

Ways and means of cooperation along evolutionary economics in the Upper Rhine: the BETA-ISI link

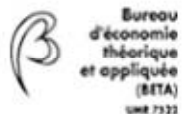
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Origins of the cooperation

BETA and ISI (their real names being Bureau d'Economie Théorique et Appliquée and Fraunhofer-Institut für System- und Innovationsforschung) are at first look clearly very different kind of “animals”. The first institution is French and as a “UMR” (Unité Mixte de Recherche) belongs at the same time to a University (UdS) and to the CNRS (the largest French national research organisation). The second institution is German and is part of the Fraunhofergesellschaft (i.e. it does not belong to a university but to the leading European applied research organisation). Nevertheless, despite these differences (and maybe thanks those differences) BETA and ISI are much closer than most observers would suspect.

In fact, and first of all, both institutions were officially founded - independently the one from the other - the same year (in 1972). Naturally highly rational people would interpret this as a pure coincidence. Nevertheless, almost forty years later, it seems clear that there is more than a random effect to be detected here since BETA and ISI are both (and quite often together) acting in the broader field of what could be called “innovation policy” and “evolutionary economics”. Considering this field of activity, both institutions clearly belong to the oldest ones in Europe (and even in the world), having in mind that the very first research institute devoted to innovation – the SPRU (initially called the Science Policy Research Unit) - was founded in 1966 under the impulsion of the late Chris Freeman. Moreover, in addition to this conceptual and historical proximity, if one considers a map of let's say the 10 most important players in Europe, there are only two dots on the map that are extremely close: Strasbourg and Karlsruhe.

Nevertheless, the story is not that simple, since even if only 80km of distance (which means approximately one hour door to door by car¹) it take a long time before the first co-operations started. Proximity (even in a situation of converging conceptual, geographical and historical proximity) does not imply automatic fruitful relationships (as policy scientists, geographers and economists repeat most often whereas politicians sometimes tend to forget).

Contents and fields of cooperation

In 2012, BETA and ISI will celebrate their 40 years of existence. This must be stressed when considering the fact that the first so-called neo-Schumpeterian or evolutionary economics papers started being published several decades ago.² How could this school of thought be described (if not summarised since it is too complex and dense) in a few word?

In a first step, it must be highlighted that among the literature devoted to innovation, the evolutionary or neo-Schumpeterian school occupies a particular place. In fact, taken as a whole, this ap-

¹ In order to respect politically correctness, it must be mentioned that from main station to main station the journey between Karlsruhe and Strasbourg takes less than 45 minutes with high-speed trains.

² Cf. between others Nelson and Winter (1974, 1976), Rosenberg (1976), etc.

proach concentrates on the specific characteristics of the innovation phenomenon. In this respect, the evolutionary or neo-Schumpeterian vision of innovation is quite different from the neo-classical one. In the views initially developed by Schumpeter, the "process of creative destruction" rules the historical evolution of capitalism. This process covers five main types of innovations: (i) new consumption objects; (ii) new production and transport methods, (iii) new markets, (iv) new sources of production materials, (v) new market position.³ In this respect, Schumpeter's vision of innovation goes beyond the narrow conception adopted by the standard neo-classical approach, where innovation is reduced to a simple new combination of production factors.

In a second step, it should be reminded that some implications (which could be seen as a form of normative characterisation of the concept of innovation) derive from the neo-Schumpeterian approach. We choose to detail three of them in the following: (i) Firstly, evolutionary economics attribute a cumulative and interactive character to innovation processes. The importance of accumulation and interaction appears especially by analysing learning effects, for instance under the form of "learning by doing" (Arrow, 1962), of "learning by using" (Rosenberg, 1976) and of "learning by interacting" (Lundvall, 1988).⁴ (ii) Secondly, in the evolutionary approach, innovation reveals a specific character. The specifics of innovation abide by the principle of historical trajectories and paradigms (Dosi, 1982) and integrate the conception of the tacit nature of acquired knowledge. This leads to the idea of a programmed character of innovation in the behaviour of the firm (Clark, 1986). (iii) Finally, innovation has an institutionalised character. The institutionalisation features mainly the role played by the selection environment of innovation (Nelson and Winter 1974, 1975, 1977) and the importance of R&D departments (Freeman, 1982). In other words, and from an evolutionary perspective, innovation can be defined as a non maximising, interactive, cumulative, specific and institutionalised process.

Contextual aspects and forms the cooperation

Proofs and illustrations of the complementary character of the two organisations BETA and ISI can be found in numerous common (European) research projects as well as bilateral cooperation's taking the form of (applied) research contract for public authorities or academic accomplishments (workshops, journals articles and PhDs). The research link is a tremendous illustration of how "things get happening" in a french-german scientific context in terms of mutual influences and transformations, considering that each institution keeps its own "culture" but that nevertheless

³ Cf. Schumpeter (1935, p. 100): "*Herstellung eines neuen, d.h. dem Konsumentenkreis noch nicht vertrauten Gutes oder einer neuen Qualität eines Gutes, (...) Einführung einer neuen, d.h. dem betreffenden Industriezweig noch nicht praktisch bekannten Produktionsmethode, (...) Erschließung eines neuen Absatzmarktes, (...) Eroberung einer neuen Bezugsquelle von Rohstoffen oder Halbfabrikaten, (...) Durchführung einer Neuorganisation wie Schaffung einer Monopolstellung (...) oder Durchbrechen eines Monopols*".

