Terminologie et frontières disciplinaires : exemple du « domaine » économique

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Introduction (1)

- Où se situent les frontières du domaine économique ?

  a changing environment of shifting barriers (Davis 2012 : 218)

- Définition du domaine : absence de consensus

=> « ***Economics is what economists do*** » (Jacob Viner 1933)

- Dé*fini*tion (*finis*) = limite

Introduction (2)

[T]he definition of a science must necessarily be ***progressive*** *and* ***provisional****.* ***Any extension of knowledge*** *or* ***alteration in the current opinions respecting the subject-matter may lead to a change*** *more or less extensive* ***in the particulars included in the science.***

(John Stuart Mill 1941: 91)

Trame

1. Cadres théorique et méthodologique

2. Les termes clés et leurs enseignements
   2.1 À propos de '*mainstream economics*', '*orthodoxy* ' et '*heterodoxy*'
   2.2 À propos de '*economic imperialism*' et '*reverse imperialism*'
   2.3 Les choix linguistiques, reflets de points de vue différents

3. Le dynamisme comme concept clé
   3.1 Dynamisme des métaphores constitutives de la théorie
   3.2 Dynamisme lié à l'interdisciplinarité
   3.3 Exemple : le cas de l'économie de la complexité

Arrière-plan théorique

- Théorie générale de la terminologie (TGT) à adapter

=> Analyse *in vivo*

=> Termes polyhédriques (Maria Teresa Cabré 2000, 2003)

=> Approche diachronique

- Métaphores constitutives de la théorie (Boyd 1979)
- Métaphores "en sommeil" (Grey 2000)
- Métaphores : processus dynamique (Resche 2013) et non statique (CMT; Lakoff & Johnson 1980)

