

***HSS ↔ STS ↔ PHC ↔ LARP:***

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***Reflection on an Inter-Interdisciplinary  
Migration toward Sustainable Communities***

**Mark Hamin (PhD 1999, UPenn HSS)**

**Lecturer of Regional Planning and Environmental Design**

**Director, Master of Regional Planning Program**

**University of Massachusetts Amherst**

**<http://www.umass.edu/larp/faculty/mhamin/index.html>**

**Affiliated Faculty, Public History Certificate Program**

**Affiliated Faculty, Science, Technology & Society  
Initiative, Center for Public Policy and Administration**

- ✦ Professional transition from doctoral program in HSS
  - ✦ Dissertation focus on historical emergence of modernist food and nutrition research communities in early 20<sup>th</sup> c.
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- ✦ Grad research and teaching in urban environmental and infrastructural history; links with GSFA [Penn Design]
- ✦ Migration into field of planning & design history [ISU]
- ✦ Current position: program director/professional mentor
- ✦ Reorganizing UMass LARP curriculum toward greater collaboration across various university and five-college departments and programs around issues of sustainable planning, design and management practices.
- ✦ Interdisciplinarity of UPenn HSS Dept. relevant to that of STS Initiative in CPPA, PHC Program, and the Dept. of LARP at UMass
- ✦ How HSS shaped my inter-interdisciplinary orientation in LARP, STS and PHC, all under an emerging rubric of sustainable ecology, economy, and equity.

# *Tables Turned, Palates Curbed: Elements of Energy, Economy and Equilibrium in American Food Science, 1890-1940 [1999]*

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- ✦ **Urban-industrial growth and technological transformation of food production**
  - ◆ mechanized milling, refining, canning...
- ✦ **Interests and opportunities for expansion of research on food, nutrition and diet**
  - ◆ Institutionalization, professionalization
  - ◆ Interdisciplinary collaborative strategies
- ✦ **Public service roles in promoting science**
- ✦ **Popularization of knowledge of food/diet**
  - ◆ nutrition guides, RDAs

# *Tables Turned, Palates Curbed: Elements of Energy, Economy and Equilibrium in American Food Science, 1890-1940 [1999]*

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## ✦ Institutional-Disciplinary Communities

- ◆ agricultural, medical, military, etc.
- ◆ physiology, biochemistry, statistics, etc.

## ✦ Instrumental-Technical Communities

- ◆ chemical analysis, calorimetry, animal feeding trials, experimental physiology

## ✦ Public-Service Communities

- ◆ official boards/commissions, USDA, etc.

## ✦ Popular-Cultural Communities

- ◆ dietary reformers, alternative health, etc.

# *Four-Part Presentation: Characterization of Transition*

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- ✦ I) HSS → LARP: Interdisciplinarity and Inter-interdisciplinarity
- ✦ II) Research and Collaboration: Toward Sustainable Communities
- ✦ III) Robust reflexivity through Representation of 'Regions'
- ✦ IV) Conclusion: Questions that LARP planners address relevant to academic & professional practice of HSS

# *I) Interdisciplinary Hierarchy: Seeing Like a Dept. Administrator*

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**History and Sociology of Science  
(or Science and Technology Studies, etc.)**

**Undergraduate  
Programs**

**Graduate  
Programs**

**Certificate and  
Joint-Degree  
Programs**

**Affiliated  
Programs  
and Centers**

# *I) Interdisciplinary Hierarchy: Seeing like a Disciplinary Society*

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**History and Sociology of Science  
(or Science and Technology Studies, etc.)**

**Natural Sciences**  
(Laboratory and Field-  
Based)

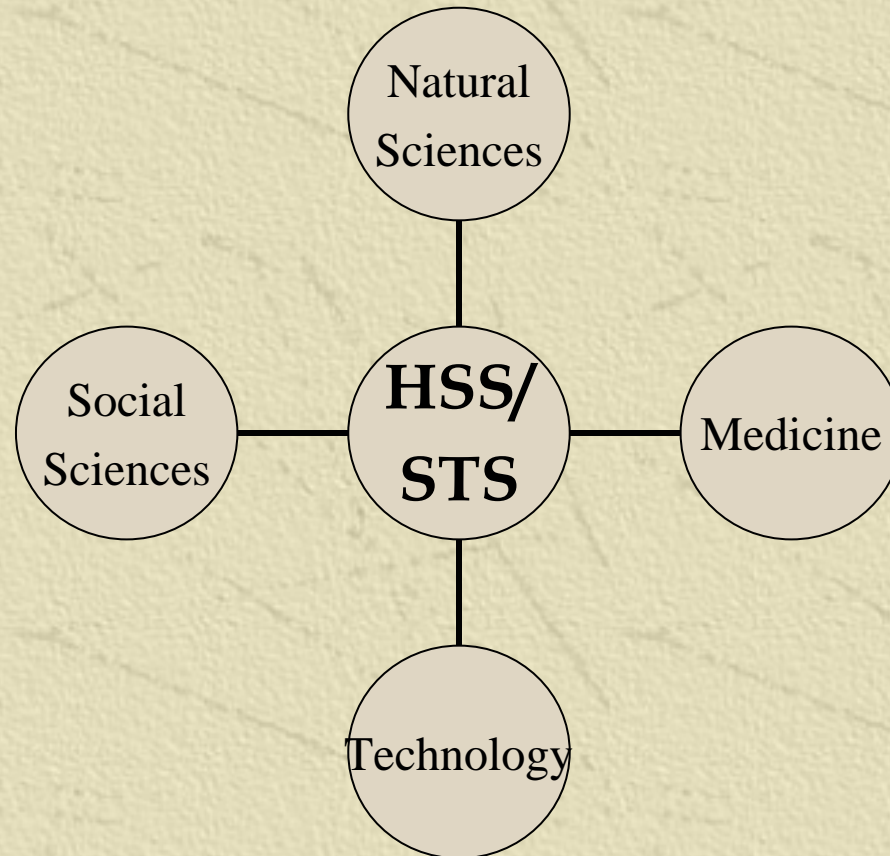
**Social Sciences**  
(Quantitative and  
Qualitative)

**Technology**  
(Structure and Culture,  
Systems and Standards)

**Medicine**  
(Lab, Clinic, Field;  
Public Health)

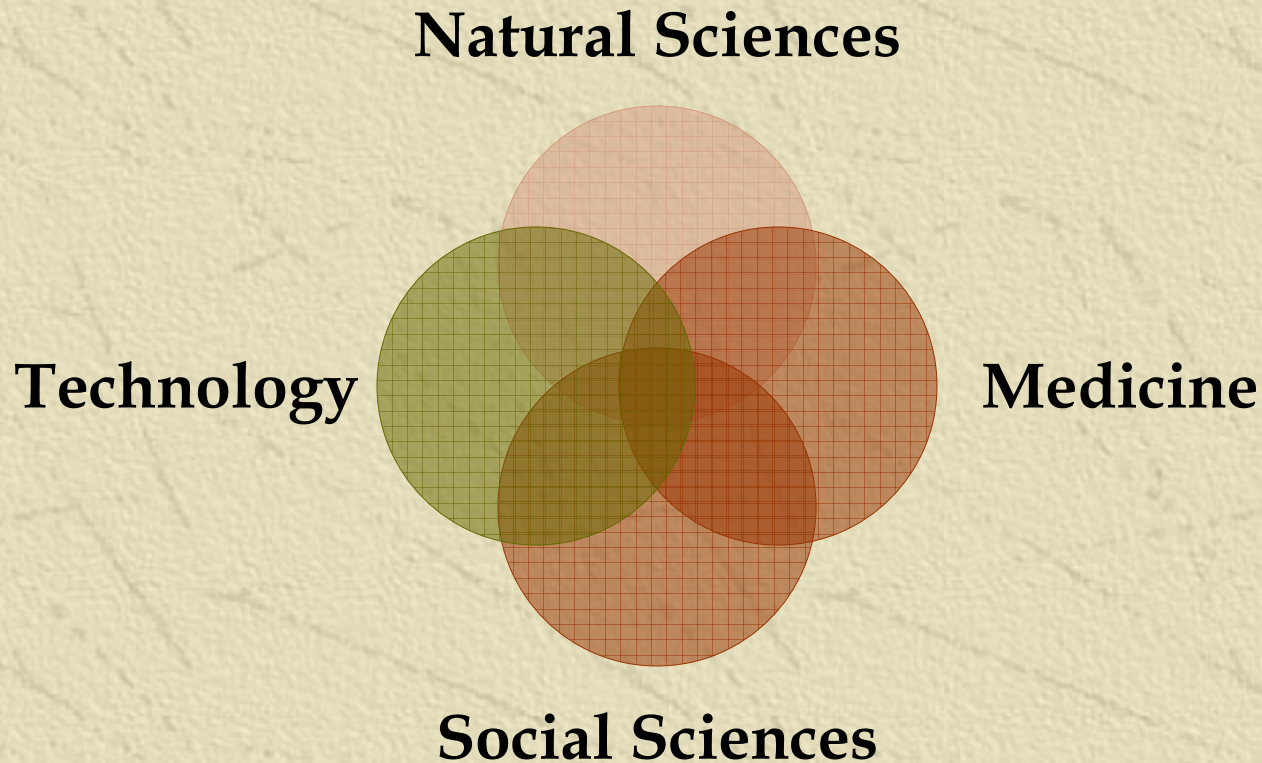
# *I) Interdisciplinary Network: Center/Periphery 'Orbital' Model*

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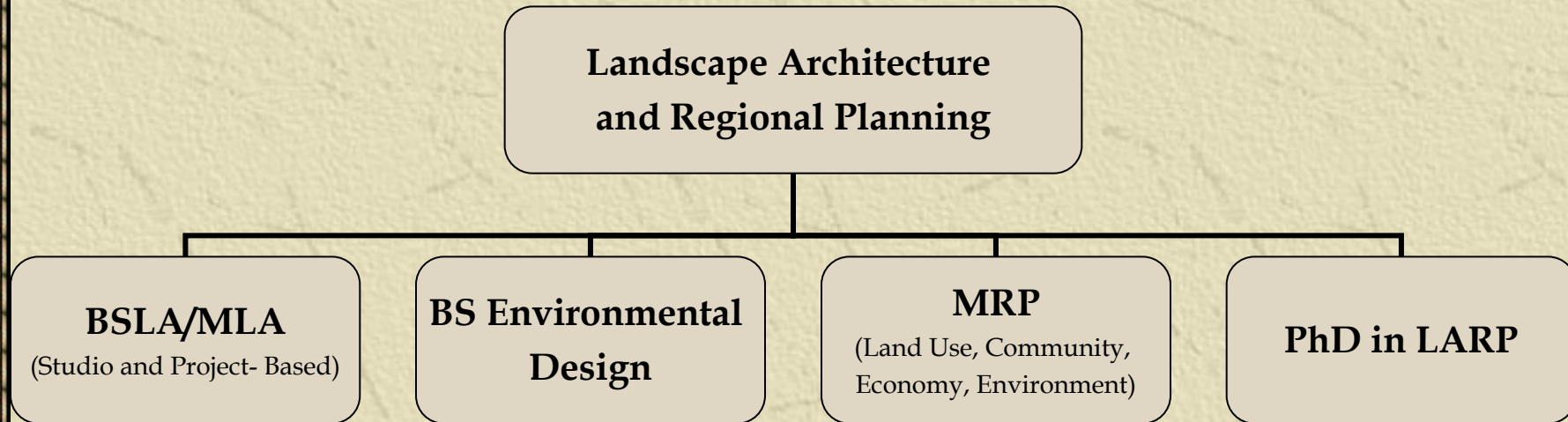
# *I) Interdisciplinary Ecology: Overlapping Field/Range Model*

