SPRAWL AND THE CITY

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Classification

- "Sprawl plus city"?
- Or "sprawl against city"?
- Different stakeholders create different urban "types"
- We need to understand the possible city "types" so that we can discuss their combinations and opposition

Eight abstract city types

- Eight abstract "types" of cities
- Each is conceived from a distinct design method and philosophy
- The actual city results from interactions among the eight different types
- Some types help one another, while others cancel and destroy each other

The eight city types

- **Nourishing-physical**
- **Fractal**
- **Network**
- **Spontaneous self-built**
- **Virtual**
- **Developer**
- **Anti-network**
- **Inhuman**

Classification of eight city types

Fractal

Nourishing-physical

Anti-network

Spontaneous self-built

Network

Virtual

Inhuman

Developer
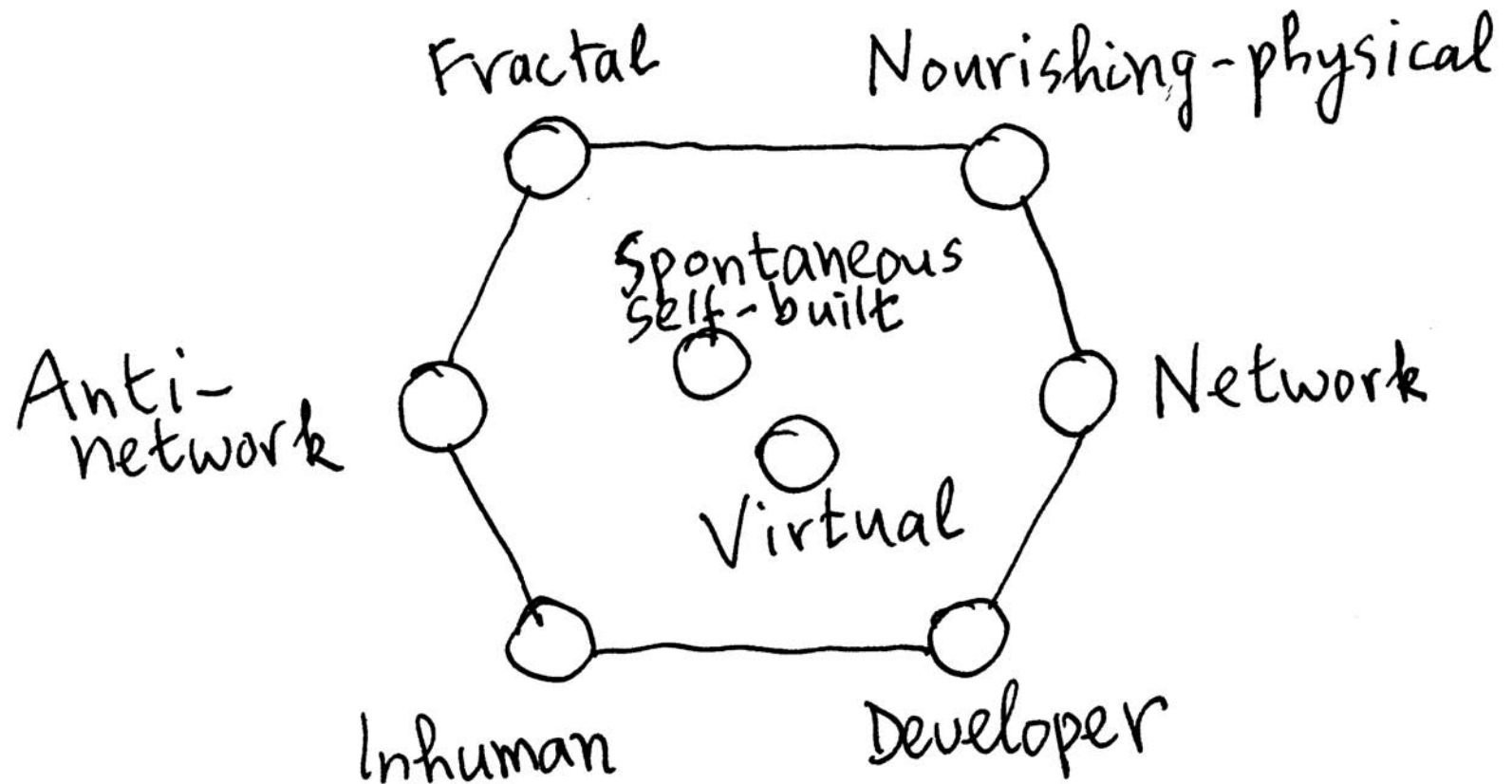
Descriptions of city types

- Cities were originally created by people extending their own biology onto the built environment
- Yet power builds to make a profit, independently of people's needs
- Technology impacts the city's shape
- Money imposes forms on the city

The *Nourishing-physical city*

- Human beings respond viscerally to forms, colors, surfaces, and spaces
- A traditional city maximizes healing responses and a sense of wellbeing
- Urban spaces connected to flows, they were welcoming, and cradled pedestrian human life

Biophilia and the *Nourishing-physical city*
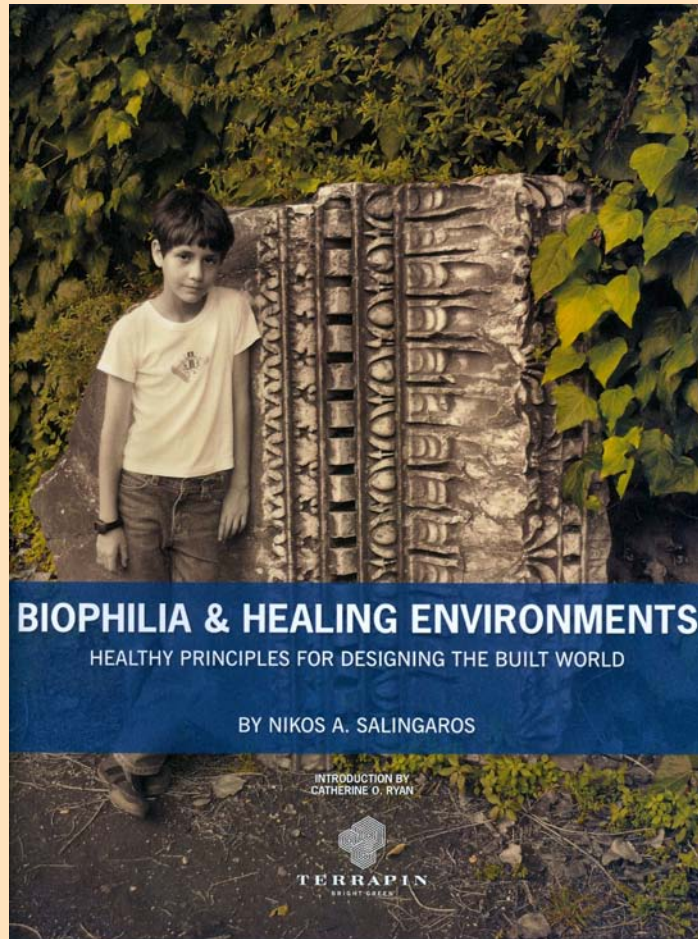
- *Biophilia and Healing Environments* — available as a free pdf download

