

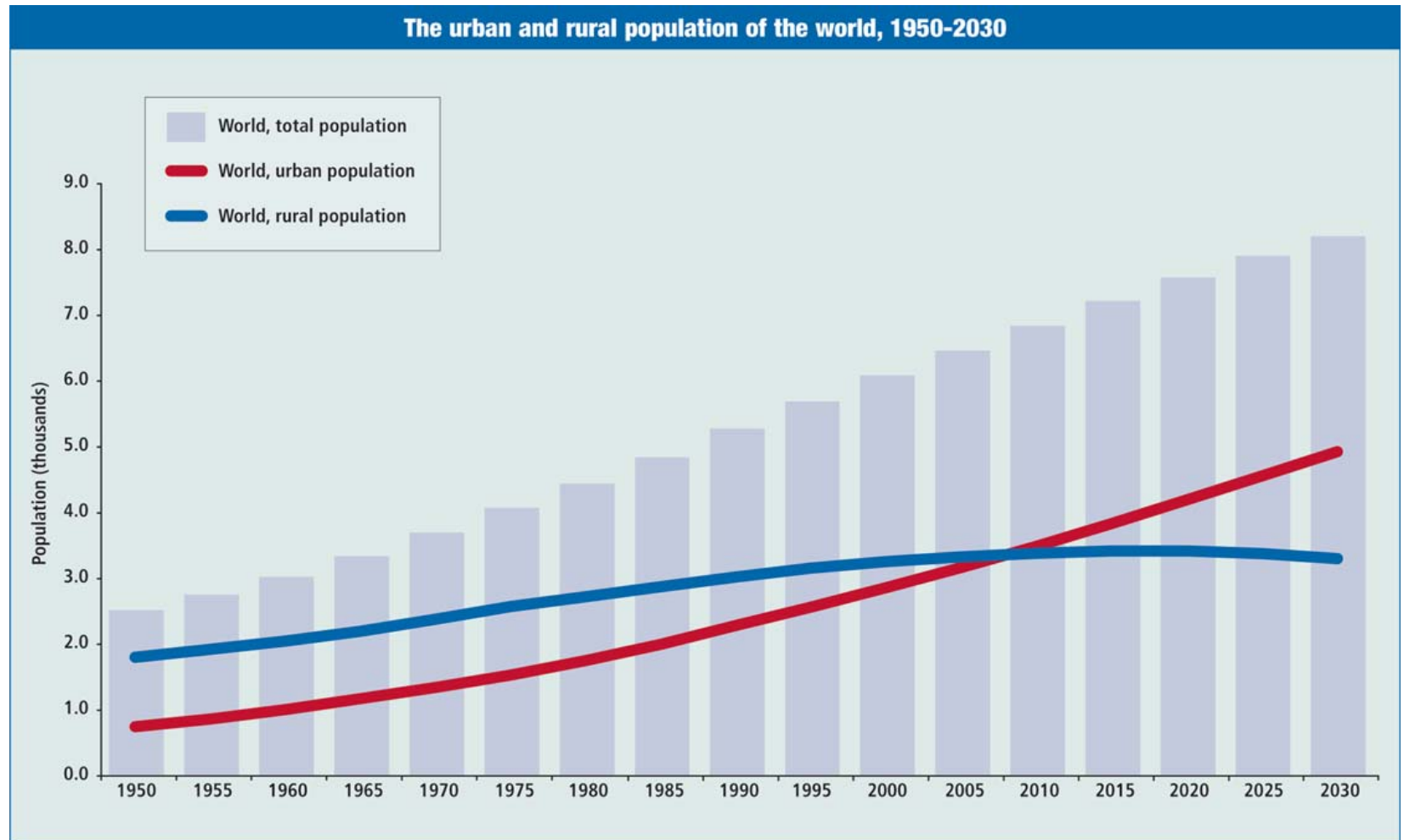


# Environmental factors related to urban health

**AG (Tony) Capon**  
**ICSU & IIASA Workshop**  
**Laxenburg, Austria**  
**January 24, 2008**

# World Urbanization Prospects: The 2005 Revision

United Nations, Department of Economic and Social Affairs



# Defining “environment”

- Physical – natural and built
- Social – infrastructure and capital
- Economic – macro and micro



# Dogon village, Mali, West Africa

**DOGON VILLAGE NEAR BANDIAGARA, Mali (N 14°23' W 3°39')**  
<http://www.yannarthusbertrand.org>

An aerial photograph of a market in Xochimilco, Mexico. The market is densely packed with stalls, each covered by a large, brightly colored tarp. The colors are diverse, including red, yellow, blue, green, pink, and orange. The tarps are arranged in a grid-like pattern, creating a vibrant mosaic of colors. In the background, some people and vehicles are visible, but they are small and less distinct due to the high angle and the density of the tarps. The overall scene is one of a busy, colorful outdoor market.

