

RETROSPECTIVE ANALYSIS OF THE PRODUCTION OF THE *REVUE D'ANTHROPOLOGIE DES CONNAISSANCES*

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S.A.C. | « *Revue d'anthropologie des connaissances* »

2017/2 Vol. 11, N°2 | pages cy à du

Article disponible en ligne à l'adresse :

<http://www.cairn.info/revue-anthropologie-des-connaissances-2017-2-page-cy.htm>

Pour citer cet article :

Revision by Rigas Arvanitis, « Retrospective analysis of the production of the *revue d'anthropologie des connaissances* », *Revue d'anthropologie des connaissances* 2017/2 (Vol. 11, N°2), p. cy-du.

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RETROSPECTIVE ANALYSIS OF THE PRODUCTION OF THE *REVUE D’ANTHROPOLOGIE DES CONNAISSANCES*

THE EDITORIAL BOARD¹

ABSTRACT

Based on the corpus of all articles published during the ten-year existence of the *Revue d’Anthropologie des Connaissances*, this article offers a retrospective analysis of the status of authors, of the categories of published items, of contents of abstracts and keywords, and of references enlisted in the contributions. This analysis makes it possible to understand what the editorial project has generated during the 10 years of publication of the journal with regard to its editorial project and its willingness to foster an open science. This retrospective analysis leads to a synthesis of the way in which the *Revue d’Anthropologie des Connaissances* contributes to the landscape of scientific publishing today.

Keywords: editorial synthesis, retrospective analysis, bibliometrics, socio-semantic analysis.

INTRODUCTION

In its editorial project, the *Revue d’Anthropologie des Connaissances* (RAC) was defining *anthropology of knowledge* as an open collective inquiry addressing the multidisciplinary study of knowledge as discourses, practices, conducts, organizations, professions, institutions or technical devices, their conditions

¹ See the appended list of members of the Editorial Board at the end of the article on the editorial project.

of production, circulation and use taken in their historical singularities (see the previous article “Scientific Project and Editorial Practices of the *Revue d'Anthropologie des Connaissances*”). The first issue initiated this study of knowledge objects and the understanding of cognitive processes considered as assemblages whose genesis and transformations have to be explored. Many colleagues and researchers who had been contacted to contribute to the editorial activities of *RAC* recognized then this project as relevant and necessary. Based on the corpus of all articles published during its first ten years of existence, we shall try to inform what this project has produced over time, while initiating a reflection on this vast field of enquiry with multidisciplinary outlines and with many objects, authors and themes that have become its own.

In a first step, we will present a reading of the authors' contributions according to different categories (articles of a thematic dossier, varia articles and book reviews) to present the evolution of *RAC* and its attempt to nourish an open science in the francophone scientific landscape. Then, we shall try to characterize the “population” of the authors in order to examine how *RAC* has established itself in the domain. Finally, in order to discuss epistemic aspects, we shall present an analysis of the database of all published articles, and seek to better understand the scientific positioning of the journal through citations analysis.

A PRODUCTION STIMULATED BY THEMATIC DOSSIERS

During the last 10 years, 33 issues have been published, 26 of which contain a thematic dossier and seven are composed exclusively of varia articles (see Table I). This corresponds to a production of 26 introductory articles for thematic dossiers (which are published simultaneously in English and Spanish), 143 articles published in a thematic dossier (including four translations), 77 varia articles (including four translations), for a total of 246 articles, to which are added 56 book reviews (see Table I and figure I).

Launching the journal was made possible thanks to the thematic dossiers. In the first twenty issues, a large part of the published articles (excluding book reviews) were published (about 69%) as part of thematic dossiers. From the second year onwards, an issue composed exclusively of varia articles was published (volume 2, no. 1), and since then, the Journal's editors wished to publish each year an issue composed exclusively of varia articles. This rhythm was maintained to reach, over the last three years, a ratio of 2/3 of articles as part of thematic dossiers and 1/3 in the varia section.

Year	Issue	Introductory articles	Thematic dossier articles	Varia articles	Book Reviews	Total
2007	1	1	4		2	7
2007	2	1	6		1	8
2008	1			5		5
2008	2	1	5	2	1	9
2008	3	1	7		5	13
2009	1	1	5	1	1	8
2009	2	1	5	2	3	11
2009	3	1	3	3	3	10
2010	1	1	5	2		8
2010	2	1	5			6
2010	3	1	6	1		8
2011	1	1	4	1	4	10
2011	2	1	5	4	2	12
2011	3	1	6		5	12
2012	1	1	8	1	1	11
2012	2	1	7		1	9
2012	3			10	1	11
2013	1	1	9	4	1	15
2013	2	1	4	3	2	10
2013	3	1	8	1		10
2013	4	1	7	2	2	12
2014	1	1	4	3		8
2014	2	1	5	3	3	12
2014	3			7	2	9
2014	4	1	4	1	2	8
2015	1	1	5			6
2015	2	1	6	1		8
2015	3			5	1	6
2015	4			4	4	8
2016	1			4	1	5
2016	2	1	7	1	3	12
2016	3			4	3	7
2016	4	1	3	2	2	8
Total		26	143	77	56	302

Table I. Published articles in *Revue d'Anthropologie des Connaissances*

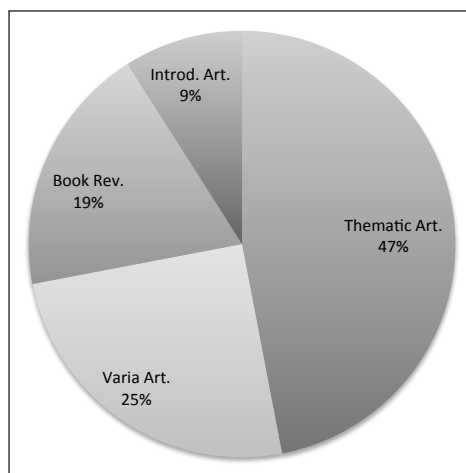


Figure 1. Distribution of the numbers of publications by types of item

In 2013, with the decision of publishing 4 issues each year (instead of 3), the number of papers increased to thirty articles per year, at least ten of them being « varia » articles. This established a balance between thematic dossier articles and those published in the varia section. It suggests the steady interest of various authors for the editorial project, whether they had the opportunity to collaborate to a special issue or not (Figure 2).

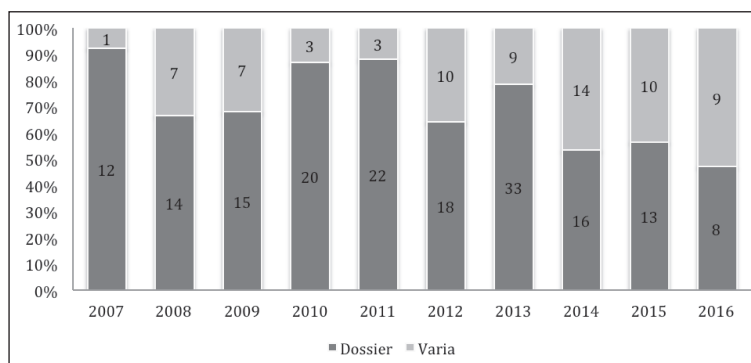


Figure 2. Yearly distribution of articles to be published in the context of thematic dossiers (dark grey) or in varia section (light grey)

Nonetheless, the flow of proposals for thematic dossiers has been maintained steady. At the launch of the journal, members of the editorial board initiated many of these proposals, but after 2010, there has been more and more dossiers initiated by colleagues external to the board. On average, the journal receives between three and four proposals of thematic dossiers per year. Not all of them are retained and some of these do not make it until final publication. Indeed, the work of the editorial board of the *RAC* is strongly involved in the evaluation of submissions, both for papers submitted to the varia section as for the thematic dossiers. The quality of the evaluation process, as well as the fact that the journal's policy has been to encourage more varia articles, is reflected in the increasing openness of the population of

authors in terms of topics or subjects covered; they also indicate evolutions toward thematic directions that are different from those of the initial editorial project.

