

# Creativity, knowledge and innovation

Jean-Alain HERAUD

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# Introduction

- Innovation: well-known concept for economists now (although more relevant for evolutionists than mainstream economists)
- Is innovation an application of knowledge economics?
- Introducing the additional concept of creativity?

## Innovation as a central strategy for firms and other organizations

- Creating and developing new products, processes and/or markets is *at least an opportunity* for the development of micro and macro entities (firms, institutions, cities, regions).
- It is even sometimes *a necessity for survival* in a globalized, ever-changing world (typically for developed countries if they intend to keep high living standards...)
- Nevertheless only a minority of entrepreneurs consider creative/innovative activities as day-to-day business: it is a secondary concern because operational business issues claim the entrepreneur's full attention
- Therefore many ideas « stay on the shelf » due to lack of time, money, partners or knowledge
- Transforming “ideas” into “innovations” is an act of **creativity**

# Paradigmatic issues

- Mainstream (neoclassical) economic models: OK for short term description, and « business as usual » issues:
  - We can more or less rely on individual optimization attitudes and global market mechanisms.
- But not for long term qualitative change:
  - Here the model is an evolutionary one, based on relatively erratic creative attitudes plus some selection process.

# Evolution of focus in innovation studies

- Economics of technology (1970s)
- Economics of innovation (1980s)
- Economics of knowledge (1990s)
- Economics of creativity (2000s)

# 1. From innovation to creativity



# Joseph A. Schumpeter (1883-1950)

the father of innovation theories  
and evolutionary economics

- Principle of “**creative destruction**” (*schöpferische Zerstörung*)
- Main works: ***Business Cycles: A theoretical, historical and statistical analysis of the Capitalist process*** (1939); ***Capitalism, Socialism and Democracy*** (1942)
- Innovations according to Schumpeter:
  - New markets or products
  - New equipment
  - New sources of labor and raw materials
  - New methods of organization or management
  - New methods of transportation or communication
  - New methods of advertising and marketing
  - ...



## Richard Florida

popularized the term *creativity*

Since then many cities and other territories have tried to develop *creativity* policies in order to boost local economic development, sometimes to reinvent a collective vision after a crisis

- Richard Florida (2002): *The rise of the creative class*
- To sum up:
  - in the knowledge-based, innovative world – contextual situation of the developed countries -, creative people are the most important asset.
  - Jobs follow creative people: economic development crucially depend on them, for designing, producing and even consuming innovative products or services.
  - If you have not enough of them, try to attract them!
  - People's climate: they need many sorts of urban amenities, but - most important - they like cultural variety and places where their talents can develop with few constraints. Be tolerant!



## Which are the typical territories for creative activities?



Source: S. Chantelot

# Richard Florida's 3T's

- ***Talent, Technology, and Tolerance*** represent what I call the 3T's of economic development.
- *The 3T's approach represents a comprehensive strategy for organizations, cities, regions and countries to compete and prosper in the creative age.*
- **Talent**: People, especially top creative talent, move around a lot. A community's ability to attract and retain top talent is the defining issue of the creative age.
- **Technology**: Technology and innovation are critical components of a community or organization's ability to drive economic growth. (...) Universities are paramount to this, and provide a key hub institution of the creative age.
- **Tolerance**: Economic prosperity relies on cultural, entrepreneurial, civic, scientific, and artistic creativity. Creative workers with these talents need communities, organizations, and peers that are open to new ideas and different people. Places receptive to immigration, alternative lifestyles, and new views on social status and power structures will benefit significantly in the creative age.

# Measuring creativity

People to be included in the « creative class »

