

DEVELOPMENT; CROSSING THE BRIDGE PONDERING SOCIO-ECONOMIC AND TECHNO-SCIENCE

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Introduction

We have very little knowledge about the beginning of the thoughtful activities of our ancestors, at least only their cave drawings and tools and ornaments made by obsidian (other stone tools may have been degenerated by time) and some signs of fire.

Archaeologists are trying to reconstruct what has been transmitted from generation to generation as a myth, until people decided to record historical events.

Like myself now, they tried to reconstruct unregistered events; they used the myths!

Scientific methodology has probably been developed quite early, probably some 6.000 b.c.e., which is almost 10.000 years from our times. This presumed that kind of knowledge has been kept as a religious (sacred) “mystery”, presumably because “pagans” were explaining nature with supernatural intervention and they did not have the preliminary background of calculations (or even writing and reading). Or did they?

Still, some progress is astonishing and poses unanswered questions, like “how people found the extraction of oil from olives”, “how people found beer from ray”, or “wine from grapes”, or the idea of floating items (vessels).

We do have knowledge of the scientific progress, at least after the WWI, thanks the diffusion of journal publications, although they first appeared in the 17th century in France.

Technology is progressing because of the research; basic research executed by academics at the University laboratories, and those of the Research Centers, which is addressed to publications in scientific journals and applied research, which is executed mainly at the companies, kept secret and addressed to patents that improve their competitiveness. In fact, the enterprises require a “non-disclosure” contract with the research staff.

Hand by hand, basic and applied research have constructed one of the pillars of modern era, what we call now “advanced technology”. The other two pillars are said to be a. the financial globalization and b. medicine and healthcare progress.

On the other hand, the socioeconomic science evolution had to wait many years until after the World War II, with only some exceptions, as the theories of Taylor and Fayol in the mid-war, when Sociologists and Economists, together with social anthropologists and

psychologists started moving from the disputes over capitalist and social-comunist Economics to the Business and Management issues. It is only in the sixties when Igor Ansoff presented the first approach to Corporate Strategy and Philip Kotler made Marketing a central issue of business, if not the locomotive of modern economy.

Discussion

The industrial revolution happened and has taught us about the specializations, the distribution of tasks and the Territorial specialization as a competitive advantage. Later, Moore, INTEL co-founder had the idea of the limitation of the miniaturization of the electronic devices based on semiconductor architecture, long before Nano science had even been named as such.

Current Nanotechnology is setting the new limits of electric circuits, understanding the nature of the atoms — even seeing them!

Quantum electronics are supposed, expected to and even declare that are near to using "QUANTA" or else the combined behavior of substances both as materials and as frequency, whereas in some cases as behavior of sub-atomic particles.

Technology "Foresight" groups are expecting to see some functional "prototypes" before moving to invest in the relative research. Visionaries with the necessary wealth, are "gambling" on the possibility of overcoming the electricity barriers by moving from circuits which is electron flow from atom to atom, to atomic holistic behavior, still to explore further. Some call it "Quantum Computing" but it seems to be quite early to name it before we can see real working prototypes.

In the late 40ies, John von Neuman and Norbert Wiener imagined the parallel computation systems. Their writings, fruits of collaboration with Alan Turing, have paved the way to multitasking and multiuser systems. Parallel computing should not be overseen. It is still needed a "cloud computing", still early until one of the working protocols becomes a standard.

Businesses have invested in the prospective of improving these transformations of ideas into products or services and the profits expectations, while Academia was safeguarding the Academic procedures.

Then the Academic counsel rejected a proposal to CERN in Geneve – Switzerland, which is now in the hands of almost every person on earth, the www! Tim Berners-Lee is happy to see his work and enjoys his knighthood and a professorship at MIT, without a Ph.D., or even a M.Sc.!

Stanley Pons and Martin Fleischmann, broke the Academic code and instead of putting their laboratory results to the judgment of a "scientific Committee" they called a press conference in 1989! Academics not only rejected the validity of their findings, but also awarded Ph.D. degrees to researchers that claimed that they tried to replicate the experiment without success! Pons, being of French origin, neglected his American citizenship, moved to France and as a French worked for a while as visiting professor at the MacGill University of Canada. What the press called "cold fusion" after almost 30 years, with the offended academics having emptied their chairs, titled "emeritus", such findings are coming under light again with their original scientific name: Low Energy Nuclear Reactions or LENR.

