

Bloating, Waste, and Value

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Abstract

A threat to performance is the combination of feature creep and technical debt. This combination causes bloating of the design. In Lean terms, the combination causes waste. A crucial question is where is the value, and is the value in balance with the potential degradation of performance.

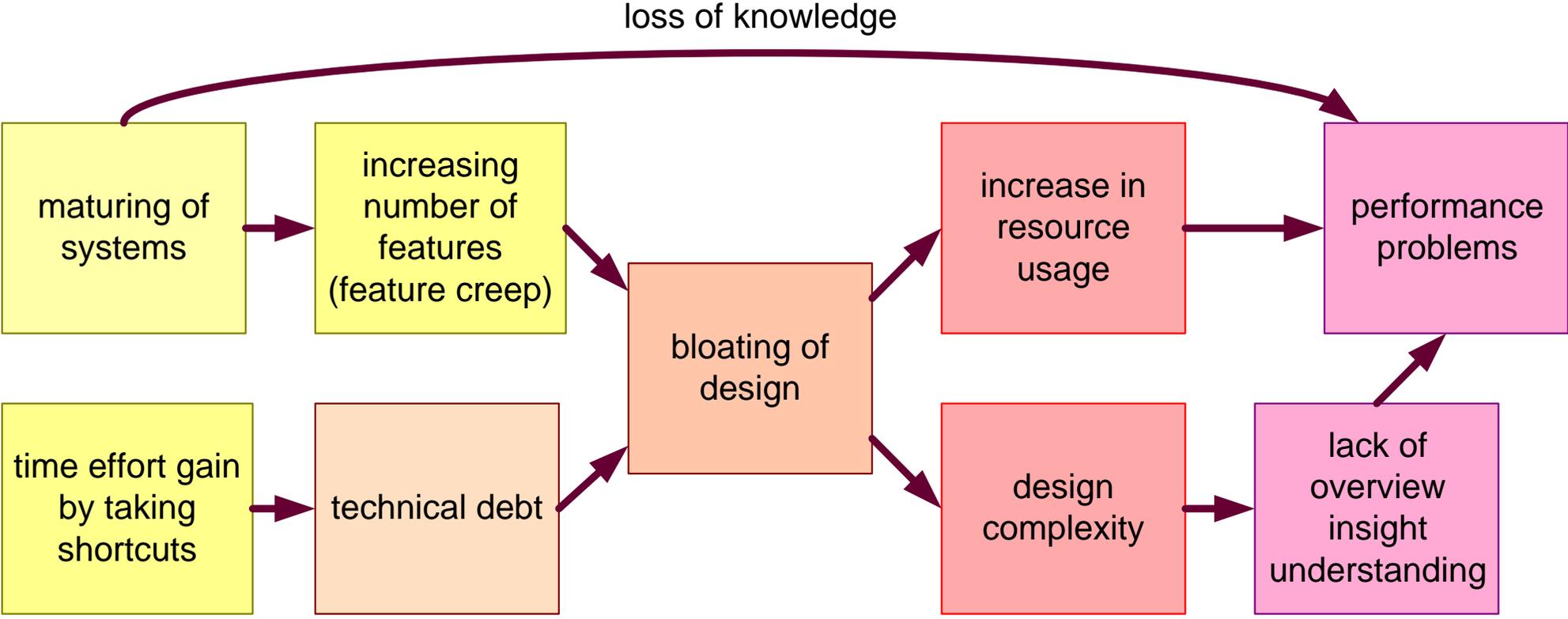
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From Feature Creep to Performance Problems