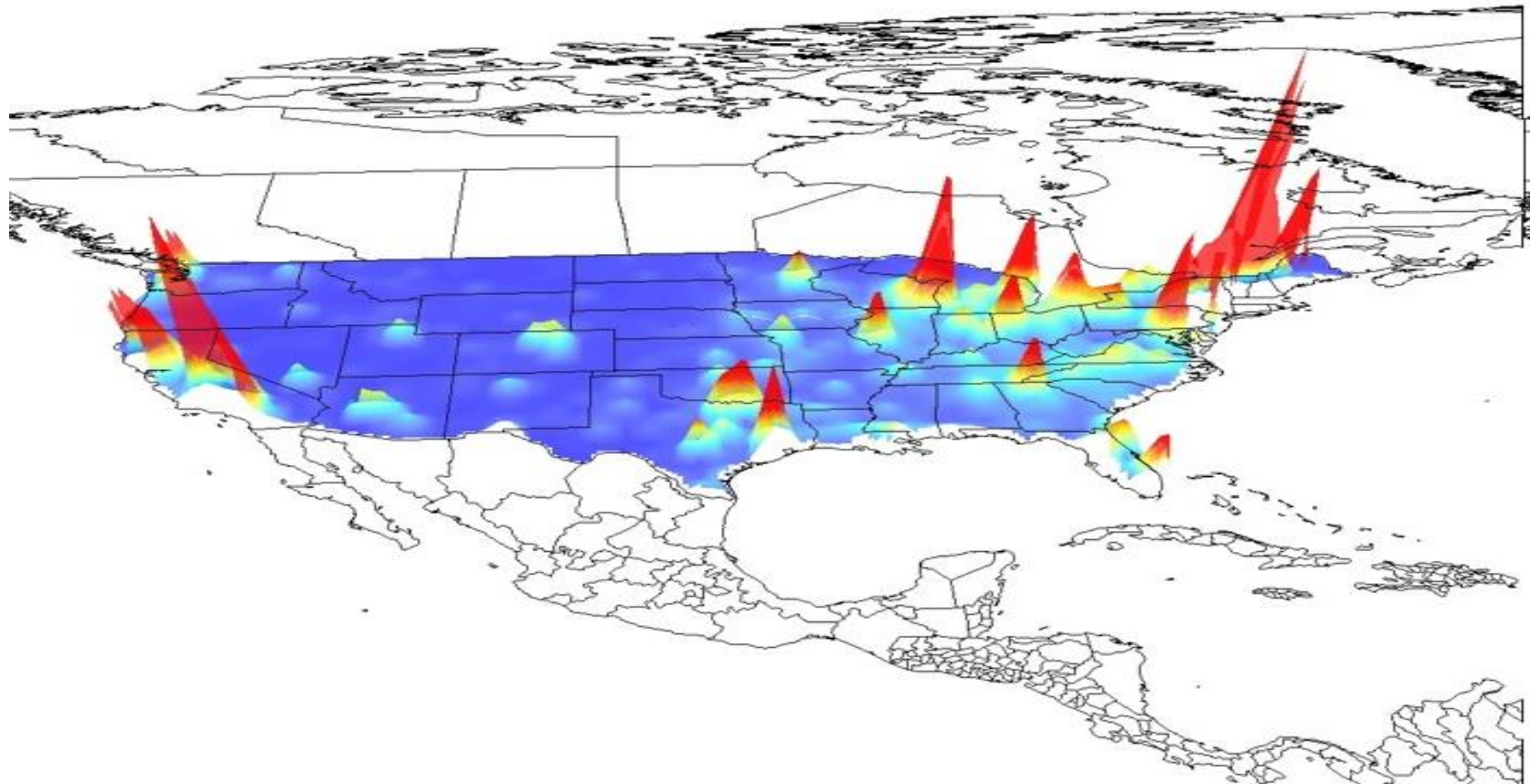
- Scientists
- Entrepreneurs
- Managers
- Consultants
- Designers
- Writers
- Artists
- etc.

# Creative class typology

<b>Creative Core</b>	<b>Directly involved in creative and innovation processes créatifs</b>	<b>R&amp;D Intellectual Supply</b>
<b>Creative Pro</b>	<b>Manage and foster change and innovation</b>	<b>Entrepreneurs B to B Management</b>
<b>Bohemians</b>	<b>Directly involved in artistic productions</b>	<b>Arts, Culture Design Medias</b>

