THE ROLE OF ACADEMIC SOCIAL NETWORKING IN THE DISSEMINATION OF THE SOCIAL REPRESENTATIONS LITERATURE

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Abstract

In this research contribution we examine the role of Academic Social Networks in the *dissemination of the Social Representations literature. In particular we take into account* 9414 entries filed in the specialised SoReCom "AS de Rosa" @-library. Each entry was assessed concerning the presence of any item in the three academic social networks (Academia.edu, ResearchGate and Mendeley), coming so to compose a database of 2956 total entries. Out of 9414 of selected articles in fact, 6458 were not found in none of the three academic social networks examined, while the remaining 2956 articles have been listed in at least one academic social networks. In particular, the presence of references related to social representations on the ResearchGate equaled 2657 items -almost 90% of the total-, coming to constitute ResearchGate as the most comprehensive among academic social networks analysed. The publications on social representations found in academic social networks have undergone some of the comparative analyses based on "big data" and "meta-data" filed in the *SoReCom "A.S. de Rosa"@-library* repositories, concerning authors' countries and institutional affiliations, years of publication by year, type of publication, journal, language of publication, etc. This allows presenting the geo-mapping of the wider scientific production in Social Representations and comparative results with different types of publications. The trends concerning geo-cultural setting of authors who disseminate their publications via academic social networks resemble those of the social representations literature in general, with the prominent place of Europe (62.79%), Latin America (20.16%) seen as a fertilized field, followed by North America and the rest of the world, with the three top countries of France (17.49%), United Kingdom (15.46%) and Brazil (13.18%). In conclusion, we can say that academic social networks constitute excellent allies in spreading knowledge and though still relatively modest use - at least in the field of Social Representations - is given to imagine what they will know in time as a progressive, comprehensive and very useful development.

Keywords: academic social networks, social representations, biobliometrics, geomapping.

1 INTRODUCTION

Academic social networks are forms of Internet service, which facilitate the management of relations among scientists, sharing resources for publications, and in some case data, research results and multimedia sources. The first social network *SixDegrees.com,* born in 1997, allowed users to create profiles as lists of their friends, but it was closed in 2000 due to the inability to convert it into sustainable business. If the personal Social Networks (Facebook, Twitter, Yahoo! Answers, Linkedin among many others) have become exponentially popular among lay people by sharing personal information, snapshots on private life, CV, or even for institutions and companies aimed at their web-marketing; turning to a scholars and researchers target, the academic social networks, born in 2008, have quickly become a fundamental tool to manage, read, share, annotate and cite research papers, among tens of millions of connected users. In the era of bibliometric culture, the academic social networks – moving from the first collaborative aim of global knowledge sharing and co-producing - have also become a tool for the author's popularity. Therefore they have contributed to originate a new disciplinary field called *Altermetrics* (De Bellis, 2009 [1], 2014 [2]), aimed at identifying new indicators for measuring their scientific impact.

2 METHODOLOGY

The aim of this paper is to use data and meta-data collected by a research tool - the Grid for theorical Meta-Analysis of Social Representation Literature - and included in bibliographic repertories of the online SoReCom "A.S. de Rosa" @-Library (de Rosa, 2013a [3], 2013b [4]) in order to create a global

mapping of the dissemination and development of the study on social representations in different geographical contexts, including consideration of the institutions the authors belong to and the type of production, among numerous variables considered in the grid.

The grid analysis of the literature is organized at two levels and may be used for analysis of different complexity:

1　the first is aimed to review the literature at a purely descriptive level under a traditional bibliographic approach. Its aim is to organise information related to authors and their institution country, the years of publication, journal or book, the language of the publication, the type of paper (theoretical, empirical). This kind of information is commonly used to develop a sort of epidemiology of diffusion of knowledge and its development over time and cultural context.

