).
- If the description method allows reuse of component parts, the complexity is invariant, I.e. the description method can alter. How can this help? (boolean problems).
- Are more complex objects more difficult to design?
- Nature uses modules in its design?
 - *Research Question - how can we use this?*

What are we designing?

- In science, asking the right questions is more important than finding the answers to poor questions.
- In design, the same is probably true.
- Examples;
 - bicycle chain wheel (elliptical)
 - hospital curved walls (MRSA)
 - car 4 seater “shopping car + 2 seater “sports car” = 6 seater “family car” (Coventry Uni.).