

#7. "opinion editorial" for a newspaper...

It's time to change our children's education on economics.

"Dad, can you tell me why there are so few Porsches on the road?" asked my son Alexander, 12 (and 8th grader) spotting the German sports cars on highway 101 while sitting next to me in my 2007 Prius. "Well, you know it's a very expensive car... too expensive for a large majority of people!" I was proud of my reply, short, easy and educationally right. Alexander was not, "but if people were to buy more of them, we learn in school than the cost would be lower... then everybody would be happy, the auto manufacturer as well as its customers right?" I suddenly realized the basic economic education taught at his Hillsborough middle school was not preparing him to become the responsible citizen of the world I dreamed of. It was time for daddy's lecture. After all, as a graduate student in environmental studies, I may have a more appropriate background to speak about this topic than his teacher, right?

The future is not about consuming more, but about intelligent consumption.

It is a time where you cannot read a magazine, watch a single TV news program or even listen to the radio without hearing something about the cost of gasoline. There is a clear sense of panic, illustrated by the tremendous coverage of the subject. I'm personally sad to see that even though scientists made it clear that we must stop relying on fossil fuels to fight Global Warming, nobody has seen the actual rise of gasoline price as a great opportunity to rapidly change our habits in terms of transportation. I told Alexander Porsche are damaging our planet three times more than a Prius per mile driven. If everybody were to drive a sports car, the reality would be that we will likely witness a faster extinction of polar bears, stronger hurricanes and other climate disruptions. It is okay to drive, but at least, when we have the choice, we should drive and respect our environment, just as we learned a few decades ago to drive safely. Alexander with his magical

sense of logic replies, "Then, why are they driving a Porsche?" Alexander was pointing to the hard reality of our modern society, something that, for sure, he was never introduced to.

Consumption is unpredictable and serves identity

If consumption has become so important for the economy, the least we can do to educate our kids about consumption is to explain to them why individuals are so willing to buy. Many theories have emerged. I chose to introduce Alexander to two key ones. "Well, in fact that's a really difficult question. We don't really know why this particular man drives a Porsche. It is the result of freedom of choice. Each Porsche driver may actually have a different reason!" Despite billions of dollars invested (wasted?) in marketing research, consumers are still mostly unpredictable. Unpredictability of human beings is not only true for consumers; it is also true for voters and even sports fans. Gone are the promises of rational/scientific decision making so well described by Weber. What we are left with after a century of capitalism is well described by Post-modern sociologists like Baudrillard and Foucault: consumption is a language. Choices and patterns of consumption serve the purpose to build individuality in a world where ethics, practical knowledge and ideology – all key parts of the social life not so far ago - have been severely restricted. "A few decades ago, when you were a smith in a village, you had a real identity. Nowadays, everybody works in a cubical facing the same telephone and computer screen. Consumption is a way to live differently." I explained to Alexander.

The question is not to redefine the future of our global economy by switching from consumerism to... hum... to what? Who knows? The point here is to prepare our kids to become consumers able to make educated choices when it comes to the environment. We should teach the facts to our smart kids: Fossil fuels use is poisonous. Consumers – more importantly future consumers - must learn the full consequences of their individual acts, as our generation learned the consequences attached to smoking. Moreover, consumption must be recognized for what it is, a bandage to show-off (or dissimulate) what we really are.

#6. Ecological economics as a field is “methodologically pluralistic”. Explain.

Ecological economics is different to neo classical economics in the sense that it is open to many different fields to investigate different options when it comes to human activity and its environmental implications. EE is a discipline that counts scientists in natural sciences (biology, ecology, specialists in water conservation, energy flows...) as well as social scientists (sociology, behavior specialists, psychology...) working with classical economists and modelers. On the same issue, each scientist brings his/her own point of view with sometime a very different way to address it. EE is qualified as methodologically pluralistic since it investigates human activities at the global and local level through the scope of different scientific approaches, trying, with intense debate among scientists, to find the best solution with respect to the environment.