2　At a more specifically meta-theoretical level of analysis, the grid is organised in 5 main areas:

o　the first "THEORETICAL REFERENCE TO S.R. CONSTRUCTS" aims to monitor whether the publication refers to S.R. theory in a very generic way, without addressing any specific paradigmatic element, the dimensional elements of the theory to which the contribution refers with respect to the genesis, processes, functions, structure, transmission, transformation of S.R. or whether the contribution refers to the theory itself as an object of critical analysis (meta-theory)

o　the second part "THEORETICAL REFERENCE TO OTHER CONSTRUCTS AND THEORIES" aims to identify whether the publication refers to other constructs, concepts, and theories in relation to S.R. and which is the aim of this reference: integration, differentiation, both, comparison, substitution;

o　the third part "Thematic Analysis" aims to categorise the contents of the empirical contributions according to a purely thematic criteria, by identifying the general thematic areas (i.e. health or environment) and the specific object of each study (i.e. AIDS or pollution), also in relation to the specific typology of S.R. (closed, open, polemic);

o　the fourth and fifth parts aim to identify respectively:

▪　the "METHODOLOGICAL PROFILE" of each study (its research design and location, its nature, instruments for data collection, channel used as a source of information, techniques for data analysis)

▪　the "CHARACTERISTICS OF THE SELECTED POPULATION" (size of sample, variables considered, unit of analysis).

In particular, this research is part of the project of prof. A.S. de Rosa dedicated to the investigation of the spread of the Theory of Social Representations (Moscovici, 1961/1976 [5], 1988 [6], 2000 [7]) in online contexts, specifically in Academic Social Networks, taking into consideration the most important ones: Academia.edu, Research Gate and Mendeley. A specific section has been added to the grid, recording each publication's presence/absence in each of the three Academic Social Networks.

Academia.edu (Fig. 1) was founded in September 2008 by Richard Price, who did a PhD at Oxford in philosophy. After finishing his PhD, he founded Academia.edu, which is a platform for academics around the world to connect and share research, which in January 2016 had more than 30 million members. He spotted the need for the platform when doing his PhD.Once freely registered, a user can set his or her profile and fill in their publication list, upload papers and enlist field(s) of interest, finding at the same time researchers with a matching profile. Then, it is possible to follow what academics in the field are working on, i.e. the latest papers they are publishing, the talks they are giving or the blog posts and status updates they are writing. An important tool that Academia.edu offers is the statistic of one's downloads and page views; it also allows the researcher to know what keywords people use to search for them on Google (Giglia, 2011 [8]).
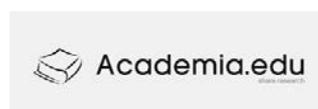

Fig. 1 Academia.edu

Research Gate (Fig. 2), founded in 2008 by physicians Dr. Ijad Madisch (Boston) and Dr. Sören Hofmayer (Berlin), and computer scientist Horst Fickenscher (Berlin), is aimed at creating a working and discovering network among scientists, "Discover", "Communicate" and "Collaborate" are its main purposes (Giglia, 2011 [8]). In January 2016 it had more than 8 million members.
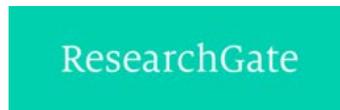

Fig. 2 ResearchGate.net

London-based Mendeley (Fig. 3), founded in 2009 by three German PhD students (Victor Henning, Jan Reichelt and Paul Föckler), in January 2016 was used by around 2 million researchers worldwide to discover, share and annotate research papers (as a reference manager), and to network and collaborate with other academics (Giglia, 2011 [8]).

Fig. 3 Mendeley.com

While reference-sharing sites focus on readers, helping users to share and find relevant references for their work, Academia.edu and ResearchGate focus more on the producers of research. For example, one difference still existing in January 2016 was that Academia.edu users can post their own papers but Mendeley users can also share others' papers in their My Library section (Thelwall & Kousha, 2014 [9]).