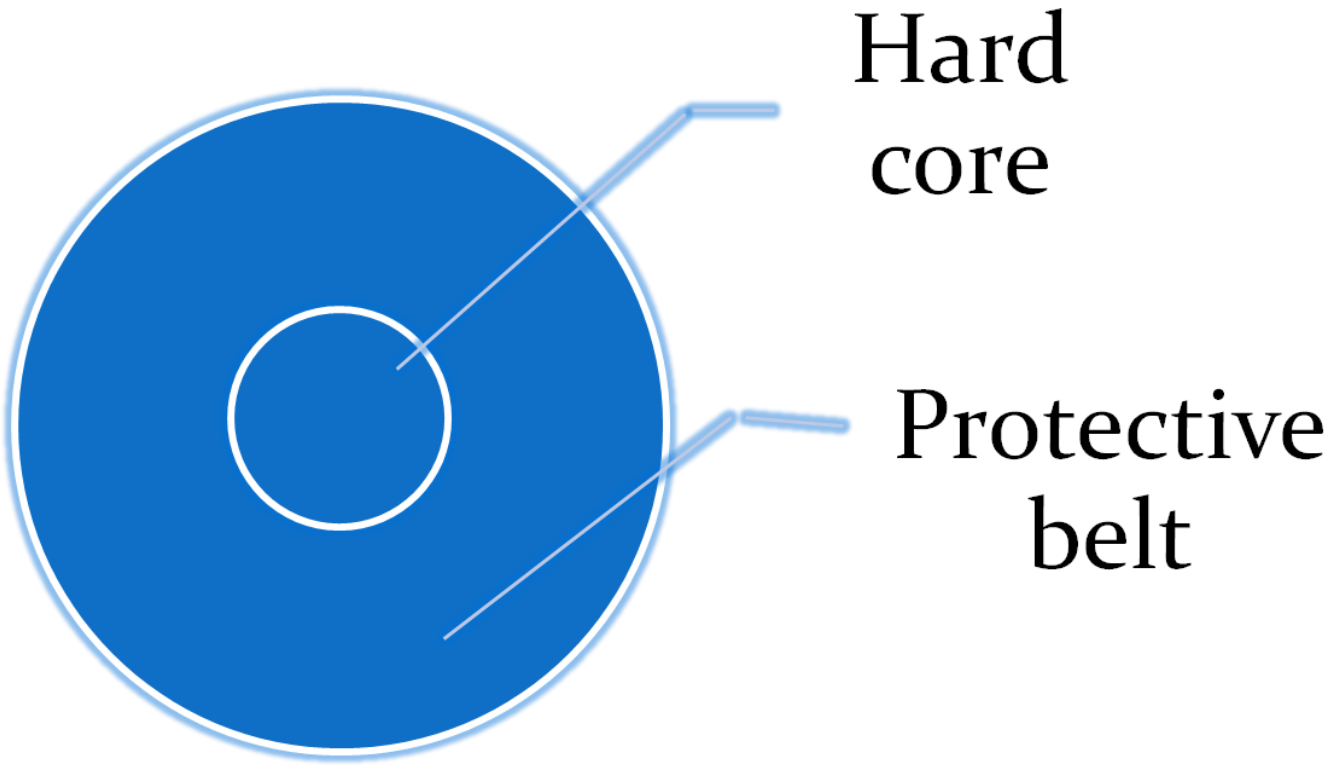
Méthode

- Corpus : textes authentiques des spécialistes (économistes défunts ou vivants à partir du XVIIIè siècle)
- + spécialistes de l'histoire et de la philosophie de l'économie
- "*[i]t is impossible to draw a clear-cut boundary around the sphere or domain of human action to be included in economic science*" (Frank Knight 1934 : 228)
- Lecture classique, puis analyse outillée (Antconc)
- Repérage des collocations et équivalents de "*boundaries*"

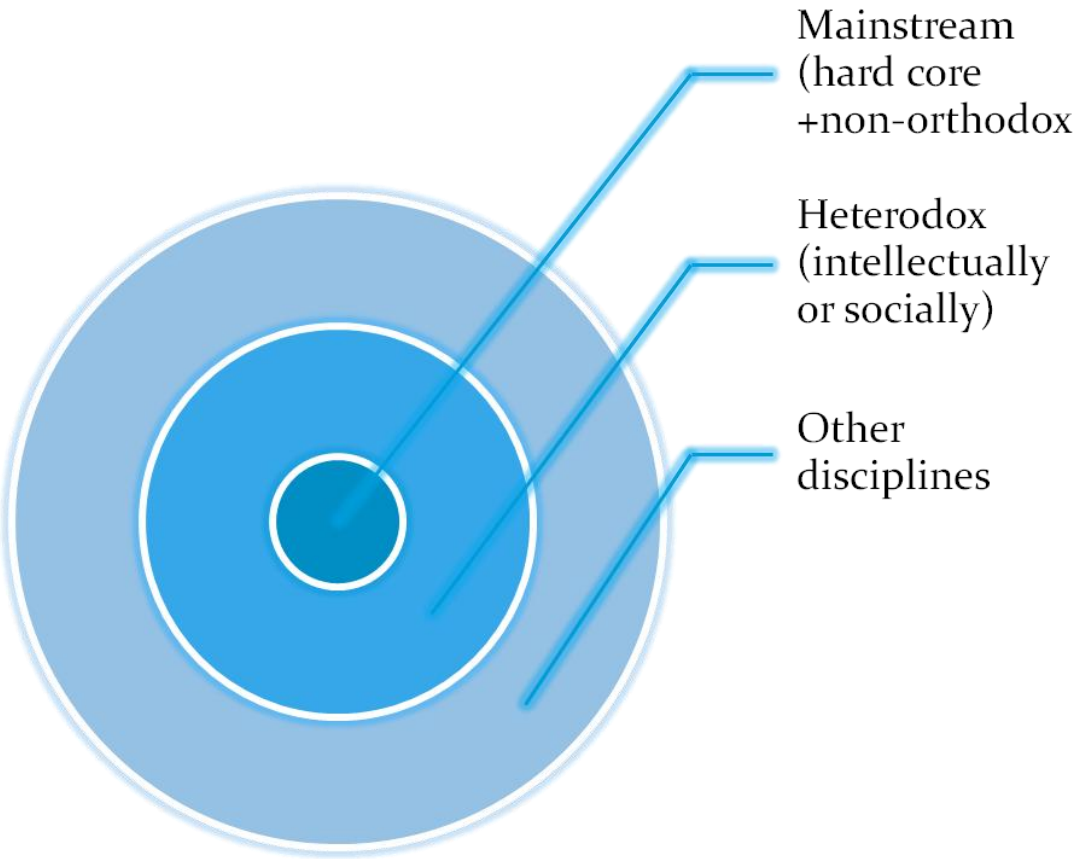
Considérations économiques et domaines de rattachement