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# *I) Interdisciplinarity: LARP, etc. Seeing Like an Administrator*

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# I) *Inter-Interdisciplinarity @ UMass: Recent Initiatives*

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- ✦ Five Colleges, Inc.: Joint Programs
- ✦ Research Centers (e.g., CPPA, CHS)
  - ◆ *STSI: RP, Hist., Econ., Soc., Poli.Sci., NRC*
  - ◆ <http://www.umass.edu/sts/faculty/>
- ✦ Certificate Programs (e.g., PHC)
  - ◆ <http://www.umass.edu/history/ph/faculty.html>
- ✦ Springfield Initiative/Design Center
  - ◆ [http://www.umass.edu/chancellor/designcenter\\_020510.html](http://www.umass.edu/chancellor/designcenter_020510.html)
- ✦ School of Built Environment
- ✦ Master's in Sustainability Program

# *I) Inter-Interdisciplinarity @ UMass: Complementary Clusters*

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**(Already initiated)  
Public History Certificate Program  
and (proposed)  
Center for Heritage Studies**

**LARP**

**(Public)  
History**

**Anthropology/  
Archeology**

**Various Area  
Studies**

# *I) Inter-Interdisciplinarity @ UMass: Co-location ↔ New Partners*

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**(Already initiated)  
Springfield Design Center  
and (proposed)  
Center for the Built Environment**

**Landscape  
Architecture**

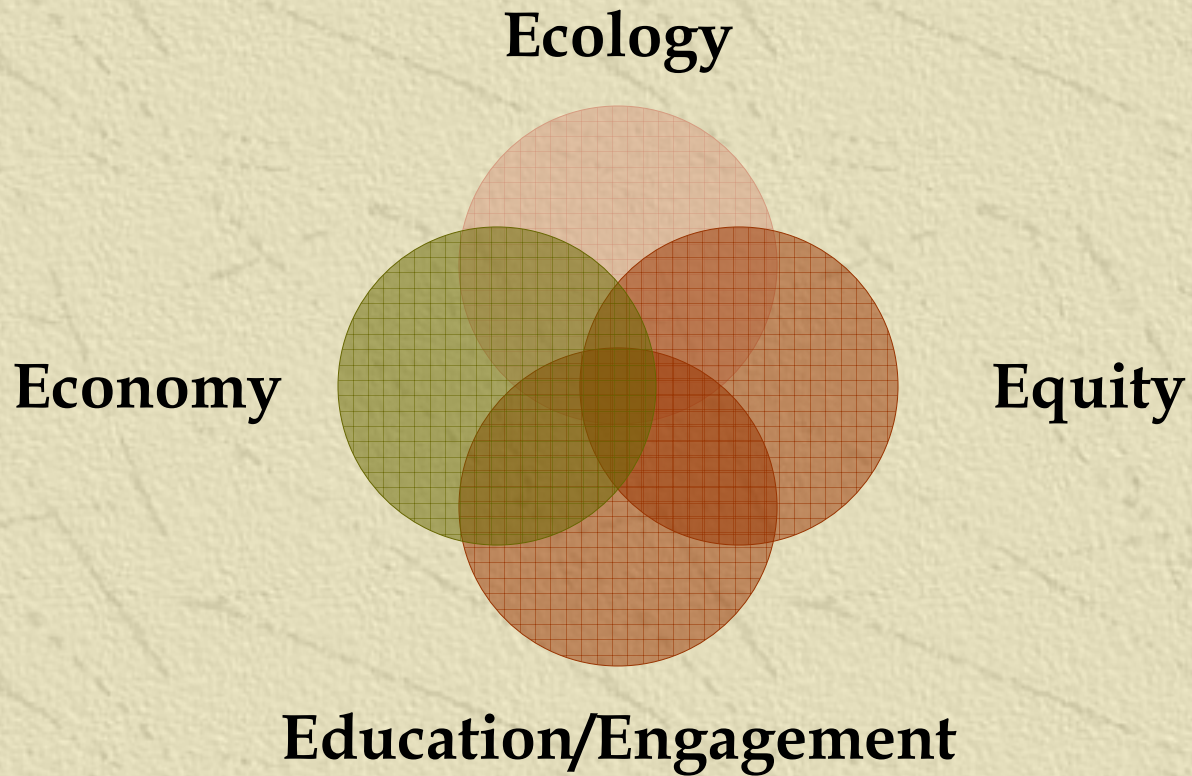
**Regional  
Planning**

**Architecture**

**Green Building  
(NRC)**

# *II) Interdisciplinary Ecology: Sustainable Systems/Communities*

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## *II) Between Physics and Civics:*

### *Infrastructural Systems and Regional Organization from Physiocracy (through Biotechnics) to Biocracy*

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- ✦ Paper presented at ACSP Conference 2002
- ✦ 'Life economy' critiques of 19<sup>th</sup> c. urban-industrial society, influenced by 18<sup>th</sup> c. French Physiocracy
  - ◆ e.g., J. Ruskin, W. Morris, Patrick Geddes, etc.
- ✦ Geddes' and Mumford's 'Biotechnic Civilization'
- ✦ Walter B. Cannon's idea of regulatory 'Biocracy'
- ✦ Lawrence Henderson's social equilibrium model
- ✦ vs. Smith/Ure: self-expanding capital, technology
- ✦ vs. Malthus/Darwin: survival, scarcity, struggle
- ✦ Advocacy of 'natural' economy, self-regulatory balance of land and labor (capital as peripheral)

## *II) Seeing (un)like an Academic Program: How (Not) to Mentor Graduate Students for Planning and Design Professions [2007]*

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- ❖ Theories of Informal, Implicit Knowledge
  - ❖ (Scott 1999, *Seeing Like a State:...*; Cortes 2000)
  - ❖ *Metis* vs. administrative legibility/simplification
  - ❖ Mary Douglas, *How Institutions Think*
- ❖ Empirical Studies of Mentoring Practice
  - ❖ Informal, Interactive Mentoring (Bernier et al.)
  - ❖ Academic Orientation (Hardwick, Jones, Sundli)
  - ❖ *New Planning* Faculty (E. Hamin, et al.)

**CONNECTED**

INTERNATIONAL CONFERENCE ON DESIGN EDUCATION SYDNEY 2007

# *II) Research on Sustainability and Interdisciplinarity: Australia 2007*



**Tim Flannery:**

**Australian Paleozoologist,  
Naturalist, Environmental  
Historian, Science Writer**

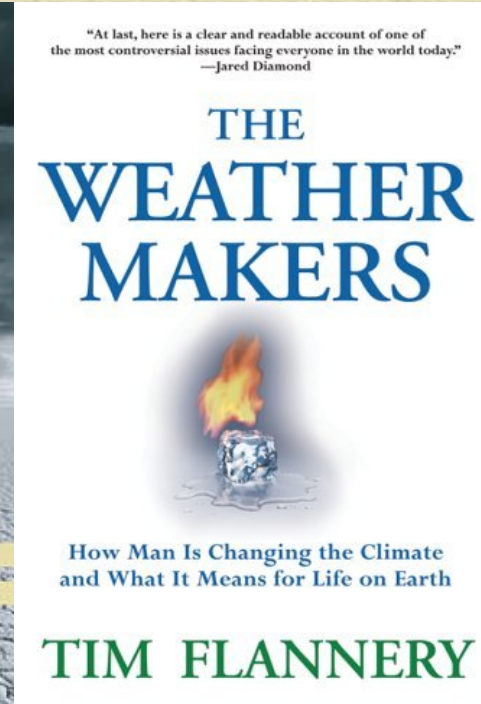
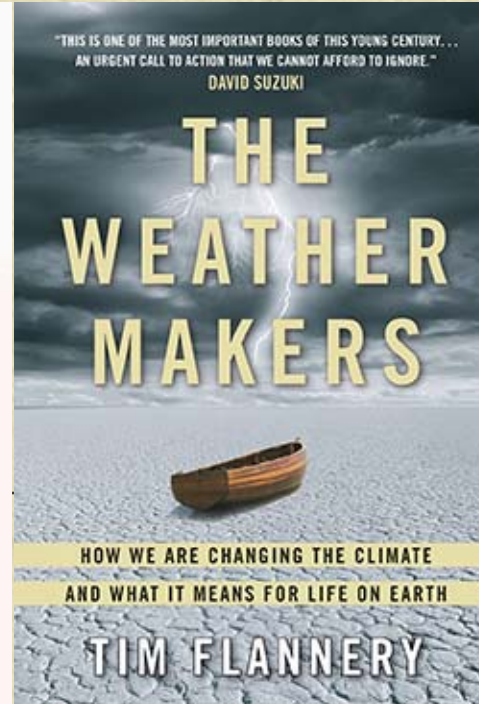
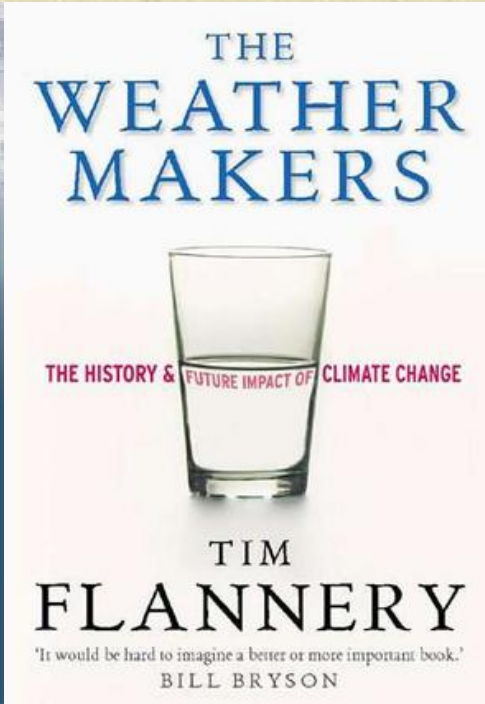
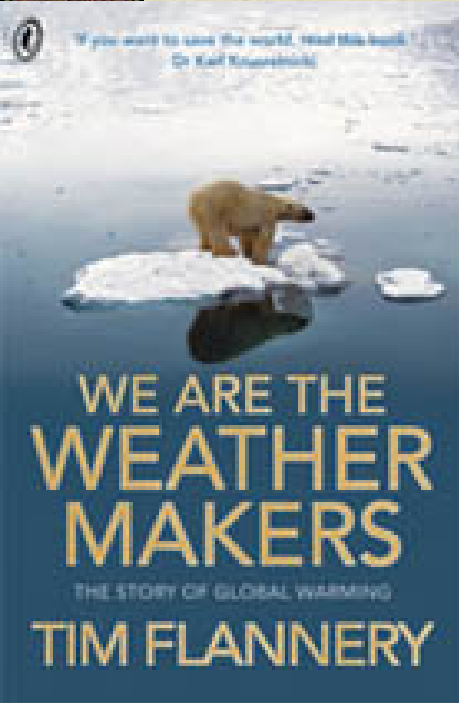
**Public Intellectual:**

