

Truth and objectivity of knowledge in
participatory researches
The case of environment

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- The term "participatory research" covers a wide variety of modalities.
- Criterion of the nature and degree of participation of non-academic actors:
 - researches whose design, protocol, and evaluation would be exclusively under academic control, thereby leaving other actors as sole data providers;
 - research entirely co-constructed by all actors, (definition of the object, conception of the project and its protocols until the end of the process -publications)

- Initiated in 2009 and completed in 2018, the Repere program of the Ministry in charge of the environment focused on this second modality, that undertook the term "participatory" in its most radical sense.
- The first postulate: complete the first sentence of Aristotle's *Metaphysics* which tells us: "All men naturally desire to know", by "every man knows something that no one else knows". Everyone has a piece of knowledge,
- The second postulate: subscribe to the position of S. Haack [2003]: research in science is in perfect continuity with other types of empirical research, no difference in nature.

- Interpretation error to be clarified:

the "layperson » don't need to reach the knowledge and skills of scientists and vice versa

→ Multiply the perspectives to address a given problem, hoping that thanks to the dialogue these various epistemic universes may lead to a solution for a given problem

→ Consider that scientific and lay knowledge share the same legitimacy will help problem solving

- .What is the status of the knowledge produced in such a way? How to qualify the concepts of truth and objectivity in research project relying on co-construction?

1. Hybrid knowledge from a mode 3 of production and knowledge : a strong transdisciplinarity

- The hybridization of the scientific knowledge raised by academics and the “experiential” knowledge from other actors shall produce truly transdisciplinary knowledge.
- The prefix "trans-" implies both the notion of something that would be established through two entities (the prefix "trans-" in "transfusion", for example) and that of something that goes beyond all the constituted entities (the prefix "trans-" in "transcendence", which is beyond all immanence).
- It is this second meaning that confers its distinctive mark on transdisciplinarity in relation to all other forms of possible relations between disciplines.
- This transdisciplinarity can be more or less strong: it is strongest in the case of participatory research in the radical sense that is ours here: it is

1. Hybrid knowledge from a mode 3 of production and knowledge : a strong transdisciplinarity

- This strong transdisciplinarity extends the evolution of the production and knowledge production modes exemplified by M. Gibbons et *al.* [1994] Gibbons describes the switch from mode 1 to mode 2.
- The extension of this mode 2 to a mode 3 consists in taking seriously the extension of the sentence opening the *Metaphysics* of Aristotle.
- So we consider the most radical modality of participatory research as perfectly legitimate way to produce knowledge

2. Participatory researches and the question of truth

- Ideal conceptions of truth, which play a role of norms in scientific activities:
 - Correspondence theory of truth (between a statement and its extralinguistic referent),
 - Coherence theory of truth (absence of logical contradiction within a set of statements)
 - Consensus theory of truth (between members of a given community about a statement, or set of statements).
- This normative triptyc is rarely reached in practice

2. Participatory researches and the question of truth

- The environment: one of the main interfaces between science and society
- The object "environment" has thus become a total social phenomenon, to use the expression of Marcel Mauss.
- The epistemic universe of participatory research concerning the environment must therefore be grasped in its plurality.

2. Participatory researches and the question of truth

- It's also true for hybrid products obtained through participatory researches.
- Each of the discourses held by the multiple stakeholders in this type of researches, the styles of reasoning adopted and the proof regimes that result from them, is subject to an obligation of truth-correspondence and truth-coherence so that it can reach consensus.
- So, the tripolar concept of truth is therefore no more threatened.

2. Participatory researches and the question of truth

- The degree of truth of the discourses' constellation that expresses this knowledge must then be measured by its asymptotic convergence towards true statements,
- The truth of these results comes from putting together a plurality of "almost true" statements - a pluralism that Paul Feyerabend considered as "an essential characteristic of all knowledge that claims to be objective".

3. Participatory researches and the question of objectivity

- What is objectivity?
- The term is used in science, journalism, the judiciary system and so on.
- Objectivity is a standard that must be enforced and respected by those who engage themselves in certain practices in order to achieve certain results.
- The standard of objectivity is particularly associated with science.

3. Participatory researches and the question of objectivity

- Is the concept of scientific objectivity reducible to a single meaning, or must it be considered intrinsically complex?
- The second option deserves serious consideration.
- Heather Douglas, for example, supports this second option. She insists on the irreducibility of the complexity of the concept of objectivity [Douglas 2004].
- Her project of establishing a conceptual map is based on the idea that there is no central core to which the multiple relevant meanings of objectivity would logically be reduced [Douglas 2004, p. 455].
- Stéphanie Ruphy goes even further. Not only does she advocate for a foliated pluralism [2013], but by focusing on the objectivity reviewed

3. Participatory researches and the question of objectivity

- I will rely on my own work on scientific objectivity in connection with the production of scientific images to suggest some new issues.
- My methodology: from the philosophy of sciences + ethnographic studies allowing me to observe the scientific practices tending to make more objective results or images produced within laboratories.
- Science is no longer confined solely to laboratories and it interacts very strongly with society at large, to the point where we have seen the emergence of new modes of knowledge production (mode 3 including laymen) .
- What does the epistemic standard of objectivity becomes in this context?