⁴ These three types of learning effects are additionally linked to firms' absorptive capacities put forward by Cohen and Levinthal (1989): "*Economists conventionally think of R&D as generating one product: new information. We suggest that R&D not only generates new information, but also enhances the firm's ability to assimilate and exploit existing information*" (Cohen and Levinthal, 1989, p. 569)

something additional emerges (explicitly or implicitly) that complement the existing capabilities so that that new routines can be identified.

BETA and Fraunhofer ISI are linked by at least two major perspectives: the evolutionary economics research perspective and the exploratory cooperation perspective. During many years of collaboration many new forms of cooperation were explored and raised to become success stories. Besides the mere cooperation in national or European projects, the supervision of PhD theses or joint publications (as to name only a few possibilities of working together), one of the highlights in the history of both institutes was the collaboration in the Laboratoire Européen Associé (LEA) "Knowledge, Science and Innovation (KSI)". The LEA is an instrument of the French Centre National de la Recherche (CNRS) by which scientific cooperation between French and foreign research institutes is promoted in a specific topic within a jointly organised virtual platform in the way of a "laboratory without walls". This means that the involved institutes remain independent, but agree to cooperate and to carry out joint activities in a four years perspective. CNRS funds a small part of travelling, workshop organisation and publication costs for the French side, foreign partners bring in their motivation and own resources. After four years of successful exchange and research work, the possibility exists to renew the agreement for another four years.

When the operation of the LEA KSI started in early 2004, it was not only a new form of strategic research collaboration for the participating partners, but during the following years also a new configuration in the German research system. Maybe not for the first time, but as one of the rare occasion during that time two major research organisations with different objectives, the (application oriented) Fraunhofer Society and the (basic research oriented) Max-Planck Society collaborated on a contractual basis. Most interestingly, this cooperation was the result of a catalytic process triggered by a French university (the former Université Louis Pasteur) and a French CNRS institute, BETA.

Terminating this innovative concept of working together after eight years, the partners can look back to many successful activities. Research projects within two major European networks of excellence, i.e. the PRIME and the DIME network, joint French-German policy seminars, advances in systemic modeling, collaboration in the European Manufacturing Innovation Survey, surveys on perceptions of the innovative and economic environment of French and German SMEs, workshops for young researchers, exchange of guest scientists are some of the elements which contributed to increasing closer ties between the institutes. But the LEA also had impacts on future research. Without this platform recent activities like supporting research for the strategic development of bilateral research alliances between Fraunhofer and Carnot institutes or the development of the evoREG initiative would not have been possible. The evoREG initiative is the result of a common reflection of the Région Alsace (DREST: Direction Recherche, Enseignement Supérieur et Transfert de Technologie), together with Fraunhofer ISI and BETA. More precisely, this reflection expresses the willingness of the regional authorities to reinforce the governance capacity of the Upper Rhine Area in the field of innovation-based development policies. This should be achieved by taking advantage of Fraunhofer ISI and BETA complementary competencies. evoREG is supported by the European Union in the frame of the Upper Rhine INTERREG IV programme.

Both BETA and Fraunhofer ISI are devoted to innovation research in a systemic and evolutionary perspective. The LEA and evoREG is an example for applying this perspective to new ways of exchange and collaboration. Science in this way is best practice in combining and merging research potentials and in exploiting the excellent knowledge base which the Upper Rhine region possesses on both shores of the Rhine river.

It is probably not completely by chance that two of the very first European research teams to invest in the new field of innovation studies were located in the same area within the Upper-Rhine valley. On both sides of the Rhine, from Karlsruhe to Strasbourg and Basle, a core region of Europe has been a focus of cultural and technological revolutions for almost one millennium. In particular, that area was one of the core regions of European Renaissance. It is still a very innovative region as well as a strong scientific area. We have for instance observed that the relative weight of the Tri-national Metropolitan Region (TMR) Upper-Rhine in the European scientific production varies from 1,1% in mathematics to 2,6% in chemistry : this is the global national weight of important scientific nations like Belgium, Austria or Denmark.⁵

Future developments, research and further activities

The Upper Rhine valley, after a complex history, is now divided into regions belonging to three nation states. The challenge nowadays is to become a model territory for building Europe as creativity-based economy and society. The specificity of this area, and maybe its strength, is to be a poly-centric metropolitan region. Linguistic and institutional variety, together with a very old common culture: will such circumstances turn to be a winning recipe in the 21th century?

The next step in terms of enlargement and deepening of the Fraunhofer ISI-BETA will probably consist in a French-German Research chair associating different public, academic and private partners and capitalising on the work done so far. This chair is expected to be devoted to innovation economics and regional policy and its launching should take place on January 22 2012 at the occasion of the fiftieth anniversary of the Elysée Treaty. In this respect, the hope of the authors is that “small Europes” support the constitution of the big one.

⁵ Cf evoREG short note #11 : <http://www.evoreg.eu/docs/files/shno/Note11.pdf>

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