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**Mix of Stephen Jay Gould,  
Bill McKibben, Bill Bryson  
& Jared Diamond**

**Advocate for Sustainable  
Response to Climate Change**

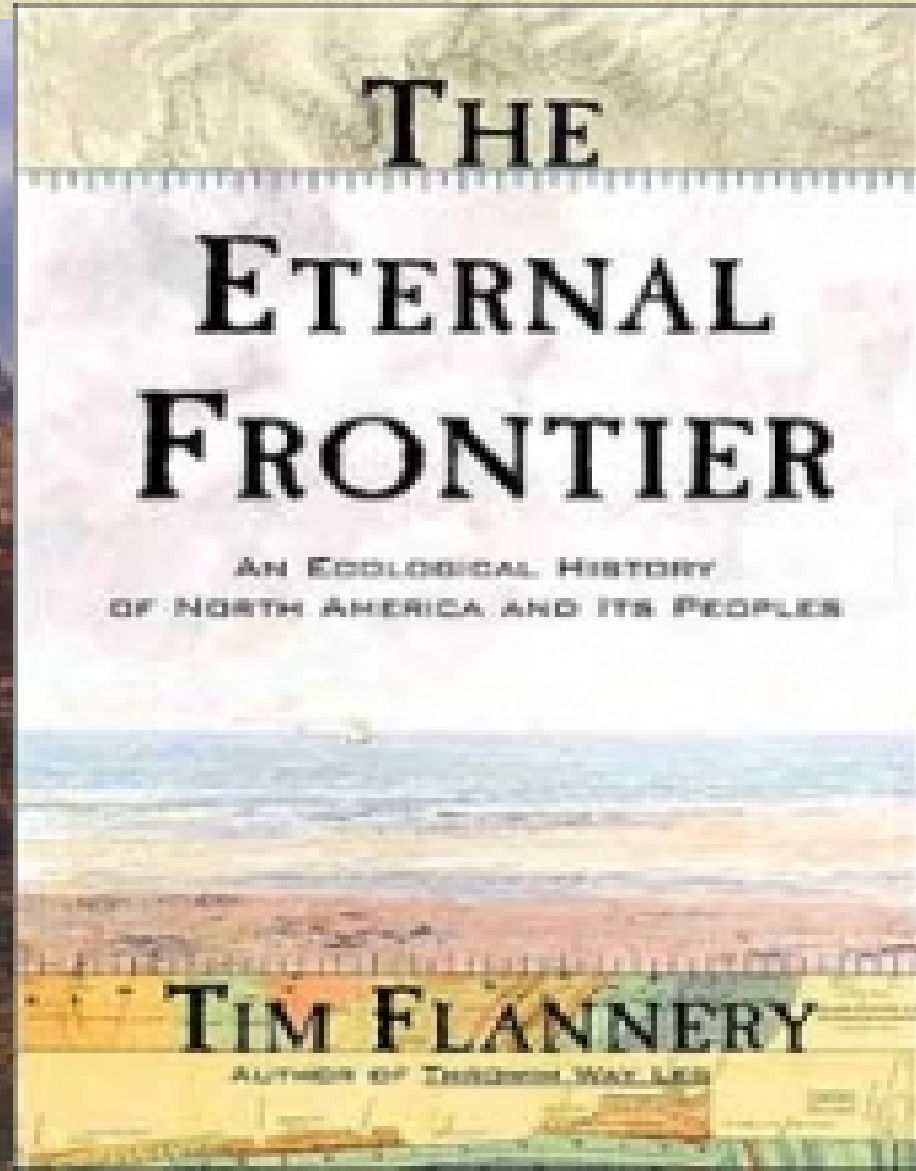
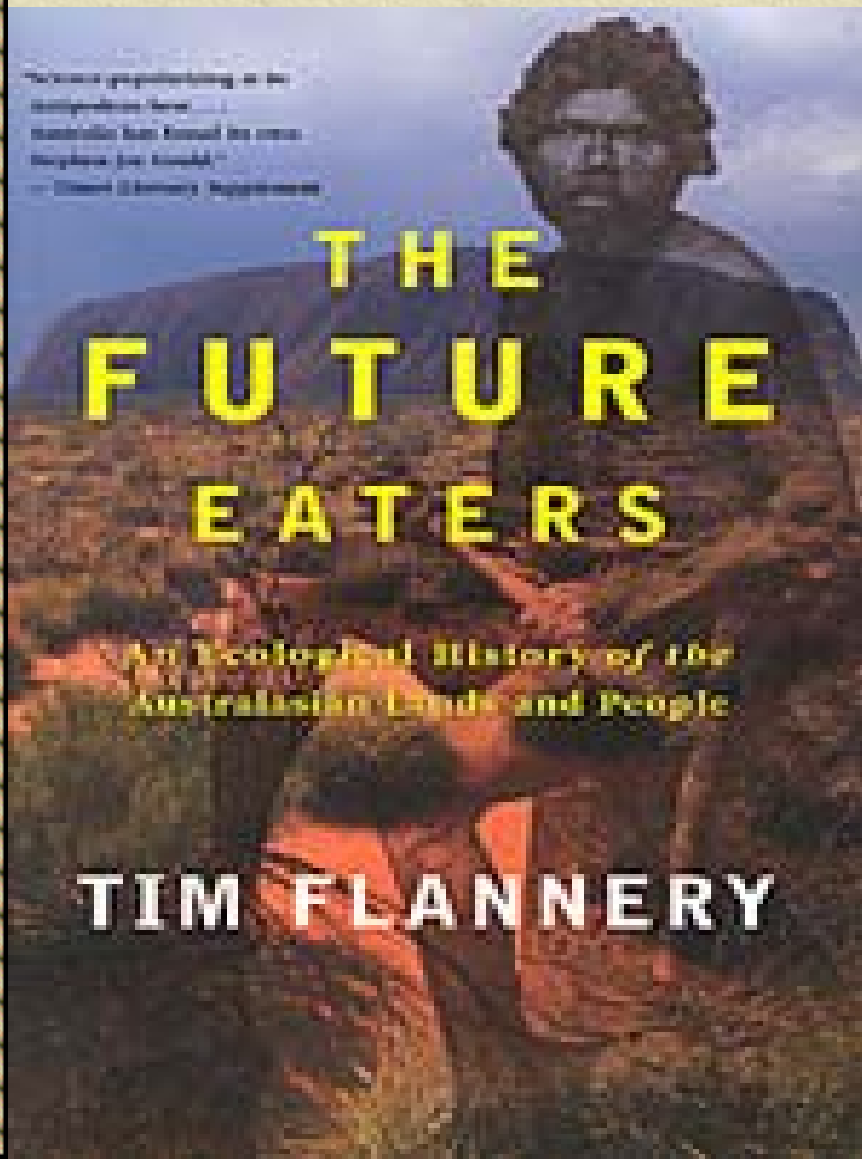
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**Australian Man of the Year  
2007**

# II) Sea Change, Tree Change, Degree Change: Anthropogenic Climate



- 'Magic Gate' Tipping Points/Feedback Loops
- Scenario 1: Retrogression of the Gulf Stream
- Scenario 2: Collapse of the Amazon Rainforest
- Scenario 3: Permafrost/Seafloor Carbon Release

## *II) Sea Change, Tree Change, Degree Change: Anthropogenic Ecology*



# II) UPenn HSS Down Under: Univ. of Sydney, NSW, Australia, 2007

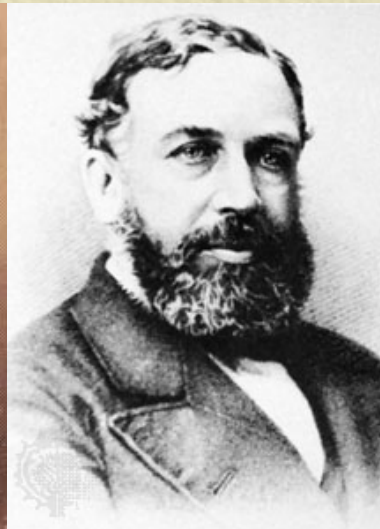
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Warwick Anderson,  
University of Sydney HPS



Hans Pols,  
University of Sydney HPS



Research on William Stanley Jevons:  
mid-19th c. Sydney City Survey;  
Technology and Resources Inventory;  
Marginal Utility/Equilibrium Economics

[www.powerhousemuseum.com/exhibitions/jevons.asp](http://www.powerhousemuseum.com/exhibitions/jevons.asp)

[www.britannica.com/eb/art-12087/William-Stanl...](http://www.britannica.com/eb/art-12087/William-Stanl...)

## II) *Sex in the City: Social Research, Urban Technological Change, and New Forms of Intimate Life in the Interwar Period* [2008]

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✦ Paper presented to the Five-College History Colloquium, Amherst, MA, February 14, 2008

◆ <http://www.umass.edu/history/5chs/>

✦ Background: erotechnics & civilization

◆ Patrick Geddes, Lewis Mumford [*bio/eco*]

✦ Focus: Urban Sociology; sex & modernity

◆ Ernest Burgess

◆ Ernest R. Groves

◆ W. F. Ogburn

◆ Howard F. Odum, etc.

✦ Related: C. E.-A. Winslow, J. B. S. Haldane, etc.

### *III) Robust Reflexivity through Representation of 'Regions'*

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- ✦ Series of images to follow are representations of spatial relationships modeling regional ecology, economy, integration (technological as well as social) in the field of LARP history
- ✦ Presented here reflexively to indicate similar models for representation of intellectual and institutional relationships among inter-disciplinary fields within 'regions' of inquiry
- ✦ Centers and peripheries: e.g., concentric ring 'succession', nucleic 'forces', orbital 'gravity', network 'geometry', system 'hierarchy', etc.