Some additional features may also be noted. In some cases, *RAC* has simultaneously released a version of some original articles in French and another language (usually in English), and each introductory thematic article is published simultaneously in French, English and Spanish. Metadata of all articles (keywords and abstracts) are also published in the three languages. A thematic dossier was published simultaneously in French in *RAC* and in a Spanish-speaking journal called *REDES*; on this opportunity, *RAC* assumed, for both journals, a common refereeing of the issue. In addition, on various opportunities four articles have been translated from English, Spanish or Italian. Finally, some articles published in *RAC* have been republished in other languages, either in the form of an article (in particular, Susan Leigh Star published in *RAC* in 2010, 4 (1), 18-35, and republished in English in *Social Studies of Science* in 2010, 35 (5), 601-617) or in the form of a book chapter. This opening of *RAC* by means of a strong translation effort made possible the integration of the journal within the English-speaking international portal (cairn.int) of our publisher (Cairn is both our publisher and the publisher of the portal cairn.info). The translation effort played a positive role in the referencing of *RAC* in Scopus database and more recently in Web of Science (WoS). It should be remembered that the *Société d'Anthropologie des Connaissances* holds authors' copyrights but does not prevent authors to circulate their papers in open access repositories provided a clear reference is made to the original source and DOI is clearly signaled. This policy goes hand in hand with the "green" open access model that was chosen by the journal.

THE POPULATION OF AUTHORS

Gender

The authors' population is mixed (see Figure 3); half of the articles are authored by females (124 out of 245) and 164 out of 245 by males. Female authors alone signed 64 articles, 17 articles were co-authored by females only, and 43 articles with a male colleague, of which 23 articles have a female author in the first position of authoring. Males signed 90 articles, 31 with other male authors, and 43 articles with females, out of which 20 papers hold a male author in first position. Female authors alone are significantly more present in articles published in the varia section.

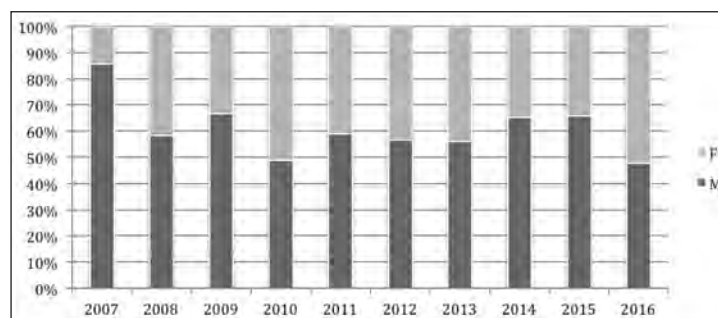


Figure 3. Evolution of authors' gender yearly distribution

Status

Authors are generally experienced researchers; 50 articles are signed by a professor in first position, 14 by a director of research, 50 by a senior lecturer and 76 by a research fellow. As for the other authors, 28 are postdocs and 21 doctoral students, it indicates that the Journal matches its ambition to accompany young authors, aiming at publishing an article of good scientific quality, with the same high editorial standards as other authors, by taking the time to address constructive comments and proposed revisions in case of strong revisions. It should also be noted that authors do not have to pay systematically for article processing charges, which makes it a favorable outlet for young authors whose professional and economic situation is often precarious.

Countries

Since *RAC* is a French-language journal, it is not surprising to find a majority of articles signed first by authors located in France (167 out of 245 articles), Switzerland (15 articles), Belgium (9), Canada (6), and Francophone African countries (2). Authors working in Latin America are also present (16) including nine in Argentina, the rest working in Mexico, Brazil or Chile.

This composition of the authorship highlights the relevance of the journal for science in these parts of the world but is also the result of the translation of metadata and abstract of all articles as well as the systematic translation of introductory articles into Spanish and English. In the rest of Europe, non-resident researchers in France are located in Germany (9), the United Kingdom (5), Sweden (2), Portugal (2) and others in Denmark, Italy, Slovenia and in Russia. We count five articles from elsewhere in the world, five from North America, and five articles from Australia, Japan, India and Thailand (sometimes French expatriate researchers).

The analysis of the downloads and connections to introductory articles of thematic dossiers (translated in English and Spanish) provides very interesting information, which leads to question the commonly assumed prevalence of Anglo-American world (Figure 4). If translation is sometimes a betrayal, these

figures show that accompanying the francophone authors by the means of translation is also a struggle against the standardization of scientific production in English, that even English-speaking authors consider a loss since it implies an homogenization of the debates, because of an unsophisticated use of English in Humanities.

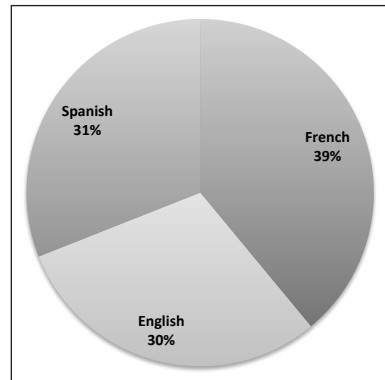


Figure 4. Proportion of consultations of introductory articles in three languages

DISCIPLINES WITHIN RAC

Thanks to the author's biographical notes, their disciplinary affiliation could be qualified and quantified (Figure 5).

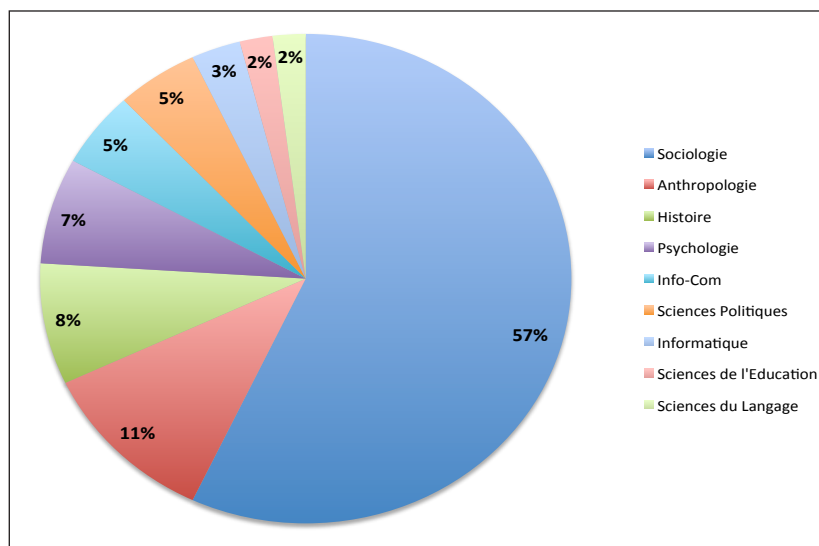


Figure 5. Repartition of authors' disciplines

Our database of authors makes it possible to map the network of authors' disciplines, all articles combined, except book reviews. In the web of links established by the collaboration of authors (figure 6), two sub-networks are well identified: a first one around sociology and anthropology, strongly connected to another one in psychology. In fact, this distribution corresponds to the origins

of the journal, which combined these two different sets of authors in the initial project. The two subsets are linked but only indirectly; there is always at least one mediating discipline (language sciences, education sciences, psychology-ergonomics) between sociology and psychology, and sometimes two (history and socio-history). This observation raises the question of the renewal of the dialogue between disciplines, all the more so as research problems have changed considerably in ten years.