Market, Xochimilco District, Mexico City

Market near Xochimilco district, Mexico, Mexico (19°20' N, 99°05' W)  
<http://www.yannarthusbertrand.org>

# Gullholmen village, Sweden



Gullholmen village, north of Göteborg, Sweden (58°10' N, 11°24' E).  
<http://www.yannarthusbertrand.org>

An aerial photograph of Venice, Italy, showing the Grand Canal winding through the city. The canal is a dark blue-green color, contrasting with the dense, reddish-brown tiled roofs of the buildings. The city is built on islands in the Venetian Lagoon, with the Grand Canal acting as a major thoroughfare. In the top left, a large bridge and a highway interchange are visible. The water is a deep blue-green, and several small boats can be seen on the canal. The overall scene is a dense urban landscape with a unique water-based infrastructure.

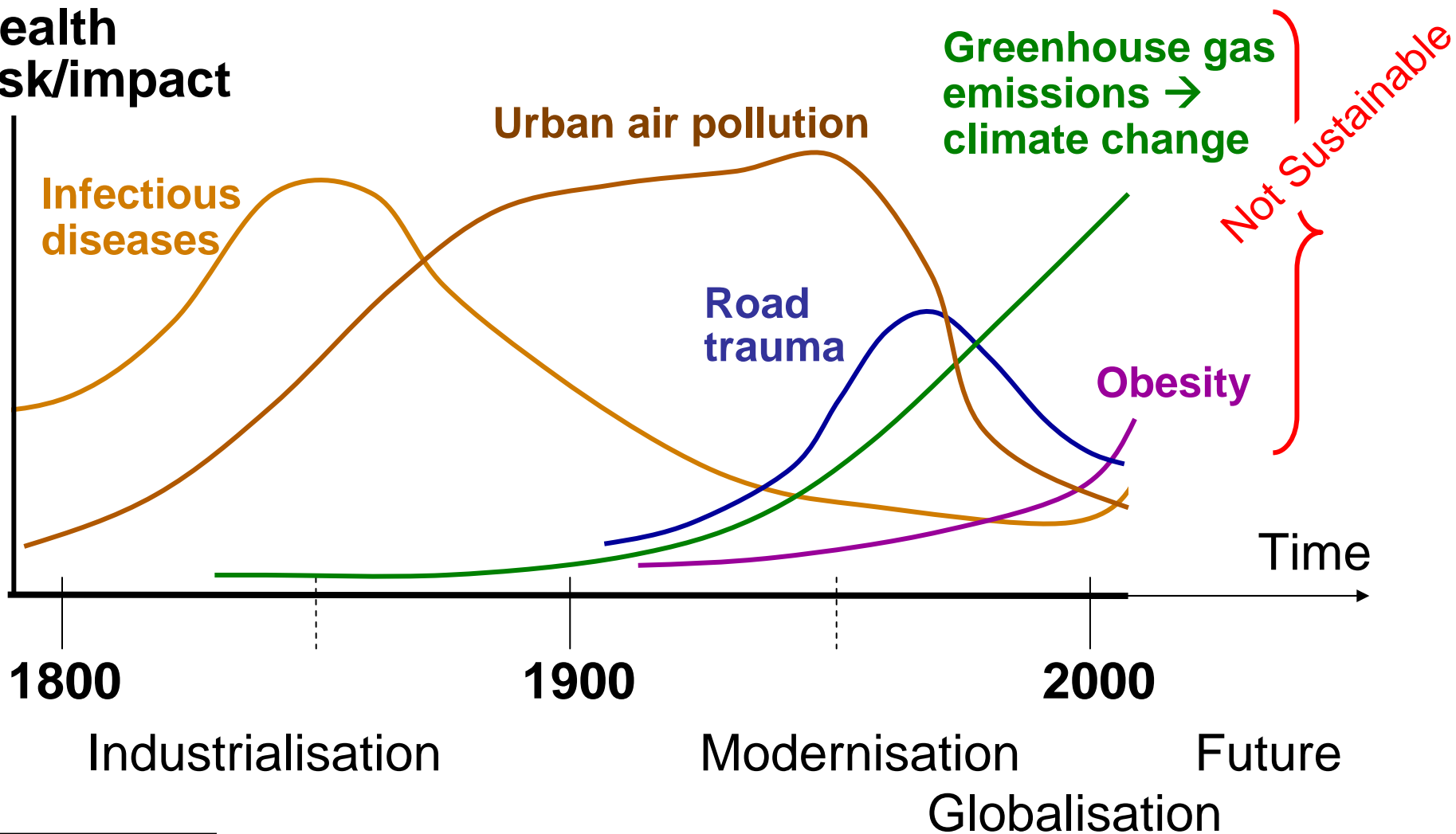
# Venice, Italy

General view of Venice, Veneto, Italy (45°35' N, 12°34' E).  
<http://www.yannarthusbertrand.org>

