Yesterday's greater moments

- abstraction + refinement
 - losing or adding some detail
 - where detail = set of properties |P|, and/or accuracy
- approximation (notion of value space V)
- separation between problem space (WHAT to abstract/refine) and computational space (HOW to abstract/refine)

Notion of Problem Space

- the problem space will have an impact on the relationships (abstraction) between various models
- $P(M2) \cap P(PS) C P(M0) \cap P(PS)$
- i.e. in problem space (PS) M2 is an abstraction of M0



	computation problem		refining		property sets in problem space: questions to ask the model			requirements, structure, parameters,
	sparal	\backslash	P _A ∈	P _B ∈	P _c ∈	P _D	∈P _i	
lowering		P ₀	M _{A0}	M _{B0}	M _{C0}	M_{D0}	M _{i0}	
	,	P ₁	M _{A1}	M _{B1}	M _{C1}	M _{D1}	M _{i1}	
property sets in computational space: accidental complexity (how to evaluate P_i) P_2 P_2		M _{A2}	M _{B2}	M _{C2}	M _{D2}	M _{i2}		
		M _{A3}	M _{B3}	M _{C3}	M _{D3}	M _{i3}		
data type, solver, time, P _j		M _{Aj}	M _{Bj}	M _{Cj}	M_{Dj}	M _{ij}		

...

- set of properties |P|
- each property p could be
 - an infinite set
 - a finite set

. . .

discrete values



 instance of a model has a set of values completely defining the values of P (V?)

Property space / Value space

 two models with the same properties can have different sets of values (but hopefully one will be contained by the other)



- today, hierarchy
- tomorrow, heterogeneity
- after tomorrow, software ("don't mention the software!")