3. Participatory researches and the question of objectivity

- Objectivity > <subjectivity, their definitions are asymmetrical.
- The objectivity of a scientific discipline = a particular "dosage" of procedures to get more objectivity.
- Non-elimination of subjective determinations, whatever the discipline considered, which T. Nagel characterizes as the taking into account of non-epistemic elements

3. Participatory researches and the question of objectivity

- Depending on the scientific disciplines, the nature and dosage of these procedures and subjective determinations is not the same.
- There is no absolute objectivity that can be achieved in science.
- Rather, we will talk about sufficiently objective results or not. It's not a matter of all or nothing, but a matter of degrees
- This observation led me to focus on a methodological objectivity
- Methodological objectivity is observable in concreto, and is embodied in practices.
- I don't focus on idealized objectivity which does not refer to non factual reality.

3. Participatory researches and the question of objectivity

- I completely agree with Hilary Putnam's proposal :

"In scientific practice, questions of objectivity are not questions of metaphysics, but questions concerning the character of certain theses defended in particular research. [2003, p. 142].

3. Participatory researches and the question of objectivity

Procedures to get more objectivity

- Formalization
- Mechanization
- Indiciarity
- Manipulability
- Interconnection
- Self-objectification of the knowing subject

3. Participatory researches and the question of objectivity

Example

"Pierre's DNA was found on a copy of the last Modiano book sold in a library in Lyon. "

3. Participatory researches and the question of objectivity

Formalization

Every science has a degree of formalization more or less high, in other words, develops a common language, more or less strictly codified and often mathematized.

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Mechanization

Instruments and techniques are expected to produce impersonal results, keeping as few as possible the marks of the subjectivity of the operators who worked on data collection.

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Indiciarity

Traces, marks that make it possible to affirm the existence of the entities or processes with which they have a causal dependency relationship.

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Manipulability

Intervening on the objects / processes of study, manipulate the entities, purify them, refine them, etc., to conform them to the aims of the moment in a given science.

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Interconnection

- Intersubjectivity
- Interinstrumentality
- More generally, different experimental strategies, in order to obtain convergent results towards the same result or set of results.

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Self-objectification of the knowing subject

A set of procedures (emotional detachment, evaluation of the impact of idiosyncratic traits on the results obtained, etc.) which aim for the subject to become aware of his subjective determinations and to grasp the effects they produce on the representation of the object of study.

3. Participatory researches and the question of objectivity

- Subjectivity:
 - Blind spot,
 - Doppelgänger, "evil twin" of objectivity neglected by philosophers and sociologists of science
- The inevitable appeal to a situated perspective
- The possibility of making choices
- An infinite list of subjective determinations (types of intelligence mobilized, biases of each scientist, etc.).

3. Participatory researches and the question of objectivity

- My conceptual mapping of objectivity and subjectivity does not claim to establish elements that would be necessary and sufficient to fully define these concepts.
- Objectivity and subjectivity = concepts with opened texture (Waismann, 1930), whose definition is not determined once and for all and must be enriched by the confrontation with the practices of scientists.

3. Participatory researches and the question of objectivity

- What procedures do we need to get more objectivity participatory researches? Are they present? Should we find others procedures?
- If I take indicarity, certainly we'll find this procedure
- For example, the use of pesticides, if agricultural practices change through participatory researches, we have to appeal to manipulability to show that soils changed. The results produced will refer to indicarity
- Procedures to get more objectivity are opportunities for reflection . We have to think about them and adapt them to participatory researches.

- Allamel-Raffin C., [2016], « Objectivité et emploi de la couleur dans les images scientifiques », *De la couleur comme code* S. Chamaret (Dir.), Strasbourg, HEAR-Zeug editeur, pp.32-42.
- Ancori B. [2017a], « Les aventures de la vérité. Un regard d'épistémologue », *Forum du labex COTE*, Université de Bordeaux, 5 mai.
- Ancori B. [2017b], « Politiques de la recherche environnementale et complexité du social », *Natures Sciences Sociétés*, 25, S76-S83.
- Ancori B. [2019], *Le manège du temps*, Londres, ISTE Editions.
- Blanc G., Demeulenaere E. et Feuerhahn W. [2017], *Humanités environnementales. Enquête et contre-enquêtes*, Paris, Publications de la Sorbonne.
- Bouleau N. [2014], *La modélisation critique*, Paris, Editions Quae, NSS-Dialogues.