3   RESULTS

The research was conducted in November 2015. Of 9414 articles analyzed, 6458 were not found in any of the three Academic Social Networks examined, while it has been found the presence of the remaining 2956 articles in at least one or more of them (Fig. 4).
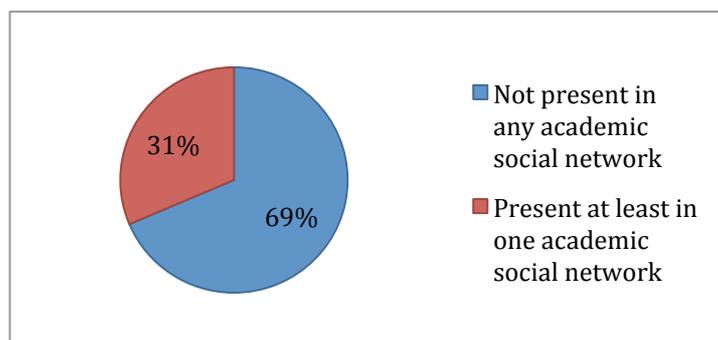

Fig. 4 The frequencies distribution of 9414 items from *SoReCom "A.S. de Rosa" @-library* related to Social Representations on Academic Social Networks

Concerning the distribution of the sources in the three Academic Social Networks, the most numerous contributions were found in Research Gate, followed by Mendeley and Academia. Different combinations are presented in Fig. 5.

Fig. 5 The frequencies distribution of 2956 items related to Social Representations
in different Academic Social Networks

The analysis of the years of publication of literature in Social Representations is organized in decades: from 1952, the date of the article by Moscovici (1952 [10]) which can be considered a sign of the embryo-genesis of the theory of social representations, to the date of this empirical investigation, in November 2015. It consists of 6 decades, through which there is a progressive and increasingly widespread use of the theory of social representations:

- 1952-1961
- 1962-1971
- 1982-1981
- 1992-2001
- 2002-2011
- 2011-2013

In the graphical representation in Fig. 6, there seems to be a sharp decline of production in the timeframe 2012-2015, due quite surely to the fact that the amount of time taken into account is limited to four years, and not ten as it is instead for other time periods.

Fig. 6 The frequencies distribution of 2956 items related to Social Representations
in Academic Social Networks by decade