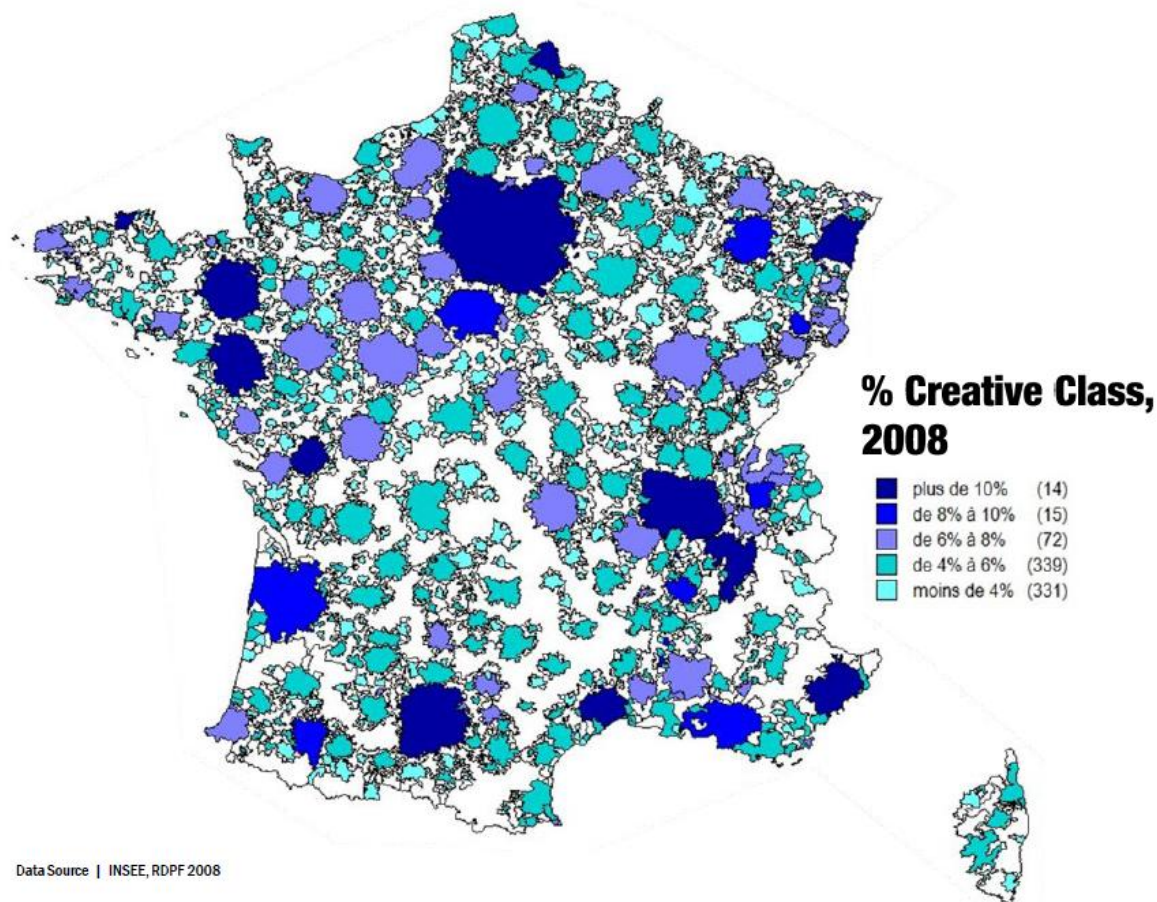
Source: S. Chantelot

## Geography of talents (Richard Florida)



# Creative class density in France

## Urban Mapping





## 2. Towards a more general concept of creativity (human and organizational issues)

# Beyond Florida

- Florida's model has been extensively criticized

→ For instance, the sense of causality is not certain: do cities develop because they have a creative class, or do they attract those wonderful people because they develop? Other questionable hypothesis: depending on the countries/regions, it is not certain that all creative people are very mobile, etc. OK for attracting talents, but why not rising them as well? Or revealing potential creative communities within the territory?

- The concept of creativity needs more analytical work (in various contexts: individual *vs* organizational; scientific *vs* cultural;....) for becoming the basis of sound private strategies and public policies



## A very basic and widely accepted definition of creativity

- Creativity corresponds to a positive mental attitude towards anything that is new.
- *"Creativity is the ability to produce work that is both :*
  - ***novel** (i.e., original, unexpected)*
  - *and **appropriate** (i.e., useful, adaptive concerning task constraints)." (\*)*

(\*) Sternberg & Lubart: *Handbook of Creativity* (1999, 2008)

## « *Novel and appropriate* » ?

« Before you build a better mousetrap, it helps to know if there are any mice out there »

Mortimer B. Zuckerman, quoted by Williams&Yang in Sternberg *et al.* (2008) in the chapter on *organizational creativity*

### Comments:

- If you invent a better mousetrap, you can patent it (this is *technological creativity*)
- But if there is little or no use of it, you will never get an innovation in the sense of Schumpeter (*economic creativity*)

# From idea to innovation (or not)

<i>Idea</i>	Not relevant for anything known	Relevant for something
<b>Not new</b>	/	<b>Business as usual</b>  <b>Nothing to be ashamed of: you can earn money and/or help people!</b>
<b>New</b>	<b>Not interesting (yet) for economy and society</b>  <b>Can be interesting for science, philosophy, arts...</b>	<b>Creative idea</b>  <b>Could lead to innovation if « allies » can be found</b>

## Economics of creation and/or creativity?

- Economists cannot pretend to explain *creation* in art, science, etc., only in the economy (innovation)
- But they can try to explain why certain organizational or cultural contexts favor (or not) creation like invention, new artistic trends...
- Typical issues:
  - What is a creative firm?
  - What is a creative territory?
  - Are certain people specifically creative for their local environments (*knowledge angels...*)?
  - Does education and training systems produce *creative people* or just *learned persons*.