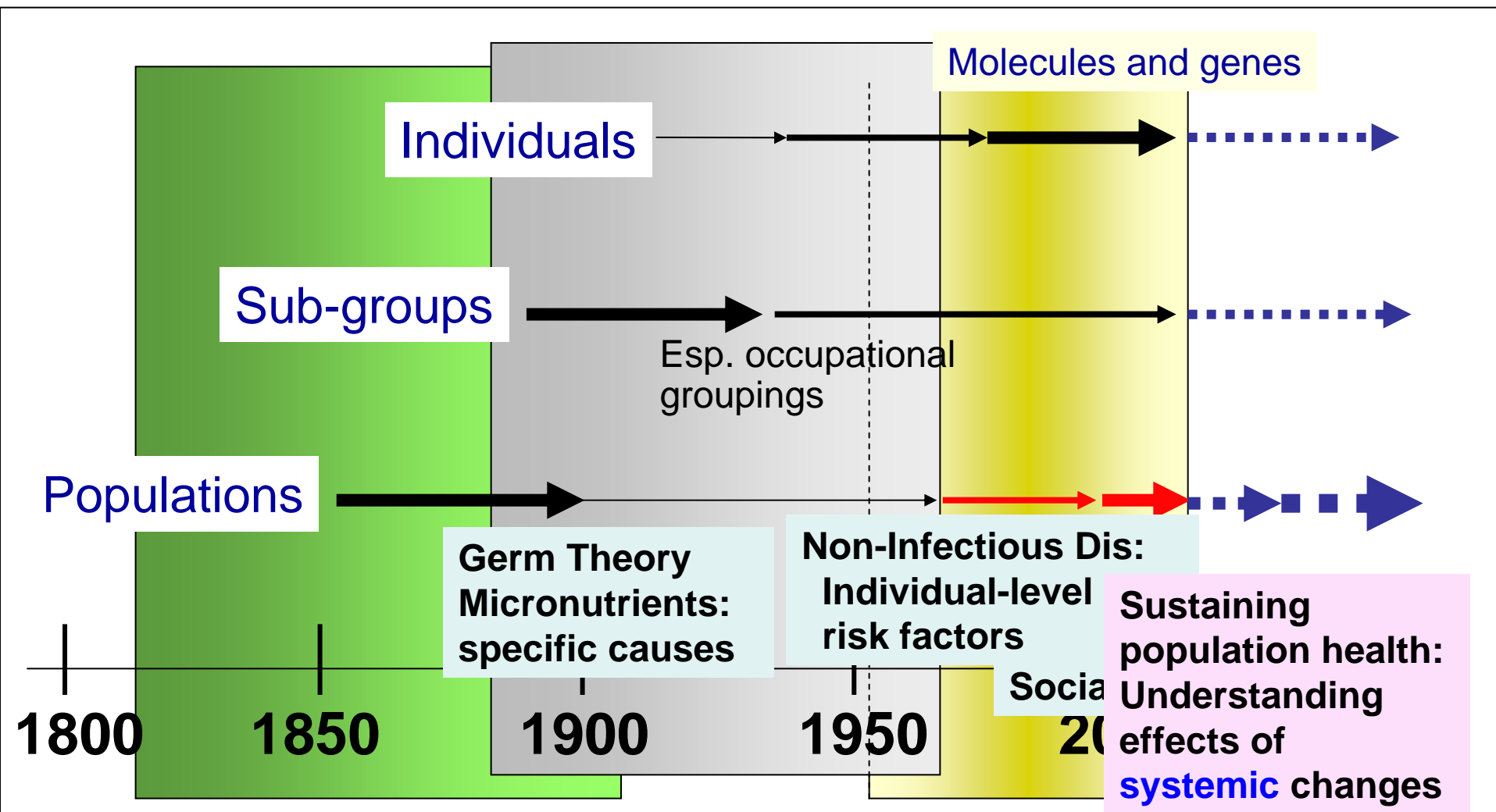
# Rise-and-Fall of 'Urban Health Penalties'