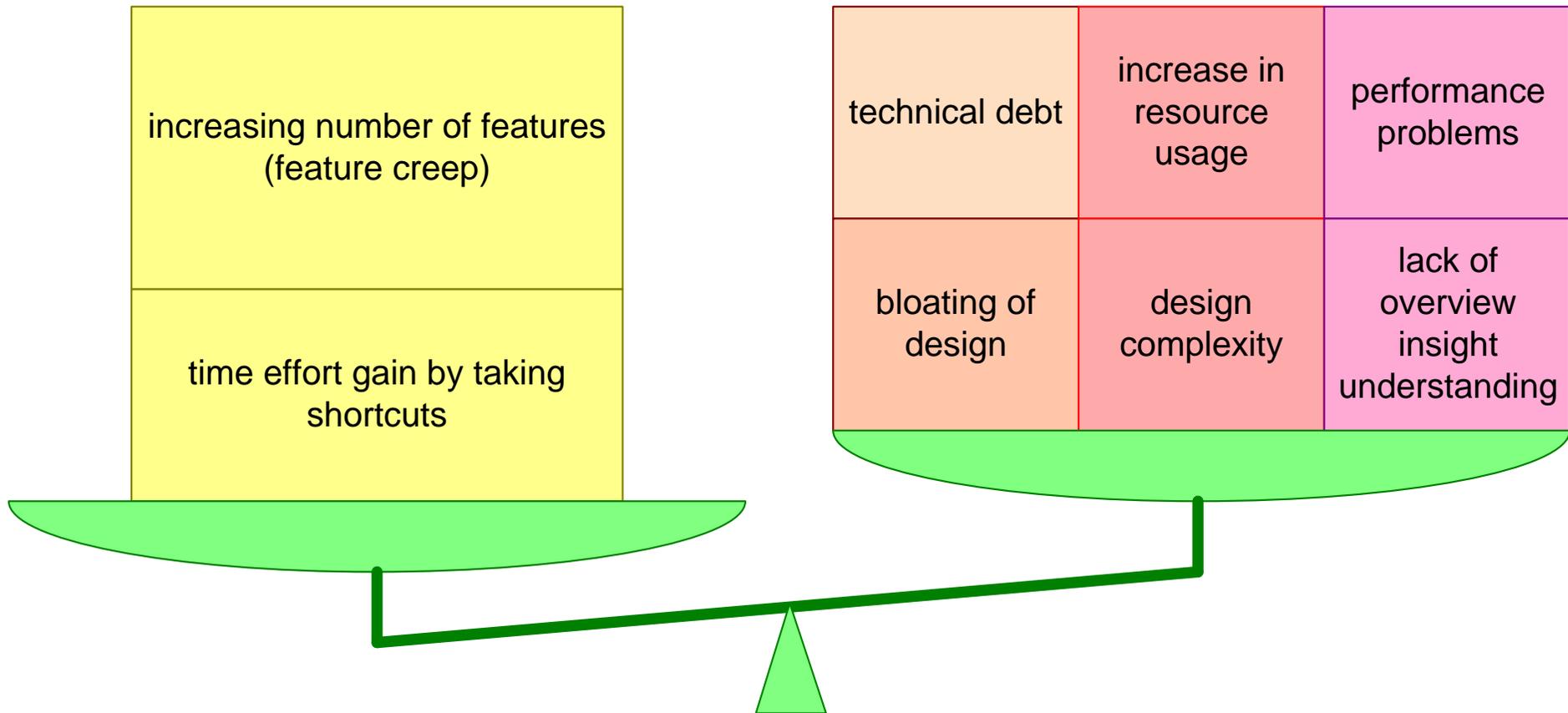


Technical Debt is a **metaphor** used within the software industry to communicate the consequences of **pragmatic design decisions** deviating from the **intended design** of a system