Antiquity	• SOCIAL PHILOSOPHY
The Middle-Ages	• THEOLOGICAL POLITICAL PHILOSOPHY
The Renaissance	• SECULAR POLITICAL PHILOSOPHY
18th century	• MORAL PHILOSOPHY
First half of the 19th century	• POLITICAL **ECONOMY**
From 1850 onwards	• **ECONOMICS**

Lakatos => *mainstream / orthodoxy*



Le domaine économique de nos jours : une sorte d'oignon



Mainstream pluralism

Evolutionary and institutional themes have been **primarily associated with heterodox economics** during the period of neoclassical dominance, but there is good reason to think they may be **emerging as central themes in recent mainstream economics**.

(Davis 2006, p. 3)

‘Orthodoxy’ / ‘heterodoxy’

- Religion, foi, excommunication => *The “holy trinity of rationality, selfishness and equilibrium”* (Colander *et al.* 2003: 1);
- Dogmatisme : l’idéologie, inévitable compagne de l’analyse scientifique (Gunnar Myrdal 1969);
- “*seeks to **found**, **demarcate** or **defend** the autonomy or the boundaries of a discipline*” (Silvestri 2017: 2);
- “*Demarcation criteria are used as **machines de guerre** in a polemical battle between **rival camps***” (Laudan 1983: 119)

'Economics imperialism' / 'Reverse imperialism'

- '*imperial science*' (Stigler 1984) = terme trompeur

- *The salvation of Economic Science in the twentieth century lies in* ***an enlightened and democratic 'economic imperialism'****, which invades the territories of its neighbors,* ***not to enslave them or to swallow them up****, but* ***to aid and enrich them and promote their autonomous growth in the very process of aiding and enriching itself.*** (Souter 1933: 94)

- *Reverse imperialism* : revanche ?

Commerce de concepts et de points de vue mutuellement enrichissants

The two-way intellectual traffic – **imperialist forays of economics methodology into philosophy, psychology, and the law**, and **the invasion of our territory by psychologists, sociobiologists, and rhetoricians** – has recently flowed across the borders of economics in high volume. It appears we are in something of a rush hour. And partly in consequence, **shifts and changes in the boundaries of economics seem to be taking place at an accelerated rate** – even things like personal relationships, self-control, emotion, and addiction are becoming legitimate areas of economic research.

(Winston & Teichgraeber 1988, p. 2)

‘Boundaries’ et ses collocations

Disciplinary boundaries + verbes	**Boundaries + Adjectifs/participes utilisés comme adjectifs)**
Crossing - (Davis 2015) *Erasing* - / *Testing* the importance of - (Camerer *et al*. 2005) *Negotiating* - (Massey 1999) *Pushing back* - (Fisher 1991) *Transcending* - (Inkpen & Des Roches 2016)	*Shifting* boundaries (Fine & Milokaris 2009; Davis 2015)
Blurring -(Camerer *et al*. 2005) *Transgressing* - (Inkpen & Des Roches 2016)	*Disputed* - (Silvestri 2017) *Fuzzy* -

Equivalents de *boundaries* : commentaires

- *Borderlines / Borders*
- Work at the *edge* of economics (Colander, Holt & Rosser 2004)
- *Frontiers* (Jo 2015)