## The Developed Country experience

Health risk/impact

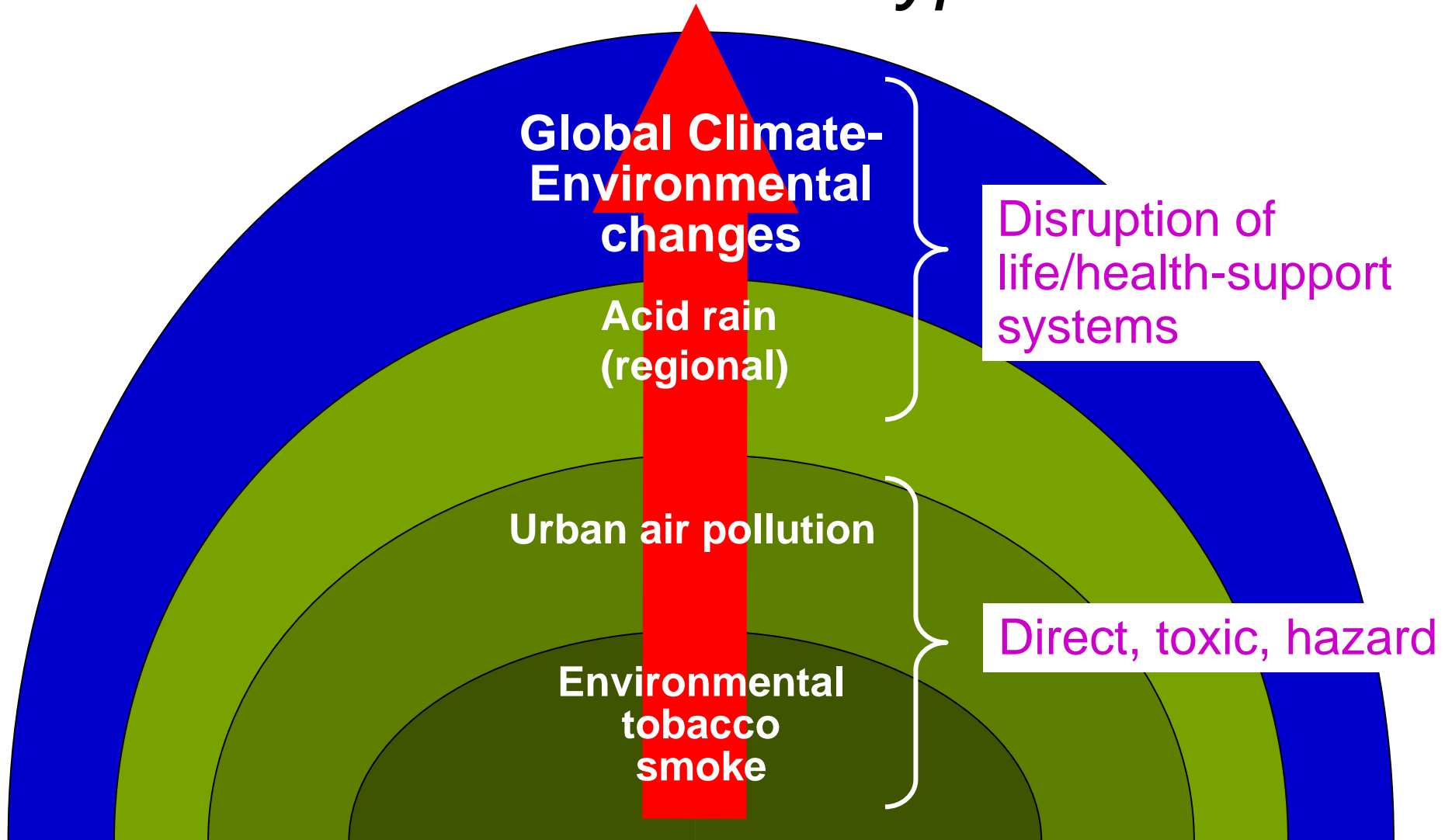


# Epidemiology since ~1850: Changes in emphasis on different levels/units of analysis

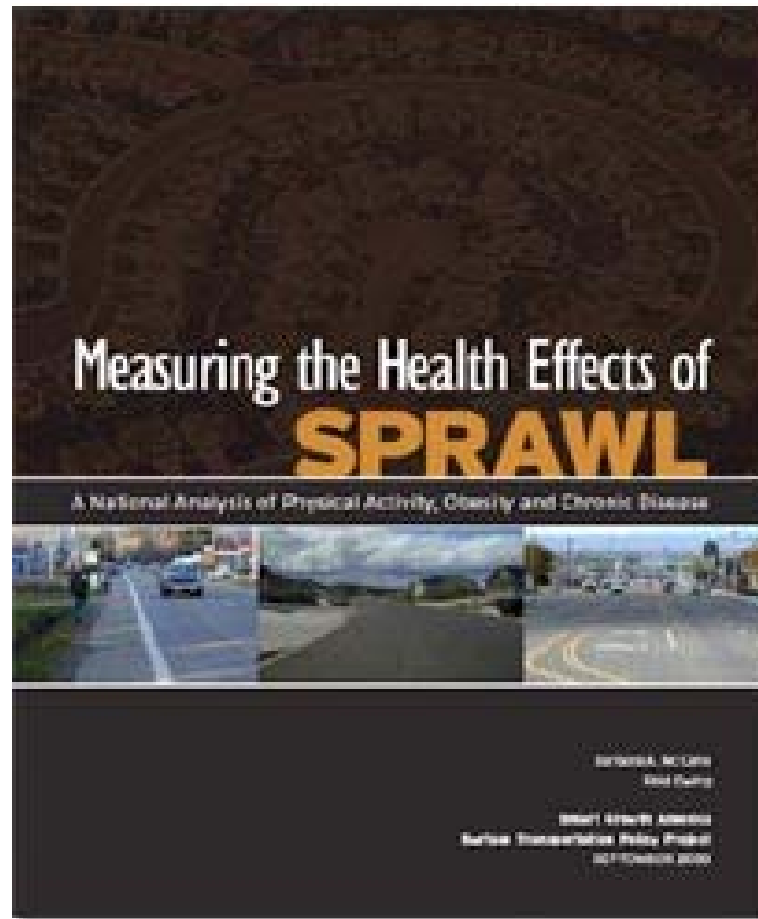


# Environmental Health Risks

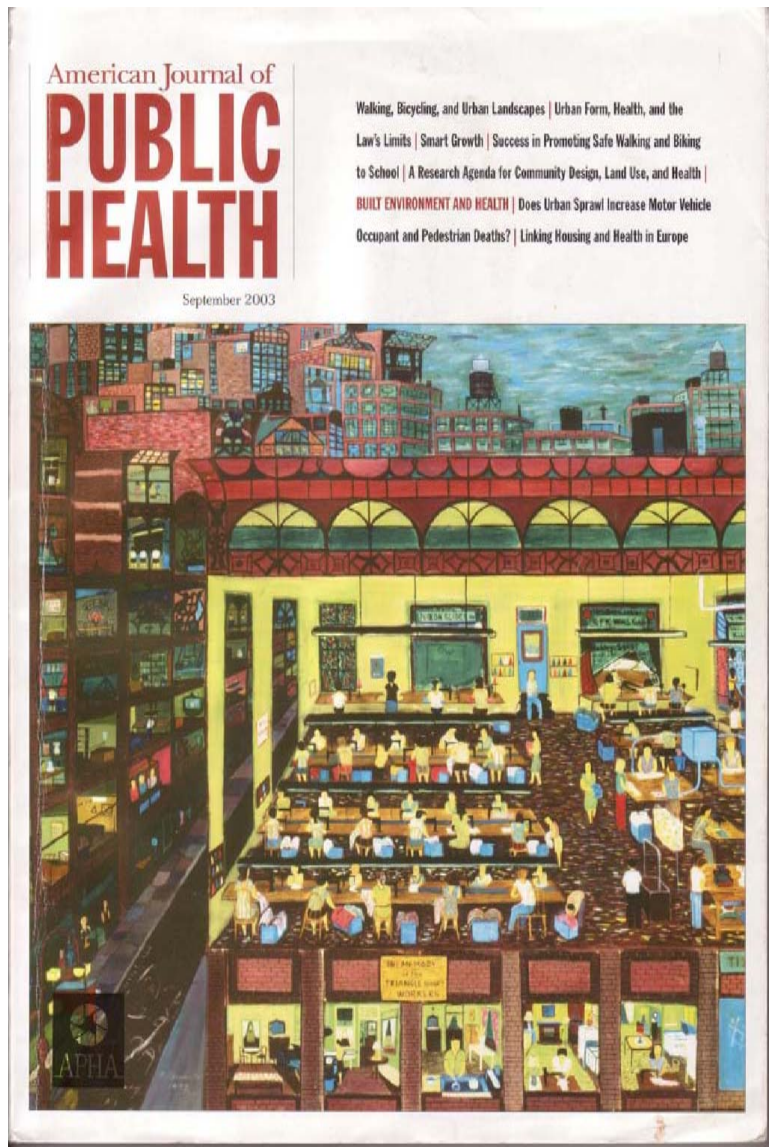
## *Scale and Type*



# Smart Growth America



# American Public Health Association & American Health Promotion Association



AMERICAN JOURNAL of

## Health Promotion

Volume 18, Number 1  
September/October 2003

### SPECIAL ISSUE: HEALTH PROMOTING COMMUNITY DESIGN

RICHARD KILLINGSWORTH, EDITOR  
JOANNE EARP & ROBIN MOORE, ASSOCIATE EDITORS

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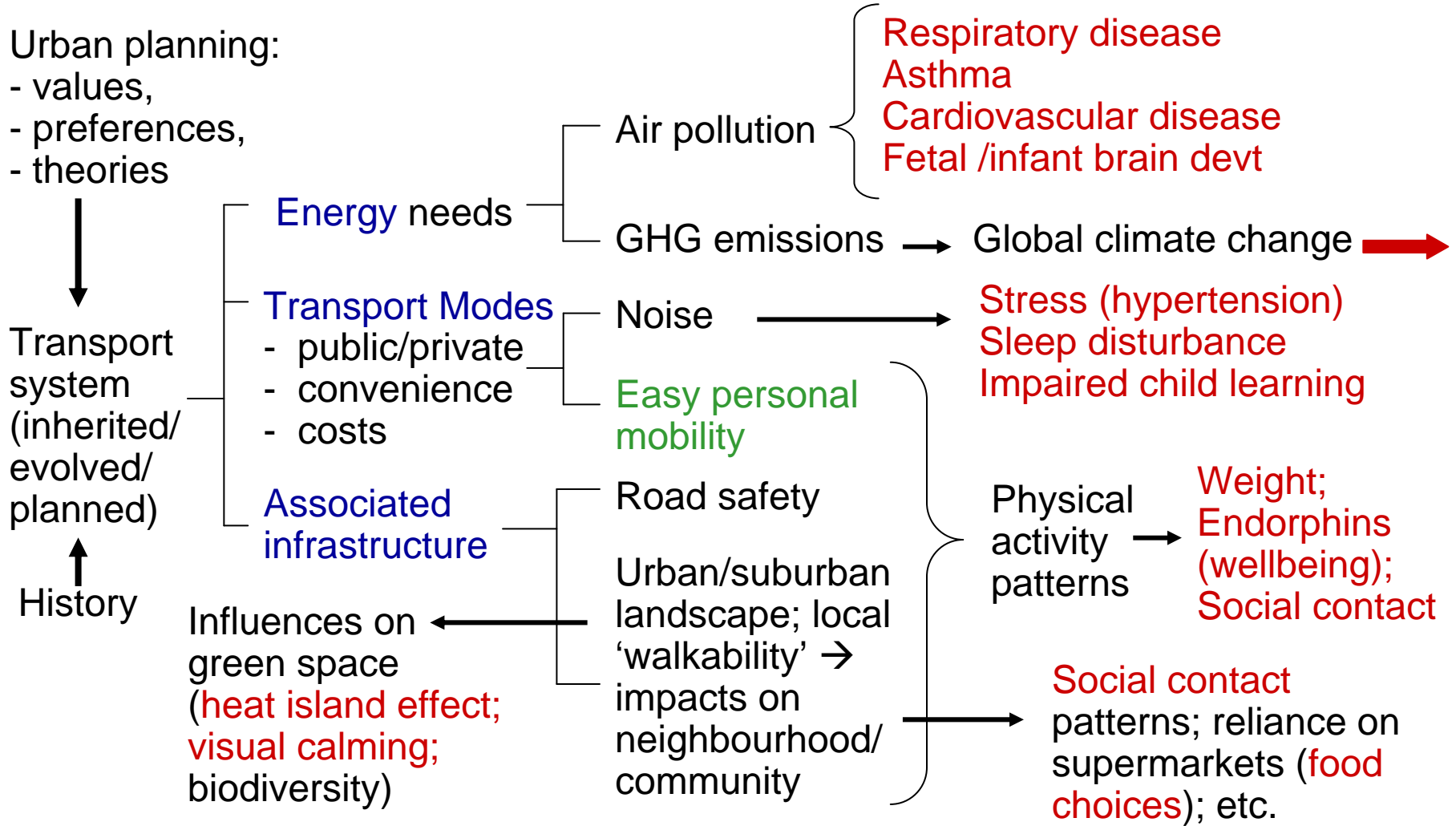


CSIRO

# Australian Academy of Science's 2006 Fenner Conference – Urbanism, Environment and Health



# Transport Choices, Systems and Uses: Integrated Overview



# KISS



# Framework for urban sustainability and population health

Urban ecological impact



Economy and work	Transport and urban form	Housing and buildings	Nature and landscape	Media and communication	Culture and spirituality	
						Air, water, noise, infection, chemical exposures, local climate
						Food access
						Physical activity
						Safety
						Family relationships
						Social capital



Human health and wellbeing

## Checklist for healthy and sustainable communities

**Anthony G. Capon<sup>A,B,D</sup> and Edward J. Blakely<sup>C</sup>**

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<sup>B</sup>*National Centre for Epidemiology and Population Health, The Australian National University.*

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**Abstract:** This paper describes a 10-point checklist for the planning and development of healthy and sustainable communities. The 10 domains in the checklist are essentially physical characteristics of places. Each domain has relevance to the health of people living in the place, and to the sustainability of the environment. The checklist is intended as a tool for those who plan, develop and manage urban environments. Such tools can be valuable for assessing the health and environmental impacts of decisions made by urban and transport planners, and businesses engaged in land development and infrastructure projects.