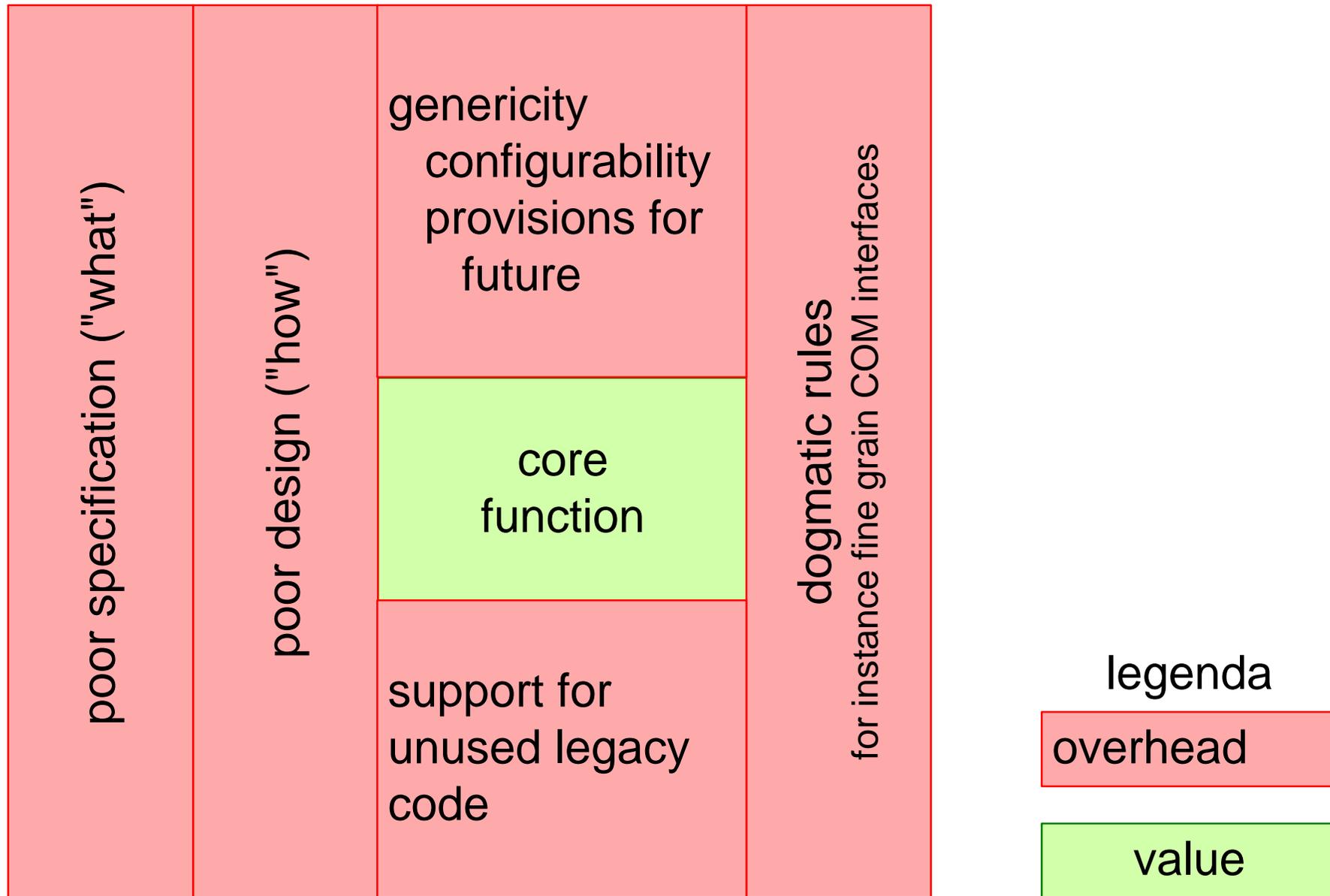
from: http://gaudisite.nl/INCOSE2016_Callister_Andersson_SMARTtechnicalDebt.pdf
based on Cunningham <http://c2.com/doc/oopsla92.html>

