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Nedelcu, Mihaela

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Internet Diaspora: How Romanian scholars abroad connect home

Mihaela Nedelcu

Lecturer at the Institute of Sociology, University of Neuchâtel
Postdoc Fellow at the Swiss Forum for Migration and Population Studies
Faubourg de l'Hôpital 27, Neuchâtel, Switzerland.
URL: <http://www2.unine.ch/socio/page3181.html>

Abstract

Recent migrations occur in a world deeply transformed by the digital revolution. The technological context of XXIst century is profoundly changing the nature of distant social relations. Nowadays, new migrants' generations can practice daily a biography liberated from territorial constraints, being "here and there" at the same time and able to take decision and act over the borders. Information and communication technologies (ICT) are intrinsically related to new networked ways of being, generating new patterns of transnational action. They facilitate both a transnational mobilization around local and specific aims, and local actions based on more universal principles. In addition, the use of ICTs by highly skilled migrants, endowed with high human, social and cultural capital, give place to innovative collaborative strategies.

This paper aims to approach and explain some outcomes of the Romanian scientific migration by integrating this new reality. First, a short theoretical review will highlight the recent renewal of brain migration approaches, with specific focus on "diaspora networks". Then, the study of a website and a related virtual network (www.ad-astra.ro) of Romanian scientists scattered around the world will enable the analysis of the role of e-practices in the emergence of a transnational space in which migrants and non-migrants meet and act jointly in a new transnational public sphere. In this way, this paper will account for the emergence of a Romanian scientific e-diaspora, its impact on the scientific and research reform in Romania and its contribution to transnationally enable local change and reverse brain drain.

Keywords

Romania, highly skilled migration, e-diaspora, scientific diaspora networks, brain drain, brain gain, netnography, transnational action

Introduction

As a result of the fall of communism in December 1989, migratory flows from Romania experienced a wide diversification. The latter is characterized both by an intensification of migratory circulations within Europe and by the development of permanent migration flows towards Canada, Australia and the United States. In spite of a long period of isolation and a migratory imaginary little connected to reality, this new migratory dynamics prove that Romanian migrants are able to adapt quickly to mobility. They also initiate original migratory trajectories, build new transnational spaces and invent a culture of networking. All these strategies enabled them to avoid certain official policy unfavourable to the migratory phenomena (Potot, 2003; Diminescu, 2003; Nedelcu, 2004).

Skilled Romanian migration was oriented by both global market dynamics and movement restrictions imposed by the European States. Since 1990, this mobility covered different forms, its complexity situating at the interface of several typologies: brain drain, circulation of competences, permanent emigration (Nedelcu, 2004, 2008). The highly qualified workers, and in particular the IT specialists, were very numerous to emigrate in countries like Canada¹ and the United States (Nedelcu, 2008). The percentage of the university graduates in migration increased from 6% in 1990 to 23% in 2000, which is the double of the percentage of the people with a university degree (approximately 10%) in the total adult population (Lazaroiu and *al.*, 2004). Recent studies indicate that the skilled migrants holding a university degree represent a much more significant part of international migration of Romanians, exceeding 50% (Salt and *al.*, 2005). In the context of insufficient infrastructures and a declining competitiveness of the research environment, the migrations of Romanian scientists became also important (Haiduc, 2002; Frangopol, 2002). The workforce employed in R&D sector experienced a dramatic fall, decreasing from 150'000 in 1989 to only 38'433 in 2002. Furthermore, in 2001, Romania was located in penultimate position in Europe, researchers representing only 0.39% of the labour force (while the European average was 1.39%). Extrapolating the results of some recent studies, one could estimate that about 64% of the Romanian scientists with relevant scientific publications reside abroad (Florian, 2004).

¹ Canada became a very attractive destination for the Romanian IT engineers. Since 1997, Romania accessed the “Top Ten” of the immigrant source-countries in Canada, occupying the 7th place in 2002 (and 1st European source-country), after China, India, Pakistan, Philippines, Iran and South Korea. The 2002 Canadian census reveals the presence of 60'520 Romanians in Canada.

However, new realities are arising. On the one hand, consequently to the recent EU accession of ten ex-communist countries, Romanian scientists integrate from now on the European Research Area (ERA). Membership in scientific networks of excellence is a key-factor in the coming out of a transnational field of mobility, nourished by the extensive flows of information, ideas, scientific production, technologies, expertises and people. By the other hand, nowadays international, and particularly skilled migrations occur in a world deeply transformed by the digital revolution. Information and communication technology (ICT) are generating new networked ways of being (Castells, 1998), contributing to an ongoing interbreeding of world visions. New forms of social reproduction and new identity models are therefore emerging. ICT facilitate both a transnational mobilization around local and specific aims, and local actions based on more universal principles (Nedelcu, 2008).

