

*HERODOT THEMATIC NETWORK ON GEOGRAPHY*

*“Europeanization of Geographical Education  
and curriculum ”*

# **What's European about European Geography? The Case of IT in Europeanization**

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# THE CASE AGAINST EUROPEANIZATION

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- Geography Reflects the Civilization

J.K. Wright

- Each Culture has its own “Geographic Science”

Yi-Fu Tuan

- Europeans Score Poorly on Geographic Knowledge Tests

- Ethnocentrism
- Xenophobia
- Deficiencies in Analytical Programs

# THE CASE AGAINST EUROPEANIZATION

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- Geographic Thought Does Not Transcend Culture and Educational Space

Sister Buttiner

- Geography is Tinged by Imperialistic Bias

- Imperialistic Bias of 20<sup>th</sup> Century

Blaut

- Imperialistic Expansion in China

Samuels

- Geographers and “Geographies” Reflect Political Orientation

# THE QUESTION

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How do the language, the culture and the conceptual structures of academic geography in Europe relate to the varieties of “**geographical sense**” found among the diverse cultural groups of the various nations who inhabit the European Continent?

# PROPOSAL

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Differences in culture, in behavior, in values and standards do not have to conflict. To the contrary, they can be a unifying force.

Europeanization can be seen as a process towards **unity without uniformity**.

**And that is European!!!**

# GEOGRAPHY'S REVOLUTION IN EUROPE

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Nowadays the field of Geography in Europe is undergoing a revolution, a change that is fundamentally driven by the increased **efficiency of microprocessors.**

Geographers will be in the **information business (or no business at all)** and today's tedious tasks in the field, the lab or the office will become routine, even perfunctory.

# QUESTIONNING OUR MODEL

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The need for comparable geographic procedures in European countries raises the question whether our model should be more reflective to **culture and ideology** or to the unifying dynamism of **information technology (IT)**.

In simple terms, understanding the role of IT in Geography requires a new model, which in turn can be the vehicle to attain unity without uniformity.

# SPACE AND INFORMATION SCIENCE

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- **No Action in Providing both Spatial and Information Science**
  - Have European Geographers been Addressing the Wrong Audience?
  - Have European Geography Educators Feared to Touch the Issue?
- **The answer is YES**
- **The Key to Understanding is the Transition in our Model**