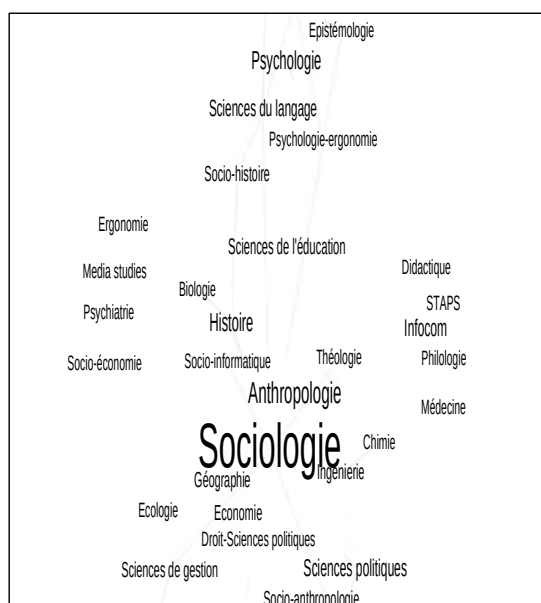


Figure 6. Network of authors' disciplines (all articles combined, excluding book review reports). The size of labels for disciplines reflects the frequency of their occurrence. A "Force layout" algorithm (based on link weight) was applied, before some manual adjustment for readability. Single occurrences have not been excluded.

As for the other disciplines, in fact they are numerous in *RAC* and all together represent around 50% of all afforded disciplines. We find the expected disciplines such as history, political sciences, philosophy, education sciences, as well as less expected disciplines such as linguistics, management, geography, sports sciences and Information and communication sciences, as well as – less frequently – economy, agronomy, medicine or information technology. However, it is clear that, in contrast with the original project, sociology and anthropology occupy a dominant position.

The question arises on how to strengthen the dialogue with other disciplines whose contributions on the subject matters of *RAC* certainly make sense. It is striking to note that ten years later, despite the renewal of scholars involved in the journal and the lack of incentive to publish in interdisciplinary journals coming from prescriptions at play in certain disciplines, this multidisciplinary composition of *RAC* is quite effective. It is an encouraging observation that advocates for the maintenance and development of these links between disciplines that the journal has sought since its origin.

THEMATIC DOSSIERS OF RAC

The significance of focus on Thematic dossiers

RAC aims at publishing relevant studies on production, circulation, and mobilization of knowledge, targeting thus scholars concerned by the process of knowing rather than constituted or established knowledge. The objective was to explore these processes through a variety of phenomena including discourses, practices, institutions, devices, techniques, technologies and collective dynamics.

Reviewing the topics covered by the thematic dossiers (see Box I below), RAC and its guest editors have focused on a variety of topics. Of course, the making of scientific activities, whether conducted in laboratories or “in the wild”, without disciplinary a priori choices (brain sciences, taxonomy, human and social sciences, biological sciences, sciences in non-hegemonic countries) have been a major concern with nine thematic dossiers. But, the journal also publishes paper on the production of ordinary knowledge, traditional knowledge, and occupational or expert knowledge, as shown in nine thematic dossiers, out of which two were focusing on technologies and engineering.

Box I. List of thematic dossiers published in RAC

That Obscure Knowledge Object – 2007, 1(1)
 The Laboratory as a Knowledge Production Space – 2007, 1(2)
 From the Sheep House to the Computer Centre – 2008, 2(2)
 Science in Non-hegemonic Countries – 2008, 2(3)
 Revisiting the Notion of Boundary Object – 2009, 3(1)
 Counting, demonstrating, formalizing – 2009, 3(2)
 “Cognitive Passions” / Rebellious Dimension of Knowledge in the Passion Scheme – 2009, 3(3)
 Revisiting the Notion of Boundary Object (2) – 2010, 4(1)
 Confrontations with Traces of One’s Own Activity – 2010, 4(2)
 The Scientific Author – 2010, 4(3)
 Asian Therapeutic Knowledge and Globalization – 2011, 5(1)
 Biological Resources – 2011, 5(2)
 The Localization and Circulation of Knowledge in Africa – 2011, 5(2)
 The Invisible Workers of the Information Society – 2012, 6(1)
 Anthropology of Knowledge in Latin America – 2012, 6(2)
 Towards Pragmatic, Ecological and Political Approaches to Expertise – 2013, 7(1)
 The Renewal of Taxonomy: Modalities, Effects and Practical Stakes – 2013, 7(2)
 Neuroscience Examined by the Clinical and the Social Sciences – 2013, 7(3)
 Cataloguing, Indexing and Encoding: The Material Textures of Accumulation – 2013, 7(4)

Searching for the Invisible Metronome of Organizations – 2014, 8(1)

Engineering Practices – 2014, 8(2)

The Humanities Unbound – 2014, 8(4)

Knowledge in the Market – 2015, 9(1)

Animal Surveillance – 2015, 9(2)

Measurements and Standards: Political Technologies in African Government – 2016, 10(2)

What data do to SSH and vice versa – 2016, 10(4)

RAC cannot therefore be considered as a journal solely specialized in the field of sociology of science or Sciences & Technology Studies (STS). Some thematic dossiers were mainly concerned with practices (counting, demonstrating, formalizing, cataloging, indexing, encoding, assembling databases), on activities that consider these practices as a matter of fact (engineering, confrontation with traces of one's own activity, expertise, etc.). Another important focus is materiality (biological resources, traces of activity, collections and catalogues, databases in scientific activities), agency of relations (articulation, circulation, localization, friction, testing), as well as on some other dimensions of cognitive activity (affective, social, ecological, economical and political). Attention is also given to the social determinants, as it was the case in the early stages of the sociology of sciences (science as institution, scientific communities, profession and social networks, social stratification), although this kind of work is not central. The journal, in the same vein, has been paying attention paid to experts, scientific authors or 'invisible workers' of the information society. Additionally, the study of mental processes, social dynamics and artefacts or the transformations of studies about cognition have had some space in our pages.

Moreover, the conditions of knowledge production and use in professional and institutional practice (expertise, therapy, governance, surveillance, innovation) receive more attention than knowledge dissemination.

Various regions of the world also receive attention (non-hegemonic countries, Asian medicines, knowledge anthropology in Latin America, localization and circulation of knowledge in Africa, instruments of government in Africa). This attention to "non-hegemonic" countries is also confirmed by *Varia* articles. The other dossiers concern "hegemonic countries" in general or so-called "universal sciences". Human diversity (gender, generation, ethnic or social origins) are not addressed in specific dossiers but are the object of various articles in the journal either included in dossiers or in *Varia* section. The editorial project of the journal² mentions various objects like arrangements of logics, mental processes, social dynamics, artefacts, the transformations of cognition; but, in fact, the production published in the pages of RAC unevenly covers these matters, while focusing on practices.