This paper aims to approach and explain some outcomes of the Romanian scientific migration by integrating this new reality. First, a short theoretical review will highlight the recent renewal of brain migration approaches, with specific focus on “diaspora networks”. Then, the study of a website and a related virtual network (www.ad-astra.ro) of Romanian scientists scattered around the world will enable the analysis of the role of e-practices in the emergence of a transnational space in which migrants and non-migrants meet and act jointly in a new transnational public sphere. In this way, this paper will account for the emergence of a Romanian scientific *e*-diaspora, its impact on the scientific and research reform in Romania and its contribution to transnationally enable local change and reverse brain drain.

1. How countries of origin can benefit from brain migration? From “brain drain” to “diaspora networks”

The migration of scientists and IT professionals got great prominence in the last three decades, constantly polarizing the political and scientific debates (Geddes and Balch, 2002; Meyer and Charum, 1995; Straubhaar, 2000). On the one hand, even the most restrictive migratory policies are favourable to the immigration of highly qualified professionals, the competition being rather tight between the developed countries which dispute the best skilled specialists (OECD, 2002; Cornelius and *al.*, 2001). On the other hand, the governments of the countries of origin and the international organizations are highly concerned by the intensification of the skilled migrations, fearing the increase of the development inequalities between the North and the South. The related research and policies knew several phases of evolution (de Haas, 2006). Pessimistic approaches dominated until the nineties, underlying

the negative economic effects of the brain drain for the countries of origin. Little by little, these approaches left place to more subtle recent analyses.

Political authorities and social scientists are nowadays agreeing that academic and highly skilled migration does not represent a one way movement, nor an irreversible loss for the countries of origin (Salt and Findlay, 1989; Meyer and Charum, 1995; Khadria, 1999; Lowell and Findlay, 2002; Wickramasekara, 2004; Barré and al., 2003). As “the science is the scientist’s homeland”² (Morokvasic, 1996), people and knowledge mobility stand for an intrinsic condition of the scientific world functioning. Besides, since the ‘90s, several authors are studying not only the harmful consequences but also the positive “externalities” of these migrations for the development of the countries of origin. They also studied what action these countries take, or should take, in order to benefit from it (Wickramasekara, 2004; De Haas, 2006).

The transnational ties and flows that highly skilled migrants develop are henceforth included in the policies of international institutions, aware of the fact that:

« globalisation has greatly expanded the means by which migrants can remain actively involved in the economic, cultural, social and political life of sending countries. Financial remittances, Internet communications and travel, diaspora and hometown associations, and other mechanisms for expatriates to reside abroad and maintain ties with their country of origin are today creating powerful tools for development » (IOM, 2005: 15).

New concepts and expressions are currently used to indicate the variations of this phenomenon and to better describe the multipolar and accelerated dynamics of skilled migrants’ flows in the current economic, political and technological context. Terms like “professional transients”, “brain profit”, “reverse transfer of technology”, “transit brain drain”, “delayed return”, “skilled transients”, “brain mobility”, “brain exchange”, “diaspora network” shape a new conceptual “grammar” of the highly skilled migrations (Appleyard, 1991; Gaillard and Gaillard, 1998; Salt, 1997; Straubhaar, 2000; Commander and al., 2004; Findlay, 1988; Saxenian, 2000; Barré and al., 2003). This grammar points out to new approaches focused on the exchanges developing within multiple networks between different poles of migration. Unlike the one-way flows of the Cold War period, in the East European

² “la science est la patrie des scientifiques”, originally in the paper.

countries the elite migration ceased to be synonym of breaking up and uprooting; it means, on the contrary, opportunity of circulation, identity enrichment and development of multiple belonging.

Political answers to negative impacts of the scientists and other skilled workers migration knew a strong diversification. Pyiasiri Wickramasekara (2004) gathers these answers in six categories (“the *six R* strategy”): *Restriction* (of the international mobility imposed to the national and foreign workers); *Return* (of the migrants in their countries of origin), *Recruitment* (targeted policies of recruitment of international migrants), *Repair* (financial compensation of the human capital loss); *Retention* (of the potential skilled migrants by incentive policies of education and economic development); *Resources* (scientific diasporas).

Many empirical studies show particular interest for a new approach in term of “diaspora networks” (Meyer and Hernandez, 2004; Barré and al., 2003; Devan and Tewari, 2001; Lowell and Findlay, 2002; Nedelcu, 2004). This approach underline the rise of transnational S&T networks (Meyer and Brown, 1999) and reveal the will of the intellectual/scientific diasporas to act for the development of the country of origin. Various forms of capitalization of the skilled expatriates’ resources are currently highlighted: remittances, return migration, trade and business networks, expertise and technology transfer through scientists’ networks, creation of bridges between the foreign investors and the actors of the local economy, etc. (Gaillard and Gaillard, 2002; Lowell and Findlay, 2002; Meyer and Hernandez, 2004; Barré and al., 2003). In fact, diaspora networks are seen as pools of resources and know-how, directly exploitable by the country of origin (Wicramasekara, 2004; Meyer and Hernandez, 2004). In addition, very often these networks gather migrants successfully integrated in the host country, in possess of the necessary (material, social and professional) resources to engage in various activities towards their country of origin or to act within transnational organizations (de Haas, 2006).