The *Fractal city*

- A "fractal" shows complex structure at every scale of magnification
- Living cities are fractal because mechanisms exist and work on every level: 1 cm to 10 km
- Not only in the spatial, but also the temporal dimensions: a city works on 1 sec to 10 years
- Spatial and temporal fractality mimic natural and biological structures and rhythms

Fractality of city structure
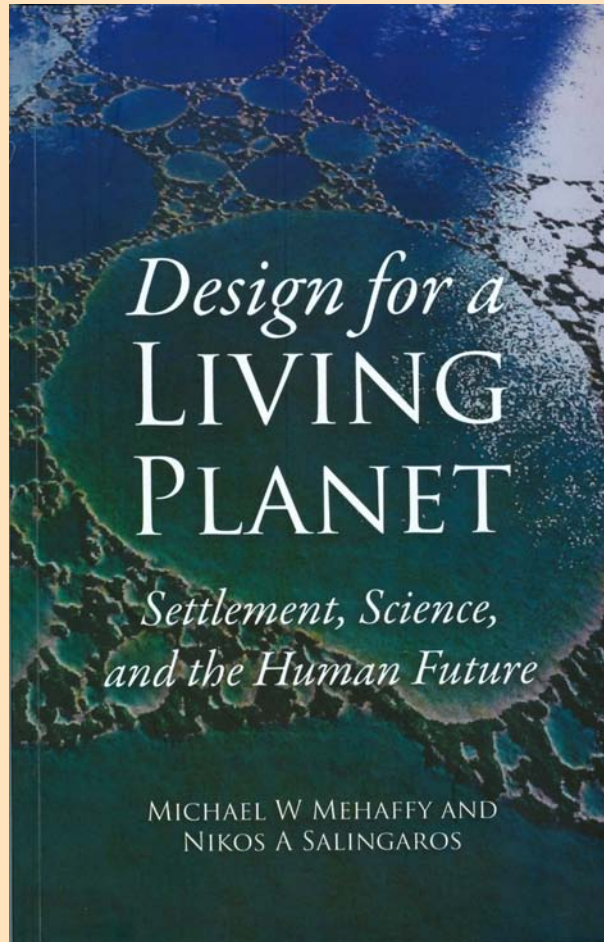
- Individual chapters published free online in *MetropolisMag.com*

The *Network city*

- The city is a connecting mechanism
- Life is defined by networks, not buildings
- Many overlapping networks of flows
- Each network has different strength, capacity, and its own infrastructure
- Ideally, the weaker flow is protected at nodes where distinct networks cross

The *Network City*
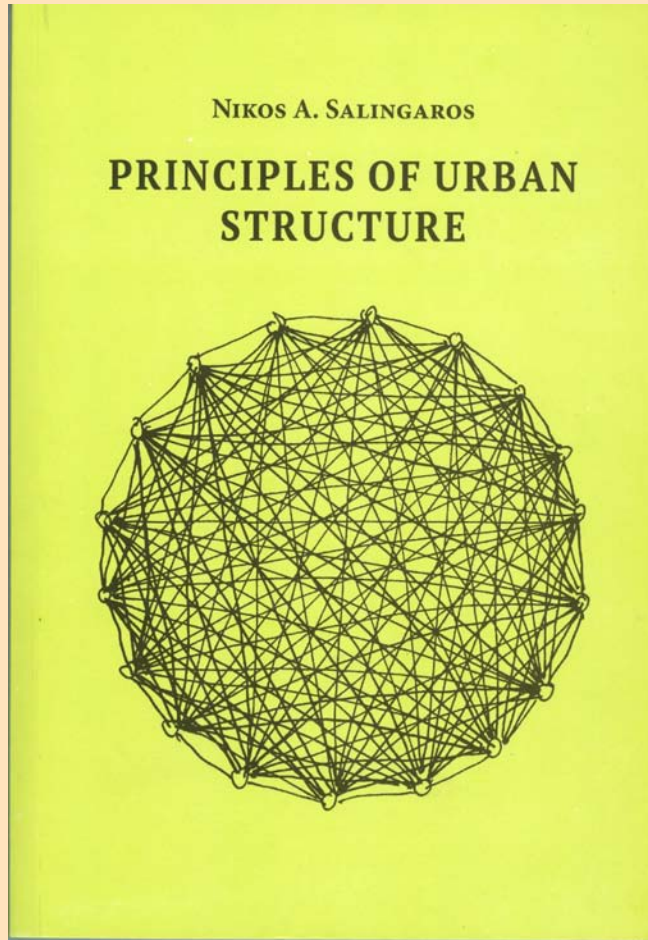
- Chapter 1: "Theory of the Urban Web"
- Chapter 6: "Connecting the Fractal City"
- Chapters available free on the web

The *Developer city*

- Economic engine for industry
- Building on speculation, not need, makes enormous profits through marketing
- Destroy and replace, instead of repair
- Short-term turnover of vast amounts of money can destroy a city
- Find some star architect to sell a useless and extremely expensive project

The *Anti-network city*

- People need to physically connect to nodes
- Work, school, retail, administration, church
- The *Anti-network city* situates those nodes outside the range of pedestrian movement
- To work, the *Anti-network city* consumes enormous amounts of fossil fuel
- Planning laws written under pressure from automobile and petroleum companies

The *Spontaneous self-built city*

- 1 billion out of 4 billion city-dwellers
- Spontaneous forms mimic biological growth
- A single family builds its own dwelling
- Poor people use available and scrap materials
- No infrastructure, minimal access, poor connectivity, no transverse large-scale roads
- No land ownership, illegal settlement

The *Virtual city*

- Information and communications technologies enable global connectivity
- A person can live anywhere, yet is still able to connect to the world
- *But life is detached from urban geometry*
- Does not validate living environments such as sprawl and high-rises on the periphery!