# *Social Network Integration and Differentiation*

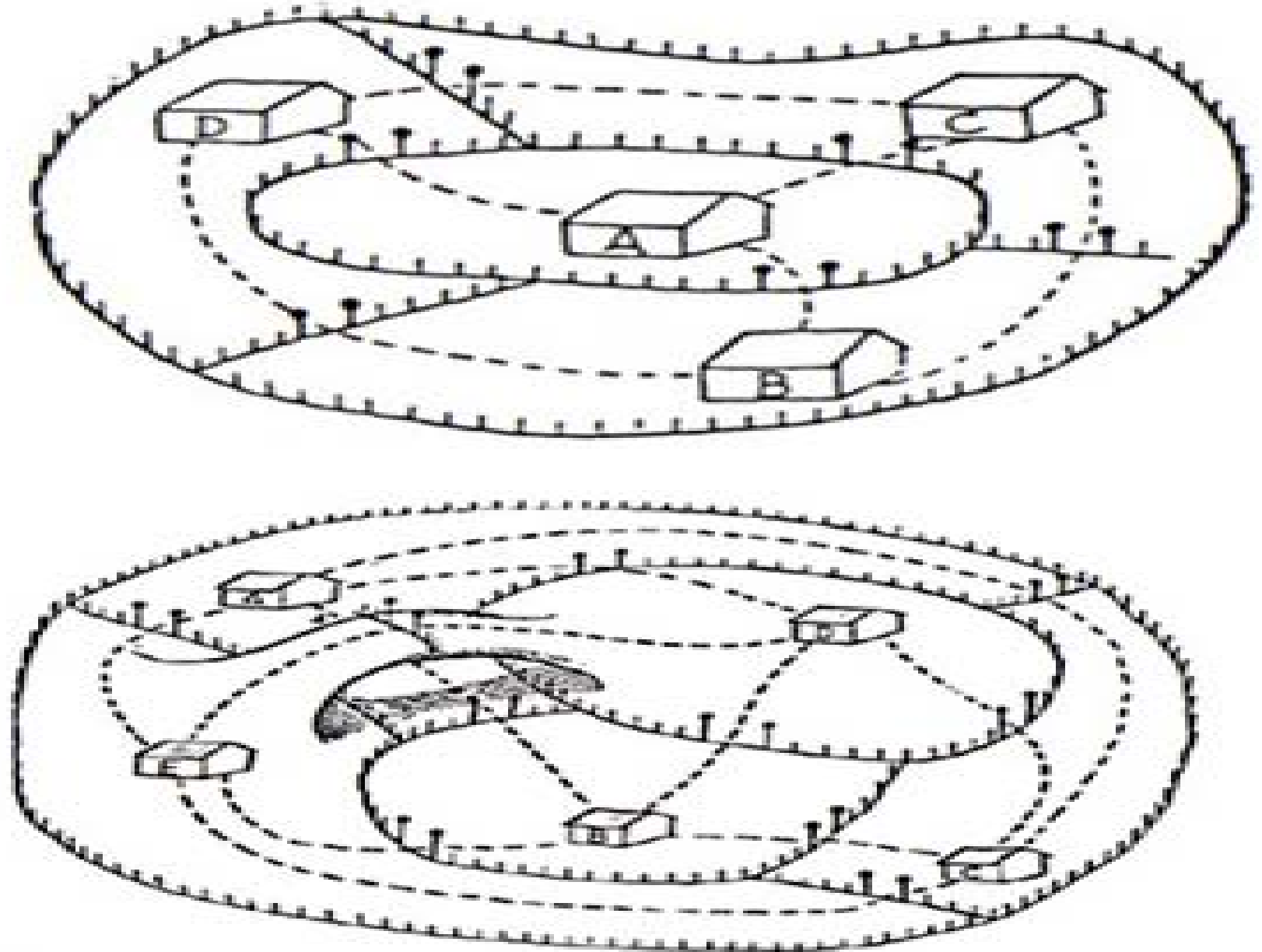
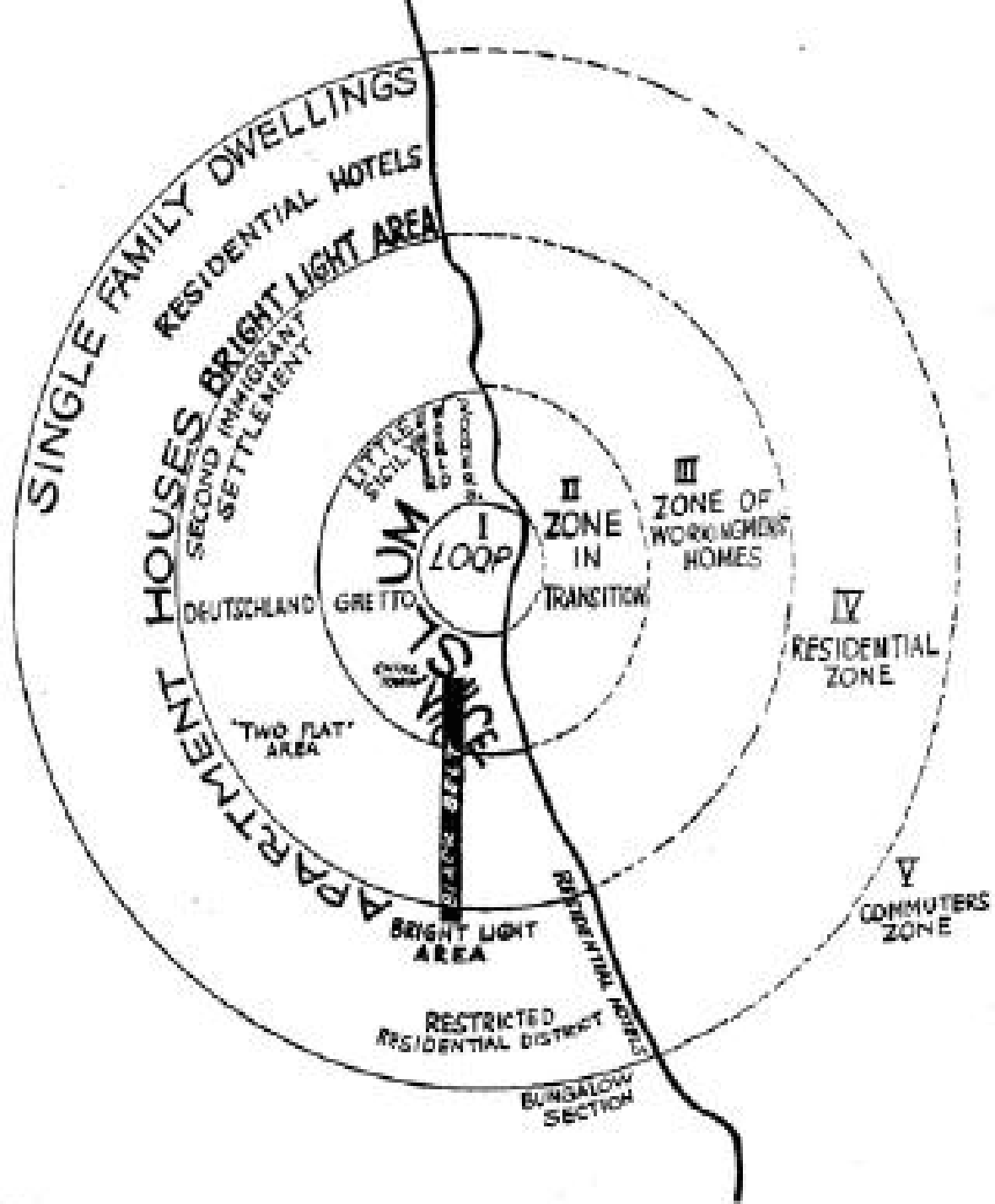
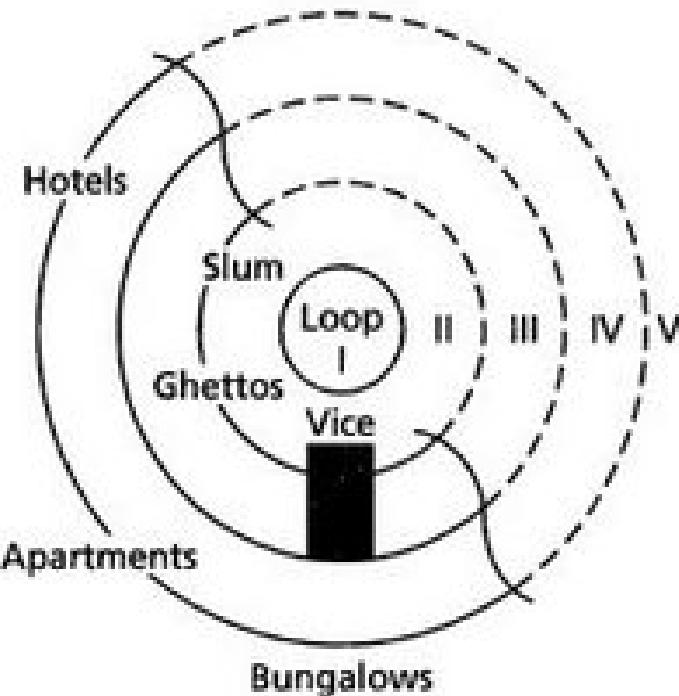
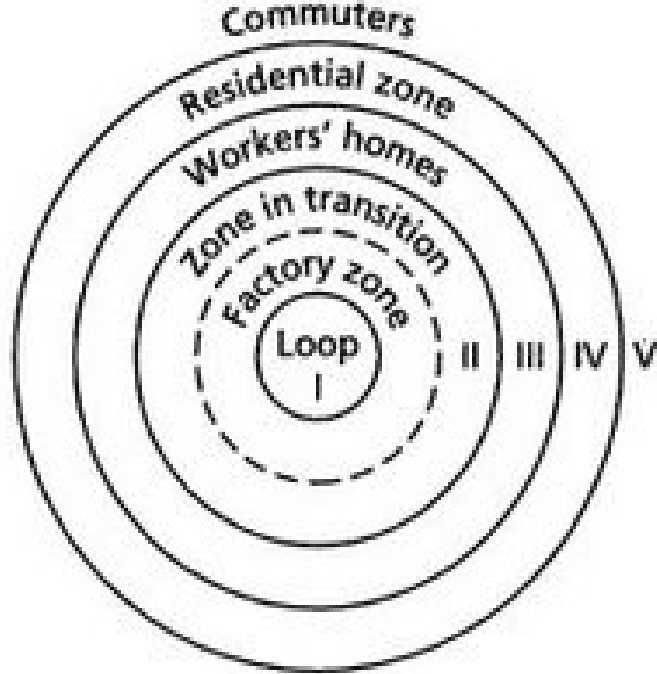


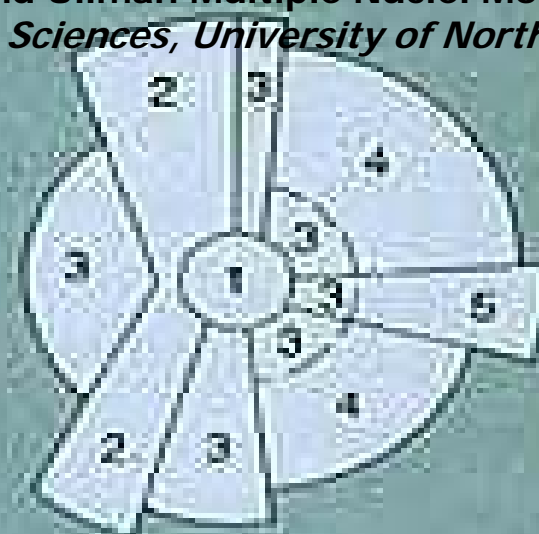
figure 9



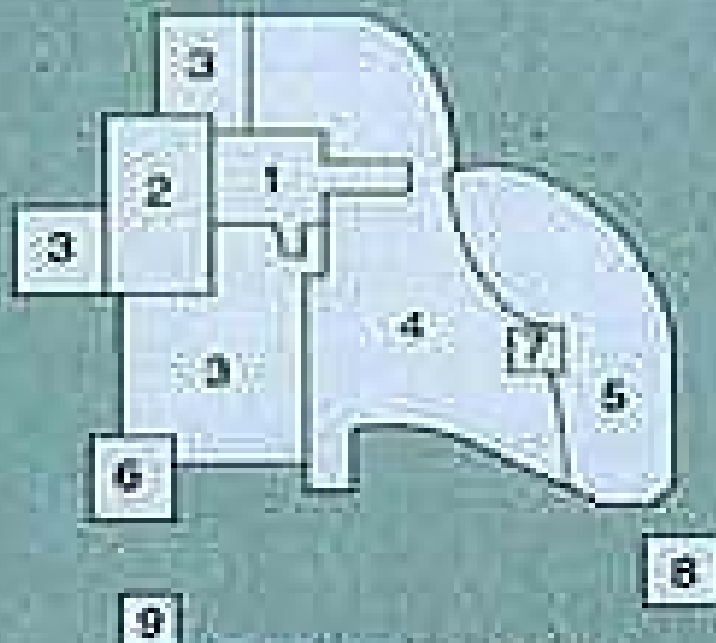
Three Generalizations of Urban Structure: Upper Left: Burgess' Concentric Zone Model; Upper Right: Hoyt's Sector Model; Bottom Left: Harris and Ullman Multiple Nuclei Model. Graphic repared by Department of Geography and Earth Sciences, University of North Carolina at Charlotte.