Jean-Baptiste Meyer and Valeria Hernandez (2004) studied the configurations and the activities of the scientific and technical diasporas (STD). They argue that STD engage different (material, symbolic and political) resources and are spread in various structures (professional and personal network, association, federation, etc). According to their context evolution, the STD have neither the same weight nor the same recognition in the relationship with the institutions of the States of origin. The logics of migrants’ reinvestment in their country of origin vary as well: voluntary work, philanthropy, but also political or economic

strategy (with, in the long term, the hope to carry out profitable businesses) (Barré and al., 2003). The authors show that several elements contribute to guarantee the continuity of the activities of a STD in time and to reinforce the durability of their impact on the development of the country of origin (Meyer and Hernandez, 2004). First, local rooting appears as a crucial condition for a constant and powerful associative dynamism. It will ensure a strong capacity of mobilization, as well as an optimal visibility both in the country of origin and of settlement. Then, a STD has to be able to capitalize the expatriates' resources in order to create a core of concerted action. In this regard, the federation of different diasporic poles would represent the higher stage of organization. This way, STD can keep "their force of negotiation in the host countries, their visibility into the countries of origin and their added value as tool for efficient cooperation" (Meyer and Hernandez, 2004: 57)³. Third, the mode of communication between the members of these networks will determine their organisational effectiveness and capacity of mobilization, the visibility of the diaspora networks and the implementation of durable partnership for the development. Internet and other dynamic current modes of communication play a significant part in this process, as they enable migrants to act transnationally in real time. For the highly qualified migrants, ICT constitute tools for social innovation. Thus, their ongoing interest for the country of origin realities transposes in concerted transnational action (Nedelcu, 2004). The following analysis will show how electronic mobilization of the Romanian scientists generated deep transformation of the Romanian research policies and practices.

2. "Per aspera ad astra": the success story of a scientific e-diaspora network

Based on a *netnographic* study (Nedelcu, 2002, 2008; Kozinets, 2002), and in particular on the observation of www.ad-astra.ro website as well as the content analysis of the messages exchanged through its mailing list between August 2001 and December 2006⁴, this chapter points out the resulting mechanisms of the transnational actions enabled within a computer-mediated network of Romanian scholars. It highlights the different phases of development, the key actors, the communicational tools and procedures which contributes to the establishment of a scientific *e-diaspora* network. Besides, it analyzes the impact of this *e-diaspora* network on the education and research reform process in Romania, its credibility and legitimacy within the Romanian institutions and authorities.

³ Original in the paper : « leur force de négociation dans les pays d'accueil, leur visibilité par rapport aux pays d'origine et leur valeur ajoutée en tant qu'outil de coopération efficace » (Meyer et Hernandez, 2004 :57).

⁴ An archive of 6'432 messages constituted the basis of this work.

2.1. The first steps of the Ad-Astra project

The *Ad-Astra* project germinated at the time of the first Forum of Romanian students and young researchers educated abroad. Jointly organized by the President of Romania and the Embassy of the United States in Bucharest, the aim of this forum held in 2000 was to stimulate the interest of young educated Romanians for their country development and encourage their return. In particular, it was the occasion to facilitate their contacts with multinational companies on Romanian market⁵. However, this top-down transnational initiative remained punctual, as coherent and sustained long term policy with regard to the highly qualified migrants didn't follow.

Nevertheless, this meeting allowed informal ties between young Romanian scientists to emerge and common interests of research and action to be identified. The collapse of the Romanian research system was the core subject of lively debate. The latter revealed the interest and the will of some participants to involve with educational and research reform. On this occasion, a small group of participants adhered to one's proposal to create an online journal as a first delocalized "agora" of the young Romanian scientists. The initiator of this project was a 32 years old researcher from an US Oceanology Institute. About ten colleagues, PhD students or young researchers between 25 and 35 years old, active in fields as various as medicine, chemistry, oceanography, biology, mathematics, sociology, engineering or computer science, showed real interest for future long-distance commitment within the project. All of them had strong connections with both national and international scientific community and some already were individually involved in promoting bilateral research collaboration between Romanian and Western universities. These ties contributed to activate later on a larger network of people willing to contribute to the Romanian research field development.

Ad-Astra journal was created one year later, in 2001. Rapid and intensive exchanges by email preceded its creation. During one year, the network founders debated of the better form to be

⁵ This initiative was part of a larger Romanian American partnership gathering several development projects. Among thus, one can mention "Return to Romania - Career Development Project". This program, managed by the International Research and Exchange Board (IREX), aimed to accompany the return of the young Romanian professionals trained in American universities and facilitate their integration on the Romanian market. As the time of the project launch in 1999, 1807 Romanian students were registered in the American universities, including 1200 PhD student.

given to this project. They set two major aims: to assure a better national and international visibility of the scientific results of the researchers of Romanian background and to significantly improve the quality of the research activities developed in Romania.