The actual city we live in

- Different mix of city types creates a visible recognizable morphology in different neighborhoods
- Distinct interactions have drastically opposite consequences for city life
- Even a tiny portion of pathological city type can kill a living city

Interactions among city types

- Some combinations enhance each other
- Others will instead cancel each other
- Some combinations generate a living city
- Others will define a sick city
- This is not an aesthetic judgment — *a sick city wastes enormous energy to run, spoils people's everyday life, and is worst for children*

Opposite city types annihilate
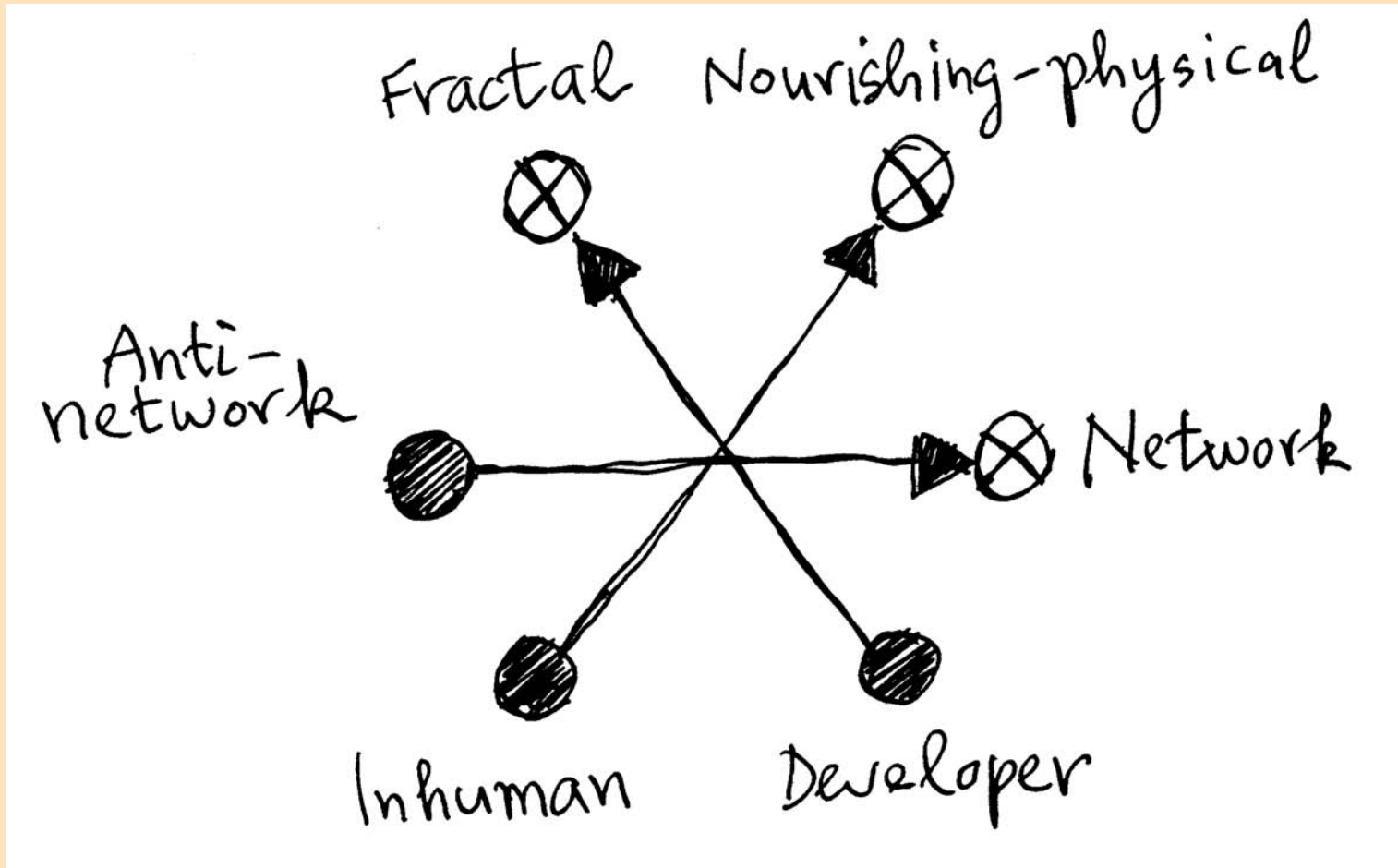
Problems with the *Developer city*

- Anything major only gets built by either government or private developers
- Review board is supposed to approve
- Most often, developers do what they want
- Society has poor conception of what makes a "living city"
- Power applies pathologies to make money
- Architectural culture favors those

Insist on the human scales!