Another criterion that has been adopted to analyze the sample was the language, framing the theory of Social Representations as a multi-cultural, multi-generational and multi-linguistic scientific field. As it was plausible to imagine, English (f=1614, 54.60%) is always the predominant language, maintaining this role in all samples analyzed - the set of 2956 items and specific items in each Academic Social Network. It seems to be the hegemonic language of the web. Moreover, English has become over the years the main vehicle of scientific communication, means of shared communication, beyond the country of publication of the native language of the scientists. Follows the order in French (f=497, 16.81%), the native language of the theory, born and developed in France, and Spanish (f=406, 13.73%) and Portuguese (f=354, 11.98%), incontrovertible sign that sees Latin America as the most fertilized scenario, as can be seem in Fig. 7.
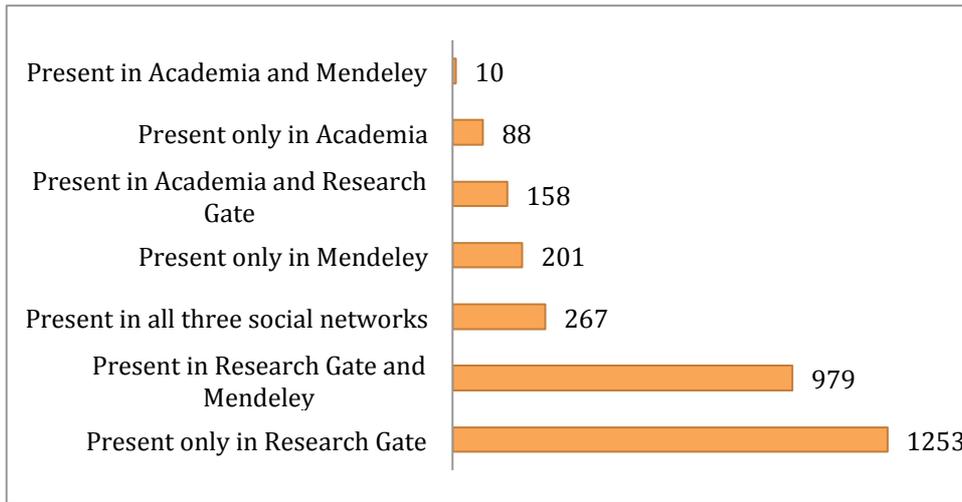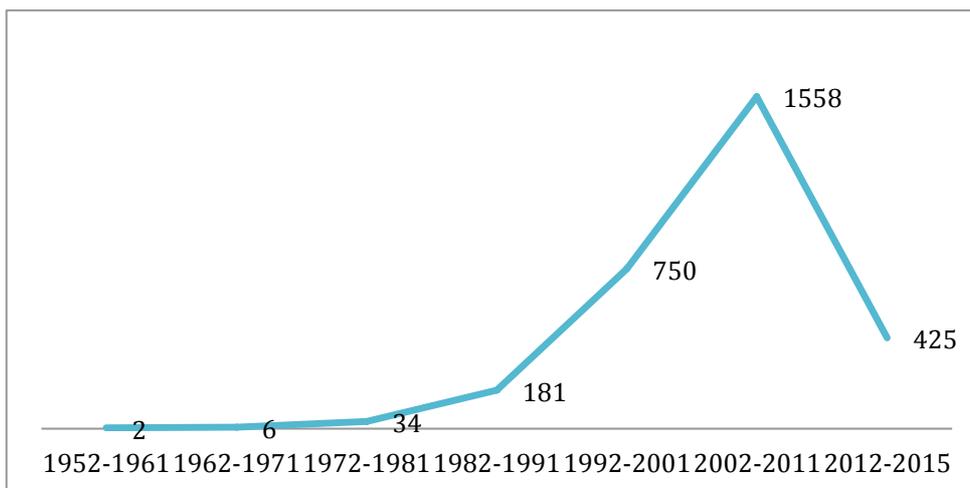

Fig. 7 The frequencies distribution of 2956 items related to Social Representations in Academic Social Networks by the language.

The classification according to the Resource Type encompasses multiple sources from which the extracted contributions that draw on the paradigm of social representations, are distinuished according to the type of publication, as shown in Fig. 8. Various types of publications have been found in the Academic Social Networks, with the overwhealming majority of articles in scientific journals (f=2307, 78.04%), followed by book chapters (f=282, 9.54%), conference presentations (f=224, 7.58%) and books (f=68, 2.30%).

Fig. 8 The frequencies distribution of 2956 items related to Social Representations in Academic Social Network by the Resource Type.