- *Barriers* (Davis 2006)
- *Uncharted frontiers* (Kelly 2015)

- *The changing face of mainstream economics*" (Colander *et al.* 2004)
- "*a turn in economics*" (Davis 2006)
- *Expansion / extension / reorientation* (Grossbard-Shechtman and Clague 2003; Hirshleifer 1985)
- *cross-fertilization* (Davidko 2013)

‘exchange gain’

- *[…]* ***exchange*** *between ecologists and economists* ***is preferable****, for epistemological and policy-oriented reasons,* ***to their acting independently****.We call this “****exchange gain****.” Our case studies show that theoretical exchanges can be less disruptive to current theory than commonly thought—****valuable exchange does not necessarily require disciplinary integration****.*

(Inkpen and Des Roches 2016)

<http://philsci-archive.pitt.edu/id/eprint/12610>

La vitalité des métaphores constitutives de la théorie

La veine mécaniste (inspirée de la physique)	La veine organiciste (inspirée de la biologie)
Equilibrium	Circulation
Elasticity	Competition
Force	Crisis
Instruments	Cycle
Leverage	Dilution
Mechanism	Division of labor
Resilience	Float
Overheating	Growth
Tools	Liquidity
Velocity	Recovery

Entre biologie et physique

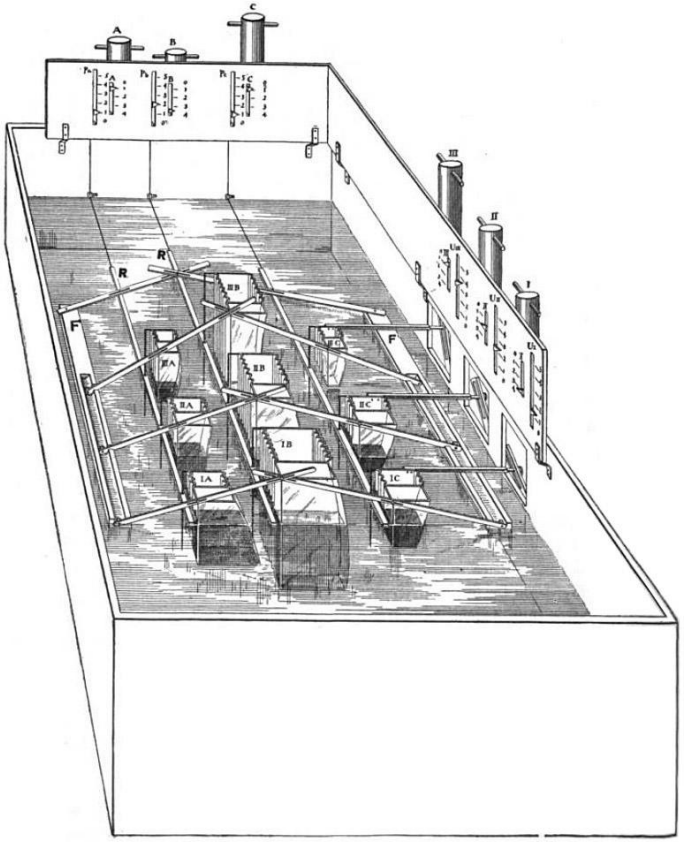
The Mecca of the economist lies in economic biology. But biological conceptions are more complex than those of mechanics; a volume on Foundations must therefore give a relatively large place to mechanical analogies.

(Alfred Marshall, 1890, xiv)

Tableau de concordance (Fisher 1926)

Mechanics	Economics
A particle / Space	An individual / Commodity
Force	Marginal utility or disutility
Work or energy = force *x* space Force is a vector.	Utility = marginal utility *x* commodity Marginal utility is a vector.
The total energy may be defined as the integral with respect to impelling forces.	The total utility enjoyed by the individual is the like integral with respect to marginal utilities.
Equilibrium will be where net energy (energy minus work) is maximum; or equilibrium will be where impelling and resisting forces along each axis will be equal.	Equilibrium will be where gain (utility minus disutility) is maximum; or equilibrium will be where marginal utility and marginal disutility along each axis will be equal.
If total energy is subtracted from total work instead of vice versa the difference is "potential" and is a minimum.	If total utility is subtracted from total disutility instead of vice versa the difference may be called "loss" and is a minimum.