It should be mentioned that the editorial project of the journal was stressing the need to develop scientific analysis on knowledge in the context of a growing

2 See the presentation on the website <http://socanco.org/>

opposition with neurosciences, which proposed to leave aside any consideration, which proposed to leave aside any consideration that might be brought by social sciences, by de-contextualizing the processes of knowledge production. *RAC* obviously did not engage in explicit discussion with these disciplines (except in the thematic dossier entitled “Neuroscience Examined by the Clinical and the Social Sciences”, vol. 7, no. 3). Therefore, it is only indirectly that *RAC* counteracts the tendency to de-contextualize the production and use of knowledge.

Technical object and technology: the forgotten matters of RAC ?

When looking at the thematic dossiers, we can identify a sharp difference with the ancestor of *RAC*, the journal called *Technologies, Idéologies, Pratiques* (TIP), which existed prior of *RAC* with the subtitle “*Revue d'anthropologie des connaissances*”).³ TIP was very much concerned by technology and technical objects as a field of enquiry, but it is not the case of *RAC*. On the contrary, no thematic dossier has yet focused on techniques or technical practices. Those papers more closely interested by technical objects are mainly dealing with engineering practices, medical practices or governance (political technologies, animal monitoring). These articles adopted a different point of view, also based (as was the theoretical ambition of TIP) on the socio-materiality of knowledge activities and knowledge infrastructures; the attention to the embodiment of technologies and instrumental practices visible in a large number of thematic dossiers.

The diffusion of analysis that takes into consideration the technical and material dimensions of the study of knowledge seems to be common collective endeavor. On the other hand, this absence of technical objects as the main object of inquiry enquiry raises questions. Is this an effect of an attention exclusively interested with the sciences? In effect, it seems to be partly the case, but it is certainly not the only explanation, since the scope of research topics is rather wide. Is it that technology has been considered a less “noble” object of enquiry? Or is it that the dominant type of analysis in the pages of the journal (study of practices or symmetrical approaches of socio-materiality of arrangements) does not permit to approach technical objects *per se*?

Scientific research and local knowledge

Thematic dossiers result from open calls for papers, but are designed by a limited number of invited editors, sometimes linked to the editorial committee, although our usual practice consists in debating with the invited editors and within the committee on the theme proposed and the way it is formulated. It might be that these discussions within the committee have restricted involuntarily the range of analysis or topics. In its *Varia* section, *RAC* publishes

3 Jean-Pierre Poitou, founder of T.I.P. and founding member of *RAC* died on February 22, 2017.

articles submitted freely: seven issues in 10 years where entirely dedicated to Varia issues, out of a total of 60 published issues. These 77 articles in Varia sections might give a different picture of the Journal (Table 2).

	Thematic dossiers articles	Varia articles	Total
Scientific research	64 (37,9 %)	22 (28,6 %)	86 (35,0 %)
Technology and engineering	23 (13,6 %)	11 (14,3 %)	34 (13,8 %)
Knowledge and local know-how in occupations and expertise	82 (48,5 %)	44 (57,1 %)	126 (51,2 %)
Total	169	77	246

Table 2. Distribution of published articles in the Varia sections according to their focus (after a manual codification) and their status (does not take into account translated articles, articles in thematic dossiers, introductory articles of thematic dossier, or book reviews)

Whether appearing in thematic dossiers or varia sections, less than 14% of articles concern an object related to technology or engineering and in the varia section, out of eleven published articles, five articles concern digital technologies (communication technologies, electronic voting and music), 35% of articles deal with the contemporary dynamics of research (dynamics of science and scientific disciplines, social relations in science, research practices, academic careers, knowledge diffusion and contested knowledge) and 51% involve local knowledge, know-how in occupations, expertise, the construction, circulation, transmission, or mobilization of knowledge, as well as disputes about knowledge. Direct approaches of technical objects and technologies (either based on functionalism, critical analysis or symbolism) are not usual in our pages; they tend to be included in analysis of the socio-materialities of knowledge production.

The editorial project of *RAC* consists in providing a high-quality French-language academic journal to sustain scholarly work related to the science and technology studies (STS), as they emerged in the 1980s and the 1990s. Some of our stakeholders perceive *RAC* effectively in that way. But in fact, academic science and technologies represent only 49% of published articles. Thus more than 51% of published articles concern knowledge and know-how in action, thus confirming the project of *RAC* to effectively deal with all type of knowledge without reducing it to the academic science and technology. This is even more pronounced in articles in the varia section where non-academic knowledge represents 57% of articles as against 48% in the thematic dossiers). Conversely, thematic dossiers contain articles on academic science (38%) in higher proportions than in the varia section (29%). One perceives there that varia articles are significantly more open to the study of knowledge and knowing outside science and technology.

Areas of activity and sectors are very unequally represented

Fieldwork, by areas of activity, or professional sectors (Table 3), concerns the academic world of research and its borders (40.7%) (especially in life sciences and in SSH), in health (14.8%) and culture and sport (13.5%). Surprisingly, information technology and industry are hardly concerned in the early years but appears a trend of emerging studies with the publication of a thematic dossier on “The Invisible Workers of the Information Society”. Published articles in thematic dossiers pay more attention than varia papers to the life sciences and health, as well as to physical sciences and information technologies. Conversely, varia articles are more concerned with SSH, and particularly education, industry and crafts, and a more varied number of fields of enquiry than in the thematic dossiers.

Sectors of activity	Thematic dossiers articles	Varia articles	Total
Academic sector	16 (9,5 %)	6 (7,8 %)	22 (8,9 %)
Academic field in the natural sciences, life sciences and earth sciences	31 (18,4 %)	8 (10,4 %)	39 (15,9 %)
Academic field of social sciences and humanities	10 (5,9 %)	7 (9,1 %)	17 (6,9 %)
Academic field of physical sciences, energy science and technology and information technology	7 (4,1 %)	1 (1,3 %)	8 (3,3 %)
Education and teaching		5 (6,5 %)	5 (2,0 %)
Industry, craft, engineering and innovation	16 (9,5 %)	9 (11,7 %)	25 (10,1 %)
Agriculture and agri-food	12 (7,1 %)	5 (6,5 %)	17 (6,9 %)
Health sectors of activity	29 (17,2 %)	7 (9,1 %)	36 (14,6 %)
Geography, construction and environment	10 (5,9 %)	8 (10,4 %)	18 (7,3 %)
Culture, sport	21 (12,4 %)	12 (15,6 %)	33 (13,4 %)
Other sectors (service, consultants, employment, citizenship, communication)	17 (10,1 %)	9 (11,7 %)	26 (10,6 %)
Total	169 (100 %)	77 (100 %)	246 (100 %)

Table 3. Distribution of the published articles in the thematic dossier and varia sections according to the study if areas of activities (does not take into account translated articles, articles in thematic dossiers, introductory articles of thematic dossier, or book reviews)

In terms of the geographical coverage, most of the published research concerns France. Other locations, except when no specific geographical location is concerned, the geographical coverage is mainly Africa, Latin America and Asia (especially when thematic dossiers are devoted to these regions of the world), but rarely other European countries or North America.

Underlying thematic focus

Two different methods have been used to study the contents of abstracts of published articles. The first one is a *topic modeling* approach of the abstracts of articles. Texts of abstracts have been lemmatised and reduced to nouns and adjectives according to a frequency at least equal to five under a tf-idf normalization procedure. The number of topics being an arbitrary parameter, we set it at 3 in order to try to distinguish thematic clusters that would take into account the distinction between thematic dossiers articles and varia articles, since the lexical repertoire of published articles differs significantly. This is moreover confirmed by a contingency analysis (our second method) of the type dossier article or varia article versus the 35 top authors' keywords (Figure 7).