Value versus Performance Degradation

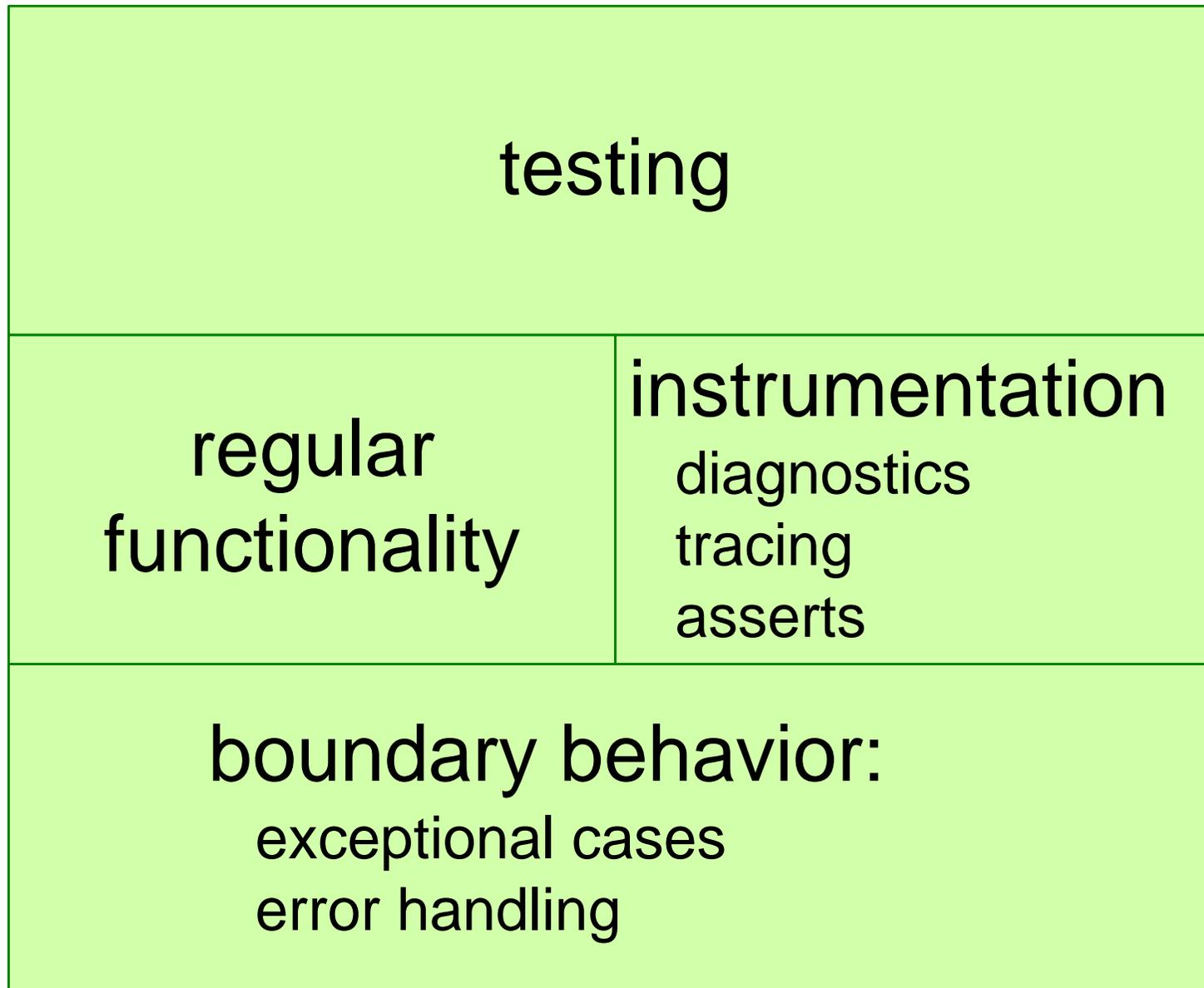
Are benefits (value) in balance with the costs (such as performance degradation)?