2.2. www.ad-astra.ro : giving visibility to an emerging scientific e-diaspora

From the beginning, the mailing list of this group of initiative proved to be a particularly adequate tool of communication for the setting-up of the project. Dispersed in the United States, Sweden, France, Spain, Switzerland and Romania, the founders needed an extraterritorial manner to permanently stay in touch.

As a next step, in 2001 the network created the website www.ad-astra.ro. Conceived as an electronic support of the *Ad-Astra* journal, it became the main platform of scientific exchanges and a pool of expertise and competences.

Figure 1: The Ad-Astra website

Ad Astra
An Online Project for the Romanian Scientific Community

[Ad Astra Journal](#)
[Science library](#)
[White book](#)
[University rankings](#)
[Who's who](#)
[Publications](#)
[Theses and dissertations](#)
[Ad Astra association](#)
[Links](#)

[News](#)
[Events](#)
[Funding opportunities](#)

[Login](#)
[Registration](#)

>> [Română](#)

About us

Ad Astra is an online project devoted to the Romanian scientific community that is programmatically aimed at the young generation.

Our goals are:

- to showcase modern science, performed either in Romania or by Romanian scientists abroad;
- to present latest scientific paradigms and methodological concepts to be used as benchmarks for objectively estimating the state of science and education in Romania;
- to initiate and maintain a flux of information that will facilitate scientific cooperation within the Romanian scientific communities;
- to encourage and advise young researchers in Romania;
- to provide an open discussion forum on science and education policies, with the declared aim of presenting coherent reform proposals to the Romanian political establishment.

[Participation to the project](#) is encouraged for anybody with interests in science!

The Ad Astra website was launched in February 2002 as a volunteer project, by [Liviú Giosan](#) and [Razvan Florian](#). Ad Astra incorporated in July 24, 2002 as a non-profit [association](#), and now administers the project.

[Ad Astra Association](#)

[Ad Astra events and activities](#)

[Ad Astra in press](#)

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trafic RANKING

If the Romanian is the language commonly used in the emails exchanged through the mailing list, the website has an English language interface. Moreover, the first electronic issues of the *Ad Astra Journal* were edited firstly in English and only later on both Romanian and English language articles were accepted. This strategy aim at large impact within the international scientific community.

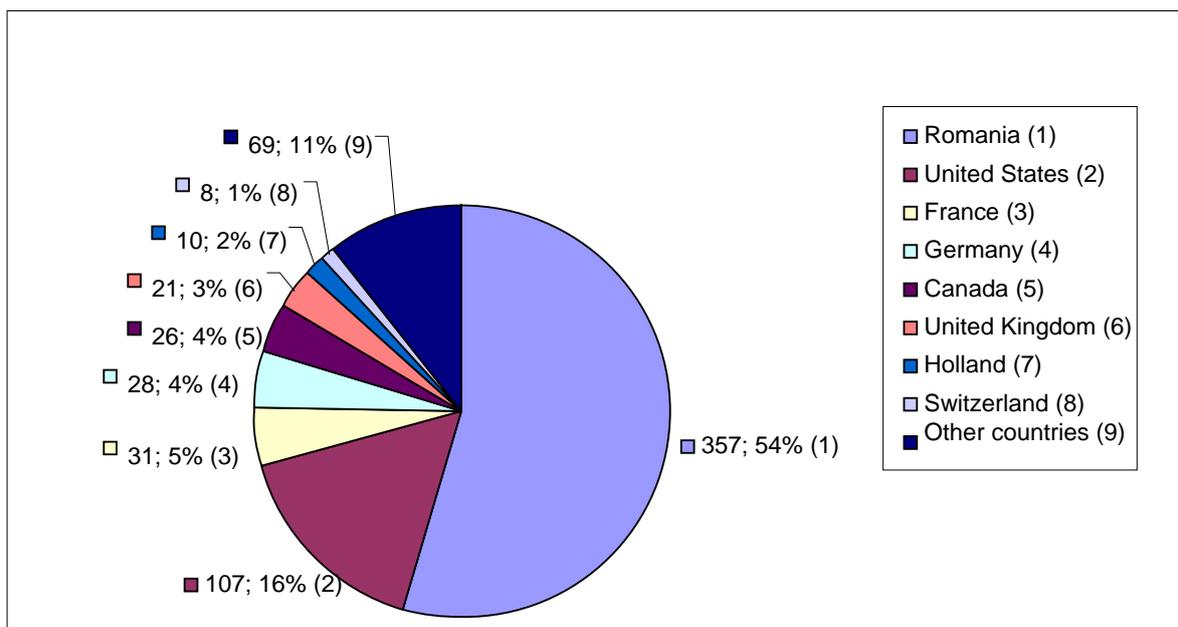
The website hosts not only the electronic journal, but also a Romanian “Science Library”, an up-to-date calendar of the scientific events, financing announcements and a “Who's who” database of Romanian scientists. Except the new members contacted through personal social networks, an interactive database developed within the *Ad-Astra* website allow to each student, junior or senior researcher to freely adhere to this online community by registering its principal scientific publications. However, only those having a scientific activity relevant at the international level appear in Who's who⁶.

