

Philosophy in the field: a scientific French experience

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Introduction

The paper is searching to transform theory and practice of philosophy to be not only a philosophy of interdisciplinarity, but a philosophy in the scientific field. This is an important topic, because professional philosophy is currently inapt to understand the emergent scientific disciplines. Transformed philosophy is nevertheless indispensable as red thread to think the links of the various disciplinary logics.

The aim of this paper is 1) to expose a new logic of interdisciplinarity, and the place for philosophy in the interrelations of disciplines – in this, the philosophy is, following Robert Frodeman, “in the field”; 2) to explain the rules of the transformation of philosophy for interdisciplinarity and democracy between disciplines – in this, academic philosophy will be transformed and revisited. The philosophy become “in the trouble” rather than in the doubt.

1) A new logic of interdisciplinarity.

Usually, interdisciplinarity consists of the combination, the juxtaposition, the synthesis, the integration of various recent knowledge extracts from diverse fields. These practices take place in a configuration that supposes to master skills, to pass from skills to skills, and in an overview of interdisciplinarity as an elitist practice for the best brains. With this idea, philosophy is a discipline that is dominant – it is flaying over the other disciplines, and, in the same time, she is the weakest, because it lacks of precise knowledge. This ambiguous status of philosophy in plus and minus, has the consequences to give it a distorted place among the scientific fields.

I do not eliminate this idea of this usual interdisciplinary practice, but I propose parallel to this an other one with colleagues from various disciplines. It is not an overview but the construction of a space of “collective intimacy of science”, which is relatively autonomous of the logics of disciplines.

This independence is a practical one. The question is not to expose the knowledge able to explain a problem, but to search the State of the Non-Art for each discipline in front of this problem. The result is very different from the combination of knowledge.

Why this State of Non-Art? The objects of science are no more in a handling modus and in a phenomenological distance between subject and object. They are partially unknown and they are consisting of very heterogeneous items, a heterogeneity very different of the ones which concern complexes objects, who is a heterogeneity explicated with the convergence of diverse disciplinary perspectives.

These new objects, that I am naming “integrative objects”, have several particularities. The first is that the object is construct with fragments of various disciplinary knowledge; the second, contains the intention or the projection of the searcher to unify the diverse fragments of knowledge. It is no more a positivist view of science, it is an objective view of the identity of science in a space where disciplines are no more in the center, the unknown object being in the center and making uses of the disciplinary languages. So is created a space or a common place for thinking the relations between the different fields of science.

Several consequences follow of these ideas:

- The integrative objects are not given, they are not only the target of skills, but also the result of creative design upon heterogeneity. We do not know where is the limit

between object and subject, except in a view from future, not from the past. The problem of interdisciplinarity is not a problem of over covering or paving, but of articulation of heterogeneous items.

- There is no disciplinary language for complete description of an integrative object, so the practice of experimental texts is necessary for the search of pertinent parameters. These experimental texts are too ethical purposes between the disciplines for preserving a common place for the sciences.
- The identity of science is no more disciplinary, but bound to the collectivity intimacy, created by the trouble of interdisciplinarity. This identity of sciences is made too with all the occupations and the jobs that materialize the scientific practices.

So the new logic of interdisciplinarity supposes a generic epistemology, with the constitution of a common place between the discipline, the disciplines are to be “translated”, they are no more in center, and the place of a generic interdisciplinarity is too a place for an experimental ethics.

We experienced and constructed these views in a French project of the Research National Agency (ANR – France) named DOGMATIS (Défis des OGM Aquatiques, Tendances, Impacts et Stratégies, scientific director: Muriel Mambrini-Doudet) (Challenges about genetic modified aquatic organism, Tendencies, Impacts and Strategies). The project took place between January 2007 and November 2010, we have to understand the object GM fish and to propose recommendations in case of commercialization. The different disciplines were biology, chemistry, sociology, economy, law, epistemology and ethics. We accept together that no discipline can give a complete description of characteristics of the GM fish. We adapt a method of *State of non-art*, in which all the participants are drawing where his/her discipline is inapt to describe GM fish. The method implies a translation of discipline, the creation of an interdisciplinary space to reconstruct the coherence of this new heterogeneous object.

This is a choice. We do not touch on the ecological questions, because the object GM Fish would be hypothetically known in this perspective, and we have the project of understanding this new “living constructed object” (the expression is that of Gilbert Simondon from). All disciplines knew anything about this object, but above all, they were ignoring a lot about it. Our common project was consisted in constructing a numerous dimensions of anticipation, law in anticipation, a future and generic epistemology, an experimental ethics for these integrative objects.