The urban environment is an important determinant of health.<sup>1</sup> Obesity is a good example of how environmental factors can affect health. Obesity results from an energy

the integration of human health considerations with environmental considerations when developing policy for urban and regional planning and sustainability. We present a 10-point checklist as a guide for the development of healthy human habitat. The goal should be to minimise ecological impact while maximising the human experience, including health and well-being. The checklist focuses on characteristics of places rather than people because planners and developers can influence these.

### Ten-point checklist for healthy and sustainable communities

#### 1. Outdoor air quality

Air pollution in Sydney is known to exacerbate asthma.<sup>4</sup> The main source of outdoor air pollutants in Australian urban environments is motor vehicle emissions. Improved motor vehicle emission controls have reduced emissions for each kilometre travelled; however, the total number of kilometres travelled is increasing. Until there is a reduction in the total number of kilometres travelled, air pollution will remain a health issue in Australian cities.

Urban planning and public health interventions to reduce dependence on motor vehicles and improve air quality include:

- locating jobs, services, schools and shops close to where people live;
- promoting active modes of transport (walking and cycling); and

# Tata Motors, Nano



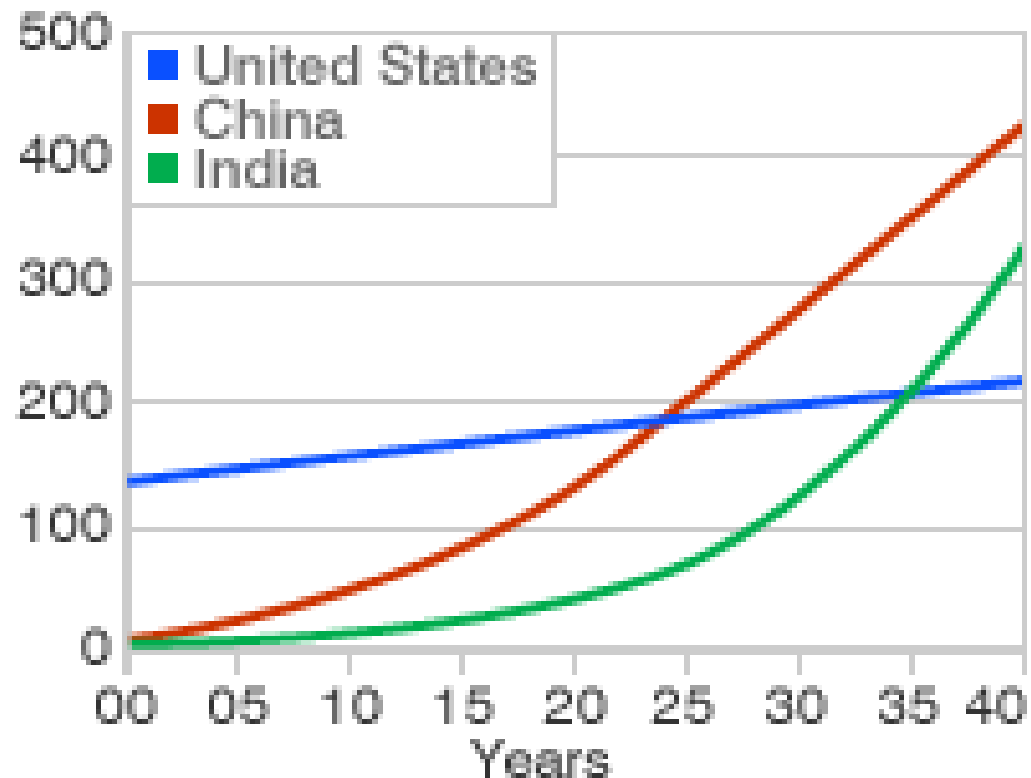