One year after this database was created, from 143 registered members, 48 reside in U.S., 46 in Romania, 12 in France, 8 in Germany, 5 in Canada and United Kingdom, 3 in Greece, the Netherlands and Switzerland, 2 in Italy, Australia and Moldavia, 1 in Sweden, Belgium, Ireland and Austria. Without accurately reflecting the dispersion of the Romanian scientists in the world, this distribution highlights however the attraction of the United States as a scientific pole of excellence. Later on, the impact and broad recognition of *Ad-Astra* within the Romanian scientific sphere induced a growing attractiveness of its membership. The 2008 edition of Whos's Who database gathers more than 800 Romanian scientists with relevant scientific production⁷. Besides, more then half of its members reside in Romania (figure 1). This database represents a true pool of competences. It could serve as initial point for future collaborations between Romanian researchers.

Figure 1 : Ad-Astra members' distribution according to the residence country (at November 5th, 2007)

⁶ The formal criteria are to have publications in languages of international circulation, preferably in ISI indexed scientific journals. By no way scholars with publications only in national journals could appear in Who's Who database.

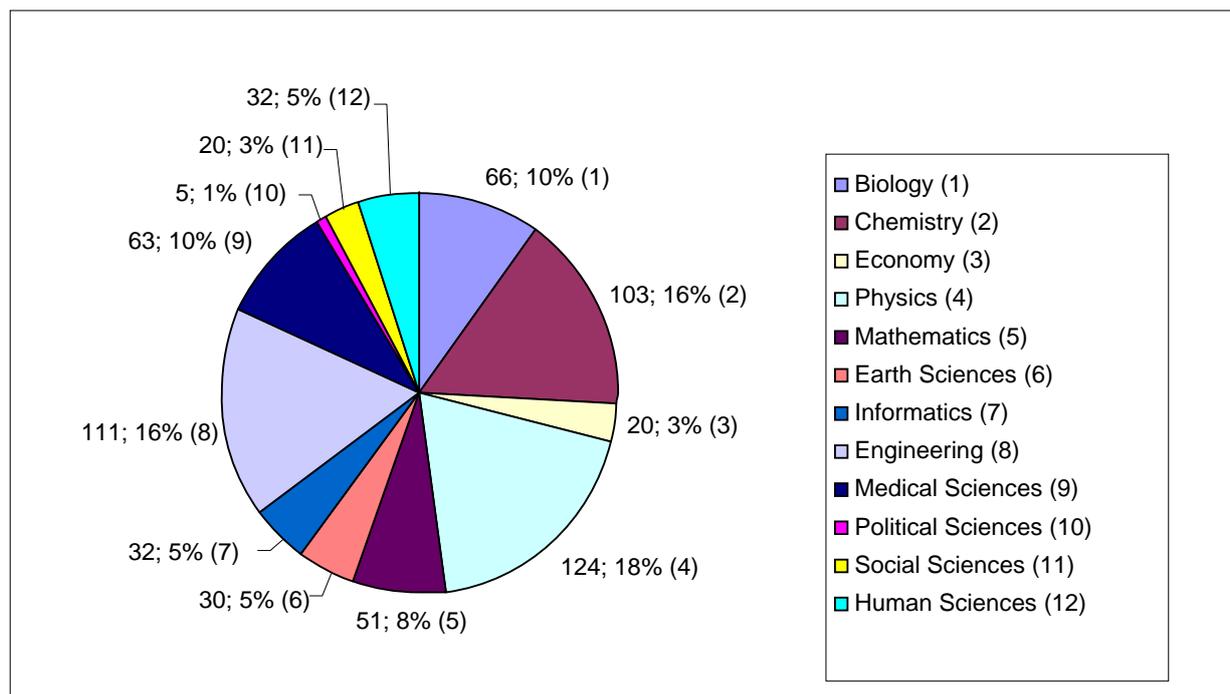
⁷ Actually, *Ad-Astra* dispose of a database of approximately 1400 Romanian researchers, registered regardless of their scientific performance and more than 5000 publications are listed in the “Publications” specific database.



From 14 online journal editors, 2 are living in Romania, 5 in United States, 3 in France, 1 in Sweden, 1 in Switzerland, 1 in Australia and 1 in United Kingdom (at November 16th, 2006). All of them are young researchers in prestigious Western laboratories or institutions, members of scientific networks of excellence; they usually benefit from an excellent social and professional integration in their host country.