- Architectural elements and urban furniture on 1 cm to 2 m = *size of body parts*
- Built urban elements on 2 m to 10 m = *reach of body movements*
- In sprawl, urban fabric is not on the human scale
- Yet European cities have transformed downtowns to balance *protected* pedestrian regions with car traffic

Bad: The *Developer city* implements pathological city types
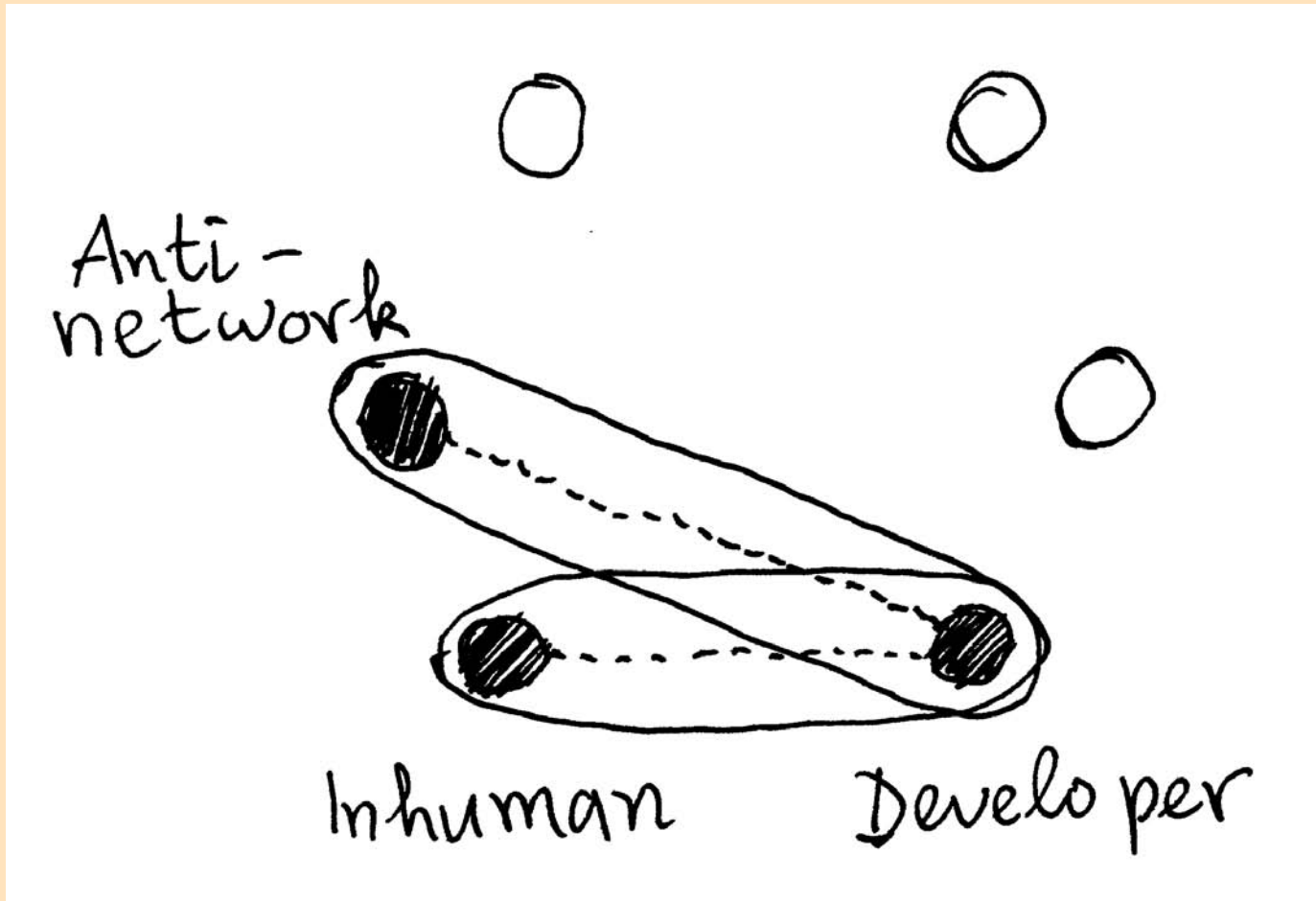
Pathological city types

- *Anti-network city*
- City of monofunctional zoning
- Prevents the smaller network scales
- Promotes only the automobile network
- The *Anti-network city* turns over all connections to the automobile

Death of pedestrian connectivity

- This was the original hidden commercial purpose behind monofunctional zoning
- Introduced by Le Corbusier working for the auto manufacturer Gabriel Voisin
- Adopted by US car manufacturers, who bought and then dismantled the tramways
- Mother of all sprawl

The *Network city* feeds plazas
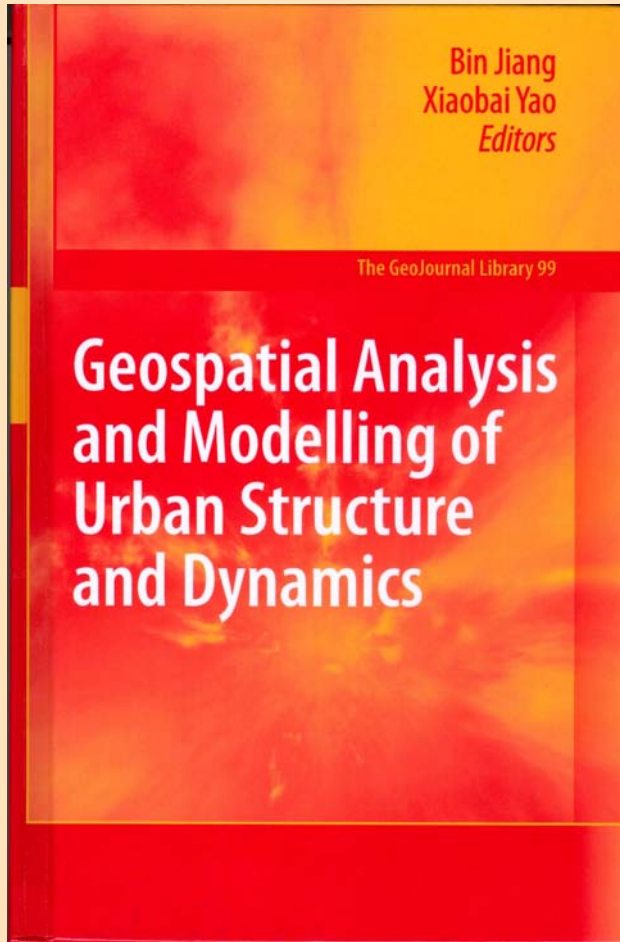
- My chapter with Sergio Porta and Pietro Pagliardini: "Geospatial Analysis and Living Urban Geometry" — early version available free online