# THE OLD MODEL

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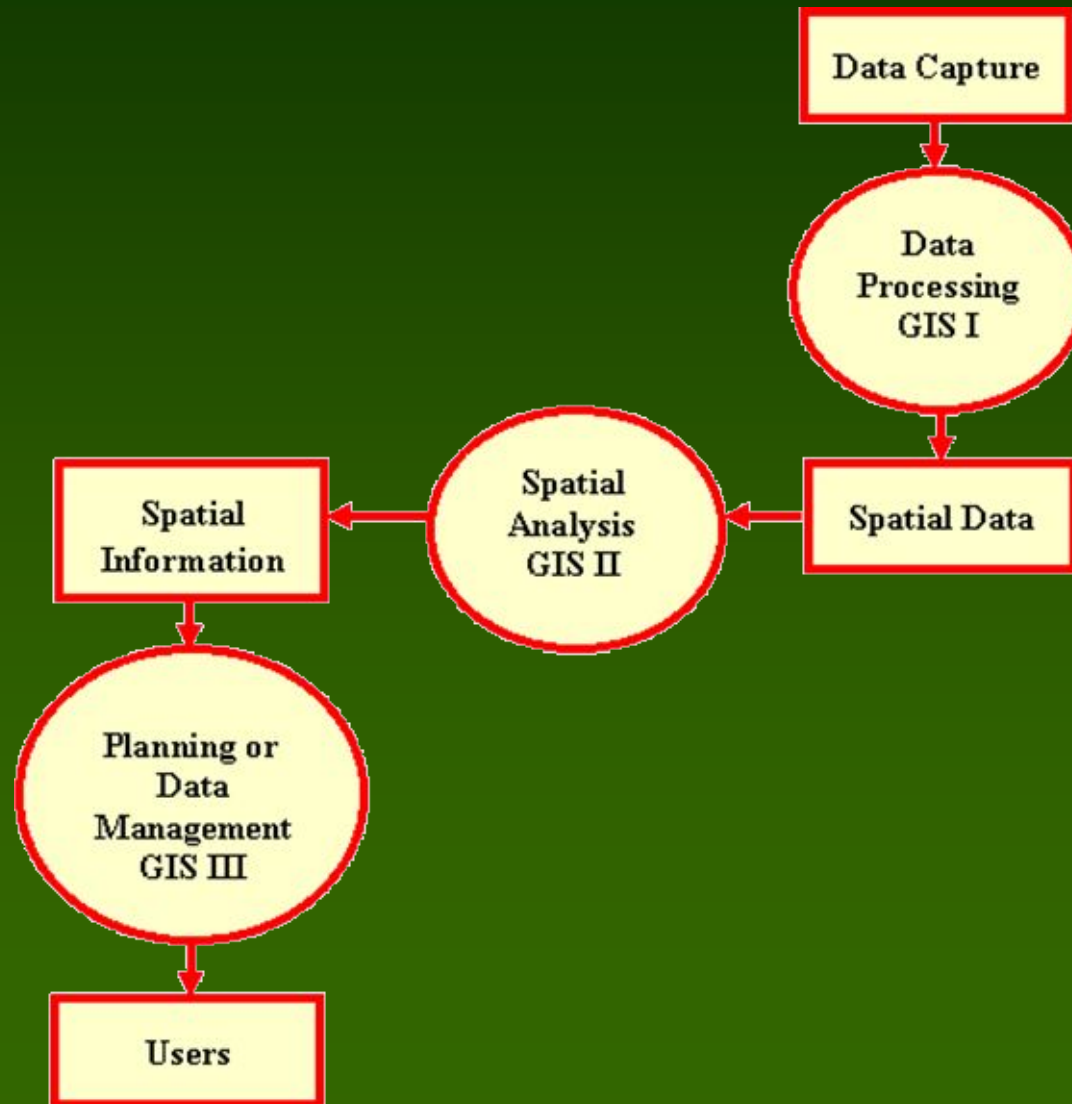


# THE OLD MODEL

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The old model starts with the observations (data capture) and ends (most of the time) with a map as the final product. The data are collected in the field or by other traditional methods (i.e. photogrammetry, remote sensing), practices widely accepted in the European Educational system, and are processed (adjusted) and analyzed for the purpose of displaying the information created through the use of some cartographic means.

# THE NEW MODEL



# THE NEW MODEL

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- **DATA PROCESSING AND MANIPULATION**

It has changed the ways data is captured and processed. The outcome of this stage is digital layers of diverse land-related or human activities data.

- **SPATIAL ANALYSIS**

The process from spatial data to spatial information is possible, almost exclusively through the use of IT.

- **INFORMATION MANAGEMENT AND PLANNING**

The task of effective management of spatial information requires acceptable tools for decision making and cannot be accomplished without the help of IT.

# THE “FROM-THE-TOP-DOWN” PRESSURE

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- **This pressure is generated by external curriculum boundary conditions which necessitate a large number of courses dealing with data capture and processing, but with very little time left to care about analysis and planning.**
- **Due to this pressure, geography students might be led into spending a great amount of time on traditional topics, such as field work techniques, photogrammetry, remote sensing etc, at the expense of data analysis, planning and interdisciplinary studies.**

# THE “FROM-THE-BOTTOM-UP” PRESSURE

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- This pressure is generated by the demands from individual applied areas, where the market players could not care less how the data is captured, processed and entered into the information system.
- The financial prerequisites of scholarly activity constrain and often shape our efforts: **students need jobs and universities financial support.**
- There is the omnipresent issue of the market, for employment patterns, opportunities and prospects have undoubtedly affected curricula, graduate programs and even dissertation topics.
- The curriculum might be interdisciplinary in spatially related matters. Probably, it will include information management and planning studies at the expense, however, of data processing and analysis concerns.