# Innovation and creativity

Innovation is

A new idea  
+ entrepreneurship

- New knowledge is not necessarily scientific or technical : can be organizational, cultural, etc.
- It is not always formal knowledge: intuition, vision...

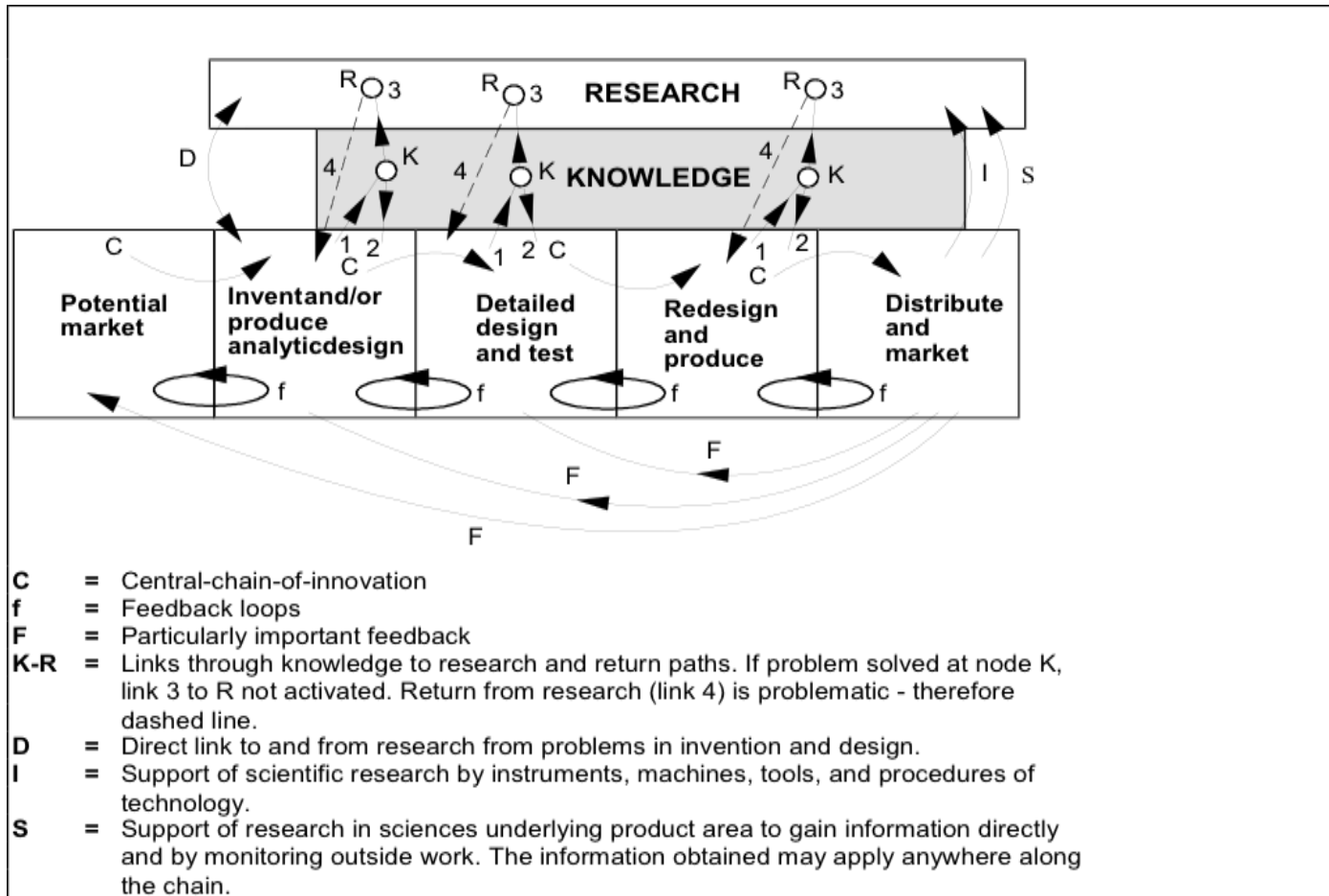
Very important human competencies :