**CONCENTRIC ZONE THEORY**



**SECTOR THEORY**

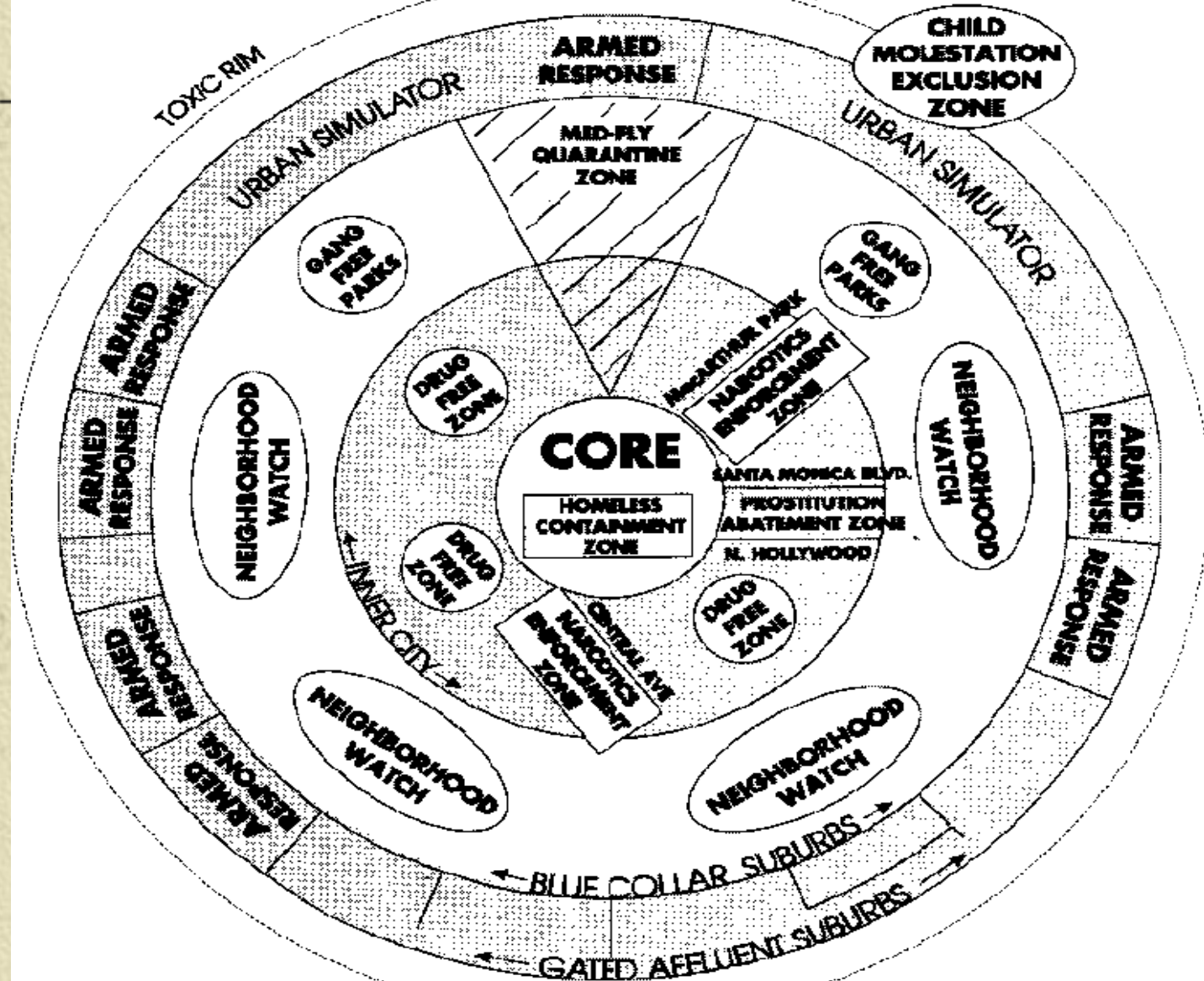


**MULTIPLE NUCLEI**

**DISTRICT**

- 1 Central Business District
- 2 Wholesale/Light Manufacturing
- 3 Low-Class Residential
- 4 Medium-Class Residential
- 5 High-Class Residential
- 6 Heavy Manufacturing
- 7 Outlying Business District
- 8 Residential Suburb
- 9 Industrial Suburb
- 10 Commuter Zone

# Mike Davis, *Ecology of Fear: LA and the Imagination of Disaster*



# The Plan

WHITES LIVE IN CITIES.

THE CROWNING GLORY OF CIVILIZATION.



MINORITIES MOVE INTO CITIES.

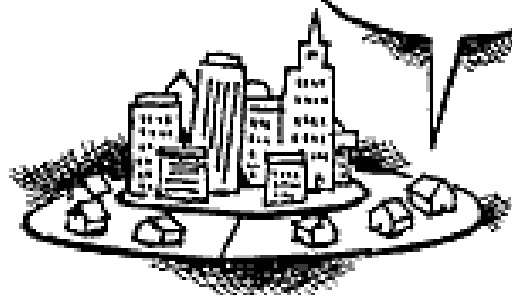
HELLO

GOODBYE



WHITES FLEE CITIES TO SUBURBS.

AH, THIS IS BETTER.



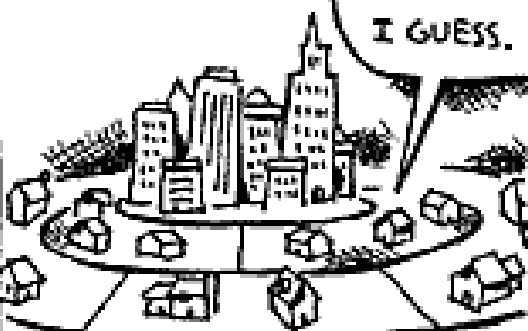
WHITES MOVE INTO SECOND-RING SUBURBS.

CITIES ARE DEAD. THIS IS BETTER STILL.



MINORITIES MOVE INTO FIRST-RING SUBURBS.

THIS IS BETTER, I GUESS.



WHITES MOVE BACK INTO CITIES.

IT WORKED.