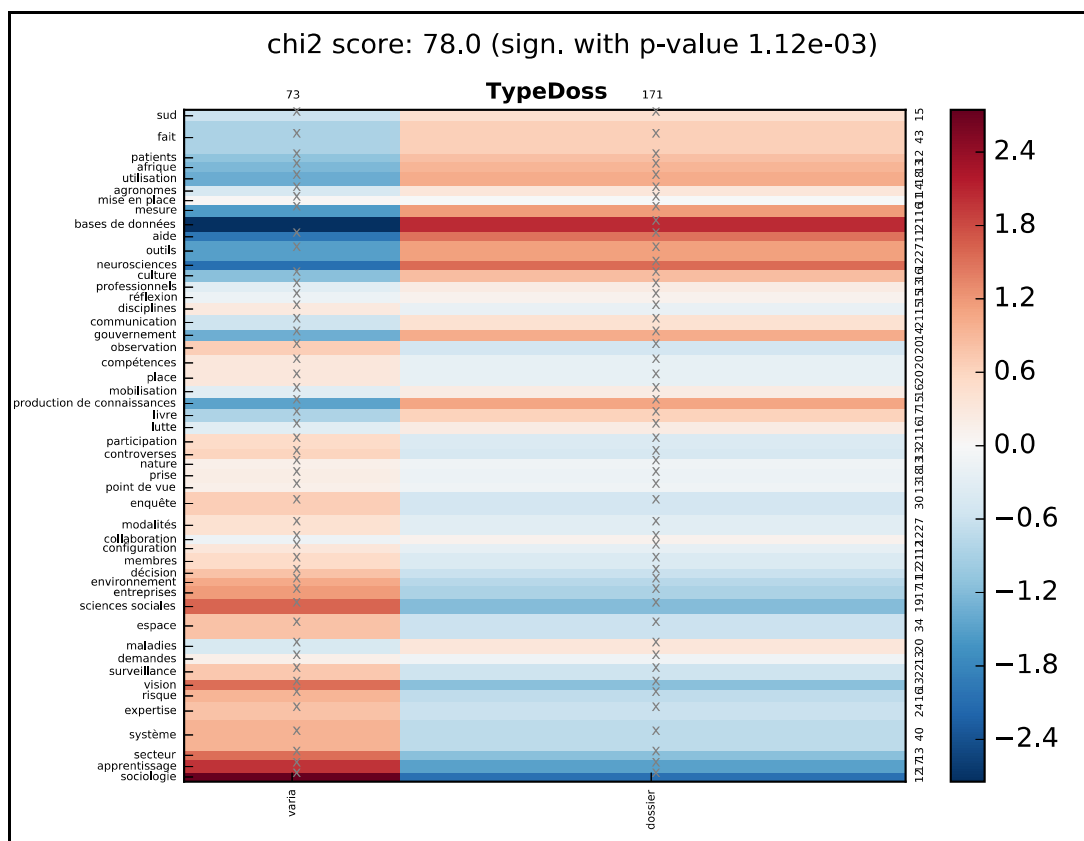


Figure 7. Contingency matrix crossing authors' keywords (Top 35) and the journal section (varia or thematic dossier) (CorTexT Manager – Contingency Matrix)

Thanks to the results of the topic modeling analysis on 3 topics we can specify the meaning of this thematic polarization. There are 693 terms extracted from abstracts of articles of thematic dossiers against 393 terms from abstracts of articles published

in the varia section. While taking into account the number of articles, the lexicon is slightly more open for varia articles (an average of 5.1 distinct terms per article) than in the thematic dossiers (4,4). Table 4 presents the analysis of the three topics.

Topic 1	Varia Section	Thematic Dossier Section
Associated Words	Science, savoir, social, recherche, pratique, connaissance , sociologie, scientifique , forme, processus, acteur, activité , contexte, analyse , expérience, cadre, travail , action, public, organisation ...	Scientifique , donnée, travail, activité, savoir, recherche, science , objet, social, acteur, analyse, pratique , politique, connaissance , temps, production, laboratoire, projet, étude, base ...
Main articles	T. Brisson – La réception des écrits de Max Weber sur le confucianisme au Japon et en Asie du Sud-Est C. Brives – L'individu dans un essai thérapeutique A. Aranzazu – Surveillance de la grippe d'origine animale à l'OMS M. Bensoussan – La prescription du travail en gestion de projet G. Teil – Quand les acteurs se mêlent d'ontologie	L. Mondada – Production du savoir et interactions multimodales L. Heaton et S. Proulx – La construction locale d'une base transnationale de données en botanique F. Millerand – La science en réseau D. Vinck et G. Zarama – La fusion de laboratoires G. Prete – Les frontières de la mobilisation scientifique, entre recherche et administration

Topic 2	Varia Section	Thematic Dossier Section
Associated Words	Activité, acteur, projet, expertise, compétence, public, participation, surveillance, membre, territoire, gestion, nouveau, travers, communauté, parole, action, groupe, interaction, formation, controverse, Linguistique ...	Donnée, base, image, numérique, photo, invisibilité, documentation, grippe, travail, production, gestionnaire, information, oiseau, utilisateur, statut, constitution, élément, main, invisible, virus, écologie ...
Main articles	S. Bruzzone – La production de savoir comme mode d'articulation entre acteurs publics et non publics S. Nalle-Dazébi – Objet et acteurs de recherche N. Faysse, M. Bouzekraoui et M. Errahj – Participation et amélioration des compétences dans des groupes restreints M. Bensoussan – La prescription du travail en gestion de projet M. Tironi et Valderamma – Urbanisme militaire et situation cosmopolitique. Le cas des ballons aérostatiques de surveillance à Santiago du Chili	L. Heaton et F. Millerand – La mise en base de données de matériaux de recherche en botanique et en écologie D. Boullier et M. Crépel – Biographie d'une photo numérique et pouvoir des tags F. Keck – Compter les virus, observer les oiseaux S. Houdart – Peupler l'architecture F. Millerand – La science en réseau

Topic 3	Varia Section	Thematic Dossier Section
Associated Words	Institution, public, recherche, politique, croissance, agriculture, universitaire, rural, dictature, évolution, argentine, secteur, processus, acteur, académique, stratégie, scientifique, nouveau, communication, création, expertise...	Ingénierie, ingénieur, laboratoire, activité, dimension, inscription, projet, étude, équipe, chercheur, pratique, conception, scientifique, enquête, science, compétence, social, formation, société, discipline, identité ...
Main articles	F. Berkerman – Les instituts de recherche en Argentine O. Kirtchik – L'économie rurale en France. Trajectoire d'une science sociale « utile » entre modernisation et mondialisation I. Babou et J. Le Marec – Les pratiques de communication professionnelle dans les institutions scientifiques E. Lhoste et M. Barbier – FabLabs M. Soledad Córdoba et V. Hernández – Impact de la diaspora dans la biotechnologie argentine	A. Dias de Figueiredo – De la nature historique des pratiques d'ingénierie J. Trevelyan – Observation des pratiques d'ingénierie en Asie du Sud M. Hubert et D. Vinck – Des pratiques d'ingénierie aux transitions sociotechniques B. Williams et J. Figueiredo – L'ingénierie hétérogène portugaise A. Chilvers et S. Bell – Verrouillage professionnel

Table 4. *Topic modelling* applied to all abstract of published articles in varia section versus thematic dossiers

The first topic shares a common lexicon in the thematic dossiers and varia articles on general terms such as knowledge, sciences and activities. The two other topics show clear differences among dossiers and varia articles with clearly distinguishable lexicons, largely structured by the subjects of three out of 26 thematic dossiers.

