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REGIONAL SCIENCE
A BEHAVIORAL SCIENCE OF PLEASURE?

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Basic questions

- Does Regional Science (RS) need a paradigm?
- If yes, what should the paradigm look like?

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Definition of RS

- "Any social science analysis that has a spatial dimension" (Wikipedia)
- The social sciences are concerned with the behavior of individual human actors and the aggregation of their actions in different institutional frameworks
- Hence:
- RS deals with **behavior, especially economic behavior**

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A paradigm

- Definition:
- A set of practices (concepts and methodology) that defines a scientific discipline (Kuhn, 1996)
- The social sciences have paradigms
- Example:
- Neoclassical paradigm in economics:
- Constrained utility /profit maximization

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RS tradition

- RS has been pragmatic:
- -No clearcut paradigm
- Advantage:
- Avoidance of discussions among competing schools
- Disadvantages:
- Weak coherence among RS studies
- Under- or misspecification of models

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Role of The Paradigm (i)

- Einstein: "*Theory determines what we observe*"
- It is instrumental in developing:
- - empirically testable hypotheses by
- - providing theoretically **and** empirically validated concepts by
- - specifying relationships among them, in terms of which the phenomenon of interest can be captured and analyzed

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Role of the Paradigm (ii)

› Note: The paradigm does not only specify what's relevant to the explanation of a given problem but also (implicitly) what's less relevant (to be captured by the error term).

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Example (i)

- Labor supply from the perspective of neoclassical economics:
- Max U(C, R)
- s.t. (Budget constraint)
- pC=M+wL
- p: price; C: consumption
- w: wage rate
- L: the amount of labor supplied; R: Leisure
- M: non-labor income

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Example (ii)

- Outcome:
- The optimal choice is where
- marginal rate of substitution between consumption and leisure = the real wage rate w/p
- Note: in contrast to w/p, the marginal rate of substitution is not directly observable.

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Example (iii)

- Specification of the empirical model:
- -Variables to consider are: consumption, non-labor income and leisure
- Other variables related to labor supply: error term
- It presents a framework for interpreting and integrating new theoretical and empirical findings
- -E.g. the interpretation of a decrease in the supply of labor when the wage rate increases by means of the Slutsky equation

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Example (iv)

- It allows predictions of endogenous developments or of impacts of exogenous inputs (e.g. policy interventions) under conditions which bear similarity to conditions which have been analyzed.

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Upshot: RS needs a Paradigm

- Which?
- Economics?
- -Neoclassical model?
- -Behavioral economics?
- -Neo-institutional economics?
- Psychology?
- Sociology?
- Focus of the remainder on economics

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Principles for Paradigm Selection

- (i) General principles: Philosophy of science
- (ii) Voices of leading scholars in the profession

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Logical duels (Tarde,1898)

- For a discipline to evolve, competing theories need to enter into ”logical duels” such that
- (i) the theory of one school is rejected, or
- (ii) the theory of the other, or
- (iii) both theories merge into a synthesis, or
- (iv) the duels induce the search for a new theory which in its turn may lead to the rejection of both theories.

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Popper (1994)

- "*Process of error elimination*" :
- Competing hypotheses need to be systematically subjected to rigorous attempts of refutation.
- The refuted hypotheses need to be replaced by alternatives that are more plausible.
- The defeated theory can only receive, at most, a footnote in the history books of the discipline.

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The Voices of Leading Economists

› Opinions on economics, particularly, but not only, the dominant paradigm:

neoclassical economics

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Morishima (1984):

- *"We have in our discipline been led up the wrong path by the invisible hand of the demon, and because it takes both time and money to make an engine, we are producing on a large scale "aeroplanes" which have no engine."*

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Sen's Explanation(2008):

- Morishima's discontent based on "*...the economic theorists' lack of knowledge about the empirical reality about which they theorize...and...that this lack of knowledge about the empirical reality was clearly connected with a lack of interest in the world beyond the deliberately simplified reality studied in economic theory*."

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Krugman (1988):

- *"...the fact that an economist offers a theoretical analysis does not and should not automatically command respect. What is needed is some assurance that the analysis is actually relevant."*

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Krugman (2009):

- *"As I see it, the economics profession went astray because economists, as a group mistook beauty, clad in impressive looking mathematics, for truth."*

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McFadden (2013):

"The challenge facing economic consumer theory is to utilize the disparate measurements and experimental methods that have become available to synthesize a ***new behavioral science of pleasure*** *that retains the* ***quantitative, predictive features of neoclassical theory*** *in the economics settings where it works well, and extends these features into areas of individual sensation of well-being and choice in the context of social network information and approval, so that the theory can better predict the impact of novel economic policies on consumer well-being."*

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Morishima's Reform

- Took "...*economics into the territories that had been formerly allocated to sociology, anthropology and history*." (Sen, 2008)
- Delved into empirics
- As a result, he stated, he had finally started to understand economics.