# THE “CENTRAL” PRESSURE

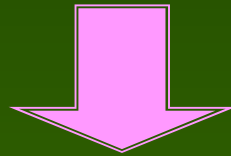
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- This pressure is the result of our profession’s emphasis on spatial analysis.
- This leads most geography department to offer a great deal of “real geography” courses.
- The end result is graduates who will satisfy their employer by using IT as an analytical tool and provide them with the means for systematic inquisition of spatial patterns and spatial relationships that help in understanding and explaining spatial processes.
- The students will not recognize that IT tools also have a life of their own.
- Students will realize that most of the “facts” learned in school are not being utilized.

# MISCONCEPTIONS ABOUT GIS

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The literature has been permeated by the notion that with GIS, as with IT in general, there is no universal optimum but a local one. In other words, the application determines the tool.



**Such an idea certainly violates scientific deontology and leads us toward dangerous conceptual paths.**

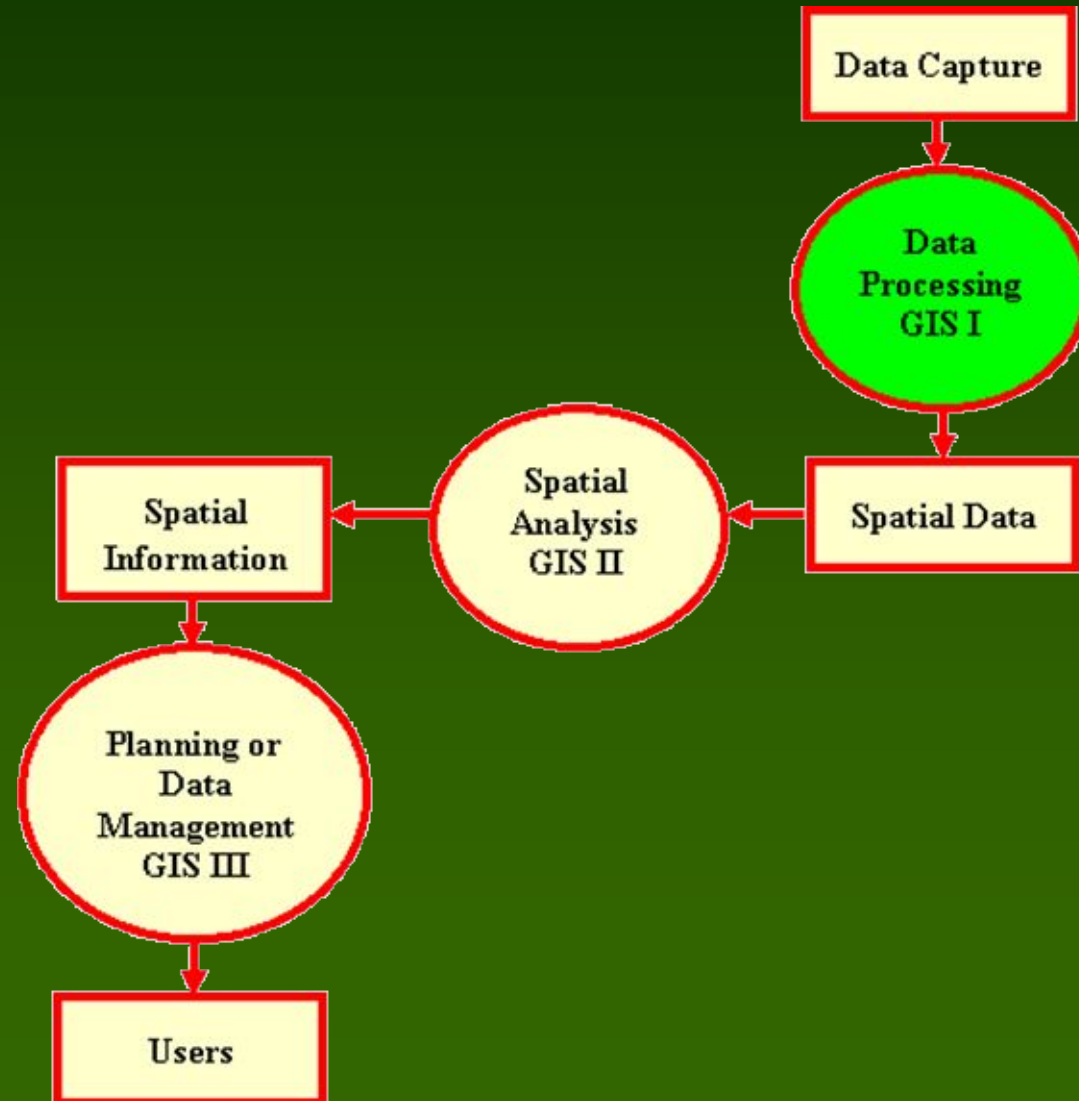
# GIS: THE PROCESSING APPROACH

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This approach, whose aim is processing spatial data, includes:

- The **Cartographic Approach**, which is concerned with manipulating exclusively cartographic data (the input, the processing and the output are all referred only to maps).
- The **Information Approach**, which emphasizes the importance of GIS as **Information Systems** for managing spatial data bases.

