ENTREPRENEURIAL DISCOVERY
AS A BLIND SPOT OF
ENVIRONMENTAL ECONOMICS

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ENTREPRENEURIAL DISCOVERY AS A BLIND SPOT OF ENVIRONMENTAL ECONOMICS

THE CASE OF WASTE RECYCLING IN THE NINETEENTH CENTURY

« There will be no sustainable economic development as long as it is not embedded in a superordinate societal context – and it is a cultural and political task to ensure this embedding »

(Ulrich, 2010 : 100).
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THE CASE OF WASTE RECYCLING IN THE NINETEENTH CENTURY

Do markets really need to be “regulated” in order to percolate sustainable development throughout the economy?

Our contribution aims to challenge this common belief:


2. However, recycling wastes was “business as usual” (BAU) throughout the 19th century (whereas market economies were less subject to public regulation than today).

3. Some “swimming against the tide” insights from this case.
1. **Economics and the Environment in the Economic Thought:**

1.1. **Environmental Economics:**

According to mainstream neoclassical Environmental Economics:

1. Business spontaneously externalizes environmental costs in order to maximize profit. Therefore, “unfettered markets fail to allocate environmental resources efficiently” (Turner, 2000) → Pigovian externalities as the bedrock of the market failure tale.

2. Even so, market incentives can be effective instruments for public policies and management...

3. Provided that they are under control of public intervention (i.e trade emissions permits).
1. **Economics and the Environment in the Economic Thought:**

1.1. **Environmental Economics:**

Externalities have raised objections from other *individualistic* schools of thought

1. **Externalities** are a mundane social phenomenon. There is no point to infer “Welfare (Public) Economics” from their existence (Block, Austrian School. See also Buchanan, Chicago School).

2. **Externalities** are in fact “transaction costs” between asset owners/users (Coase, Chicago School).

3. **Neoclassical Economics** makes no case of both mutual adjustment and entrepreneurial discovery as dynamic regulatory/enhancing properties of markets (Hayek, Kirzner, Cordato, Austrian School)

4. **State interventionnism** is not a panacea (Austrian School, Public Choice School).
1. Economics and the Environment in the Economic Thought:

1.1. Environmental Economics:

Even so,

the interventionnist – Cambridge - strand of Neoclassical Economics remains mainstream in Environmental Economics
1. **Economics and the Environment in the Economic Thought:**

1.2. **Ecological Economics:**

Ecological Economics is a syncretic school of thought

(1) Bringing together various heterodoxies (marxism, institutionnalism, post-keynesianism, etc.)

(2) Built upon a criticism of Environmental Economics (e.g. rejecting the monetary valuation of natural assets)

(3) Holistic, resting on biophysical assumptions and dedicated to the preservation of eco-systems.
1. Economics and the Environment in the Economic Thought:

1.2. Ecological Economics:

As a critical theory of mainstream Environmental Economics:

(1) EE favors “command-and-control” policies (coercive regulation) against market-based instruments and environmental taxation cherished by mainstream environmental economists.

(2) Interestingly, it charges “economic growth” rather than “markets” as the major cause of environmental degradation (both being however associated through the holistic concept of “capitalism” → profit accumulation).

(3) But there may be discrepancies—even controversies—between various stripes of Ecological Economists.
1. Economics and the Environment in the Economic Thought :

1.2. Ecological Economics :

For instance

(1) Some Ecological Economists are opened to Public Choice insights and advocate voluntary/decentralized ways of managing environmental assets.

(2) But Ecological Economics is still oddly victim of a vision of markets that is neoclassical in essence. It still lacks a wider vision of the profit as a reward for victors in the battle against scarcity (rather than a human penchant for “greed”) namely, a battle against wasteful usages of resources.
1. **Economics and the Environment in the Economic Thought:**

1.3. **Sustainable Development Economics and Corporate Social Responsibility:**

SD Economics is a form of Applied Economics blending EE and EnEn tenets. It aims to inspire public policy at a global and local level.

(1) From a conceptual standpoint, it claims to care about the needs of future generations and pursue triple performance objectives.