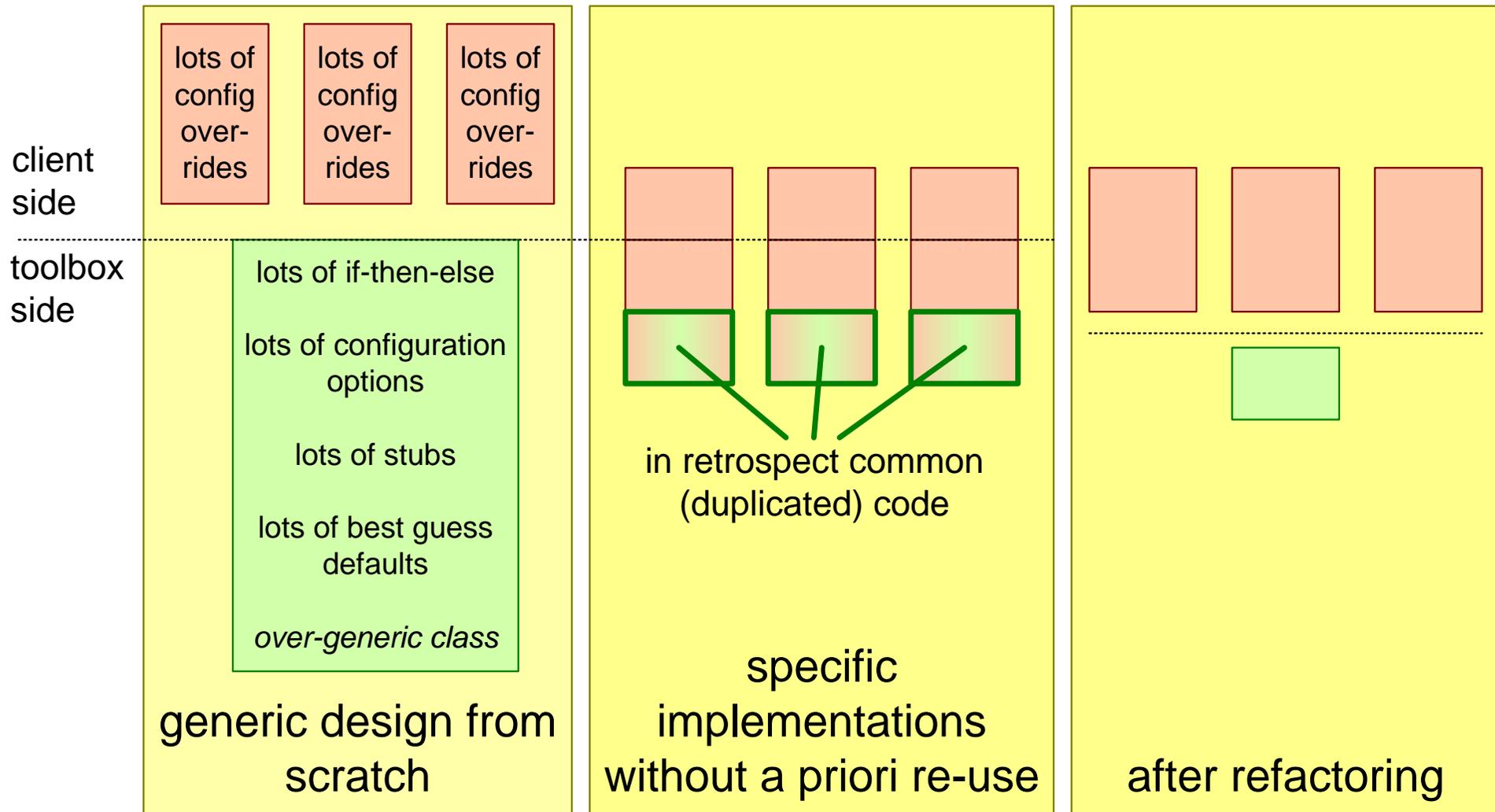
Exploring bloating: main causes



Necessary functionality \gg the intended regular function

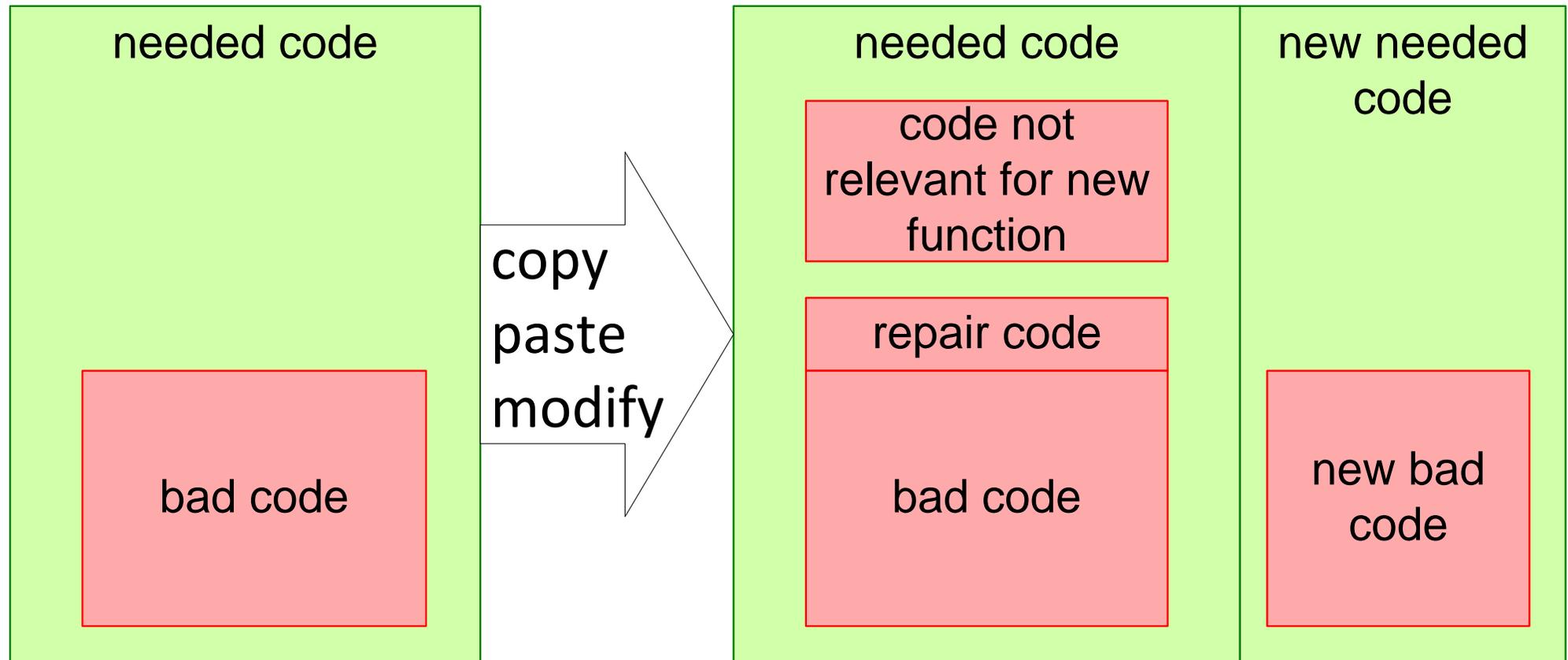


The danger of being generic: bloating

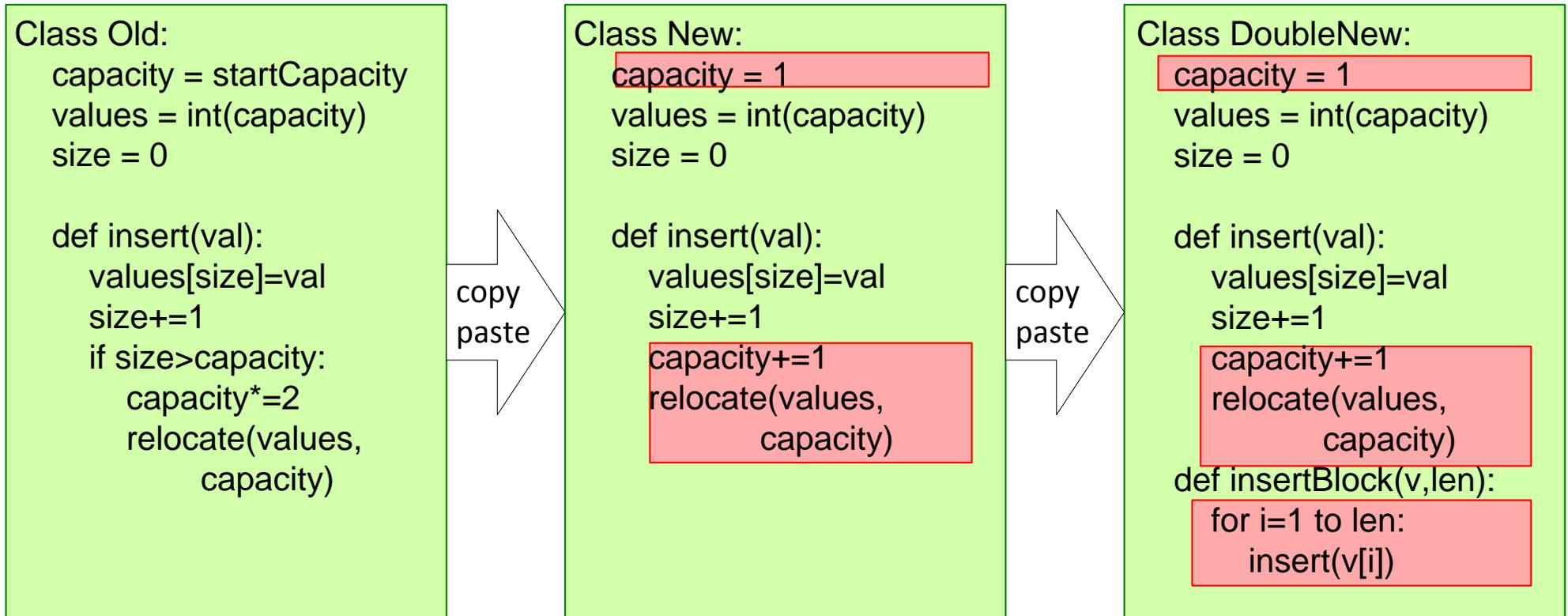