To complement this lexical approach, the map proposed in Figure 8 displays the articulation of authors' disciplines and of the 75 most frequent keywords (those proposed by of the authors) after some regroupings of similar forms. It proposes the resulting graph of a heterogeneous network analysis of based on a convenient metric (similarity measure by Khi2) and on the community detection Louvain algorithm⁴.

A strong structure around Sociology, Anthropology, Socio-History and Political Sciences (green cluster) is to be observed, all disciplines linked to terms corresponding to thematic dossiers (boundary-object, amateurs' practices, certification, coordination, laboratory studies). This main cluster shares external links with three other clusters: a cluster of Ecology, Geography

4 One can access to the online interface CorTexTManager of the CorTexT Platform (cortext.net) in order to run this type of analysis.

and History (blue to the left) containing subjects such as biopolitics, biodiversity and surveillance; a cluster of Info-com, Socio-informatics and Ethnology (red to the right) with reference to digital practices, infrastructures and databases; a smaller cluster (green) of Socio-Economics about nanotechnologies.

At the bottom of the map, two 2 clusters (red and blue, on the right) group Language Sciences, Linguistics, Psychology-Ergonomics, Computer Science, Management Sciences, Agronomy with reference to discourse analysis, ethnomethodology, innovation, agriculture, instruments of knowledge and knowing; two clusters (on the left of the map, blue and and purple) contain Education Sciences, Psychology, Ergonomics with reference to Latin America, action, self-confrontation to the traces of activity, and Socio-anthropology, Pharmacology, Psychiatry and Social Sciences with reference to neurosciences, cognition and also public policy and drug expertise. A last cluster (yellow) at the bottom of the map identifies Engineering and engineering practices.

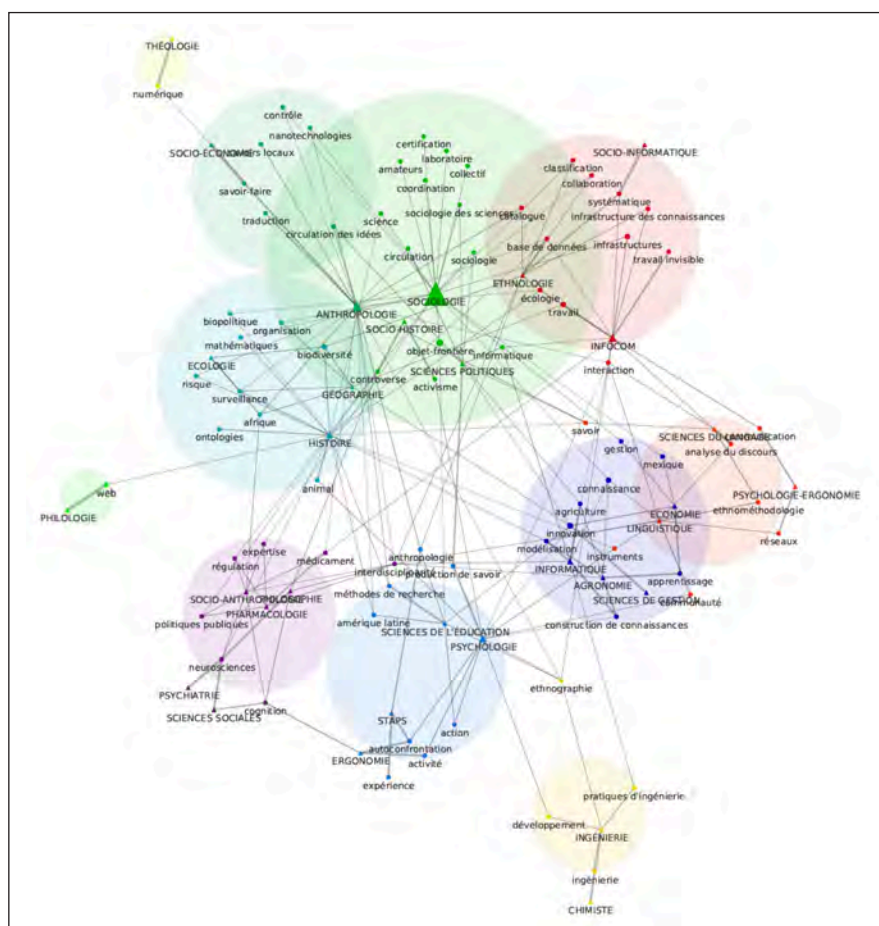


Figure 8. Network of relations between keywords and disciplines of authors – Khi2 for similarity measure and Louvain algorithm for community detection (CorTexT Manager – script Network Mapping)

These sets of co-occurrences that are constituted by the calculation of clusters thus make it possible to represent a landscape of bi-partite relationships, crossing disciplines and keywords of articles. The clustering method confirms

the results of the topic modeling: groups of words in topics or in cluster do not oppose articles according to their being including in thematic dossiers or Varia section. Thus, analyzed articles published by RAC display multidisciplinary work on shared objects, identified as subjects of the thematic dossiers. The still low number of varia articles makes it difficult to go further in analyzing the specificities of articles in this section of the journal..

THE POSITIONING OF RAC THROUGH THE ANALYSIS OF CITED REFERENCES

After having used information about authors and keywords, we shall examine the bibliographic references of the articles, ie approximately 13,300 references, including 4,300 References to journal articles. We propose first an analysis of the landscape of cited journals, and then an analysis of cited authors (including all sorts of cited material, either articles, books or book chapters, communications or thesis).

Analysis of cited journals

A simple count of occurrences of journals citations provides a first main lesson (Table 5). Authors cite massively RAC itself but also *Social Studies of Science*. A second set of journals allows to confirm the multidisciplinary nature of RAC and of the cited journals in the areas of sociology of work and of communication (*Sociologie du travail* and *Réseaux*), Sociology in general (*Revue Française de Sociologie*, *Actes de la Recherche en Sciences Sociales*) and STS journals (*Science, Technology & Human Values* and *Research Policy*). The magazine *Ciencia Nueva* indicates a strong reference for STS in Latin America. This journal has been both used as reference as well as documents to be studied by specific papers on research in Argentina.

An in-depth analysis of the networks of cited journal by looking at the co-occurrences of their references (Figure 9) displays a landscape of clusters that can be interpreted as epistemic spaces constructed by the authors' practices of reference.

Some care needs to be taken in the interpretation of this "landscape". On one hand, we only have a limited number of articles ($N = 246$) and the graphs display a large variety of cited journals and of objects and disciplines. On the other hand, we might have "halo effect" due to some thematic dossiers that repeat the same citations of specific or major publications. Some of this possible bias could be treated by transforming the dataset by removing self-referencing from the RAC itself, or excluding self-references. However, because the corpus is not that large and because these corrections are always based on arbitrary decisions, we have preferred to analyze the dataset as is, as it displays the actual practices of referencing.