(2) From a pragmatic standpoint, SD Economics give rise to soft planned public policies (Kyoto Protocol) using both regulatory and market-based instruments.

(3) At a micro-analytic level, SD insemminates the strategic management of firms (business being invited to balance shareholder value with social and ecological concerns → triple performance)
### 1. Economics and the Environment in the Economic Thought:

#### The “allocative” vision of environmental issues

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**The problem**
- Overexploitation of commons: deforestation, depletion, soil erosion, species extinction.
- Pollution of neighborhood/riparian assets: smoking chimneys, noisy airports, river pollution.
- Environmental mass torts: climate change.

**The conceptual culprit**
- Lack of property rights: free-market EnE.
- Neoclassical Market failure: externalities, transaction costs.

**The interventionist response**
- Public ownership.
- Pigovian taxation/market-based instruments.

**The managerialist response**
- CSR.

**The «catallactic» response**
- Definition of private property rights.
- Coasian Bargaining: enforcement of private property rights.
1. Economics and the Environment in the Economic Thought:

1.4. Sustainable Entrepreneurship:

Literature on “Sustainable Entrepreneurship” is less conceptual (more case study based) than EnE or EE. It documents:

- Cases of for-profit and non-profit entrepreneurship motivated by the environmental commitment of the entrepreneur (e.g. making canoes with recycled raw materials, Larson, 2000).

- Cases of “macroentrepreneurship” (changing norms, public regulation, allocation of property rights) → political and institutional entrepreneurship.

Literature on entrepreneurship “points to the important role of entrepreneurs in mitigating market failures” (Meek et al.) but precisely lacks a systematic view of the entrepreneur as to be the agent of the market set in motion.
1. Economics and the Environment in the Economic Thought:

1.5. Eco-innovation:

Literature on “eco-innovation”

(1) Usually focuses on green and “end-of-pipe” technologies (dedicated to waste or energy reduction, often as a manifestation of regulatory compliance).

(2) Assumes the “Porter hypothesis” to be roughly correct: public regulation may lead to green innovations that business would not spontaneously foster. Literature in eco-innovation (and sustainable entrepreneurship) often assumes that firms—particularly small business—is not opened to green innovation.
1. Economics and the Environment in the Economic Thought:

So, in a nutshell:

- Mainstream Economic Literature relies on the market failure tale (externalities) as a conceptual justification for public-policy designed sustainable development goals. Ecological Economics even goes further in fostering command-and-control policies and/or environmental rights against economic development.

- Management and Entrepreneurship literature point out the contribution of market actors (business and ventures) to sustainable development. But it (often implicitly) embraces the market failure tale and acknowledges the steering function of public awareness and regulation as sustainability drivers.
2. Being Sustainable like Mr Jourdain was speaking prose: industrial waste reuse in the 19th century

The European industrial 19th century may be viewed as an archetypical age of *laissez faire* policies (especially in *Victorian England*).

Yet, numerous European authors have reported the propensity of industrial entrepreneurs to get wealth out of wastes—rather than externalizing costs—at a time when environmental policies were sparse and calls for sustainable development (or CSR) non existent.
2. Being Sustainable like Mr Jourdain was speaking prose: industrial waste reuse in the 19th century