Mapping the expansion of the theory and its different spread within Academic Social Networks has always been one of the main goals of the "A.S. de Rosa" @-Library, as well as evaluating its various applications, identifying precise geographical boundaries. Fig. 9 allows us to first take a macroscopic look at the continents represented. Europe (f=1856, 62.79%) tends to be always the most dynamic area in the production and dissemination of scientific literature on Social Representations, followed by Latin America (f=706, 23.88%) and North America (f=232, 7.85%), when considering the institutions of the authors of publications on social representations that can be found in the Academic Social Networks. Latin America's importance is in line with the overall trends of literature production in this field, where in particular Brazilian authors are starting to replace authors from European institutions as leaders (Wachelke, Matos, Ferreira, & Costa, 2015 [11]).
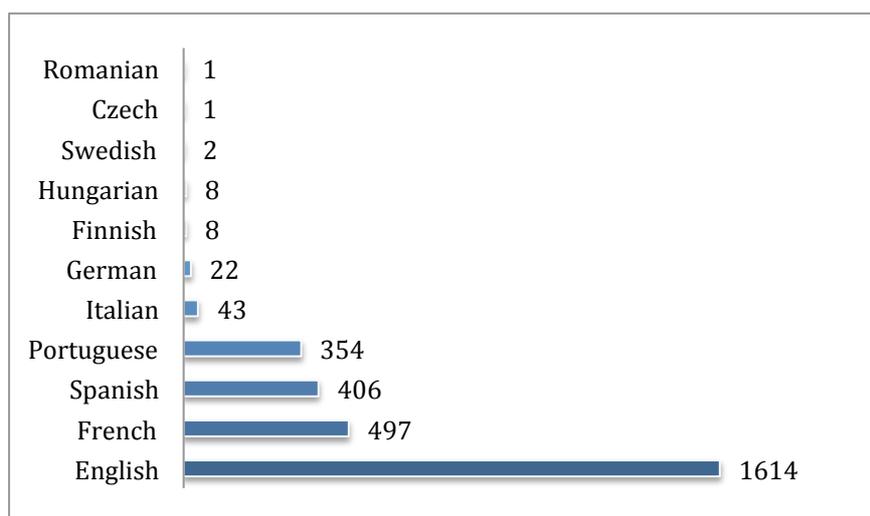

Fig. 9 The frequencies distribution of 2956 items related to Social Representations
in Academic Social Networks by the Authors' Institution Continent.

In a more specific manner, we examine the country of origin from which the major contributions are present in Academic Social Networks. Through the use of Tableau software, it was possible to create a graphical representation that would take into account the diffusion of the Theory of Social Representations in Academic Social Networks from a geographical point of view, for nations and continents. Fig. 10 shows how it is always the France (f=517, 17.49%) that occupies the undisputed first place of the greatest visibility in the Academic Social Networks of the literature inspired by the theory of social representations, followed by the United Kingdom (f=456, 15.43%), Brazil (f=390, 13.19%) and Italy (f=198, 6.70%).

Fig. 10 The graphic representation of frequencies distribution of 1856 from 2956 items related to Social Representations present in the Academic Social Networks by the Authors' Institution Continent – Europe

The following continent, Latin America (f=706, 23.88%), presented in Fig. 11 represents as the most prominent countries of author's institutions Brazil (f=390, 13.19%), Mexico (f=102, 3.45%) and Argentina (f=67, 2.27%), followed by others in this geo-cultural scenario fertilised by the theory of social representations, considering publications posted in Academic Social Networks. According to Wachelke, Matos, Ferreira and Costa (2015 [11]), there is a contrast between applied studies in the health area involving related groups and objects, more typical for Latin America (in particular Brazil) and psychosocial research linked to the psychology field and carried out mostly by European researchers.

Fig. 11 The graphic representation of frequencies distribution of 706 from 2956 items related to Social Representations present in Academic Social Networks by the Authors' Institution Continent – Latin America