Loss of freedom

- A citizen has fundamental right to choose from alternative modes of transportation
- Car-only city violates a basic freedom
- Sure, back in 1920, this restriction was promoted as a "liberation"
- But nowadays, it reduces quality of life, limits business, and wastes tremendous amounts of energy

Extractive global economy

- Industry pushes towards the largest scale
- Larger projects have biggest corruption
- Creates the same unsustainable and non-connected sprawl all over the world
- Promoted using public relations images
- Governments go along with this model for maximum control and profits
- Disastrous on the long term

Architectural effects on the city

- All the cars from urban sprawl try to get into the compact city, but cannot

- Forced solution: give city over to parking

- But that removes qualities from the built environment that people come to see

- The difference between well-loved cities and contemporary sprawl is due to their internal connectivity
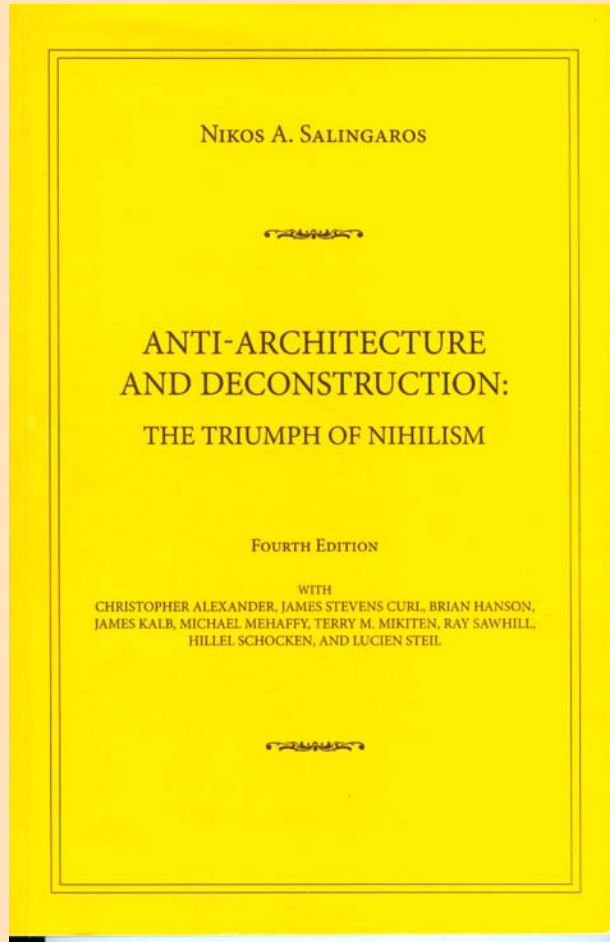
Bad city types add
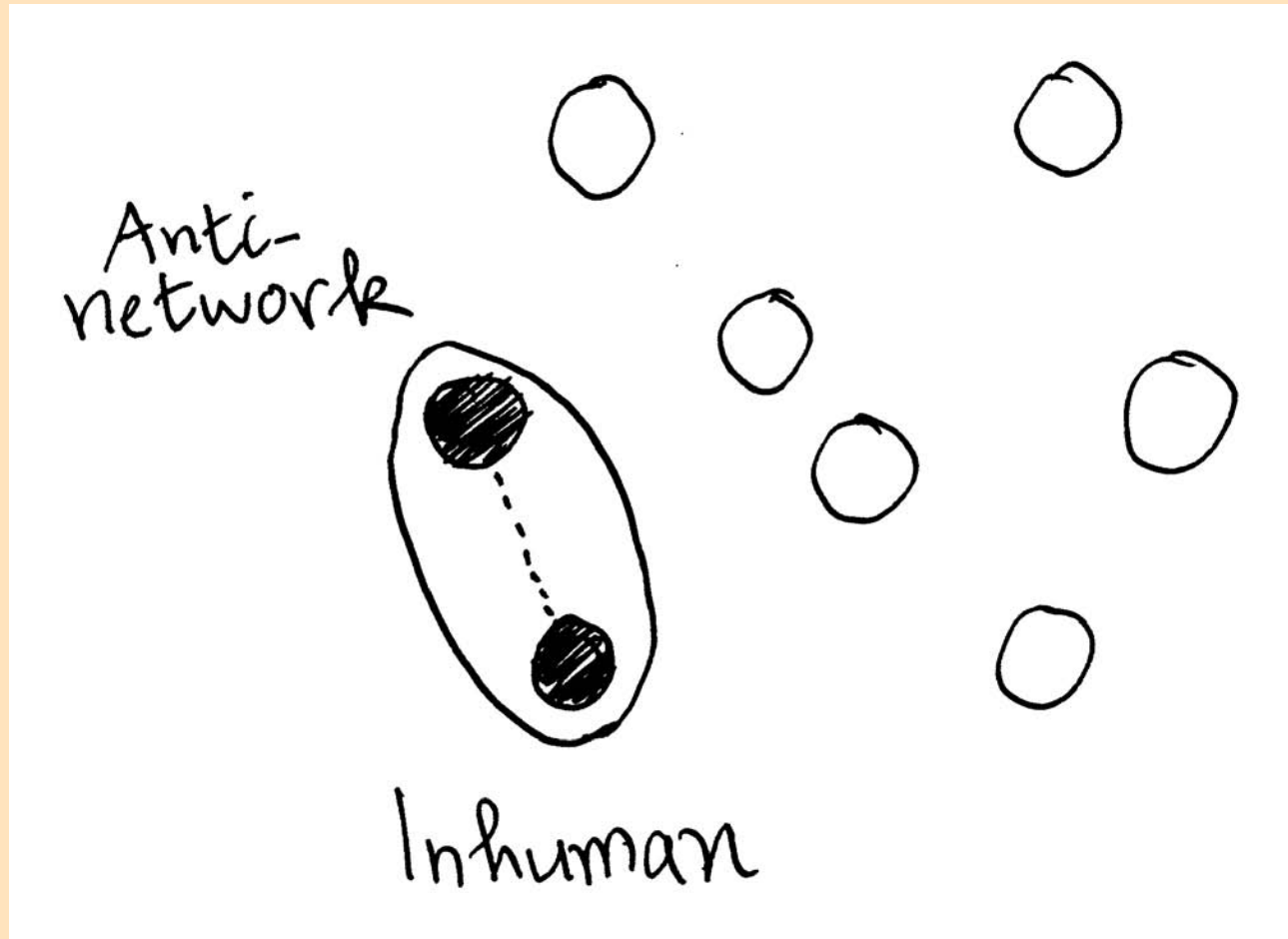
No place for children