# THE NEW MODEL

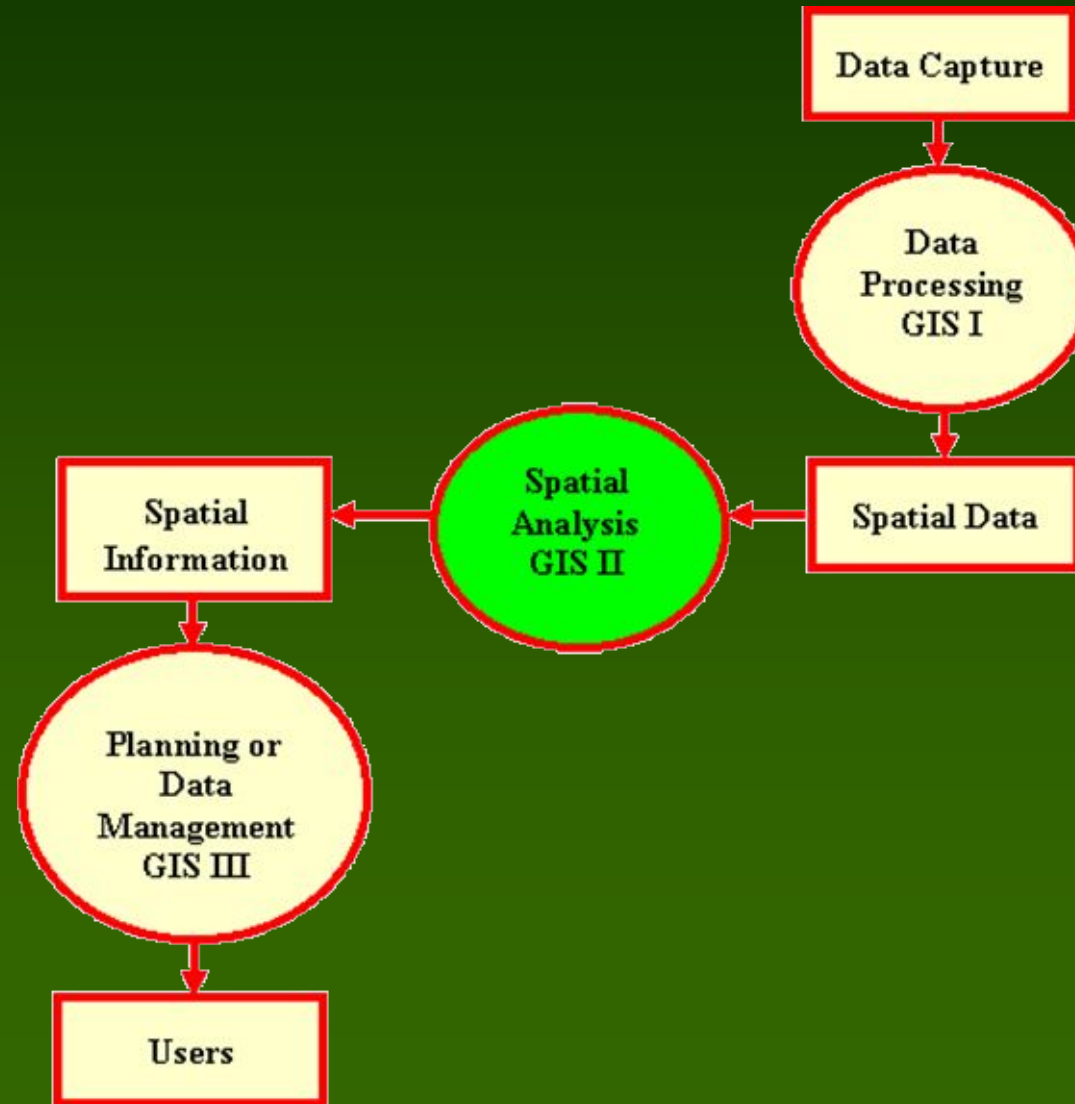


# GIS: THE SPATIAL ANALYSIS APPROACH

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This approach projects the importance of Spatial Analysis. According to this approach, GIS represent part of the science of Geography and not simply a new technological gadget.