Cited Journals	Occurrences
<i>Revue d'Anthropologie des Connaissances</i>	211
<i>Social Studies of Science</i>	183
<i>Sociologie du Travail</i>	103
<i>Réseaux</i>	85
<i>Science, Technology & Human Values</i>	72
<i>Revue Française de Sociologie</i>	69
<i>Ciencia Nueva</i>	57
<i>Actes de la Recherche en Sciences Sociales</i>	51
<i>Research Policy</i>	37
<i>Politix</i>	31

Table 5. List of the 10 more cited Journals of articles published in *RAC*

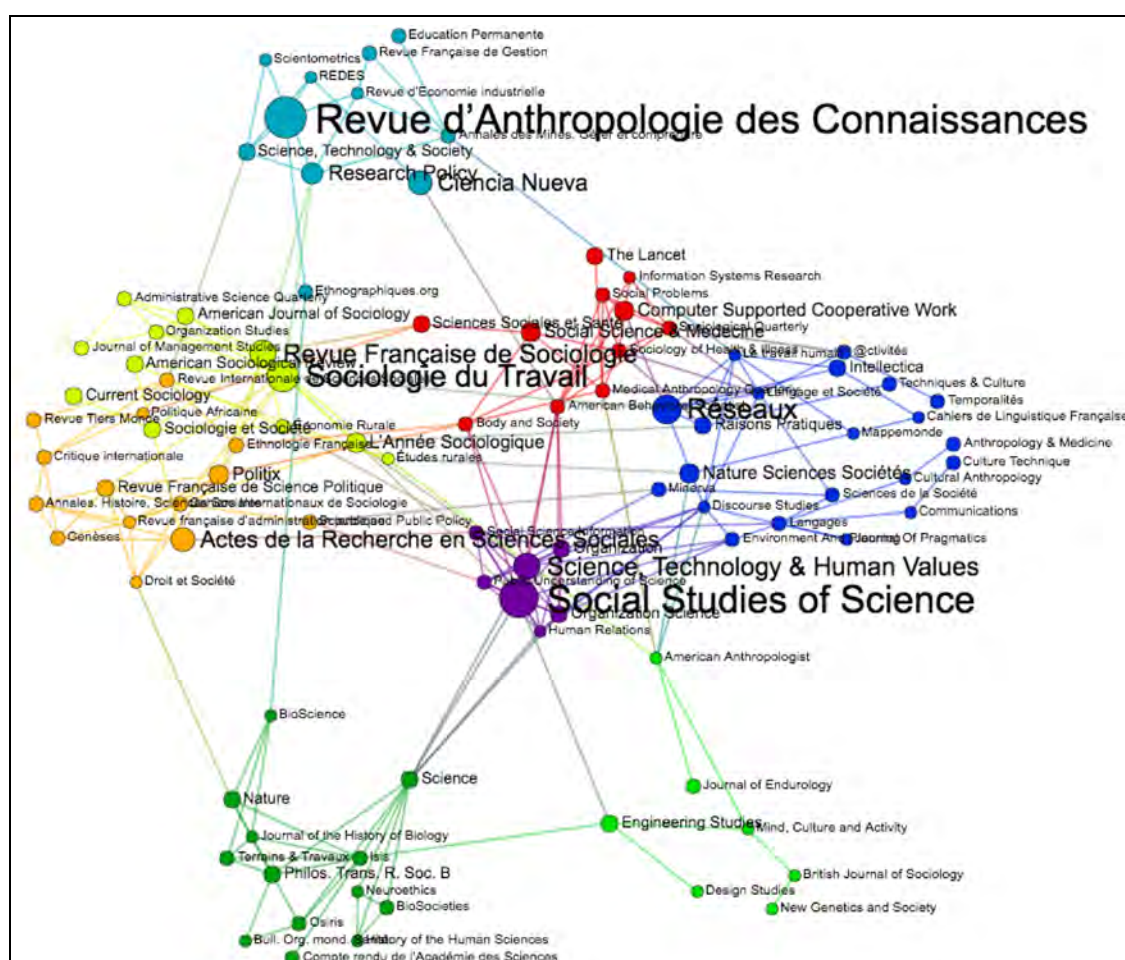


Figure 9. Network of cited journals calculated with an indirect measure of the similarity of profiles of cited journals for all published articles (Metric : Cos-Het, Top 100 Cited Journals of all published articles, Louvain algorithm for community detection)
(CorText – Script : Network Analysis)

RAC is obviously the subject of the main number of citations, but it is not at all a systematic practice. Within the cluster (light blue) where the journal occupies a predominant position (in terms of degree and centrality), RAC is associated with journals forming a heterogeneous set in the field of science studies (STS, Research Policy) and French journals in economics, management and educational sciences. This 'RAC cluster' is linked to two other clusters: one marked by sociology (bright green) around *Sociologie du Travail* and the *Revue Française de Sociologie* (as well as *L'année sociologique*, *Sociologie et Société*), but also of foreign journals in sociology; and one cluster (red) of journals, mainly in sociology of health. The sociological cluster is quite clearly attached to a cluster (orange) also marked by sociology composed of journals in rather specific fields and political sociology, as well as journals in anthropology, ethnology, history, and international relations.

Another cluster on the right (blue) consists of a set of journals that are rather interdisciplinary (sociology, anthropology, linguistics, psycho-science); we find journals such as *Réseaux* plays which played a central role as well as other journals such as *Techniques et Cultures*, *Intellectica*, and *@ctivités*, all more directly related to the study of the production, inscription and circulation of knowledge.

A very central cluster, which links to most of all other clusters, indicates a positioning with respect to two the two flagship journals in the STS field: *Social Studies of Science and Science, Technology and Human Values*, both produced by the 4S. The graph displays indeed their very central role in the field. The centrality of this cluster indicates that both journals. This very central cluster indicates that references to STS play a role in the positioning of articles but that STS are not the only attractors of positioning.

Finally, in the lower part of the graph, we find two clusters, less central and with a smaller number of journals: on the left (dark green) a set of life sciences journals but also journals such as *Terrains et Travaux* or *Biosocieties*; to the right (bright green), a heterogeneous set of journals with a central position occupied by Design Sciences and Engineering.

From this analysis, it is possible to draw some lessons respect to the editorial project of RAC. This landscape clearly indicates the existence of a connection between numerous and varied publication spaces with three main anchors, depicted by the clustering process: one anchor composed of two central clusters show a very strong valence for the study of the social forms of production and mobilization of knowledge (bright green and orange), and on the other side a more heterogeneous group that demonstrates an attachment to cognitive contents, to the materiality of the production and circulation of knowledge. We can try to interpret the fact that the relative larger distance of the clusters to which RAC refers more consistently from the one that contains SSS and STHV as a phenomenon of distinction that was sought by the authors of RAC: they would refer to academic references to STS not only inside these central journals but also by defining a more varied landscape of literatures, outside a 'canonical' STS corpus, thus weaving interdisciplinary

epistemic relationships where sociology plays a central but not unique role (see Table 5).

Analysis of cited authors networks

After the characterization of the landscape of cited journals, it is relevant to consider the cited authors within this corpus, and thus enter in more in detail within the epistemic landscape formed by the authors. For this purpose we use the same cosine-heterogeneous metric, paying attention to how a measure of similarity between cited authors' profiles build this landscape.