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<tr>
<th>Author (Nationality)</th>
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<th>Year of publication</th>
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<tr>
<td>Babbage, Charles (USA)</td>
<td>On the Economy of Machinery and Manufacture</td>
<td>1832</td>
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<td>Playfair, Lyon (UK)</td>
<td>On the Chemical Principles Involved in the Manufactures of the Exhibition as Indicating the Necessity of Industrial Instruction</td>
<td>1852</td>
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<tr>
<td>Simmonds, Peter Lund (UK)</td>
<td>Waste Products and Undeveloped Substances: A Synopsis of Progress Made in Their Economic Utilisation During the Last Quarter of a Century at Home and Abroad.</td>
<td>1876; 1873; 1862</td>
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<tr>
<td>De Freycinet, Charles (France)</td>
<td>Traité d’assainissement industriel, comprenant la description des principaux procédés employés dans les centres manufacturiers de l’Europe occidentale pour protéger la santé publique et l’agriculture contre les effets des travaux industriels</td>
<td>1870</td>
</tr>
<tr>
<td>Koller, Theodor (Germany)</td>
<td>The Utilization of Waste Products. A Treatise on the Rational Utilization, Recovery, and Treatment of Waste Products of All Kinds</td>
<td>1918; 1915; 1902 (German editions: 1921; 1902; 1880)</td>
</tr>
<tr>
<td>Frederick A. Talbot (USA)</td>
<td>Millions from Waste</td>
<td>1920</td>
</tr>
<tr>
<td>Clemen, Rudolf (USA)</td>
<td>By-products in the packing industry</td>
<td>1927</td>
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<tr>
<td>Razous, Paul (France)</td>
<td>Les déchets et sous-produits industriels. Récupération, Utilisation.</td>
<td>1937; 1921; 1905</td>
</tr>
<tr>
<td>Kershaw, John B. C. (UK)</td>
<td>The Recovery and Use of Industrial and Other Waste</td>
<td>1928</td>
</tr>
<tr>
<td>Lipsett, Charles (USA)</td>
<td>Industrial Wastes and Salvage: Conservation and Utilization</td>
<td>1963; 1951</td>
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2. Being Sustainable like Mr. Jourdain was speaking prose: industrial waste reuse in the 19th century

**Two major statements:**

- Turning industrial wastes into valuable by-products was BAU in every industry (food, iron, wool, silk, cotton, leather and the like), especially in Victorian England (hence emulating other countries). Economists such as Marshall and Marx also emphasized that pattern.

- « all the fortunes which have been amassed from the commercialization of what was once rejected and valueless would require a volume. Yet it is a story of fascinating romance and one difficult to parallel in the whole realm of human activity » (Talbot, 1920)
2. Being Sustainable like Mr Jourdain was speaking prose: industrial waste reuse in the 19th century

Figure 2 Source: Victor E. Shelford, “Fortunes in Wastes and Fortunes in Fish,” *The Scientific Monthly* 9 (August 1919): 100.
2. Being Sustainable like Mr Jourdain was speaking prose: industrial waste reuse in the 19th century

Some insights from this literature:

a). « Waste not, want not » was ingrained in Victorian minds. It fits to a principle of parsimony which is basically a profit-maximizing one

b). Competitive pressures largely contributed to trigger entrepreneurial efforts resulting in win-win outcomes

c). Extensively designed property rights deterred businesses to externalize costs

d). Successful recycling rests on industrial/institutional conditions: large quantities of wastes, large factories or business clusters (making up industrial symbiosis)
2. Being Sustainable like Mr Jourdain was speaking prose: industrial waste reuse in the 19th century

By the way, isn’t it strange to posit that business is not spontaneously prone to recycle and save resources?

1. Wastes are a sunk cost. What’s more rational than turning sunk costs into valuable resources?

2. Innovation hinges on knowledge. Yet, business experience yields new (often tacit) knowledge fuelling forthcoming innovation
3. Caveats and insights:

Of course, one should be careful when deriving generalizations from case studies.

1. The world has moved on since the 19th century and new environmental challenges arose (e.g. recycling consumption wastes).

2. Reappraising the dynamic properties of unfettered markets might leave Ecological Economists unsatisfied since it says little about biophysical losses induced by human activity.
3. Caveats and insights:

But is it reasonable to blame search for profit disciplined by market economies for being ecologically predatory?

All the more since the market failure tale stands on shaky grounds…

So why not swimming against the tide?
3. Caveats and insights:

Issues to investigate:

1. At the micro-level of management/entrepreneurship sciences, what are the structures of governance, types of ventures, managerial skills, institutional conditions, human resource management (etc.) prone (or not) to green innovation?

2. At the macro-level, what is the impact of raising state interventionism (pervasive public regulations, public spending, monetary creation, public ownership of resources and the like?) on (possibly ecology-unfriendly) business strategy?