DotCom bubble exploded with a big noise. Visionaries like Tim Berners-Lee have been attracted by the huge expectation of the .com bubble. He must be understood, after all he created dot com (.com)!

Social scientists tend to imply that there is a predictable equation (or more) that represents the behavior of persons, especially when they are in big numbers, so they pretty much use statistics and econometric or other models. In many cases such models work and are able to predict the future of social and economic events. In many other cases such models do not really work, unless they are refined by the logical connection between the causes and the effect they are interconnecting.

In many cases there is an apparent interconnection which is proved by the model, but the statistic observations are not interconnected, although they show an elevated correlation factor.

Quantification of the social functions are very much biased by the method of collecting qualitative information, usually through questionnaires.

But what is really making the model based predictions to fail, is the abnormal appearance of disruptive technological innovations that are very rapidly defuse and soon become a fashion.

Such changes affect and even confuse the model users who have a very high specialization, because they do not take into consideration the innovations in technology and the changes of taste.

From a different point of view, the technological changes are those disrupting also the social continuum, such as the family matters, the social grouping and why not the life expectancy, by medicine progress, and thus the demand for different goods and services.

There is a question pending; is there a way to insert the technological component in the socio-economic models, in order to avoid failing?

Many have tried to apply Thermodynamics in the social and economic modeling, i.e. Ergodics in Poland at the beginning of the last century. Others brought up the idea of interdisciplinarity. They both seem to be right. Thermodynamics are a method of prediction of energy transfer results, taking as granted that the method itself is affected by external unspecified and unpredictable changes and that viable systems are viable by force of enthalpy and are deemed to disintegrate because of entropy. Both measurable but unpredictable.

Interdisciplinary approach is a point of view that enlightens some facades of the business reality which were invisible because of the specialization of the business staff, who could only see whatever is within their scientific field.

Objections

Some academics object having a different origin.

The main objection comes from the engineers. They are following the idea that economy and business are following models similar to those developed in laboratories and that both economy and business are subjects of a precise science. This objection is pretty much backed by the Technical Universities that founded departments of studies called “management engineering”.

A different objection comes from Law people. It is another point of view, under which it is that the legal system is the one that determines the evolution of the public and private

sectors and that the business activities should be tutored by the Legal system; take for example the personal data disclosure protection and the discussion on what is personal data and what is not. Is for example the health condition of the leader of a political party something personal? His or her age? On the other hand, if a political person is charged with accusations by a prosecutor, shouldn't his name be protected from revelation until absolution or irrevocable court sentence? The European Legal system is over-regulating the activities of both natural and legal persons, in a strictly bureaucratic manner. This is driving to bothering innovations, while innovations are questioning and disputing the established thoughts of reality.

Public servants object as well, because they feel that their services and the authority together with the benefits of exercising authority. Some political scientists (for example Viola Donatella) in her books, papers and presentations is stressing the attention on the interaction between public servants, politicians, elections, immigration, regulations and holistic development, not just economic.

According to Veniamin Karakostanoglou, a political scientist and lecturer at the Aristotle University of Thessaloniki with a long political career, Trade Unions and Guilds are lobbying with the politicians and they affect, if not impose, the legislative and even the Academic organizations.

In 2007 RIM (Research In Motion) maker of the Blackberry cell phones, was sued for patent infringement and announced to pay 650 million of dollars to compensate the accuser without a motion at the Court. All the economic reports were predicting that the share price of RIM would collapse and were all wrong. Prices went up!

Conclusions

Both the Socio-economic and the technology sciences are using the same models, yet they are walking on parallel roads.

The deep difference between the two is that techno-sciences can claim the validity of their statements throughout experiments in the laboratory, while the sector of the socio-economic sciences are only observing the results of the implementation of policies, after their effects, or asking questions (questionnaires) that are resulting to severely biased conclusions.

The bridge between techno-science and socio-economic considerations, is proposed to be the use of logic, as a subset of philosophy, as a prediction of the effects in both technology and the social and economic evolution.

We probably have to rethink Economic science and go back to use logic together with math. This is one of the tools to boost development.