Sustainable development

On the opposite of traditional economics, ecological economics is not limited to wealth building, the development of the economy or efficiency. For ecological economists development is great as far as it respects the fundamental principle of sustainable development. The idea is to protect future generations ability to themselves produce development by making a point to conserve the World natural resources as we find it. The scope of EE is far beyond energy resources. One classic example is the focus on preserving species biodiversity. Half of our current drugs have been invented thanks to plant study. Therefore preserving areas of unexplored great biodiversity like the Amazon is likely to help future progress in medicine and in science in general. Ecological economists bring this concept of potential future development, or sustainable development, into every subject of human activity, redefining the correct policy to adopt within this particular frame of thoughts.

Multiples views

Methodological pluralism – the fact that EE is based on different but complementary scientific approaches – supposes that researchers don't have a clear theoretical line of study. Basic fundamentals are shared like the necessity to protect future generations with the concept of

sustainable development, acknowledgment of the laws of physics (thermodynamics) and a shared emphasis on the reality of social world. However, scientists involved in EE don't approach the subject with the same framework, and are likely to diverge when it come to their conclusion. This almost unique approach in economics makes the field of EE diverse, rich and very creative in the theoretical proposals that are formulated. Moreover, environmental economics are very motivated to validating their proposals with real scale experimentations. Environmental economists know that the complexity involved in any form of human activity may demonstrates additional implications that were not envisioned in their models. The confrontation to the reality is the way to have a better understanding of the phenomenon they are willing to study.

Discourse democracy

The number of criteria involved in EE, as well as the number of researchers that may well participate on a particular issue suppose an intense, open and rich debate among them to come-up with practical solutions that will take into account each field approach. In EE, only a democratic process among scientists can produce the recommendations. An example of this is the publication in 2005 of the Millennium Ecosystem Assessment, a document that is the result of worldwide and multidisciplinary scientific current knowledge.

On top of shaping their project with intense debate, EE recognizes that modern society is made from multiple strata of power based on check and balance principal. Ecological economists agree on the imperative necessity to achieve societal agreement on their recommendations by discussing them publically into the different spheres of power. NGOs, firms, households, citizens, employee, students, shareholders... all of them have their responsibility in creating sustainable development and we would make progress only with an active participation and involvement of all. This is why progressive governance and discourse democracy is a necessity for environmental economists.

#2. Economics and moral philosophy. Explain.

While religion and the European feudal system collapse in the middle of 18e century, a new approach of society emerges with thinkers like Jeremy Bentham, seen as the founder of Utilitarianism. His particular views greatly promote morality as ways to develop individuality and economic development. Bentham illustrates the start of economics as social science and the fact that it was embedded with morality is an inevitable consequence of the society of his era (religious influence). On the contrary, during the 19e century intellectuals and thinkers write about more utopian views due to the large transformation the world was living. The idea of progress moved a majority of them from moral progress to “real” progress (i.e. technological progress). For the most of the 19e century the major question economists are interested in is about income distribution and how it can be explained. After WW2, and the failure of democracy in Germany and Italy, the Chicago school of thought elaborates views on modern capitalism where a free market is the ultimate way to balance government and political power. Today, with the rise of environmental problems caused by the excess of free market, morality – or common goods – returns as a major concern.

For Bentham (1748-1832) and the Utilitarians pain and pleasure are the only intrinsic values in the world :

« Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do. » Bentham 1789.

Bentham, followed by Mills and Marshall, defines the basic ideas of Utilitarianism focusing on basic “natural” individual behavior. The key idea is that people prefers happiness that the opposite (pleasure to pain), and human beings set-up their life to maximize pleasurable activities. One individual life is one of continuous maximizing happiness. For Bentham, governance and the way politics is organized should be directed to arrange this process at large scale. Moreover, Bentham advocates quantifying economically the level of pain and pleasure according to dimensions like duration and force. With this concept of quantification of individual pain/pleasure levels, Bentham appeals to a new generation of politic that would design legislations to maximize

what he calls "*the greatest happiness principle*". This high level of morality was embedded in Utilitarianism from the beginning. Greatly involved with many intellectuals of his time like Adam Smith and James Mill, Bentham was also one of the first to articulate his societal view towards freedom of expression, freedom of exchange/trade, freedom to education, equal rights for all (women and anti-slavery). All of these components are seen as fundamentals to bring happiness to the masses with efficiency.