In the remaining continents, the numbers of publications present in Academic Social Networks are progressively lower, which confirms earlier results of geo-mapping the global scenario of social representations publications (de Rosa, 2014 [12], forthcoming [13], de Rosa & Dryjanska, 2015 forthcoming [14]). Fig. 12 groups these new emerging scenarios. Among them, authors belonging to institutions in North America (f=232, 7.85%), Australia and Oceania (f=78, 2.64%), Asia (f=71, 2.40%) and Africa (f=13, 0.44%) have included their publications inspired by the theory of social representations in the Academic Social Networks.
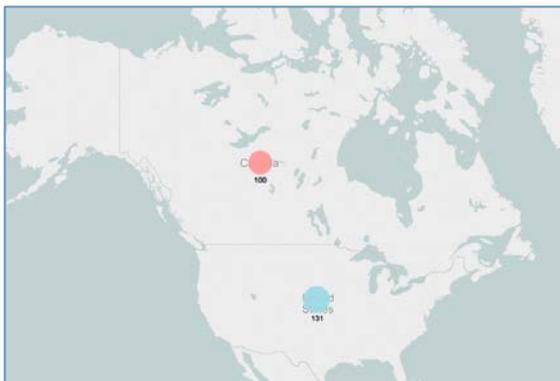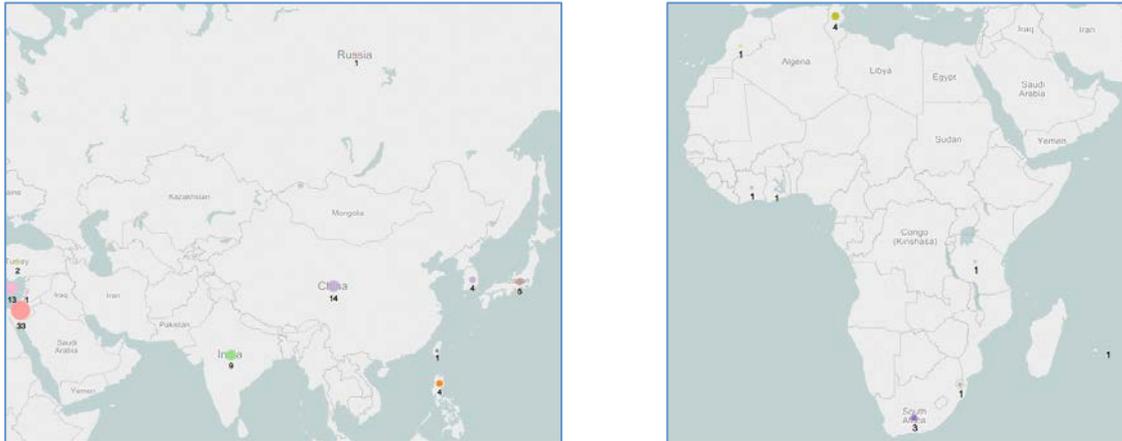
Fig. 12 The graphic representation of frequencies distribution of the remaining from 2956 items related to Social Representations present in Academic Social Networks by the Authors' Institution Continent – North America, Australia and Oceania, Asia and Africa.

Due to space limitations, it is not possible to go into detail for each of the three Academic Social Networks, where the numerical values differ for each country, but in proportion the trends tend to be the same, positioning Europe (f=1856, 62.79%) as the main continent of the institutional affiliation of the authors who post their papers that refer to the theory of social representations, followed by Latin America (f=706, 23.88%) and other scenarios. Certainly, international conferences play a crucial role in the dissemination of the theory (de Rosa, & d'Ambrosio, 2008 [15]), although conference presentations are not that frequently posted in the Academic Social Networks.

4   CONCLUSION

In conclusion, we may state that this research has shed some more light on the diffusion of the Theory of Social Representations, the origin of a number of works and debates in social psychology, which tends to occupy a central position in the social sciences and that, as now established, meets an interest growing in different countries, in Europe and across the Atlantic. The Academic Social Networks constitute excellent allies in spreading knowledge and - though they still relatively modestly refer to the field of Social Representations - in time we may expect a progressive, comprehensive and very useful dissemination of scentific production using these channels. The hard work done by the team of the European/International Joint Ph.D. on Social Representations and Communication Research Centre and Multimedia Lab, founded and directed by Annamaria Silvana de Rosa (2009 [16], 2010a [17], 2010b [18]), has allowed generations of students and early stage researchers to work on a large sample of items relating to social representations.

The impressive number of contributions from French, English, Brazilian and Italian institutions demonstrates that both European and non-European researchers engaged in the dissemination of the theory are succeeding in efforts to spread it using the Academic Social Networks, identifying a microcosm that mirrors a much larger universe. However, "emerging scenarios" also deserve our attention, because it is very interesting if and how the data described in this paper (combined in Fig. 13) will undergoe continuous evolution compared with the set of data gathered in different times through follow-up investigations.

Fig. 13 Graphic representations of 2956 items related to Social Representations
in Academic Social Networks

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