One can also note some field prominence, especially of S&T. Physics, chemistry, engineering, biology are the dominating specializations of the Who's who members, while humanities, political and social sciences are poorly represented.

Figure 2 : Ad-Astra members' distribution according to the research field (at November 5th, 2007)



The website was a crucial tool to spread *Ad-Astra* ideas within a wider audience and to gather a great number of scholars of Romanian origin. However, only a small group of members constantly involved in e-mail mediated debates, producing long term action strategies and deeper analysis of research system dysfunction. The topics addressed and discussed through the mailing list supplied with data and ideas many of the papers published in the *Ad-Astra* journal.

2.3. The key-themes structuring transnational discussion

Several topics were subject of debate in the *Ad-Astra* newsgroup. One of its first studies concerned the Romanian system of admission of PhD candidates, completed by a deep analysis of the research funding and university professors' selection criteria. About five hundred messages were exchanged between March and May 2003 on these topics. A first draft of this analysis resulted in a synthesis of the PhD enrolment requirements within the Romanian context, articulated to the international research and global market standings. The authors of this paper adopt a critical standpoint. They severely criticize not only the current PhD system, but also the project of a new education law which would preserve scientific "inertia". They also judged the government reform initiatives as superficial. This paper constituted an important alarm signal coming from the scientific community itself. It was published in *Ad-Astra* online journal and passed on to other newsgroups and Romanian mass media.

In general terms, the papers published in *Ad-Astra*'s electronic journal aim to drawing the attention of a large public on the reform processes of the system of education and research. The *Ad-Astra* contributors produced a detailed picture of the Romanian scientific environment. Several secondary analyses of statistical data allowed them to accurately depict the fundamental research field developments and difficulties during the last ten years⁸. They criticize the anachronism, corruption and inertia paralyzing the reform operations and preventing the education system from transformation. They also propose new competition and performance criteria. Their own experiences within prestigious Western institutes and

⁸ For instance: L. Giosan, T.I. Oprea, « Stiinta in Romania postcomunista : viitorul nu este luminos », *Ad Astra* 1 (2), 2002. http://www.ad-astra.ro/journal/editorial_ro.pdf; T.I. Oprea, « De veghe in cercetarea romaneasca : Eseuri de filozofia cercetarii », Ed. Mirton, 2001. http://www.ad-astra.ro/library/books/oprea_de_veghe.pdf; R. Florian, « Migratia cercetatorilor romani. Situatia actuala, cauze, solutii », *Ad Astra* 3 (2), 2004. http://www.ad-astra.ro/journal/6/florian_migratia.pdf ; S. Buhai, « Conditia cercetatorului. Intre realitatea de acasa si idealul din afara », *Ad Astra* 3 (2) 2004, http://www.ad-astra.ro/journal/6/buhai_conditia_cercetatorului.pdf. For a complete list of papers the reader can consult the online journal <http://www.ad-astra.ro/journal>.

universities together with good practices and policies developed by other countries inspire their actions for the research field improvement.

Later on, other topics emerged and focussed the activity of *Ad-Astra*: the analysis of the elaboration and the use of the research budget; new evaluation criteria of universities' performance; introduction of new rules of admission to the doctorate; participation in conferences about the migration of young researchers; setting-up of a programme of science popularization through conferences given by *Ad-Astra* members in schools and colleges, etc. As result, a series of studies and papers was produced, for instance: a synthesis of difficulties and deficiencies of funding and recruiting in research area combined with a listing of international good practices in the field of the competitive research funding; a proposal of new bibliometric criteria for evaluating the research capacity of universities and scientists; the elaboration of an adequate tool to do it ("*Ad-Astra* index") and of a classification of the Romanian universities (according to the Shangai classification), etc.

Through these studies, *Ad-Astra* carried out a realistic description of the researcher condition in Romania. Its purpose is double: on the one hand, *Ad-Astra* denounces the resistances that Romanian scientists encounter in their activity (lack of transparency and professionalism, corruption and random evaluation of the research projects); on the other hand, the *Ad-Astra* members propose real alternatives to the policies of the government, in order to considerably improve the research outline. At a concrete level, they produce an annually updated "White Book" of Romanian scientific research on the basis of Thomson ISI index⁹ (US). More precisely, this tool is as an online database indexing all the publications of international importance produced by Romanian or Romanian origin researchers during the last five years. This data base can be consulted according to several criteria (field, year, university and person). The access is free for anyone through the *Ad-Astra* website. Still perfectible, this tool revealed that approximately 9'000 Romanian researchers (representing 34% of the total number of researchers, all fields together) published at least an article in an ISI quoted review during the last five years. In this way, *Ad-Astra* also proved that more than 53% of the government experts of the program "Search for excellence" (CEEX) in charge of the

⁹ *Ad-Astra* defined scores of performance according to data's of Institute of Scientific Information (ISI), institution which indexes approximately 9'000 mainstream scientific publications (<http://www.isinet.com>, see also ISI Web of Knowledge, <http://www.isiknowledge.com>). In this way, *AD-Astra* showed that Romania occupied in 2002 the 66th place in the classification of the world scientific production, with only 0.77 scientific publications per thousand inhabitants, which is the last position within the Eastern Europe countries.
Source : <http://www.ad-astra.ro/cartea-alba/?lang=ro>

evaluation of the research projects, as well as more than 45% of the directors of financed projects within this framework did not publish any article quoted by ISI index between 2001 and 2005¹⁰.