# THE NEW MODEL

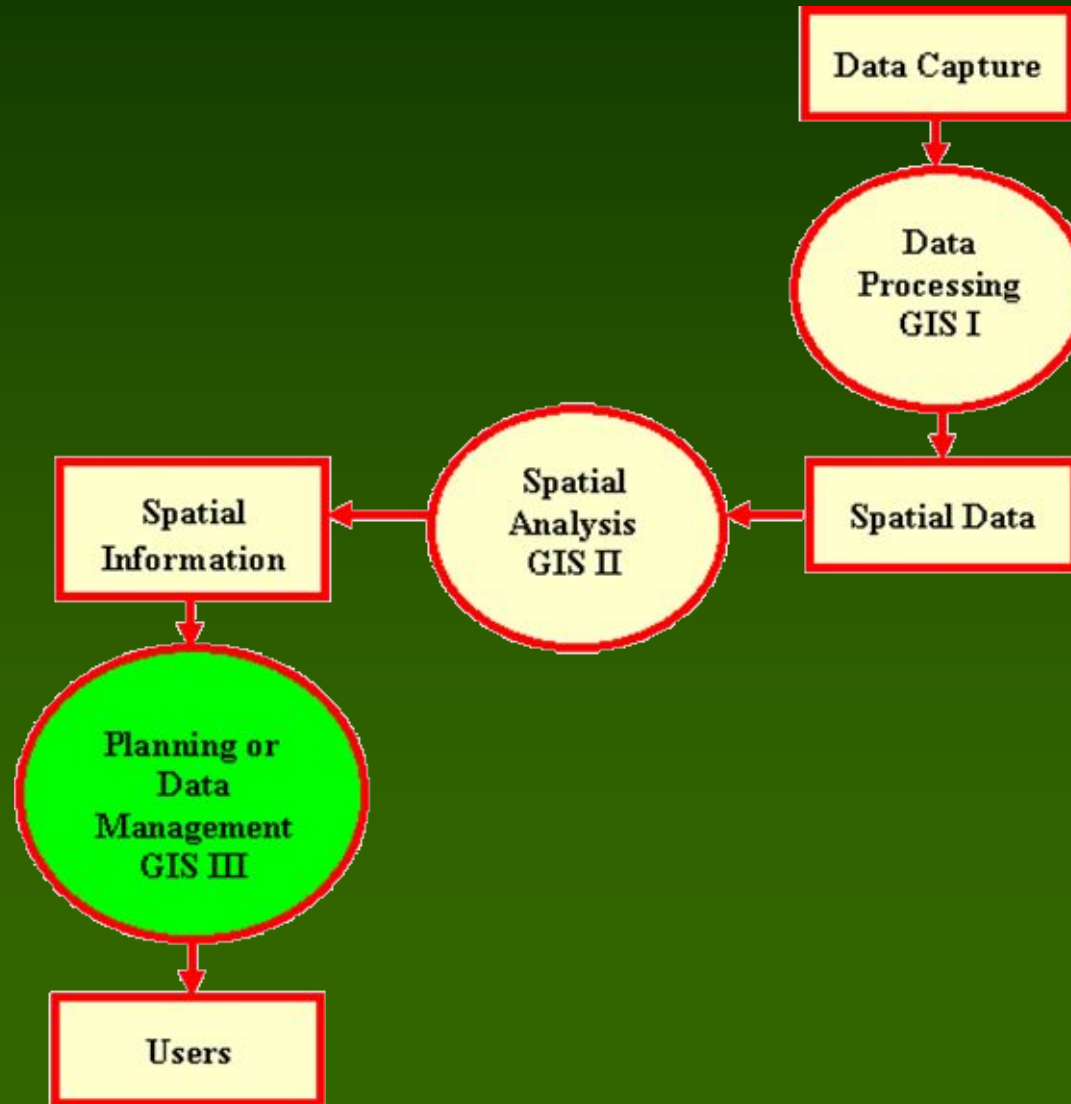


# GIS: THE PLANNING APPROACH

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This approach is focused on the ability of the GIS to help solve spatial problems. That is, to actively participate in spatial planning (Urban and Regional).

# THE NEW MODEL



# PROCESSING-ANALYSIS-PLANNING

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- These approaches are considered by some as independent and conflicting.
- It has been shown that, having a common background the Spatial Dimension, they are:
  - *Closely interrelated*
  - *Complementary*
  - *Separate components of an integrated spatial approach*

# PROPOSAL FOR EUROPEANIZATION

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Europeanization of geography is not “solving” the various pressures put upon our field by accepting that something has to “give”, but finding the unifying force that will permit Europeans to apply any or all of its manifestations in any desired mixture that fits individual “geographical senses”. And, of course, **this force is none other than IT.**

# PROPOSAL FOR EUROPEANIZATION

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The principle of unity and uniformity should be the **goal** towards Europeanization of Geography and IT the **means** to accomplish it.

# EXPERIENCE IN EUROPE

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Madrid (Spain) : *Geographic Engineering*