Les machines de Fisher et de Phillips



Nature de la science économique ?

S'apparente-t-elle

- à la chimie plutôt que la physique (John Elster 1989)
- à l'ingénierie (Mankiw 2006)
- à l'ingénierie sociale (Santos & Rodrigues 2009)
- à la biologie (Marshall 1890)?

> ***Economics is a social science***. *As such, one might question whether it should be modeled after any of the natural sciences. Human beings and their social interactions are quite different objects of study than are planets, proteins, or integrated circuits; […]* ***there are many fundamental differences between the natural and the social sciences***.
>
> (Hausman 1992: 320)

Dynamisme et interdisciplinarité

The *Journal of Interdisciplinary Economics* is a forum in which those who wish **to expand the boundaries of economic science** are invited to contribute research that **seeks out the hidden assumptions that determine the economist's current world view**, relax them and so **evolve a new discipline more appropriate to the contemporary global environment**, thereby enabling economists to tackle problems that have been created within that environment.

Papers and comments are particularly welcome from academicians and practitioners on topics that **focus from an interdisciplinary perspective on neglected boundary areas**, hidden assumptions, and axioms in economics that may not be self-evident.

Termes valises : leurs enseignements

TERMES	DÉFINITIONS
BIOECONOMICS	*The study of the dynamics of living resources using economic models*, and of economic systems, applying the laws of thermodynamics.
ECONOPHYSICS	An interdisciplinary research field, *applying theories and methods originally developed by physicists in order to solve problems in economics*, usually those including uncertainty or stochastic processes and nonlinear dynamics.
NEUROFINANCE	*A mixture of finance, psychology, and neuroscience.*, it seeks "to characterize the computations undertaken by the brain to make financial decisions
NEUROECONOMICS	Neuroeconomics tries to *bridge the disciplines of neuroscience, psychology, and economics*.

Enrichissement réciproque

Bioeconomics

In the one interpretation it appears *as* ***a vehicle for 'exporting' the situational logic and the sophisticated optimization concepts developed in economics into biology.*** [...]

The other interpretation focuses on ***a reverse transfer of ideas.***[...] ***Analytical tools and concepts developed in biology***, particularly in the Darwinian theory of evolution, for making sense of evolutionary change ***may therefore be of interest to economists who want to broaden their intellectual tool box.***

(Witt 1999: 19-20)

Neuroeconomics

Psychology and economics are complementary disciplines, in many cases studying the same phenomena: decision making, value-based judgment, heuristics. ***One side approaches it from a phenomenological, experiment-driven perspective and the other from an abstract, theoretical perspective***.

(Cohen 2010)

<https://insights.som.yale.edu/insights/what-is-neuroeconomics>

Collaboration entre sciences

It is true of almost every science that, the longer one studies it, the larger its scope seems to be: though in fact its scope may have remained almost unchanged. But ***the subject matter of economics grows apace***; so that ***the coming generation will have a much larger area to study***, as well as ***more exacting notions as to the way in which it needs to be studied***, than fell to the lot of their predecessors."

Alfred Marshall à Lord Keynes, cité par Pigou (1925: 499)

Among the best French and foreign economists***, many researchers investigate the links between economics, psychology, sociology, history, political science, law, and geography.***

Jean Tirole, (Lauréat du « Prix Nobel d'économie » en 2014), Lettre rédigée en 2016

<http://assoeconomiepolitique.org/wp:content/uploads/TIROLE_Letter.pdf≥

Lauréats du « Prix Nobel » d'économie

Dates	Noms des lauréats	Motifs d'attribution du Prix
1974	Gunnar Myrdal & Friedrich August von Hayek	"for their penetrating analysis of the ***interdependence of economic, social and institutional phenomena***".
1998	Amartya Sen	"for his contribution to ***welfare economics***"
2002	Daniel Kahneman	"for having integrated **insights from *psychological research*** into economic science especially concerning ***human judgment* and *decision-making under uncertainty***".
2009	Elinor Ostrom	"for her analysis of economic governance, especially the commons" (for which she did ***extensive ethnographic fieldwork***).
2017	Richard Thaler	"for his contributions to ***behavioural economics***".