Our definition of the GM fish is not a direct one:

It is: A reality for the biologists in the laboratories, an opacity for the molecular biologist, a virtual object for the consumers, with various but systematic representations and apprehensions, a potential risk for the market, a result of a technological trajectory, a constructed object made with heterogeneous fragments of knowledge for the epistemologist and the ethicist.

This is not a proper definition, but modalities and rules to approach the GM fish. It is a new mode of practicing science. GM fish is not a fish plus a gene manipulation. GM fish is an “X” (*e* properties, *p* parameters, distributed unexpectedly in various disciplines), which permits expansions in numerous fields. It is possible to combine very different knowledge about GM fish. So, it is not completely foreseeable knowledge.

These characters don't determine directly the GM Fish. They form a frame to open interdisciplinarity. Rather than construct convergences between the disciplines, we deconstruct our object in a projection where the different disciplines were the dimensions of

the object. So, relations between disciplines are more multiple and freer, with unexpected connections. So, each discipline's results are reinterpreted in the language of the other ones. With this departure, the philosopher, instead of developing classical arguments, for instance on the difference between natural or artificial, or about the question of integrity, produces new knowledge in collaboration with other disciplines, and adapts philosophical frames for the relations among the multiplicity of fields, and it is that multiplicity in a new frame that produces new results and knowledge. Practically, we organized seminars in each discipline, which describe results and uncertainty from its particular points of view, and the other disciplines are thinking for a new formula of the known and the unknown in their respective era. Then, we organized iterations with other disciplines, which is a guarantee of democracy among disciplines. So, the ethical problem, for instance, is no more a face to face between the biologist and the specialist of law, but a more complex disciplinary equilibrium, with innovations in this equilibrium.

2) Philosophy's transformations

This practice modified philosophy's competences and the skills in philosophy. Which is the idea of philosophy that authorizes this new practice? It is fundamentally difficult to transform philosophy, because new philosophy derives from any transformation of philosophy, with essentially the same problems in their relations with sciences, over flying fields and lacking of positive knowledge. How to transform philosophy without establishing a new academic philosophy? That is the question. How to organize a new type of immersion of the philosophies in the sciences?

There are several different and continuous steps to approach these questions.

- 1) The first is to accept the multiplicity of philosophies. It is not the affirmation of a simple relativism. The problem is not to assert that philosophies are equal or without pertinent differences towards the real. The question is that, if it is a philosophy, there are also equally other philosophies. It implies the structure of philosophy, which thinks her singularity between concepts organized by oppositions. It is immediately possible to form a variation of this singularity. This idea explains at the same time the tradition and singularities in philosophy.

The major difficulty is usually that one accepts multiplicity, but not completely. If there are multiplicities in order to justify our proper philosophy, it is very difficult to think multiplicity in a very heterogeneous and complete manner. It is an acceptance in the margins and not an acceptance in principle of all philosophical multiplicities. Nevertheless, this last acceptance is the way to understand theoretically philosophy without constructing a new one. This modification is a change of category. The idea of modeling is very useful in this situation. It is possible to think to a particular philosophy and to apply her with the concepts of other philosophies. It is no more possible to think naively to the philosophy.

Traditional philosophy keeps usefulness, it gives a rich complex of ideas and material to think relations between sciences and philosophies.

- 2) The second step is to leave the authority of any philosophy upon the real. This is not relativism, but the assertion that all philosophies can describe the real, but only indirectly. It is a manner to think the minorities and the democracy among philosophies. But it is too other manner to think the rapport between real and thinking. The question is no more to be right, but to think new ways to link philosophies and

sciences. This modus of thinking was established by the French philosopher François Laruelle, in his books *Philosophy of Minorities* and *The Biography of the ordinary Man*. His concept of “no-philosophy” or of “no-standard philosophy” is an expansion of philosophy without authority or self-importance (“suffisance”). (See *The Philosophies of differences, critical introduction*, translation Rocco Gangle, London, ed. Continuum, 2011). There are no more relations of foundations between philosophy and science, rather relations of “fiction”.

- 3) The third step is to construct logics to understand this new immersion of philosophies in sciences, “philosophy in the field”, following Robert Frodeman. This step leaves critical paradigm in philosophy for a fictional one. The models are here in the philosophies of mathematics, which search definition of mathematics that are not a reduction to the known objects (number, space, proof, Euclidean geometry, etc.). The method consists to develop the concept of mathematics without one of the object – for instance, what is mathematics without number? We are so conducting to use other consideration than usually and to reconsider mathematics with new expansions. This method is too that of the C-K Design Theory of the Ecole des Mines de Paris (Armand Hatchuel, Benoît Weil), and that of “philo-fiction” in no-standard philosophy (*Philo-fictions. The Journal of the no-philosophies*). These convergences were completely independent, in different fields, in different languages. It is very interesting, it is as a change of paradigm without crisis – without crisis, because we have not to change a “normal science”.
- 4) The fourth step is to reframe the representations of sciences (logics, objects,...) to invent a new logic of interdisciplinarity (“the translation of disciplines”), and to practice an experimental way of ethics, not an applied ethics which applies on given objects. The ethics is so a science of the boundaries between disciplines or a science of heterogeneity modulo an unknown object.