# Traffic congestion, China



# The future?

## GLOBAL CAR OWNERSHIP

forecast for car ownership  
millions



SOURCE: Goldman Sachs/Economist

# Transport for elderly citizens



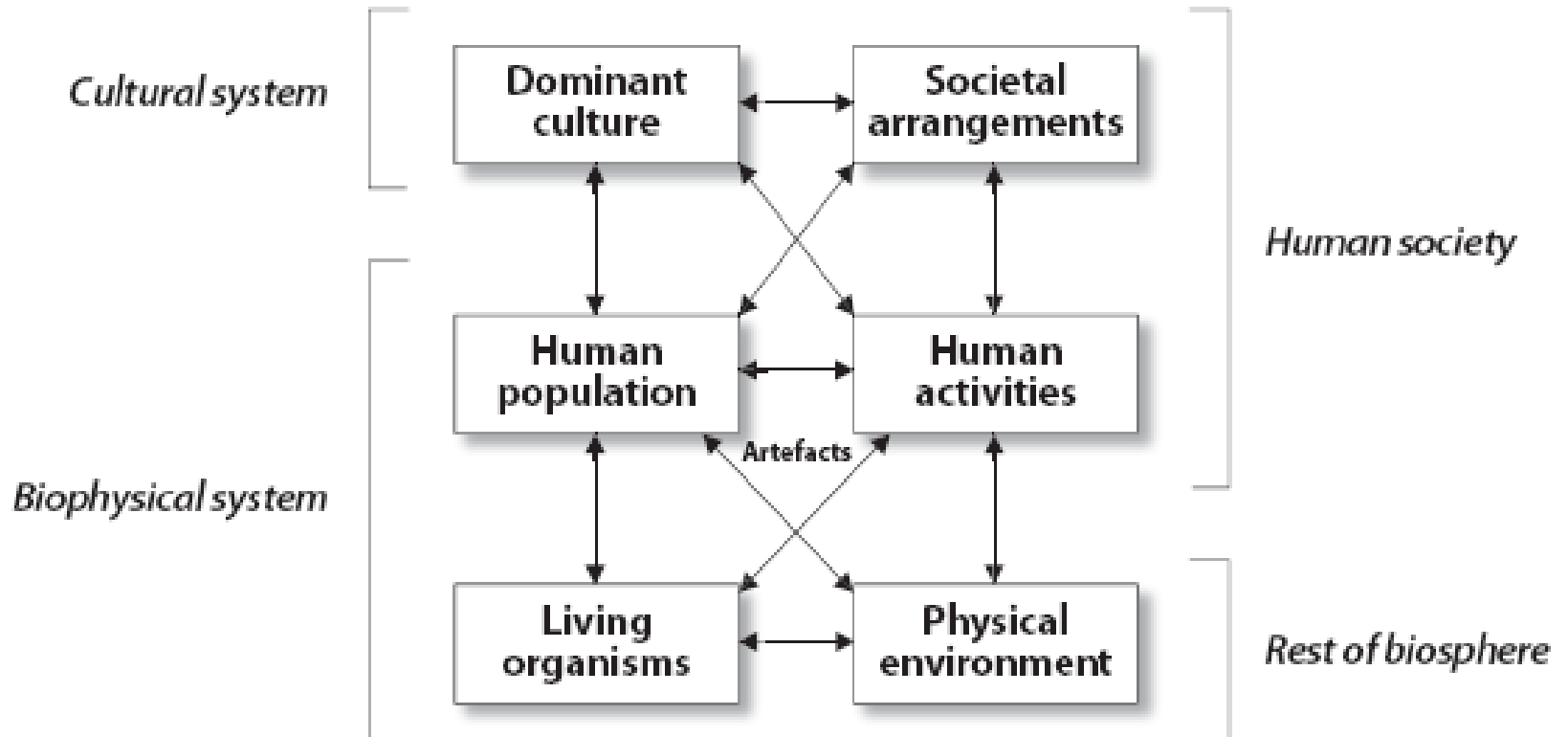
## 5 Stages of urban environmental evolution and characteristic health issues<sup>16</sup>

Urban evolutionary stage	Characteristic environmental conditions	Characteristic health issues
I: Poverty	Contaminated water, poor sanitation	Infectious diseases, undernutrition, injury
II: Industrial	Air pollution and land pollution by chemicals and solid waste	Chronic respiratory disease, heart disease, injury
III: Consumption	High-consumption lifestyles	Chronic diseases (obesity, diabetes, heart disease, depression), injury
IV: Sustainable eco-city	Conditions of life in balance with nature	Maximum health potential

# UNESCO's Man and the Biosphere Program

- Hong Kong Urban Ecology Program  
*Boyden et al*
- MAB Technical Notes 12; 1979.  
An integrative ecological approach to the study of human settlements

# Urban Ecology Program (Boyden *et al*) Australian National University



# Cities as healthy human habitat

- People and place (sociological)
- Human and habitat (ecological)
- Human-environment interactions

→ Healthy people, living in healthy places on a healthy planet

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Australian National University

# THE ART OF REBELLION 2 – World of urban art activism by C100



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# Thank you

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