Economics : nouvelles branches	Concepts importés
Butterfly economics (Ormerod 1998) **Circulation economics** (Ingebrigtsen & Jakobsen 2007) ***Coevolutionary economics*** (Gowdy 2013) ***Cognitive economics*** (Kimball 2015) **Complexity economics** (Arthur 1997) ***Computational economics*** (Judd 1997) ***Experimental economics*** (Bardsley *et al.* 2010) ***Open economics*** (Arena *et al.* 2009)	Bounded rationality; Chaos; Complex systems; Dynamic attractors; Emergent patterns; Feedback loops; Fractals; Game theory; Genetic algorithms ; Lock-in; Networks; Non-linear models; Path dependency; Punctuated equilibrium; Self-organisation; System dynamics.

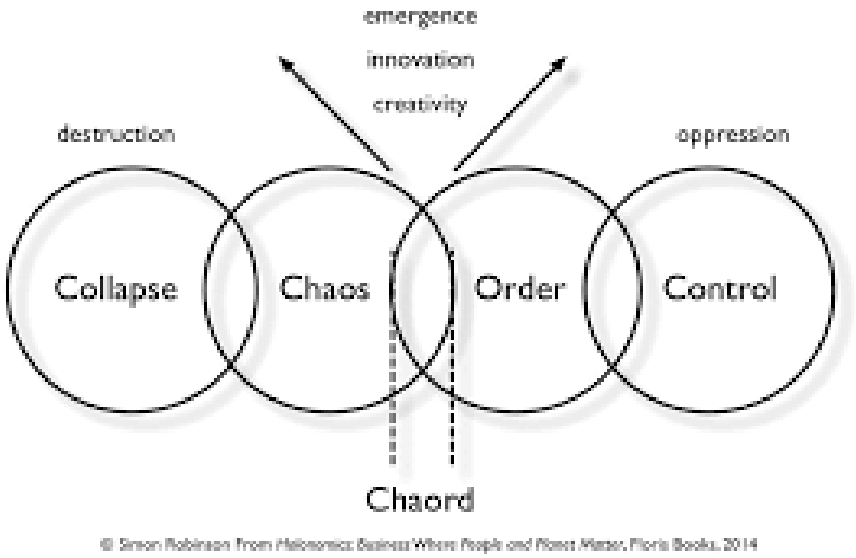
'A *radical remaking* of economic theory' (Beinhocker 2006)