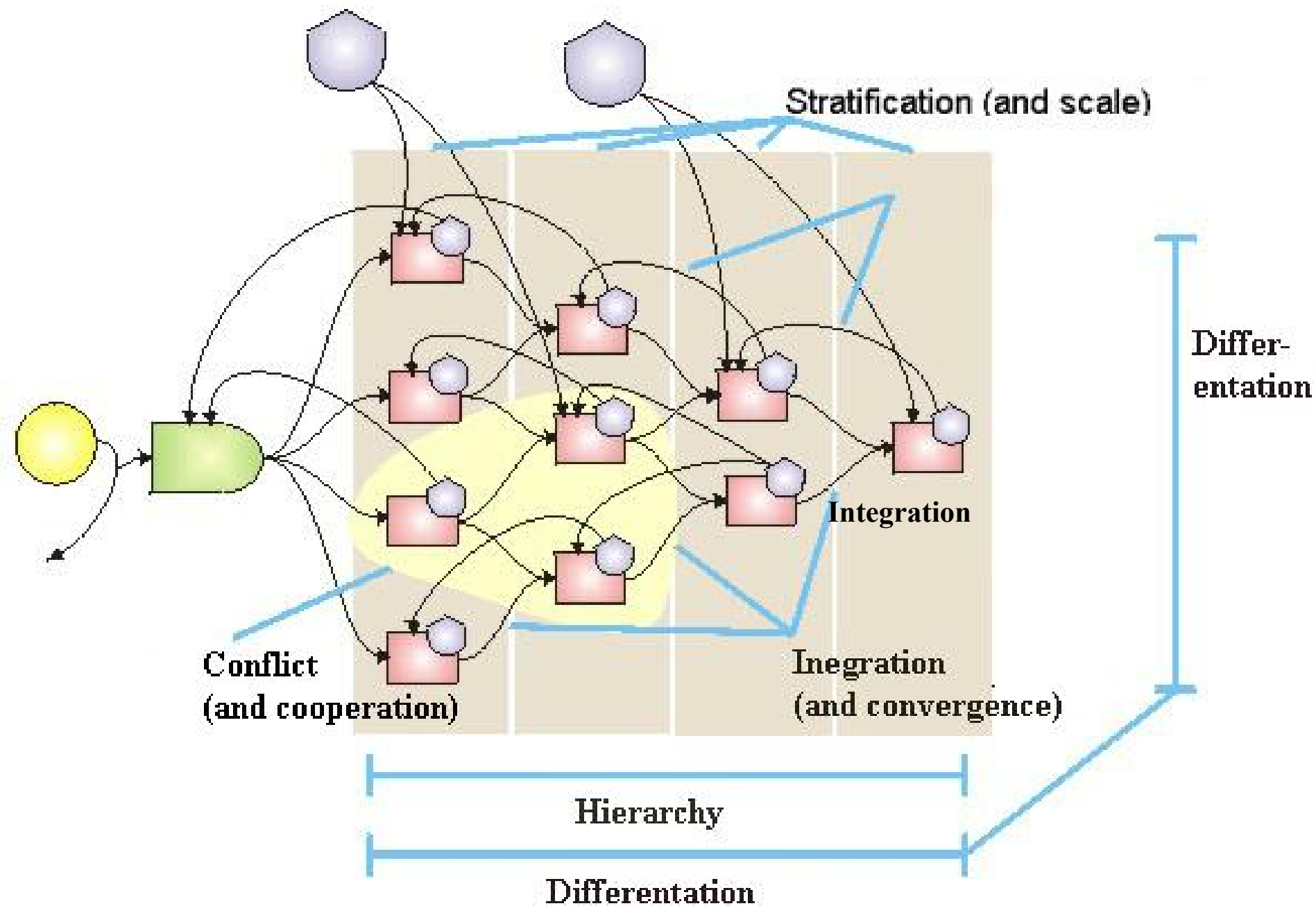


TOLES

UNIVERSAL PICTURES  
COPPER FOR US NEWS & WORLD REPORT

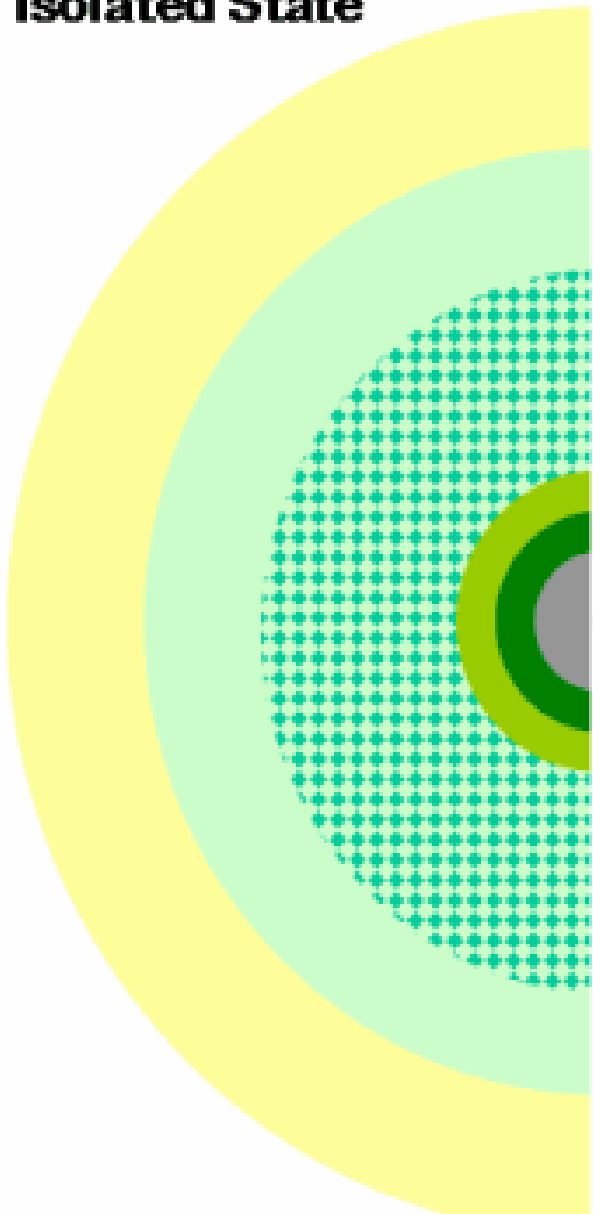
THE VAST  
WHITE RING  
CONSPIRACY

# Info/Entropy Model of Social-Ecological Systems

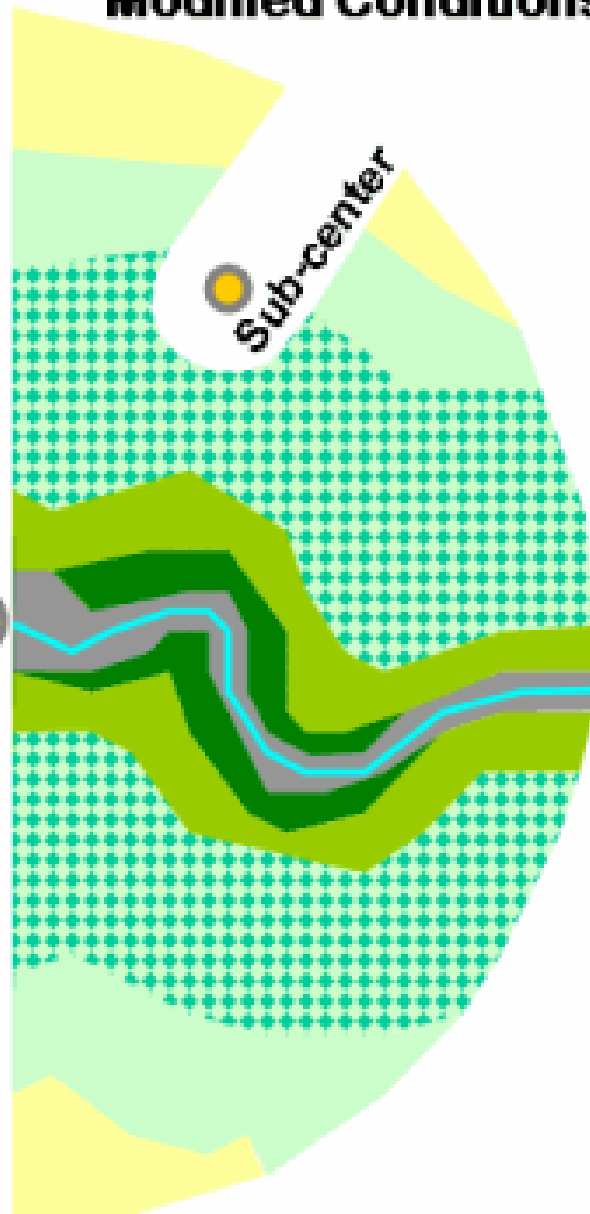


# Von Thunen's Isolated State: Zones of Land Rent

**Isolated State**

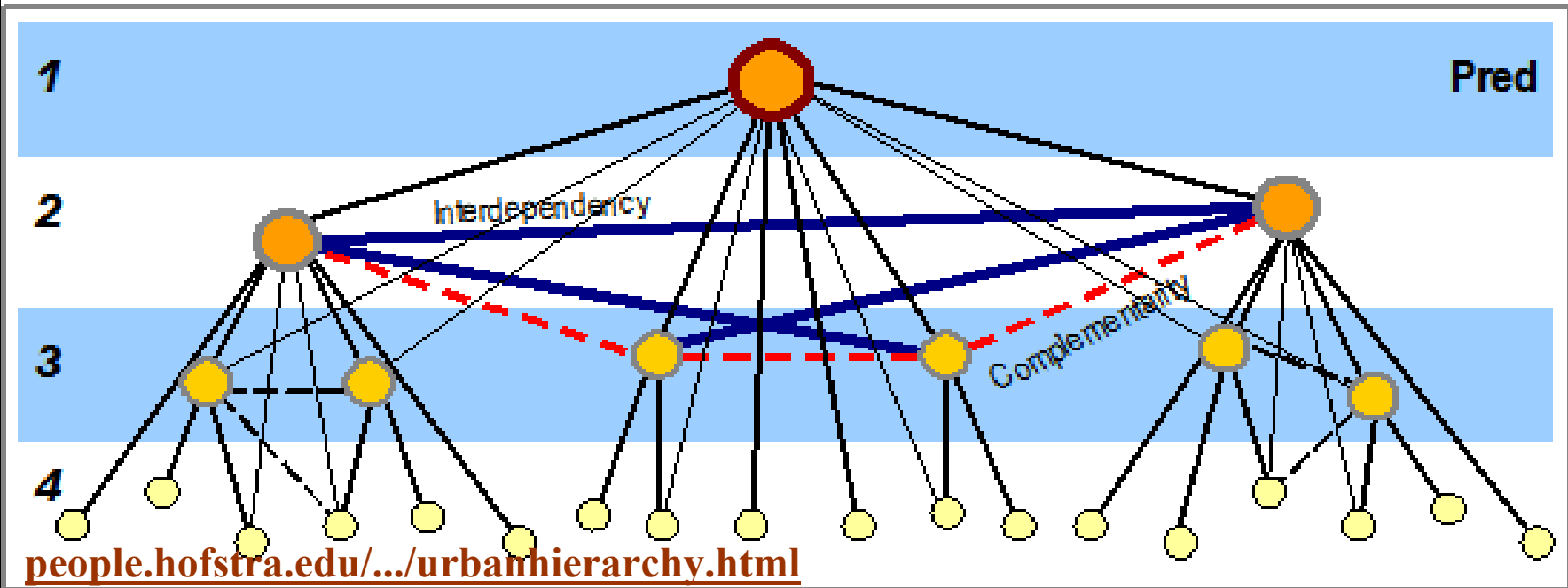
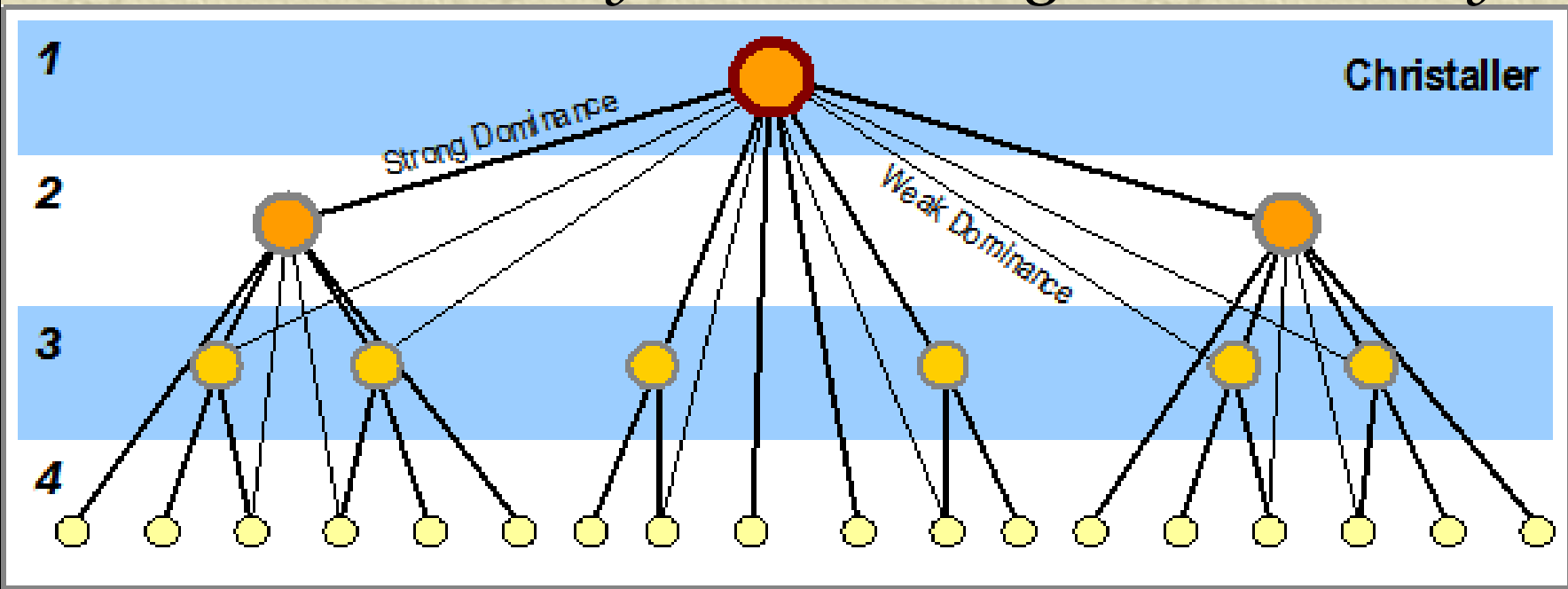