Ricardo (1772-1823) is a great example of the changes that occurs in the 19e century. For him, laborers work for subsistence wages. Some land parcels are very fertile, some other are less. These second type needs far more labor to produce. With population growing at a rapid pace it takes more and more labor to feed it. Talking about agriculture extension, he defines how modern exploitive economy works. Ricardo refers to the land as "indestructible properties". He invents the word "*intensive*" in intensify production i.e. use of intensive labor is justified since it makes sense in term of economics. In 1817, Ricardo also clarifies that productivity is not frozen, it's flexible, dependant on selling price. If the selling price is higher, it is possible to invest more in laborer, and processes. This theory last more than a century (1930) until TW Schultz argued that technology is more important than labor and natural potential of land. Morality was almost absent from all these approaches.

The Chicago school of economist starts with good intentions trying to find tangible explanations for the failure of democracy in Europe that causes WW2. Friedman (1912-2006) articulates the role of limited governance leaving the free market to take care of balancing society and enhancing individual achievements. He writes, "*Government is necessary to preserve our freedom, yet by concentrating power in political hands it is also a threat to freedom*". The return to unconditional economic freedom, even at the great environmental cost, has since been re-evaluated. Ecological economists have been influential in redefining common natural goods (clean air, drinkable water...) and how it is also a fundamental capital toward individual happiness. Morality, common goods for the masses, is back.

#3. When economics has been more receptive to natural sciences? Long-term influences?

Thomas Malthus (1766-1834) was concerned about social disruption. He came-up with his "Principle of Population" a theory (1798-1826) that compares population growth to arable land. In what is seen as the first ecological argument, Malthus argues that if population needs in term of food exceed availability, it will creates societal crashes, wars, massive diseases disruption, and more important a loss of societal cement. He points that increase of population was followed by increased productivity, but the two could not keep-up. The consequence over the human history is a development of poverty and misery. With his revolutionary contribution, Malthus provides the first serious scientific work in the field of social science related to the environment.

Darwin and Wallace see in Malthus the limit of nature and species development. Selection process related to the environment is a key step in the theory of evolution. Henry Carry, the first U.S economist, is a protectionist and opposed himself to Malthus views. The U.S have to protect itself from Europe economically by to developing its industries. The vision is that each economy should develop a closed economic system everything (banking, culture, industry...) and become a full economy. For him, agriculture was going to advance in parallel with industry, on the contrary to the Europe were agriculture was getting behind industry development. Carry shows how the U.S economy comes from a very different prospective. For him, Malthus is wrong, there is plenty of land and resources available in the U.S and there are no limits to American development.

John Stuart Mill (1806-1873) is seen as the last philosophic/economist working with moral argument and he expresses great concerns about the natural world building the premise of "green economics". For Mill, the steady state economy is a positive goal for modern development. Steady state should be achieved before Nature would be totally gone under the pressure of exploitive human activity. A very modern idea! Mill argues that there are material limits to population growths, but he did not define this limits knowing that it was dependent on

technological progress. Mill initiates the idea that humans live on Earth natural capital (as the Millennium Assessment did in 2005 looking to how human life had impacted the ecosystems). However, Mill struggles to draw the lines between individual freedom and states interventions. The societal consequences of his environmental views are important since it starts a precedent, a new line of thought that initiates the more recent movement of Ecological Economics.

Marx was also greatly influenced by natural sciences of his era. He wanted to dedicate his book "Capital" to Darwin who reveals the power of science in explaining the natural world. Darwin and Marx were interested and sincere in designing theories beyond religion to explain the building-up of our society. Marx insists on the inseparable relationship between Man and Nature. He compares this relationship to an "organ" for an organism that is absolutely necessary for human activity.

"Thus Nature becomes one of the organs of his [Man] activity, one that he annexes to his own bodily organs, adding stature to himself in spite of the Bible"
(175)

Marx basic definition of Human labor, and Nature symbiotic relationship with Humans are evidence that he considers natural resources finite, and that ultimately private property would disrupt Nature equilibrium.

Since Marx, many intellectuals from different scientific, political and social science fields have elaborate on these basic ideas. Thanks to them, Capitalism cannot any more be seen without structures to regulate its excess. Global and local states agencies have been created to make Capitalism less likely to alienate the people (welfare state), but regarding Nature deprivation, these structures are still short for being efficient enough. Ecological Economics is built on this history of consideration of Nature limits.

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