- Most harmful effects occur on children
- Cannot connect to life or society
- Develop in an inhuman environment
- Prisoners in their apartment or house
- A nightmare world created by ignorant, narrow-minded adults
- The children's realm is sacrificed to money, power, and resistance to change

Design against human feelings

Nikos A. Salingaros

ANTI-ARCHITECTURE AND DECONSTRUCTION:

THE TRIUMPH OF NIHILISM

FOURTH EDITION

WITH
CHRISTOPHER ALEXANDER, JAMES STEVENS CURL, BRIAN HANSON,
JAMES KALB, MICHAEL MEHAFFY, TERRY M. MIKITEN, RAY SAWHILL,
HILLEL SCHOCKEN, AND LUCIEN STEIL

- Two historical stages:
- 1. The modernist movement
- 2. The deconstructivist movement
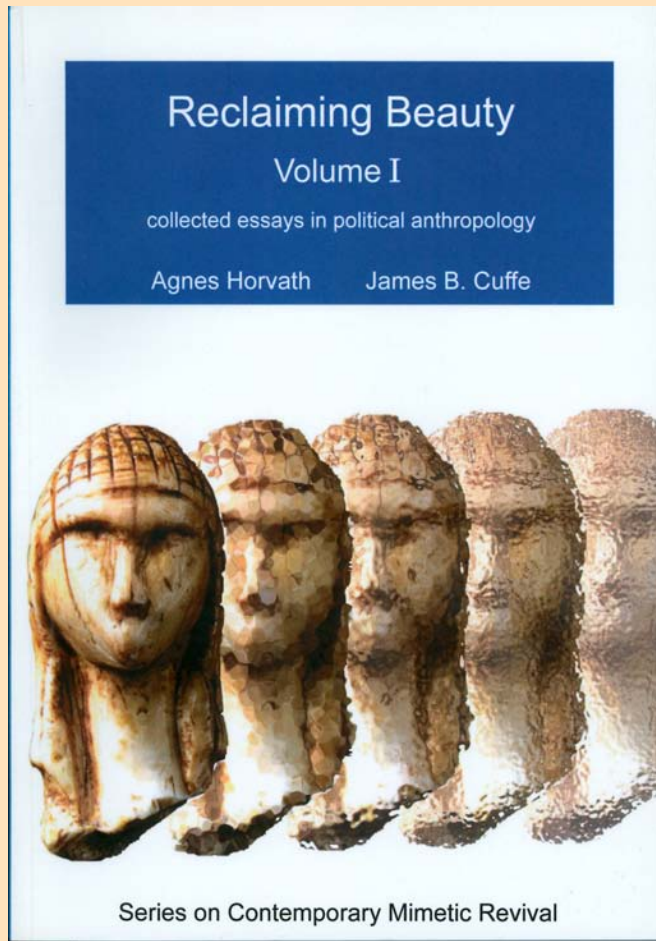
Four healthy city types

- *Nourishing-physical city*
- *Network city*
- *Fractal city*
- *Spontaneous self-built city*
- City types link strongly to natural and biological structure, and are better for us
- These city types strongly link to each other

Adding healthy city types
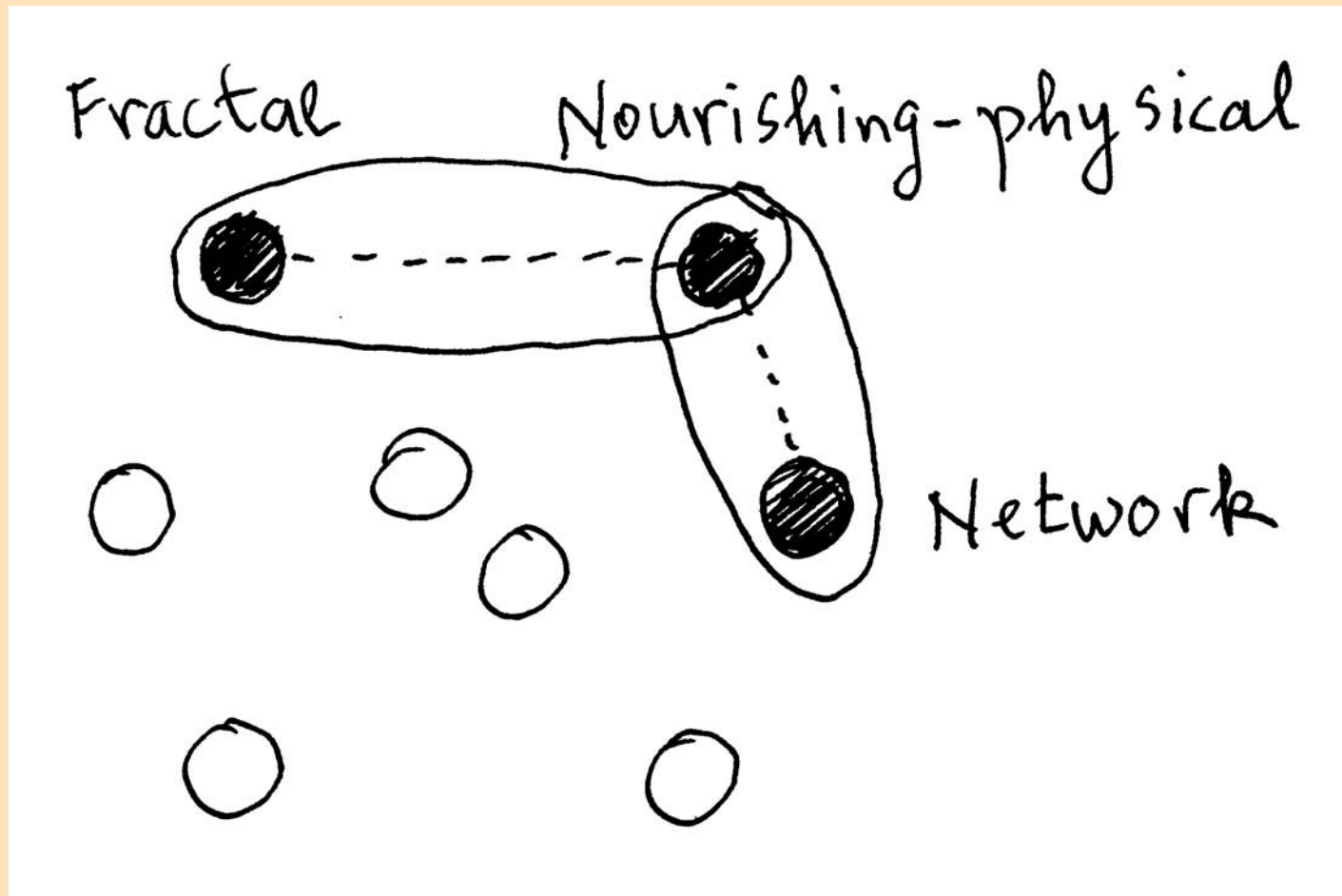
How city geometry cradles life