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Intermediate Conclusions (i)

- Following McFadden, consumer theory should :
- (i)Substitute current paradigms -particularly the neoclassical - for a **new behavioral science of pleasure**
- Note: *Extends* beyond partly fixing up the neoclassical model as in behavioral economics

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Intermediate Conclusion (ii)

- (ii) Application of quantitative, predictive features of neoclassical theory only in the settings *where it works well*
- "*Where it works*" implies abstinance from simplifications which lead to the loss of the relevance of the analysis (Krugman)

Intermediate Conclusion (iii)

- (iii) The new behavioral science of pleasure needs a new paradigm with new theories and concepts like pleasure and happiness, and a new methodology (disperate measurements and experiments)
- (iv) May require the development of new econometric techniques
- (v) The new theory can better predict the impact of novel economic policies on consumer well-being

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Intermediate Conclusion (iv)

- Current economics does not meet Tarde's and Popper's conditions
- - Virtually all the assumptions of neoclassical model have been refuted but it is still the dominant paradigm
- Behavioral and neoclassical economics -which are at odds- peacefully co-exist.
- Compare: would in 2013 any biologist ignore Darwin???

(i) Coexistence of Conflicting Paradigms?

- (i)Hampers the development of the discipline:
- Tarde: For a discipline to evolve, competing theories need to enter into ”logical duels”

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(ii) Coexistence of Conflicting Paradigms?

- (ii) Reduction of the credibility and usefulness of a discipline
- (iii) May lead to pick and mix policy
- Example:
- - Conflicting economic crisis policies:
- - Krugman's fiscal stimulus policy vs. Reinhart-
- Rogoff's austerity policy

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Implications of the Outcome of a Logical duel for R S

- (i) Rejection of the neoclassical model as generally applicable paradigm for RS because virtually all of its assumptions have been rejected
- (ii) Discipline-based paradigm is too limited for RS because it is "..any social science analysis with a spatial dimension"
- (iii) Hence: there is a need for a comprehensive paradigm

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The Social Rationality Model (SRM)(i)

- Lindenberg (2001)
- (i) A cognitively plausible, social actor, i.e. an actor with bounded rationality and limited information who is subject to social influences
- (ii) Physical and social well-being as universal goals, which are made up of sets of sub-goals that are hierarchically ordered (instead of the catch-all notion utility)
- (iii) Relative improvements of one's living conditions are important goals

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SRM (ii)

- (iv) Realisation of the goals
- -takes place within a set of physical and social restrictions, including budget constraints, and formal and informal institutions
- -is a problem solving process in which the actors have limited information, apply heuristic stopping rules, are resourceful in their goal pursuit (i.e. can think of new ways to achieve a goal), form expectations about future events, are able to learn from experience and can adapt to changing conditions.

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SRM (iii)

› The SRM encompasses the neoclassical model

Implications of SRM for economics

- (i) The SRM paradigm is more than (behavioral) economics:
- -It also includes psychology, sociology, evolutionary biology and neurology
- (ii) Implies supplementation or substitution of utility maximization and derived concepts by notions like well-being or happiness

Example

- Labor supply not only a function of consumption and leisure but also of other types of pleasure such as social contacts, and constraints like norms, ethics, social pressure, and so on.
- Note: A neoclassical economist would also take into account other types of pleasure than leisure and consumption, and other constraints than a financial budget constraint
- However: if that's the case, why not immediately start with the broader framework? And what about the benefit of the neoclassical paradigm ?

Implications for RS (i)

- SRM fine candidate for RS paradigm
- Implies interaction between theory and empirics rather than one way relationship
- Concept validation a basic step in theoretical and empirical RS research because many concepts in economics are latent (unobservable) variables
- Examples of latent variables: welfare, socioeconomic status, trust

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Implications for RS (ii)

- Measurement of the various dimensions of pleasure rather than using proxies like Gross Regional Product
- More surveys and experiments in regional science, especially natural field experiments

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Methodology (iii)

- Pragmatic argument to use a comprehensive social science framework rather than a narrow, discipline-based model :
- Ignoring sociological and psychological concepts like trust, attitude, perception, network, formal and informal norms, reputation, expectation, leads to underspecified models, omitted variable bias and inconsistent estimators

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Examples of the Need for a Comprehensive Framework

- Cottrell (2003): Environmental attitudes explain 24% of total variance in people's environmental behavior
- Tang et al (2013): Perception of water scarcity the most important determinant of irrigation water use efficiency in a stochastic frontier analysis
- Li et al (2013): It's *perception-based*, not objective risk, that co-determines averting behavior in the case of air pollution

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Producer Theory (i)

- Neoclassical theory of the firm based on the notion of a profit maximizing, single decision maker in a perfect information world is an extremely simplified mathematical model that is (Krugman) …" *clad in impressive looking mathematics*" but frequently without (Krugman) …" *some assurance that the analysis is actually relevant*"

Producer Theory (ii)

- A relevant analysis considers a firm that is embedded in a network
- and
- made up of several different units that pursue diffuse, often conflicting, goals in a socio-cultural-political evironment with several broadly formulated goals and norms

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Conclusions (i)

- (i) RS needs a behavioral paradigm of its own to strengthen its identity
- (ii)Given its nature as “any social science analysis that has a spatial dimension”, the Social Rationality Model, McFadden’s “new behavioral science of pleasure” and Morishima’s social science approach are fine candidates for the consumer component.
- A similar reformulation of producer theory needs to be developed

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Conclusions (ii)

- (iii) By following this path, RS could transform from a fragmented, borrowing discipline to a leading “model” social science
- In the spirit of Walter Isard
- By following Morishima and McFadden, RS would not only deal with pleasure, but doing RS would be an even greater pleasure than it already is to all of us

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