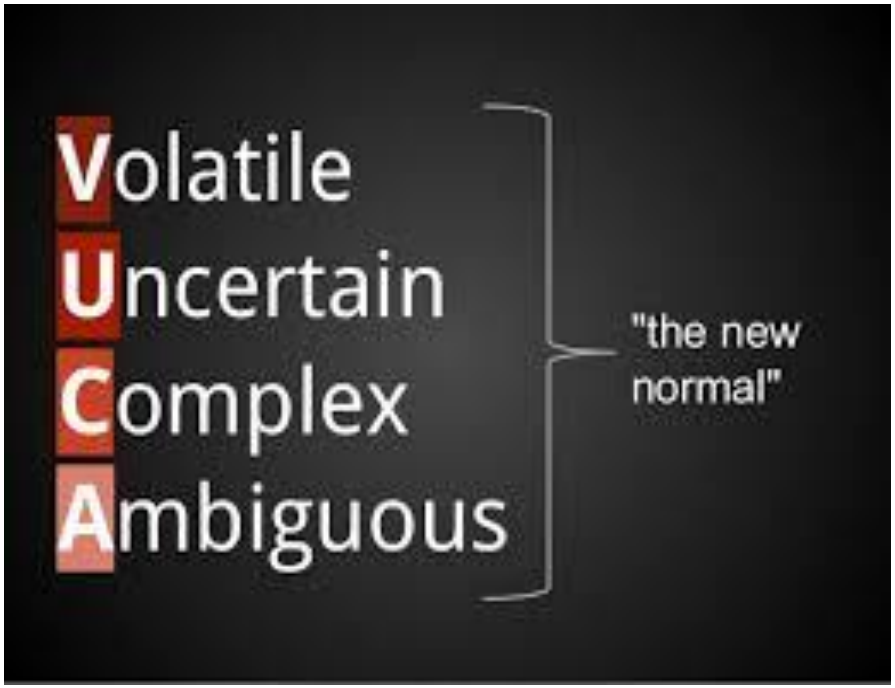
- **Circulation economics** : "**mechanical** worldview vs. **organic** worldview, **economic man** vs. **ecological man**, **linear** value chains vs. **circular** value chains, **competition** vs. **cooperation,** and value **monism** vs. value **pluralism"**

  (Ingebrigtsen & Jakobsen 2007: 255)

- There is a strain of common perspectives that has been accumulating as **the four C's of cybernetics, catastrophe, chaos and complexity** emerged, which may now be reaching a critical mass in terms of **influencing the thinking of economists more broadly.** (Rosser 1999: 187)

Le monde VUCA





L'économie de la complexité

Until now economics has been **a noun-based rather than verb-based science**. It has pictured changes over time in the economy function as changes in the level of **fixed-noun entities** – employment, production, consumption, prices. **Now it is shifting** toward seeing these changes as **a series of verb-actions – forecast, respond, innovate, replace – that cause further actions.** […]

Complexity economics is still in its early days and many economists are pushing its boundaries outward. **It shows us an economy perpetually inventing itself,** perpetually **creating possibilities** for exploitation, perpetually **open to response**. An economy that is not dead, static, timeless, and perfect, but one that is **alive, ever-changing, organic and full of messy vitality.**

(Arthur 2013: 19)

Remarques conclusives (1)

Economics is **a science of thinking** joined to **the art of choosing models which are relevant to the contemporary world**. It is compelled to be this, because, unlike the natural science, **the material to which it is applied is, in too many respects, not homogeneous through time**.[…] [E]conomics is **essentially a moral science** and **not a natural science**.

(1938 letter to Harrod by John Maynard Keynes)

The **master economist** must possess **a rare combination of gifts**. […] He must be **mathematician**, **historian**, **statesman**, **philosopher**, in some degree. […] **No part of man's nature or his institutions must lie entirely outside his regard.**

(Keynes 1924: 321-322)

Remarques conclusives (2)

- Concepts évolutifs
  - nouveaux termes => fenêtres sur l'histoire des idées
  - métaphores => miroirs des changements de cap éventuels.

Names matter. In particular, naming subfields of economics can help economists to see connections they otherwise might not have seen between their own research agenda and the research agenda of others.

(Kimball 2015)

Remarques conclusives (3) : le facteur temps

Economic conditions are constantly changing, and each generation looks at its own problems in its own way. [...] **Some of the best work of the present generation has indeed appeared at first sight to be antagonistic to that of earlier writers**; but when it has had time to settle down into its proper place, and its rough edges have been worn away, **it has been found to involve no real breach of continuity in the development of the science**.

(Alfred Marshall, 1890 : 1, Préface à *Principles of Economics*)

An old adage holds that **science progresses funeral by funeral**. Today, with the benefits of longer life expectancy, it would be more accurate (if less vivid) to say that **science progresses retirement by retirement**. In macroeconomics, as the older generation of protagonists has retired or neared retirement, it has been replaced by a younger generation of macroeconomists who have adopted **a culture of greater civility**.

(Greg Mankiw, 2006, *Journal of Economic Perspectives*, 20/4)

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