



Cycles of Change in Social Systems and the d/c Ratio

How Social Systems Move Among the Four System States

- Overview
 - Introduction
 - The d/c Ratio for Individuals
 - The d/c Ratio for Social Systems
 - Changing the d/c Ratio
 - Cycles of Group Transitions
 - Conclusion



Introduction

- Gain a job/lose a job
- In a general sense, everything is a system: fractal
 - universe to society to community to individual
- Sharpness of boundary varies
 - from fuzzy to clear focusing of output
 - from chaotic through complex to ordered focusing



The d/c Ratio for Individuals

- Recall jobs gained and jobs lost
 - personal focusing varies
 - big promotion
 - same skills; big *increase* in demands
 - creates chaotic focusing
 - lose job
 - same skills; *decrease* in demands
 - creates more ordered focusing
 - variety of skills = *differentiation*
 - variety of demands = *centrality*
 - d/c determines focusing
 - if $d \ll c$, chaotic focusing
 - if $d \sim c$, complex focusing
 - if $d \gg c$, ordered focusing



The d/c Ratio for Social Systems

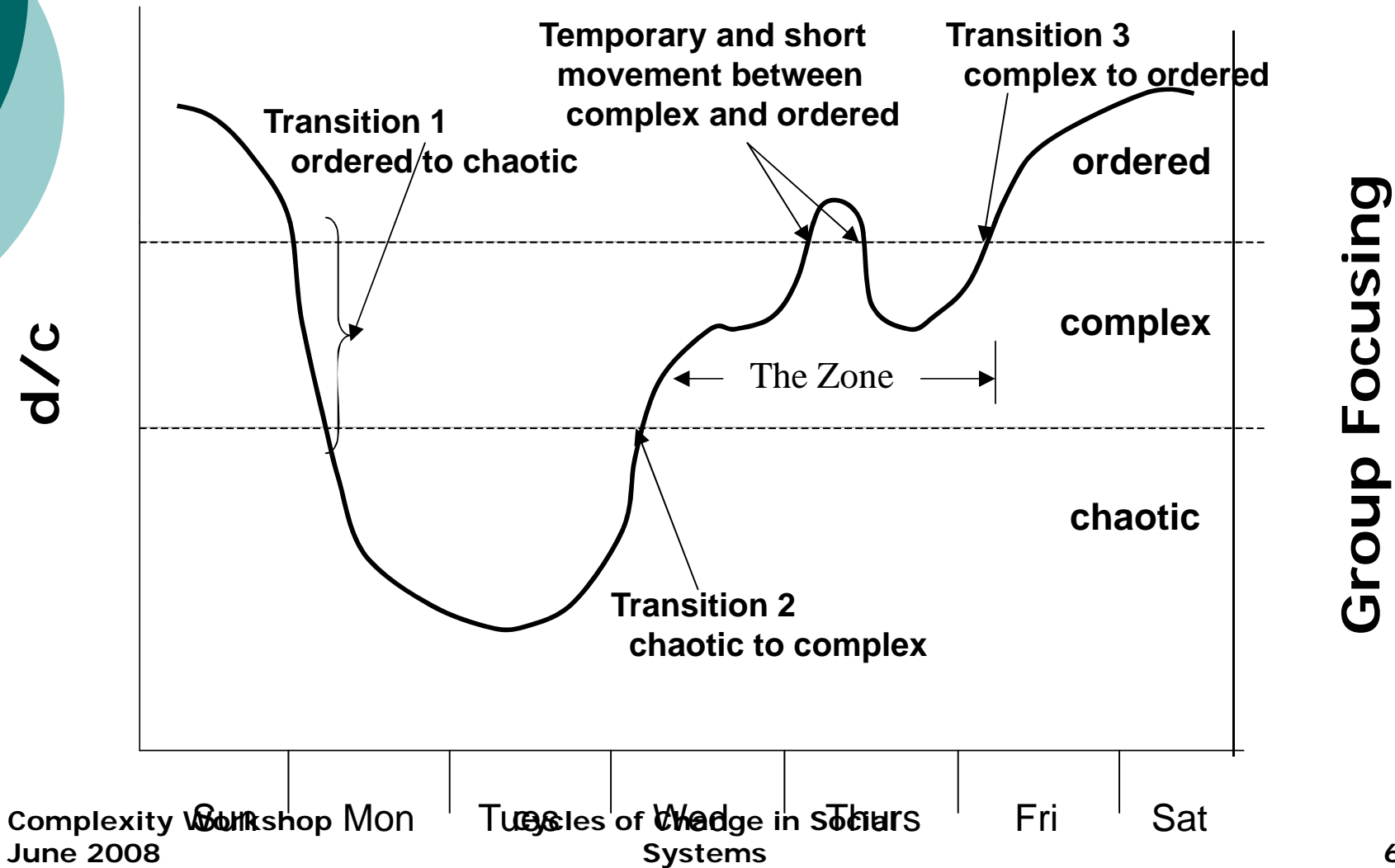
- Differentiation: variety of skills
 - variety of businesses in a community
 - variety of manufacturing in a country
- Centrality: variety of demands
 - variety of connections to other cities
 - variety of trade contacts to other countries



Changing the d/c Ratio

- If d/c is lowered, systems becomes unfocused: chaotic
 - i.e. differentiation much less than centrality
 - e.g. new highway into remote community
 - e.g. Canada in its early years
- If d/c increases, systems becomes very focused: ordered
 - i.e. differentiation much greater than centrality
 - e.g. cult which closes itself off
 - e.g. trade embargo
- In between, d/c ~ 1: complex focusing
 - differentiation matches centrality
 - e.g. organization adjusting to change in market
 - e.g. community adjusting to development
 - complex focusing is short lived
 - The Zone
- Transitions from one type of social focusing to another generates cycles
 - chaos through complexity to order

Cycles of Group Transitions





Conclusion

- Systems all the way down
 - fractal universe
- Social focusing varies depending on the d/c ratio
- Over time: cycles
- In the next hour: art cycles
 - In particular, the Italian Baroque
- At end: other applications of theory
- Questions and Comments?