- My chapter: "Beauty, Life and the Geometry of the Environment" — early version free online

Increased tax base

- Downtown and local node densification increase the tax base

- Downtown can be easily rebuilt, because there is usually open brownfield space (not parks) and derelict buildings

- Increase walkability

- Can add nicely to the *Nourishing-physical, Fractal,* and *Network cities* to help with flow
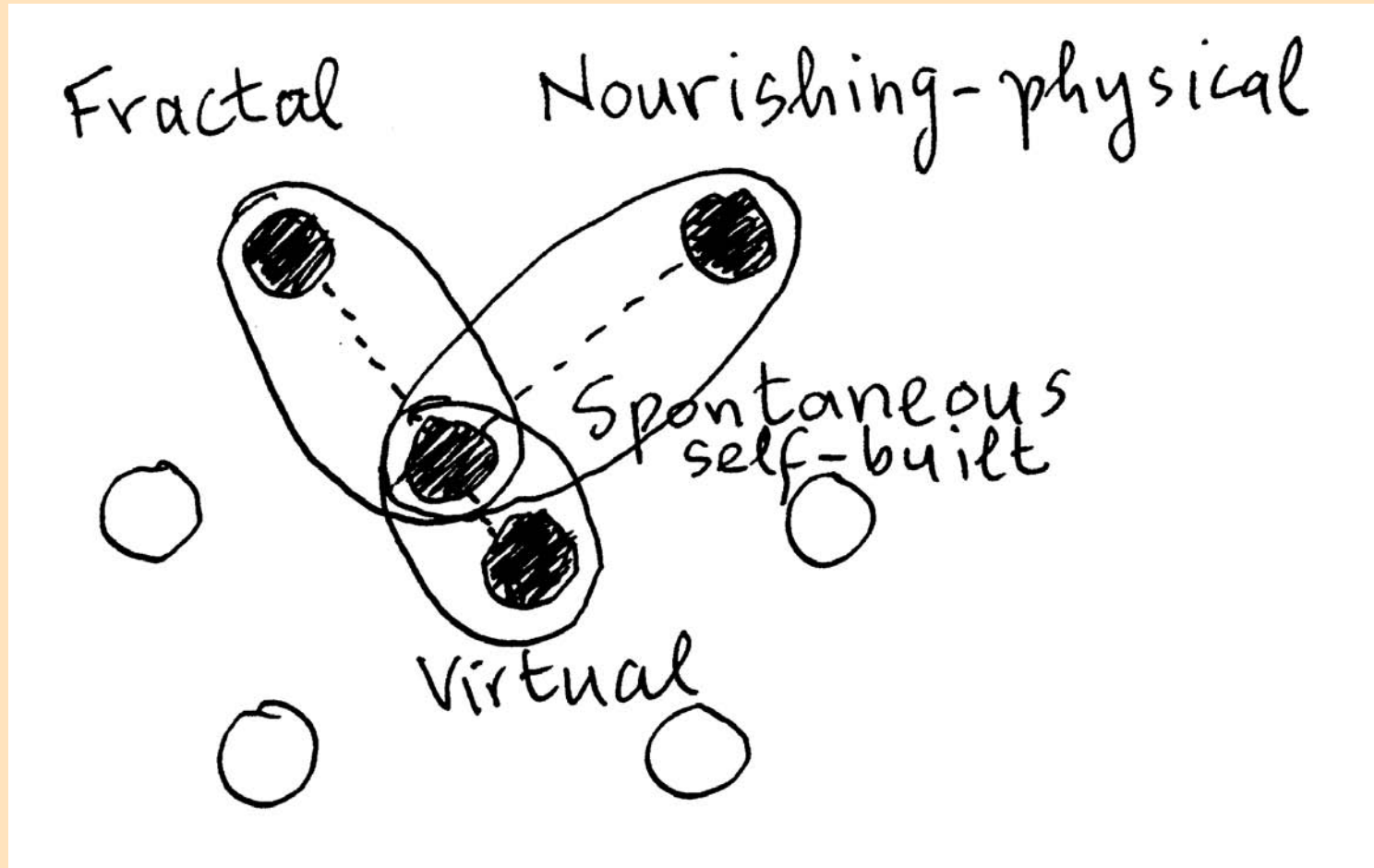
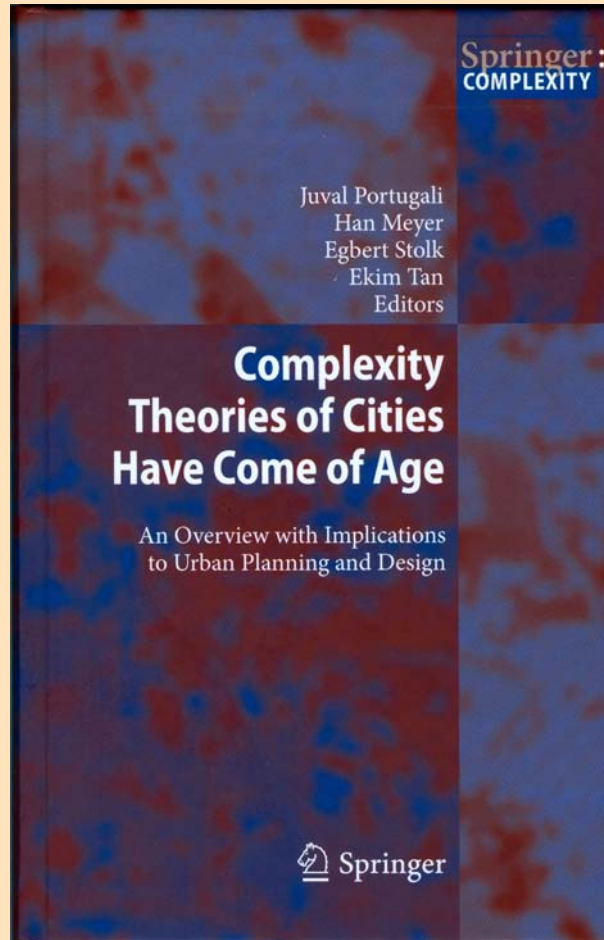# **Good:** Implement traditional design and New Urbanism
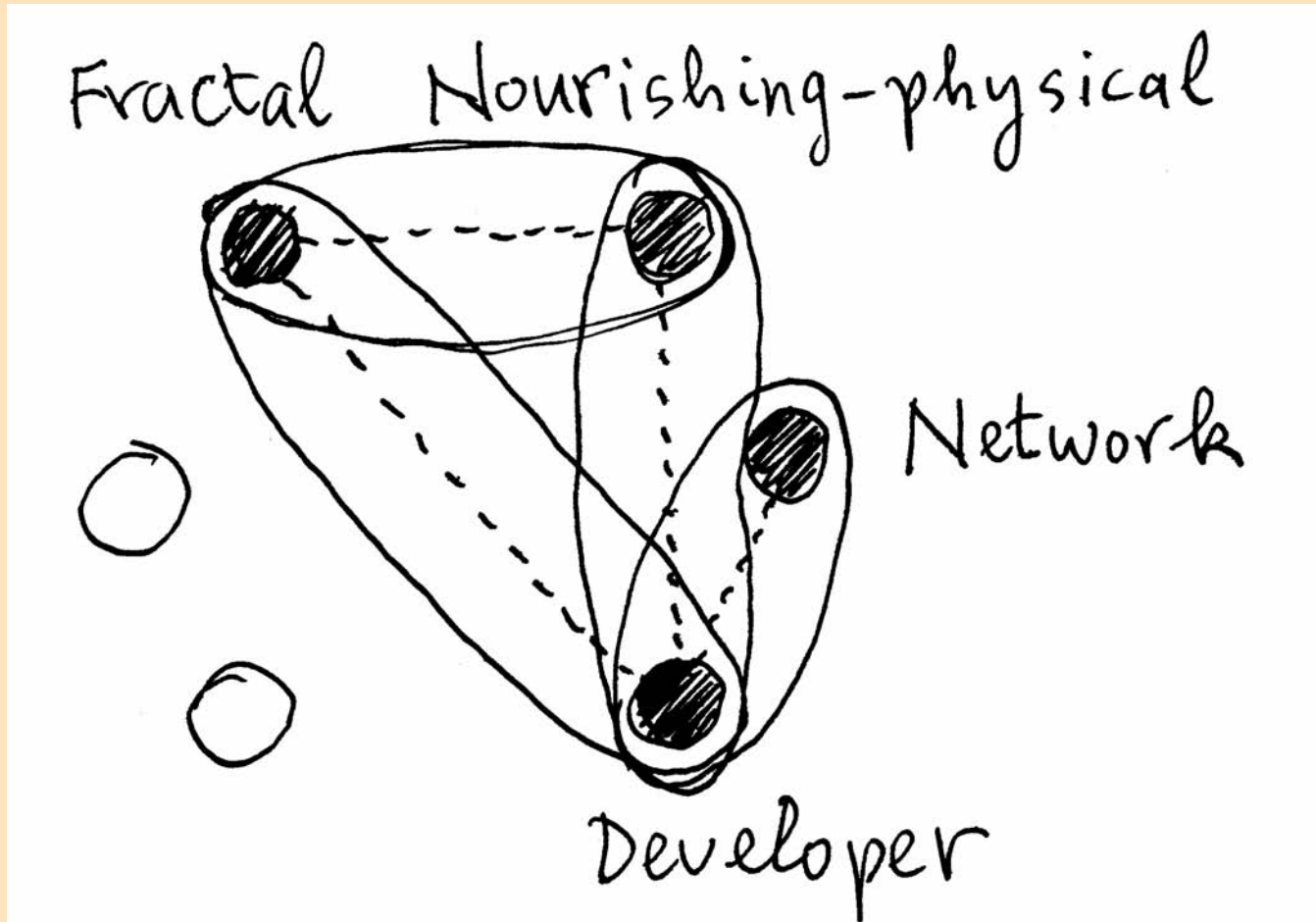
The *Virtual city* and human scale

- Best implementation is as a complement to *Nourishing-physical + Fractal cities*
- Emotional nourishment from the built environment couples with virtual connectivity
- Enables intimate short-range contact with nature and with other human beings
- Removes pressure on strong flux networks
- People not forced to move long distances
- Self-adjusting flow chooses where to move

Virtual city adds to physical city

The complexity of living cities

Springer:
COMPLEXITY

Juval Portugali
Han Meyer
Egbert Stolk
Ekim Tan
Editors

Complexity Theories of Cities Have Come of Age

An Overview with Implications to Urban Planning and Design

Springer

- My chapter: "Urbanism as Computation" — early version free online

Conclusion

- Inhuman cities are unhealthy and waste energy!
- *Three steps toward better cities*
- 1. Apply scientific reasoning for human-scale city form and urban processes
- 2. Education: learn from tradition and don't be a slave to special interests
- 3. Application: densify cities to optimum and avoid unsustainable sprawl.