

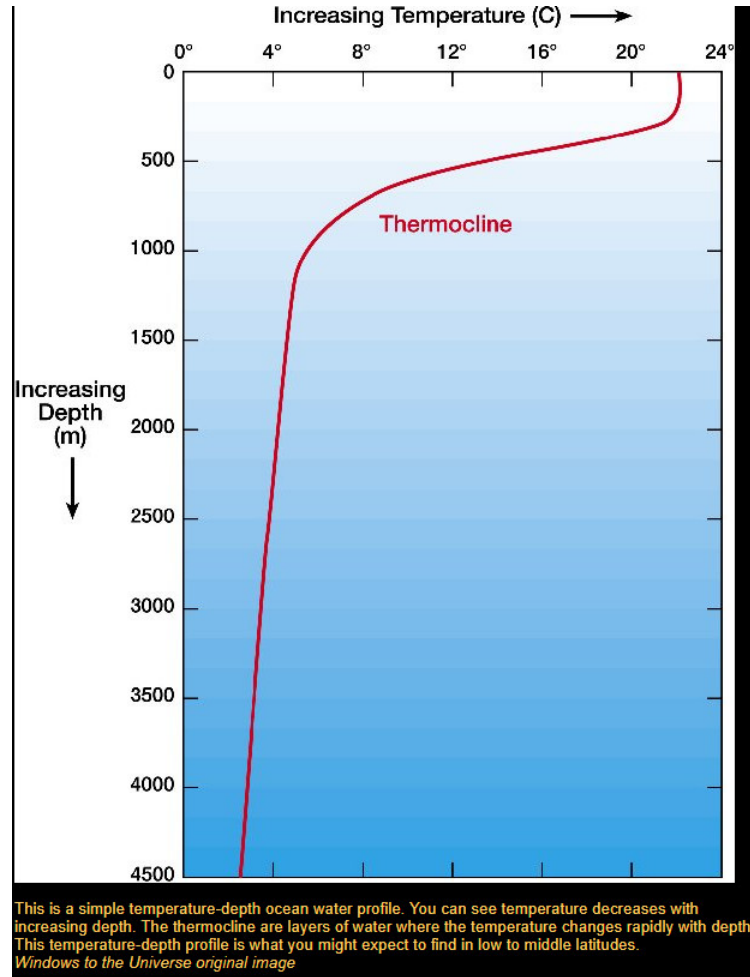
The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the left and right sides of the slide, framing the central white area.

CS 428

Webster #2

Winter 2021

Bruce F. Webster



WEB #6: The Thermocline of Truth (2008) [\[Link\]](#)

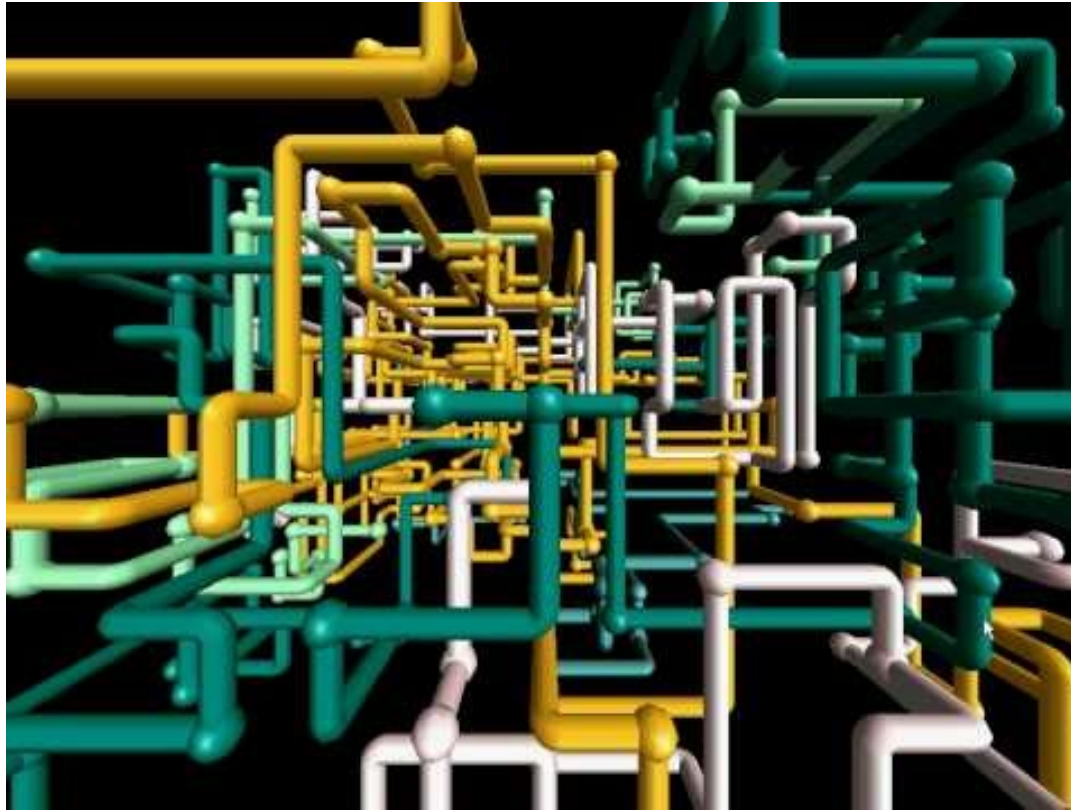
- ▶ A line drawn across the organizational chart that represents a barrier to accurate information regarding the project's progress
 - ▶ Those below this level tend to know how well the project is actually going
 - ▶ Those above it tend to have a more optimistic (if unrealistic) view
- ▶ Why does it form?
 - ▶ Lack of true metrics (objective, automated, predictive) on project status
 - ▶ Excessive optimism on part of engineers
 - ▶ Self-protection on the part of managers going up the chain
 - ▶ Top management tends to reward good news and punish bad news

The Thermocline of Truth (cont.)

- ▶ **Consequence:** as the deadline draws near, the actual project status tends to move upward in the management chain
 - ▶ Hence the classic “slip the project schedule three weeks before delivery” pattern
- ▶ **How to avoid it**
 - ▶ Honesty and outspokenness on the part of engineers and managers
 - ▶ Rewarding that honesty
 - ▶ Upper management actively seeking out from lower levels realistic feedback on project
 - ▶ Avoiding the temptation of the “quick fix to ship”

The Thermocline of Truth (cont.)

- ▶ Experience reviewing massive (\$500M) failing IT project at Fortune 50 corporation



“Remember Conways Law” (2013) [[Link](#)]

- ▶ Coined by Fred Brooks in *The Mythical Man-Month*:
 - ▶ Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure.
- ▶ Put simply, **architecture tends to follow organization**, not the other way around
- ▶ Thus, you need to **make sure your organization reflects your anticipated architecture** (hint: you may end up revising your org charts)
- ▶ Observations and experience?

“Remember Conway’s Law” (cont.)

- ▶ Temptation: the appearance (illusion, really) of progress
 - ▶ Prototyping user interface
 - ▶ Use of third-party libraries, engines, utilities
 - ▶ Getting important modules to “80% completion” and then moving on
- ▶ Finishing that last 10-20% is where things drag on forever
 - ▶ All the hardest problems have been deferred to the end
 - ▶ Can find yourself in “solution deadlock” among remaining hard problems
- ▶ Solution: courage to actively identify and tackle hardest problems first
 - ▶ Initial progress will be slow, but you will be more likely to be able to predict completion

Web #6; Do not Defer the Difficult in IT Projects (Baseline, 2008) [[Link](#)]