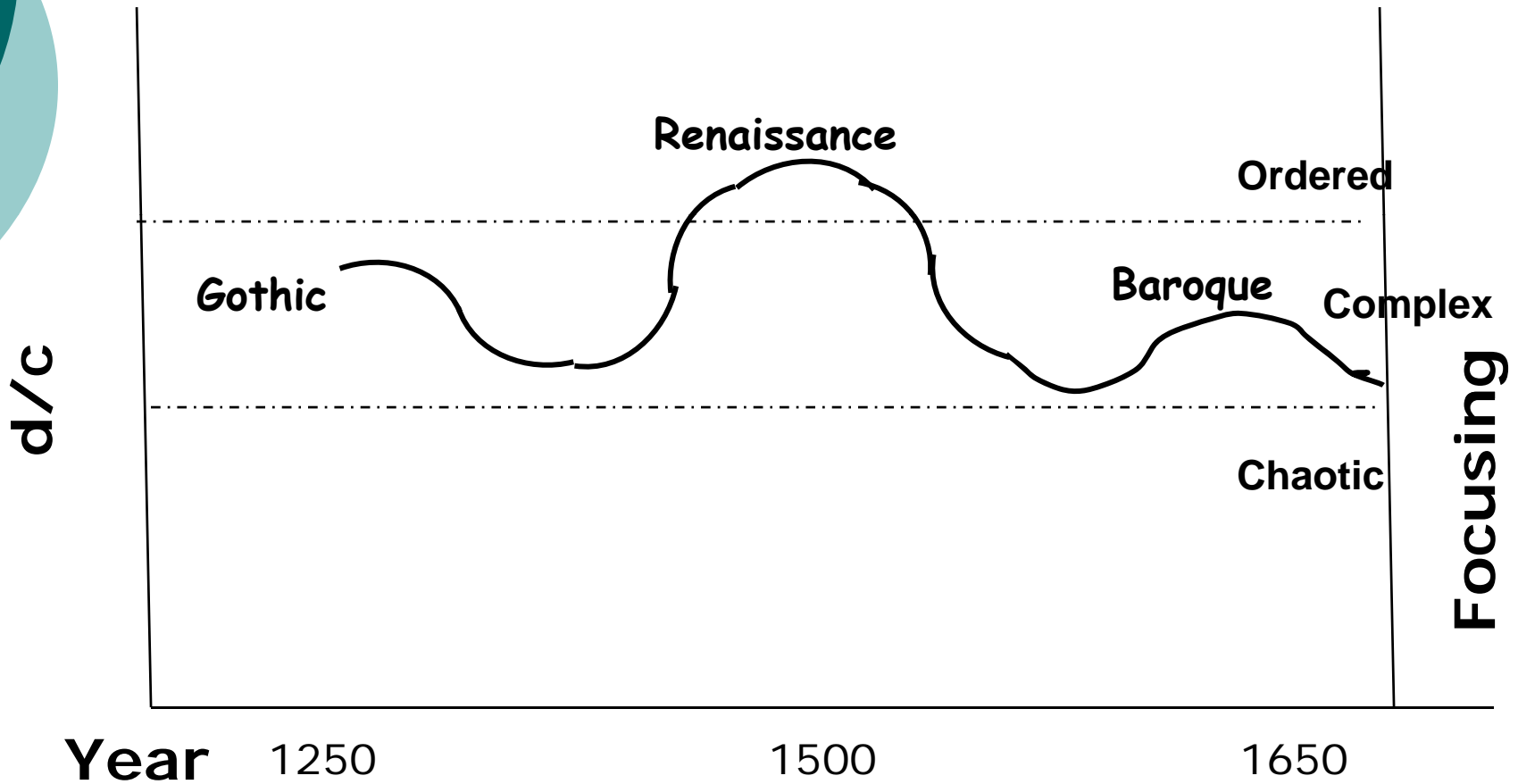
BREAK



Introduction to Art Cycles

- Art is a system
 - an institution
 - a subsystem of society
- Hence, focus of art changes
 - passes through cycles
- From chaotic focusing
 - eclectic between eras
 - e.g. end of Roman Empire
 - e.g. end of 20th century
- Through complex focusing
 - at Early and Late phases of period
- To ordered focusing
 - during High phases of each period
- Driving force for cycles is d/c ratio
 - differentiation:
 - new techniques
 - new philosophies
 - centrality
 - invasion, war
 - trade, migration

Art Cycles





Art Periods and Art Focusing

- More chaotic art periods
 - Greek Dark Ages, Early Medieval, post modern
- More complex art periods
 - Hellenistic, Gothic, Baroque, Romantic
- More Ordered art periods
 - Romanesque, Renaissance, Neo-Classical



Art Focusing and the d/c Ratio

- Art reflects society
- Societal differentiation
 - products, skills, techniques
- Societal centrality
 - trade, migration, war
- As d/c goes from low to high
 - art develops from chaotic through complex to ordered



Art Styles and Fractals

- Similar shaped cycles at all scales
 - individual artist
 - Michelangelo, Picasso
 - phase
 - Early, High, Late
 - period
 - Renaissance, Baroque
- Next Presentation
 - Madeline Lennon and emergence of Baroque
Siting Bologna in the Region of Complexity