In this view, what is the proper minimal concept of philosophy? It is that of transcendental, because it is the ligament between the contraries. Transcendental is the synthesis of immanence and transcendence in the immanence. It is a proper logic in philosophy, no one science has an analogon. So, with the fourth step, we can formalize philosophy as the rapport of T/K (knowledges). It is a manner to immerse philosophy in sciences. All knowledge is in capacity to transform philosophy. Nevertheless, this rapport is too simple. Philosophy is T/K under philosophy or under science. The first is supposed by the system of Deleuze for instance, the second is the fictional posture of no-philosophy. Similarly and independently, in C-K Design theory, the connection is O(bject)/K, the object is immersed in the knowledge, but it follows another logic too. These logics open various new fields to develop innovations and interdisciplinarity, in a generic way. Armand Hatchuel and I are working for the constitution of a generic epistemology, where the criteria of sciences are no-disciplinary ones. This generic epistemology is a way to think the integrative objects, the treatment of heterogeneity, the integration of future and fiction in design projects in sciences and innovation.

It is possible to have the same posture with scientific and technological ethics. We are using of applied ethics in an experimental manner, as if the object was not given. We wrote in DOGMATIS, with Marie-Geneviève Pinsart (Free University of Bruxelles, ULB), Lyne Létourneau (University of Laval, Canada) and Léo Coutellec (INSA de Lyon) experimental texts in technological ethics, where the authoritarian ethics are use as materials.

3) An experience

This posture is now experimented in a Center of biological Research of INRA (National Institute of Agronomical Research), at Jouy-en-Josas, near Paris, in collaboration with the Ecole des Mines de Paris (Armand Hatchuel). The president of this Center, Muriel Mambrini-Doudet, immerses philosophy in the Center, with the above precautions, among the variety of disciplines. Biology is made with numerous disciplines, with different concepts. This situation is not immaturity but a remarkable specificity, and philosophy can contribute to explain this specificity.

In this experience in the field, the philosopher opens his/her workshop or her/his “studio” for the other disciplines in the center of the campus. He/she transforms philosophy in her minimal concepts, minimal because they are extracted from the various philosophical doctrines. He/she presents to other specialists his palette of concepts, for design of new links with sciences. Here the collaboration with Design Theory, with Armand Hatchuel, is inescapable for thinking the expansions of the concepts into the various scientific fields.

The major question is to move each other the biological disciplines to understand the emergent disciplines (synthetic biology, predictive biology). Predictive biology has to be thought as emergence of interdisciplinarity in biology by the fiction. So, Muriel Mambrini-Doudet and I are working together on the concept of place or common space or place of interdisciplinarity. It is a space for collective intimacy of sciences. The relations between disciplines, thought as a matrix of interdisciplinary possibilities, are changed with the immersion of no-authoritarian philosophy.

In this immersion, there is no injunction, no precise project, but a space to develop in the same time science and ethics, for permeabilization among logics of various disciplines. All the ingredients of the scientific disciplines are extracted from the disciplinary logic and combined in a minimal manner.

Conclusion

Philosophy’s transformation is the product of two necessary works: 1) To theorize philosophy with the help of radical multiplicity and modeling; 2) collaboration with scientists who work in the same time in science and in the management of science. This French experience is going on, and we have several common papers in preparation.

Aknowledgements to:

“Natures, Sciences, Sociétés” Association and Journal (EDP Sciences), for their concrete help and confidence,

ANR, France, for the DOGMATIS project,

INRA and CGS Laboratory and TMCI chair of the Ecole des Mines de Paris for according several month of research (2009-2011)

INSA de Lyon for according six month of sabbatical leave,

Poincaré Archives (UMR of CNRS n° 7117) for their confidence in my work.

Special aknowledgments to:

Muriel Mambrini-Doudet, biologist, president of INRA Center of Jouy-en-Josas, near Paris,

Armand Hatchuel, professor at the Ecole des Mines de Paris, management sciences,

François Laruelle, emeritus professor of contemporary general philosophy at the University of Paris West Nanterre.