**Modified Conditions**



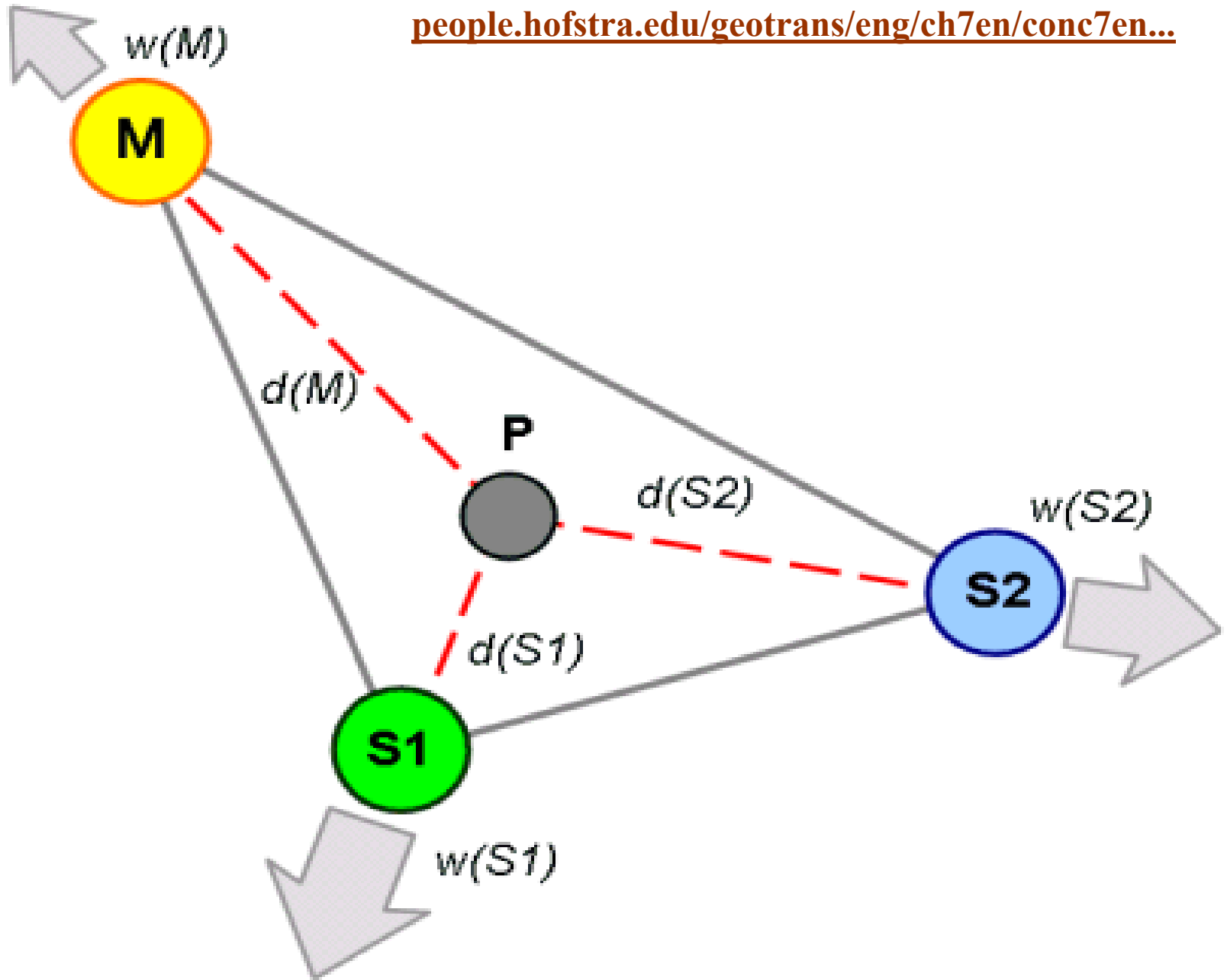
-  Central city
-  Navigable river
-  Market gardening and milk production
-  Firewood and lumber production
-  Crop farming without fallow
-  Crop farming, fallow and pasture
-  Three-field system
-  Livestock farming

# Central Place Theory Model: Hexagonal Geometry



# A. Weber, Location Theory: Force Vector Balance

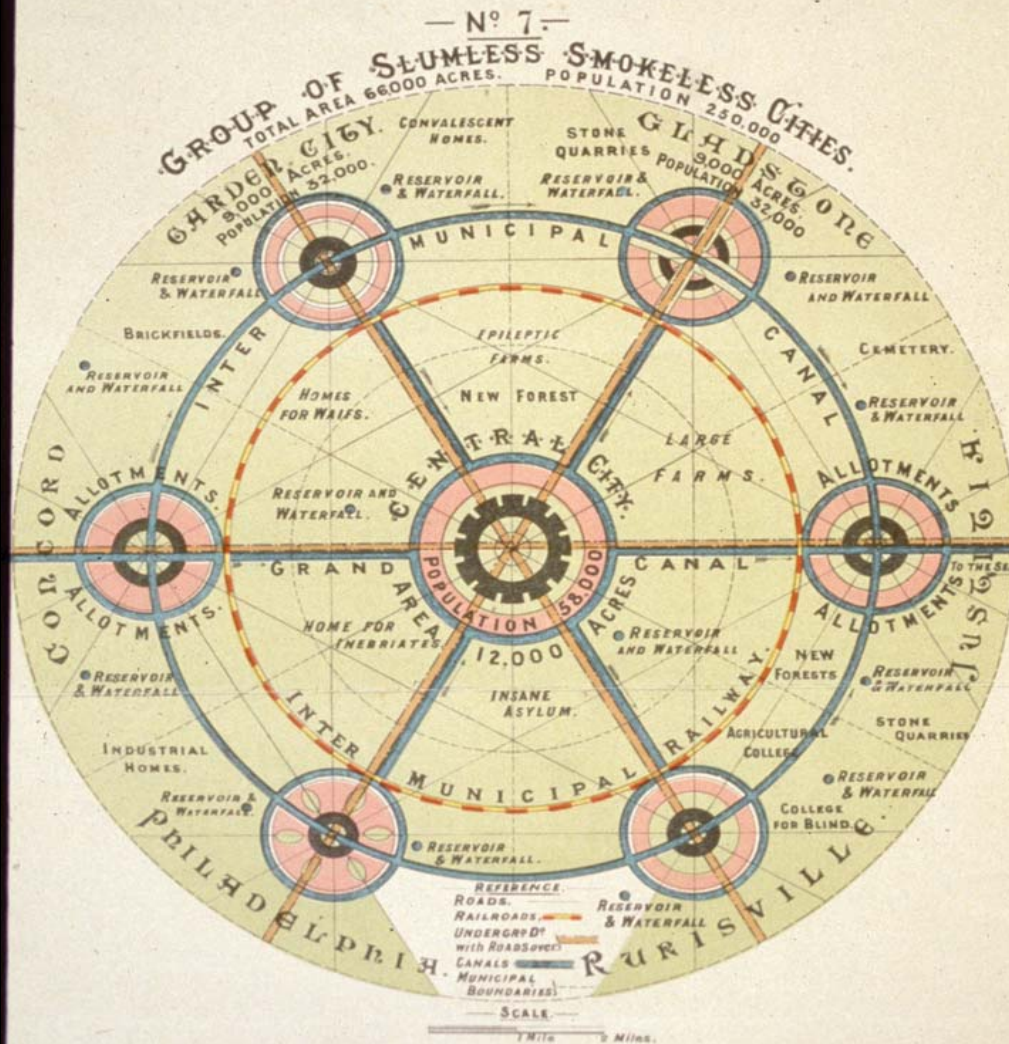
[people.hofstra.edu/geotrans/eng/ch7en/conc7en...](http://people.hofstra.edu/geotrans/eng/ch7en/conc7en...)







# Howard's Garden City Regional Network



- Radial, orbital pattern; polynucleic system

- Hexagonal geometry

- Influential re: Geddes, Mumford, RPAA

- Consonant with land rent, economic location theories

# Garden City → EPCOT/Celebration?

Excerpted from the pages of "Punch" Christmas Number, 1919.