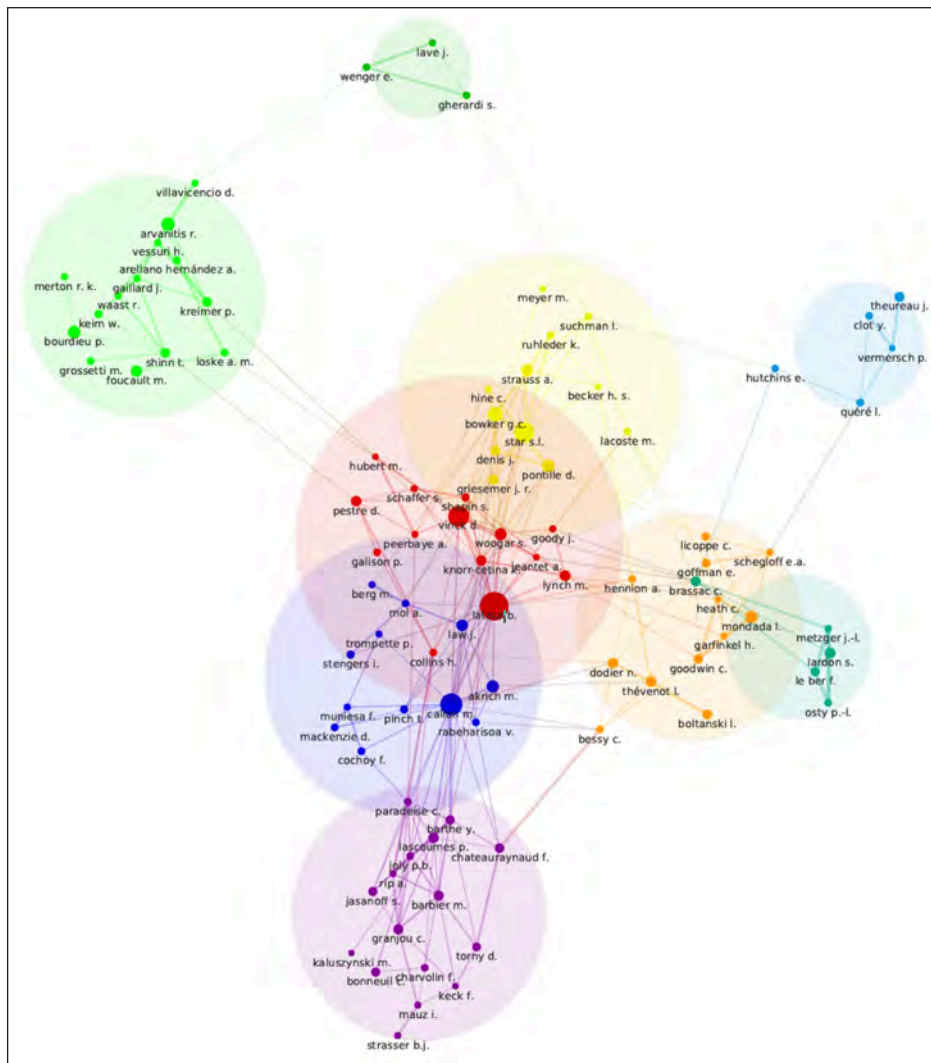


Figure 10. Network of cited authors built by their co-occurrences in the bibliographic list of references for all articles – Metric : Cos-Het, Top 100 of Cited Authors; Louvain clusterization – (CorTexT Manager – script Network Analysis)

Following the same kind of interpretation of the clusters landscape, we note a central cluster (red) quite clearly linked to four other more peripheral clusters, and they themselves link to satellite clusters. This central cluster

is marked by the presence of two authors, Bruno Latour and Dominique Vinck, as well as a set of authors who have marked the emergence of social studies of sciences in France. This cluster is associated, or even intertwined, with three others: a cluster (blue color) marked by the prominent presence of Michel Callon and authors related to the sociology of translation and its more recent extensions in the sociology of markets; a yellow cluster marked by the presence of Geoffrey Bowker and Susan Leigh Star and authors who marked the introduction of symbolic interactionism in the study of knowledge infrastructures; an orange cluster composed of authors with none having a strong structural position, related to sociology of situated practice (but usually referred to as “activité située” in French), a ethnomethodological orientations and the today so-called pragmatist sociology of Boltanski, Thévenot and Dodier; a fourth cluster (light green), which is linked only to the central cluster (red), is composed also by authors where none has a dominant structural position, an group authors studying scientific activities as disciplines, fields, institutions or science as a social structure; a fifth cluster (purple) down in the graph appears very connected to the blue cluster (sociology of translation) and consists in two-levels of authors, some more central and some more peripheral, but with a strong focus in sociology of research practices, expertise, academia and science and society linkages.

This landscape of cited authors is a quite relevant instrument in accounting of the different strands of approaches in the journal. In particular, it identifies authors that are members of the Editorial Board and thus also the various orientations and research areas to which they have attached the journal. Social studies of scientific networks, diversity of knowledge practices, materiality, knowledge infrastructures and research policies have been the main orientations when looking at the subjects areas of the cited authors; but we can conclude that, although there is a variety of theoretical and epistemic orientations, most authors mentioned in these pages are interested in studying more broadly the production and circulation of knowledge in society, and related practices than can be situated, embedded, organized, instituted or contested.

CONCLUSION

RAC cannot be reduced to a single position within the field of science studies. The editorial project was to value scholarly work on the knowledge contents, cognitive processes, social dynamics and artefacts in order to understand the production, circulation and mobilization of knowledge by collectives. By looking at the ten years production of the journal we have a much wider range of topics and approaches. This diversity includes the classical topics of sociology of science (academic careers, modes of career engagement, international mobility, institutional dynamics of scientific fields and disciplines including studies on the power structure of the global scientific networks); it includes also the studies

of the social relations of sciences in the making (relations in-between scientific disciplines, between industry and research, between centers and peripheries). But RAC publications have been particularly active in taking into account the scientific contents, the objects of knowledge practices, the way research is practiced in society – including social representations, cultures, beliefs and prejudices – and the acceptance, appropriation and contestation of certified knowledge, as well as scientific and technical controversies. Finally, some fewer, although emblematic, articles report on research practices in laboratories, on knowledge practices such as categorizing, measuring, demonstrating, designing, modeling and simulating. Most articles are rather concerned by the way actors are included as agency inside experimental settings, participative research and by the reflexivity of researchers.

Articles published in RAC, have only marginally been related to a constructivist analysis (social or else) of knowledge, and this was a deliberate choice of the editorial activity, but a result of what authors themselves were proposing to the journal, indicating maybe a change of interest, towards the eroded enthusiasm for the “social construction of reality”.

After ten years of publishing, RAC contents reveal a strong focus on the making of knowledge: sharing of experiences, testing of knowledge, public consultations, circulation of knowledge (translation, appropriation), transmission and mobilization of knowledge (adoption of scientific paradigms and governance of knowing) as well as cognitive practices of knowing (calculation, observation, remembrance, classification, problem solving, optimization, restitution), citizen sciences (collective experiences, profane instrumentation) and a sociology of knowledge related occupations (engineering, management). Some works concern the representations and ways of thinking, while very few deal with institutional dynamics.

We could then conclude that the approaches developed in the pages of the *Revue d'Anthropologie des Connaissances* over the past ten years have been widely related, on one hand, to fairly classical approaches in sociology and anthropology and, on the other hand, to scholarly work carried out by a frank *studies* orientation on social worlds or specific field of practices related to epistemic, technological or political movements about ways of how to make science in society.

Acknowledgments

Marc Barbier (Research Director at INRA, member of LISIS Unit and CorTexT Platform Director) for the analysis of RAC database with the CorTexT Manager web interface (managerv2.cortext.net).

Aris Xantos (Lecturer at the “Centre de linguistique et des sciences du langage de la Faculté des Lettres” at Lausanne University) for the mobilization of its visual programming environment for textual analysis (TEXTABEL).

Translated into English by Marc Barbier. Revision by Rigas Arvanitis.