2.4. From transnational discussion to local action. How a virtual network became a real actor of Romanian civil society?

The transnational computer-mediated way of working of the initiative group of *Ad-Astra* represents the success key of this networking project which operates as a catalyst for the Romanian scientific community.

In order to give larger visibility to their criticism and debates, and thereby stimulate broad awareness about risks of reform failure, *Ad-Astra* members looked for innovative tools for efficient investment in the public arena and for drawing the attention of the Romanian decisional sphere. Accordingly, even if the most part of the members of this virtual network don't know each other personally and don't have face-to-face discussions, they founded in 2002 a NGO registered in Romania¹¹. The "physical" office of *Ad-Astra* coincides with the technical emplacement of the website (at Cluj-Napoca). The main goals of the association are¹²: to promote and develop modern science, produced both in Romania or abroad by researchers of Romanian origin; to defend the rights and interests of the Romanian researchers, in particular those of the new generation; to facilitate the communication and collaboration between researchers; to encourage the integration of Romanian research to the European and global scientific production; to actively contribute to the reform of the education and research system in Romania.

This formal organization endowed the virtual group with a new legitimacy of action. In this way, *Ad-Astra* became a legitimate member of the Romanian civil society, a credible partner of discussion for other institutional actors. The institutionalization of the Internet network of Romanian researchers represents a political capitalization of their social, human and cultural resources. In this new configuration, the members of the network residing in Romania play a

¹⁰ According to *Ad-Astra* report: Florian, Razvan (2006) « Oamenii de stiinta din Romania si recunoasterea rezultatelor lor », *Ad Astra* 5 (1), 2006, www.ad-astra.ro/journal

¹¹ In 2008, the *Ad-Astra* organization counts 54 members, all experienced researchers. The median age is about 40 and a bit more than half of the members are residing in Romania. The most part of them are also the most active participants of the computer-mediated activities of the network.

¹² According to the NGO's statute <http://www.ad-astra.ro/asso/statut.php>

key-role in the implementation of “virtual” initiatives. They represent the real interface between a transnational entity (physically deterritorialized) and the Romanian authorities (the Ministry of Education and Research, universities, institutes of research, representatives of the civil society, mass media, etc). Distant networks could have in this way a real impact because of their national rooting.

As a virtual agora, *Ad-Astra* mobilizes not only because of scientific purposes, but also on the basis of a common cultural centrality. Thus, the scientific vocation of the Romanian researchers that participate in the project combines with a civic engagement in the country of origin. Hence, as an *e*-diaspora network, *Ad-Astra* distinguishes by its constant involvement within the civil society and Romanian politics. Through the *Ad-Astra* organization, the network also multiplied its interventions in the public arena. Its activity and position were largely mediated through mass-media interventions (newspapers articles, radio and television interviews, etc.) and regularly participation in workshops and civil society debates. By their agency, the key-members of *Ad-Astra* broke the clichés of the ivory tower scientist to embrace the role of the scientist-speaking-to power and even assuming public and political responsibilities¹³.

2.5. Effectiveness, good practices and limits of the computer-mediated transnational action

Local anchorage was definitely a key strategy enabling major recognition of *Ad-Astra* vision about the research reform processes. Nevertheless, the forms of interaction and action within this NGO continue to be shaped by the geographical dispersion of its members. From the beginning, its statutes clearly stipulate that the General meeting can be held using electronic tools of interactive remote communication (mostly Internet). Latter on, in 2005, an internal rulebook was established, stating some operational norms. This rulebook codifies the daily computer-mediated practices of the network. The *Ad-Astra* discussion list ad_astra_members@yahogroups.com is thus the main meeting “place” of its members. The NGO membership automatically implies the affiliation to the mailing list. The e-mail exchanges are assimilated to debates of a continuous session of the general assembly and each topic of general importance for the NGO is discussed within the newsgroup.

An internal working procedure also proposes clear principles of good practice; the association board could arbitrate possible divergences or conflict situations. Decision-making represents a

¹³ It is in particular the case of a very active *Ad-Astra* member, a 37 years old Marie Curie Excellence Team leader in a Western university, which presented himself at the EU Parliamentary Election in 2007.

separate chapter of this procedure. Actually, any member can propose a debate on a specific set of themes and ask the network members to examine and take action on the subject (standpoint, publication of a report, press release, etc). The formulation of the decision is discussed by the members on e-mail, at least during 48 hours and in any case until all the objections reach consensus. Then, the decision is adopted through an electronic vote, by creating a survey (poll). Members have at least five days to vote.