## Yesterday



*Living and Working in the Smoke*

## To-day



*Living in the Suburbs - Working in the Smoke*

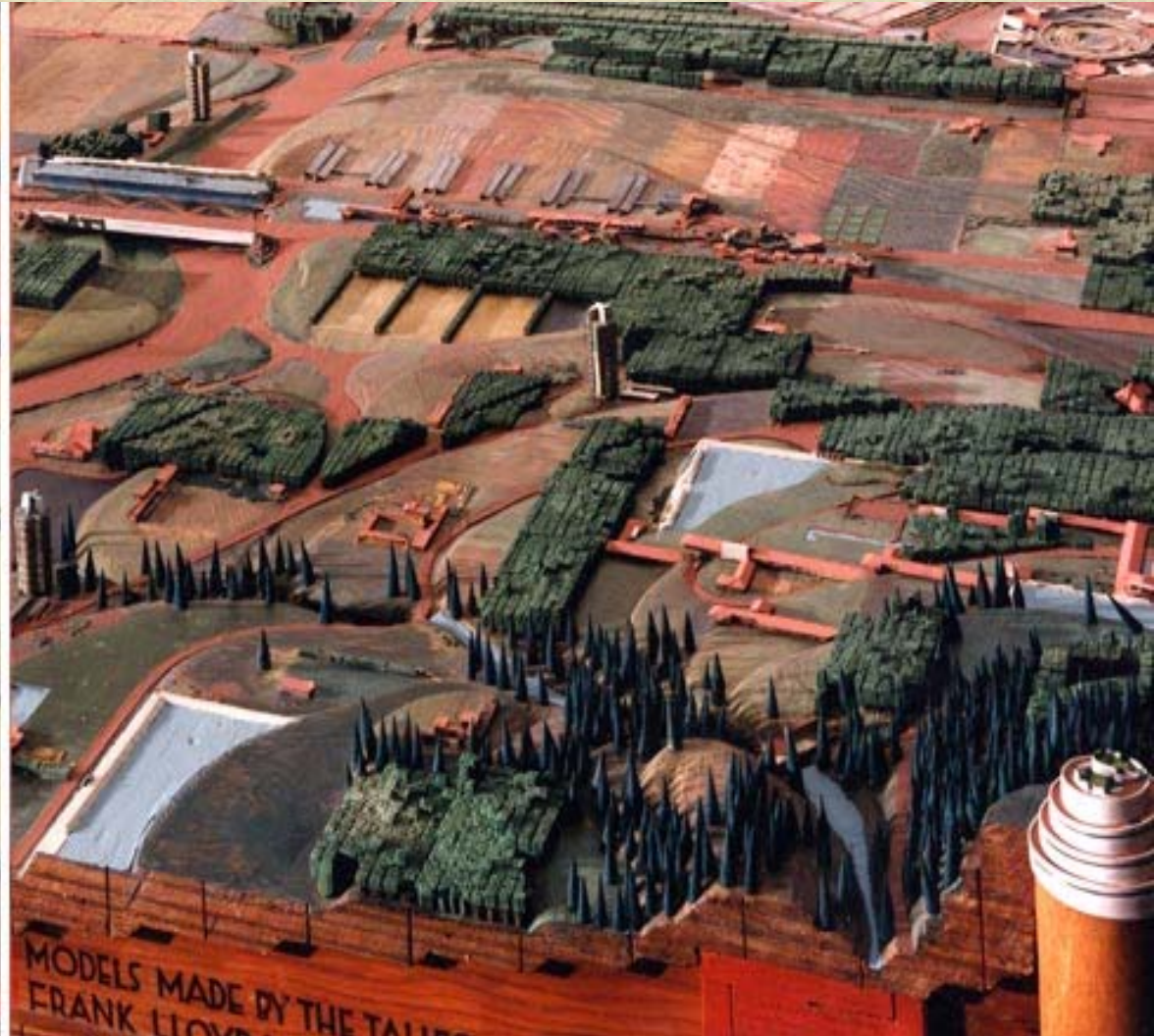
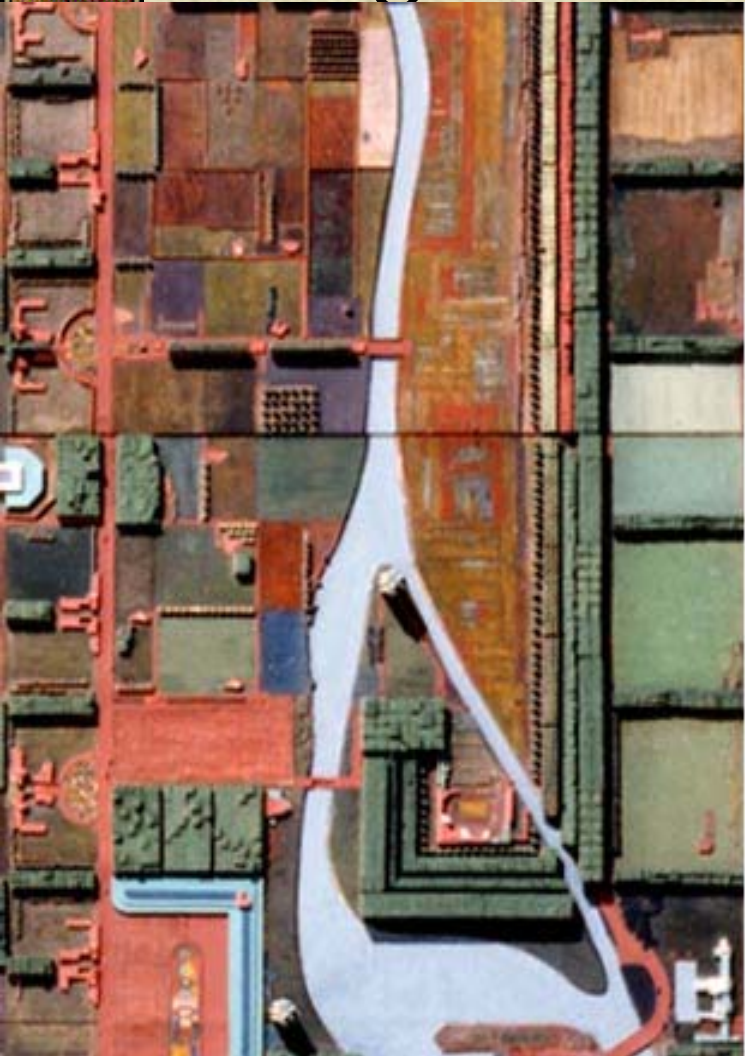
## To-morrow



*Living & Working in the Sun at WELWYN GARDEN CITY*

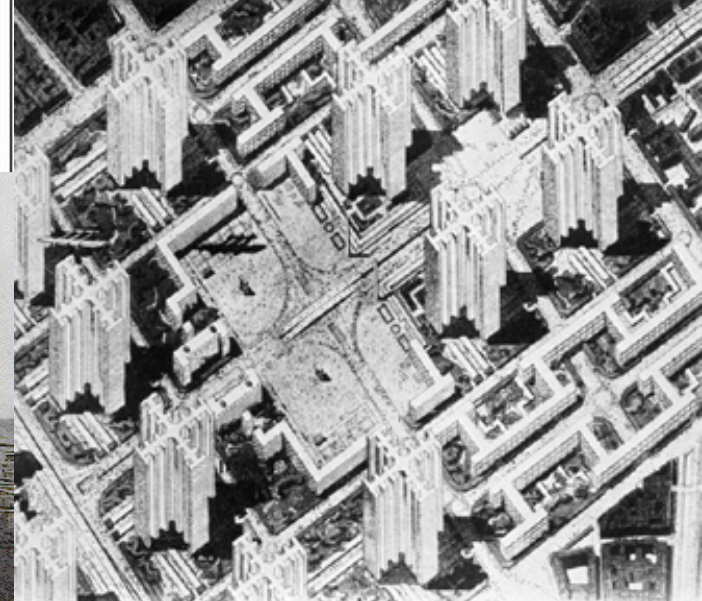
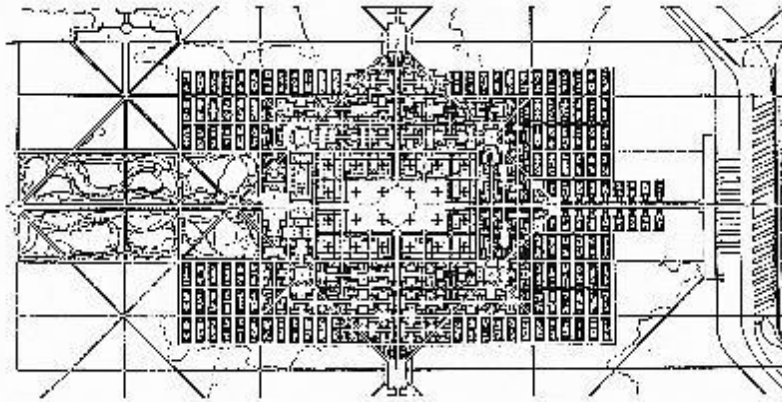


# *Frank Lloyd Wright, Broadacre City: US agrarian ideal; decentralization*



Model made by FLW/Taliesin for MoMA  
<http://www.architecturalartsLtd.com/imgs/broadacre.jpg>

# *Le Corbusier, Plan Voisin: Modernist symmetry, centralization, verticality*



# Transect based on Geddes' Regional 'Valley Section'

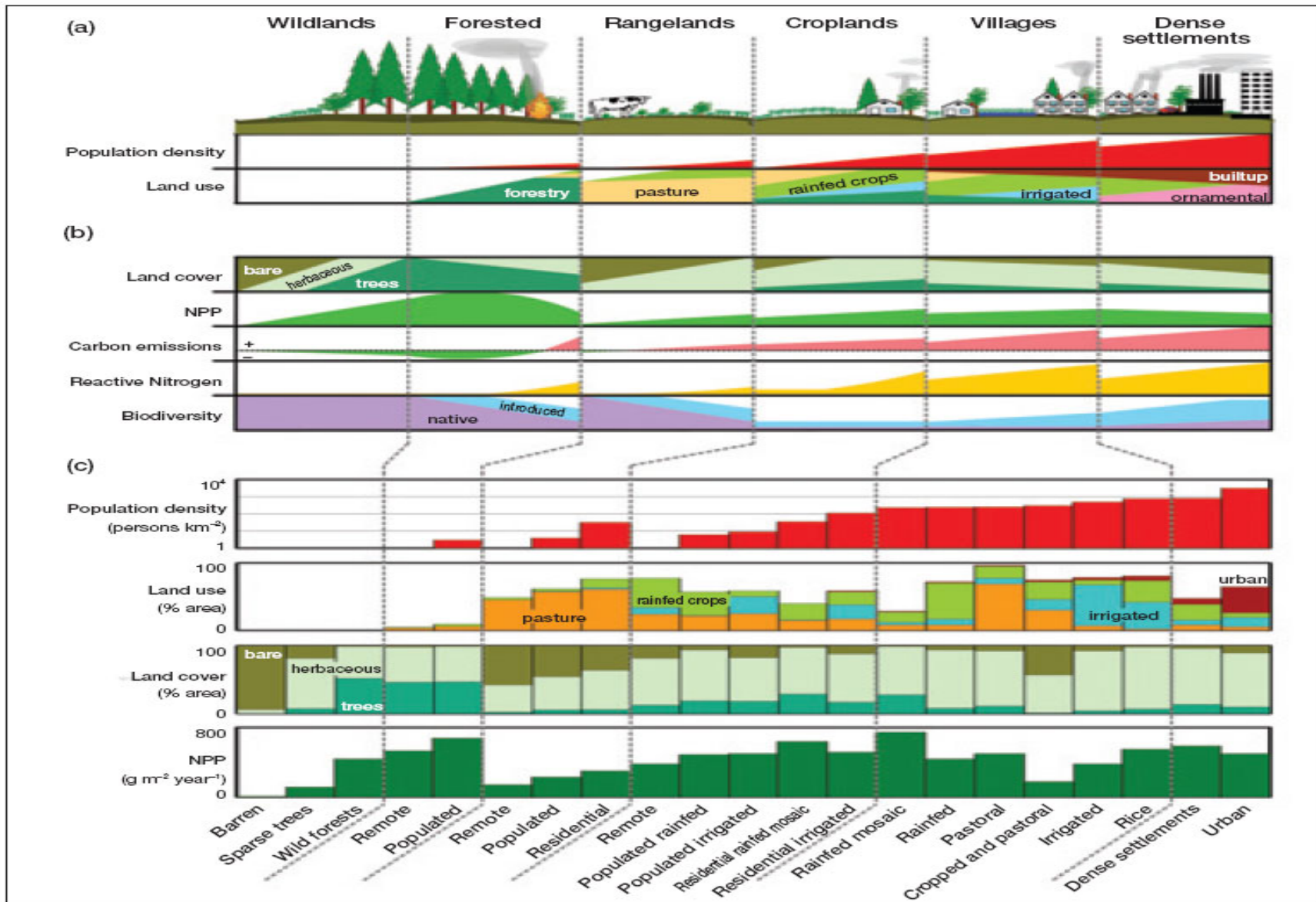


Figure 3: Conceptual model of anthropogenic biomes compared with data from Ellis, Erle C. and Navin Ramankutty, "Putting people in the map: anthropogenic biomes of the world." *Frontiers in Ecology and the Environment*, 2008; 6, doi: 10.1890/070062

# New Urbanist Transect Zones: Influenced by Geddes

RURAL

URBAN





## *IV) Conclusion: LARP Questions relevant to academic & professional practice in HSS*

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- ✦ How to balance contending interests & values?
  - ◆ clients, stakeholders, constituencies, etc.
  - ◆ ecological, economic, social, technological
- ✦ How to complement expertise & participation?
  - ◆ specialized knowledge ↔ local experience
- ✦ How to identify, define, promote public good?
  - ◆ analysis & assessment of programs/policies
- ✦ What is needed to foster an equitable process?
- ✦ What is the relationship betw. facts & values?