"Real-life" example: redesigned *Tool* super-class and descendants, ca 1994

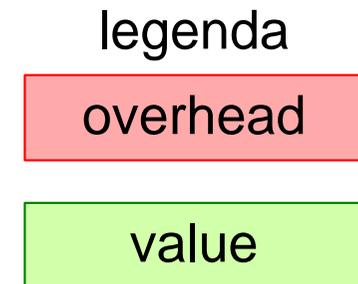
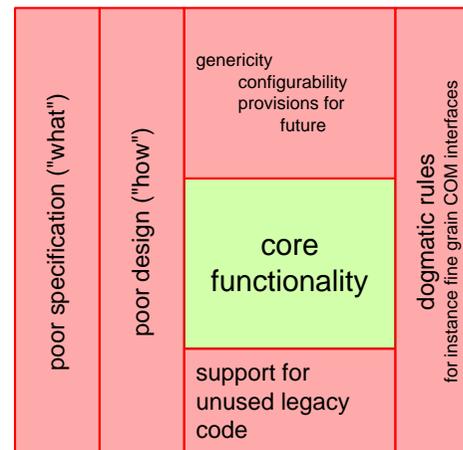
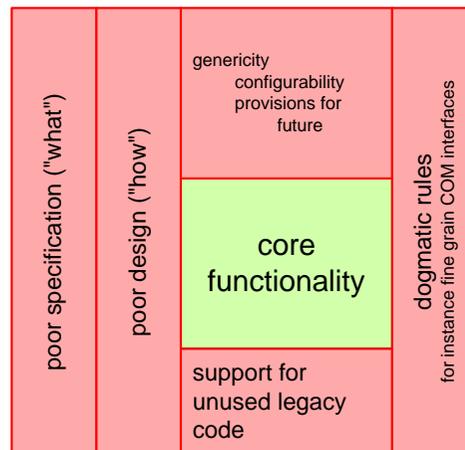
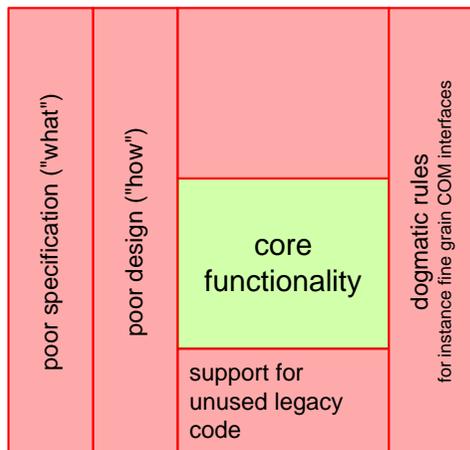
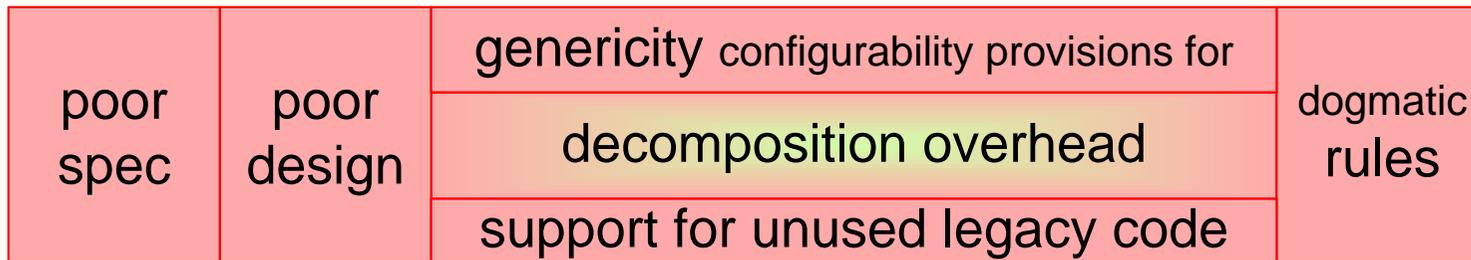
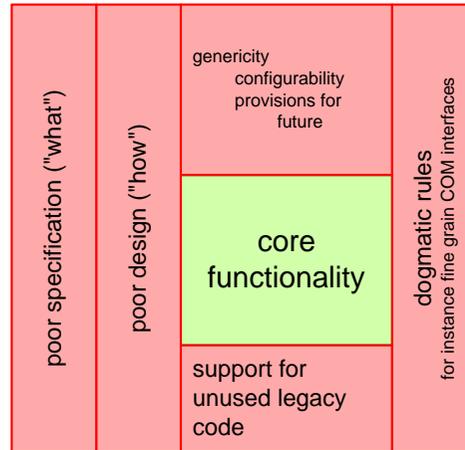
Shit propagation via copy paste



Example of shit propagation



Bloating causes more bloating



Causes even more bloating...

Bloating causes performance and resource problems.
 Solution: special measures:
 memory pools, shortcuts, ...