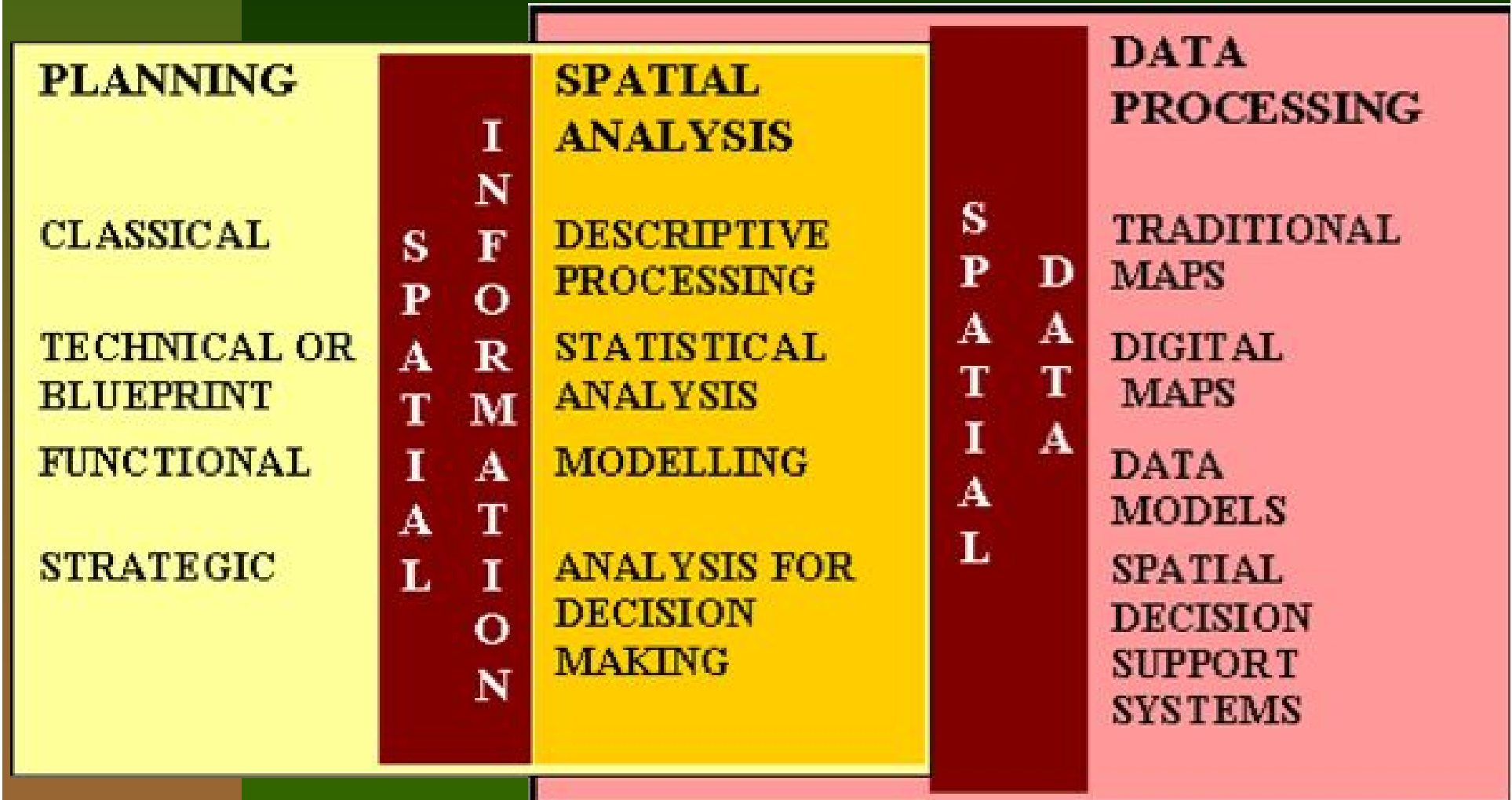
Aalborg (Denmark) : *Problem-Solving-Oriented*

UK : *Planning*

Greece : *Spatial Analysis*

***In Europeanization all flowers can bloom as long as they can find the appropriate IT to grow upon.***

# PARADIGM EVOLUTION



# PLANNING

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- **Classical Planning**, lasting until the beginning of the 20th century and was concerned with aesthetics and symmetry mostly in the urban areas.
- **Blueprint or Technical Planning** focusing on order and efficiency of Le Corbusier (urban) and Isard (regional).
- **Functional Planning** where the planner acts as social engineer optimizing the functions of a region.
- **Strategic Planning** which moved the focus of planning from plans to decision making.

# SPATIAL ANALYSIS

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- **Descriptive Analysis**, focusing on data classification and coding and having as main tool the map.
- **Statistical Analysis** which uses mathematics and statistics to test and evaluate spatial distributions.
- **Modeling** expressed by the formulation and use of spatial models to describe and explain spatial patterns.
- **Analysis for Decision Making** creating the analytical framework to support the decision making process.

# DATA PROCESSING

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- **Traditional Maps** which for thousands of years were the only means of presenting and processing spatial data.
- **Digital Maps and other Products** focusing on spatial data bases becoming widely available as result of dramatic cost cuts in digital data capture.
- **Data Models** in which spatial relationships of geographic data are explicitly included in the data base.
- **Spatial Support Systems** where the processing of the data is aimed at the individual decision maker and at specific decision.

# CAUSAL RELATIONSHIPS

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In addition to the “vertical” relationships or the temporal evolution of these areas there are horizontal or causal relationships between them:

- *Changes in the planning approach create different needs for analysis which in turn require a differentiated spatial data processing approach.*
- *Changes in the ways spatial data is processed formulate new approaches for their analysis which lead to a differentiated application of urban or regional planning.*

# UNEVEN DEVELOPMENT

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Although experience and literature have repeatedly shown the existence of these explicit temporal evolutions and causal interconnections, and thus they are universally accepted, these relationships can not be considered as uniformly or evenly developed.