- entrepreneurship,
- serendipity,
- ability to "think out of the box"
- leadership

## Exemples of creativity in different domains

Domain	Activity	Results <i>measurement</i>
Science	Research (basic, possibly finalized)	Discovery <i>publication</i>
Technology	Applied research	Invention  <i>Patent</i> <i>(Not systematically)</i>
Economy/ society	Industrial and commercial development	Innovation  <i>Sales, profits, employment...</i>

## “Chain-linked model” (Kline & Rosenberg, 1986)



## Conclusion on knowledge and innovation

- Knowledge creation and knowledge circulation are at the core of innovation processes, but not only, not necessarily, at the upstream end (R&D)
- Knowledge is not enough; an engine is necessary to move it, translate it, recombine it... This is the role of organizations : firms, institutions, cities...
- Every sort of knowledge can reveal useful, formal knowledge (*know what*) as well as tacit knowledge (*know-how*).

And something more than knowledge is required



# 3. Creativity and knowledge

# Innovation needs knowledge *and* vision

- A vision is a representation of a possible future
- Without knowledge, it is impossible to realize any plan leading to any desired future
- But planning with existing knowledge leads to nothing really new
- Knowledge is precious but not enough; in certain cases focusing on knowledge is the best way to kill creativity

# A very interesting approach of management: Saras Sarasvathy model of entrepreneurship

The opposition of two principles of project management

- **Causation** : selecting the right means in order to achieve a given aim.
- **Effectuation**: selecting possible desirable aims given the means we have

The first is focused on optimisation processes using the knowledge we have. The second takes into consideration what we have and what we know, but focuses on possible futures:

- preparing for future information (*foresight*)
- seizing opportunities (*serendipity*)
- changing the environment rather than fitting to it (*proactivity* instead of reactivity)

Exemple: creating a new market rather than fighting for a share in the existing market.

# Individual or collective creativity?

- **Innovation** is not an individual achievement
- **Creativity** in the *upstream part of innovation* process can be individual but is also often a collective phenomenon
- The role of *knowledge communities* is central, at least for preparing the ground to radically new ideas
- *Communities of practice ; epistemic communities*

# Communities of knowledge

- Knowledge is produced in communities: scientific communities but also "communities of practice" (Wenger), "knowing communities" (Boland, Tenkasi), "epistemic communities" (David, Cowan, Foray, Cohendet...
- Nonaka & Takeuchi have proposed an interesting cycle of knowledge translation and production (codified-tacit-codified...) within organizations.
- Communities overlap institutionnal borders.
- Individuals can therefore work as "boundary spanners" of their organization or "knowledge brokers" between organizations, with the help of the communities they belong to.



## Epistemic communities



Cowan, David et Foray [2000] define epistemic communities as « *small groups of agents working on a commonly acknowledged subset of knowledge issues and who at the very least accept a commonly understood procedural authority as essential to the success of their knowledge activities* ».

An epistemic community deliberately aims at creating new knowledge.

Epistemic communities can be found in scientific, industrial (designers for instance) and artistic milieu (« schools” of painting, music, schools of cooking, fashion, etc...)

## 4. Management issues

# Quiz

When you hire a CEO, will you mainly look for:

- 1) A pleasant person?
- 2) A learned person?
- 3) A creative person?



## Answers

(quoting Sternberg & Lubart)

- 1) « it's hard to be perceived as pleasant when you may have to fire 20% of the company »
- 2) « they use computers or subordinates to remember the details for them »
- 3) Please hire them « for their creative vision\* of how to turn a company around »

\* Schumpeter insisted on the difference between a *manager* and an *entrepreneur*. The latter has a vision; he wants to change the world.

# How to "think out of the box" when you are in a box or when you manage a box...

- Is it enough to have a creative boss?
- Now to make an organization creative if the definition of "organization" is "set of routines"?



Now the point is:

**Creative boss does not automatically mean a creative organization**

- The main thing he/she should be creative at is innovative management: *organizational creativity*
- The boss is not the only one who can have ideas, but he/she is the one who makes the “go-no go” decision at the end of any creative project
- The principle is to be *tolerant* with any new idea (internal/external) as long as it is not lethal for the organization
- Many ideas come from **outside the hierarchical system**: to let them cross the boundaries, “knowledge brokers”, “*passeurs*”(smugglers), “knowledge angels”(\*) are needed

Thank you for your attention

どうもありがとうございました

heraud@unistra.fr  
jaheraud.eu