No action implying the association can thus be engaged without a decision to be taken according to this consultation procedure on Internet. In addition, the members cannot engage the name of *Ad-Astra* in discussions with other people, groups or associations without informing the general assembly, by a message on the mailing list. Other lists of additional discussions were created for more specific topics.

The operating rules of *Ad-Astra* results from a three years previous experience of e-mail functioning of the network. This experience counted for identifying both the advantages and the deficiencies of this communication system. The setting up of transparent rules guaranteed an efficient dynamic, as well as coherent and constructive debate. That's way this electronic network particularly remark by the decency, the quality and the relevance of the e-debates. The durability of this virtual group could also be explained by several other factors. Firstly, the network is characterized by consistent socio-professional homogeneity; its members share common values and motivations orienting their in-group participation. Secondly, the network members jointly defined the aim of their virtual regrouping. Thirdly, the access to the discussion list is limited only to the association members and participant identities are totally transparent. And finally, the definition of precise regulation criteria of newsgroup functioning ensured an implicit control of its members' behaviours. In this way, the climate of confidence and the legitimacies provided within the electronic network encouraged positive dynamics of the online scientific community. It also provided a quality decision-making process. In addition, Internet operates as an in-between transnational social space; it encourages discussions and criticisms difficult to formulate elsewhere.

The good practices of the *Ad-Astra* network suggest that the "social dilemma of Internet" is surmountable. That means that different solutions can be found to avoid the constant tension between individual and collective rationalities orienting the actions of different participants in virtual networks (Kollock et Smith, 1999; Rheingold, 2002). These solutions can be of various types: motivational (social values orientation, communication, group identity); strategic (choice of partners, social learning and reciprocity); and structural (identification, size and borders of the group, norms and sanctions) (Kollock, 1998).

So, the social framework of Internet becomes a tool of empowerment particularly efficient for the communities of reduced size, guided by precisely delimited identities, ideologies and interests (Panagakos and Horst, 2006). What one can see as limited exchange within an inner circle proved to be a strong asset of the network. The (relative) small size of the electronic network goes together with net benefits as mutual engagement, constant participation and diminishing of asymmetric members' interests.

Besides, computer-mediated communication reinforces the feeling that one could be permanently "with" and reachable, generating new forms of social interaction and identification. However, if the in-group participation relates to the norms of generalized reciprocity, the online social networks remain fluctuating networks. Online social ties seem active at any moment because the connected population is not one and indivisible. But the online flows and relationships are intermittent, specialized and variables in intensity,

according to resources' to acquire. The freedom to not react immediately could then be a good counterpoint to the pressure to always be an active part of the network.

2.6. Legitimacy and recognition in the field of the political action

The members of the *Ad-Astra* network residing in Romania assumed a key-role in representing the association in relation with its various partners. Moreover, they could base the legitimacy of their interventions on the expertise of the colleagues from abroad, by actively opposing to local inertia the dynamism and the spirit for competition inspired “from the outside”. In this way, *Ad-Astra* has succeeded to consolidate and affirm a collective identity of the Romanian researchers, both in the country and abroad; it consequently develops a common vision of the change to be produced in Romania.

On the basis of this shared social and scientific capital, the Romanian scientists legitimately require today to be associated to the elaboration and the implementation of the reform strategy in the research area. They are also asking to take part into the decisional process and constantly question the political authorities about risks of possible failures of the reform process. Their unremitting civic engagement, the quality of the monitoring process they engaged and the persistence with which they defend the research issues in public arena led, after a few years of militancy, to significant results. In 2005, the Ministry of Education and Research asked *Ad-Astra* to propose new procedures of research evaluation. *The National Council of the Scientific Research and the Higher Education* (CNCSIS) found inspiration in *Ad-Astra* proposals and introduced additional criteria into its research evaluation, selection and funding procedures. Consequently to recurrent requests formulated by *Ad-Astra*, professors' recruitment processes also became more transparent since the ministry for education and research started to publish in July 2007 the nominations details. The ISI-based classifications of universities and scientists performance that *Ad-Astra* proposed became the main criteria of evaluation, adopted by the Romanian scientific community itself. Other groups and associations (the Romanian Academic Forum (FAR), the Forum for the strategy and reform (FORS), etc) joined the process as well. *Ad-Astra* also affiliates to *Sigma Xi*, a similar international organization created in 1886, who counts 65'000 members, confirmed scientists all over the world, including about 200 Nobel Prize winners. A first grant offered by this prestigious partner contributed to consolidate the network activities. In 2006, the association also benefited from an EU grant for its project “Transparency and objectivity of the research management in Romania”, within the larger framework of a PHARE programme “The consolidation of the civil society in Romania”.

If *Ad-Astra* succeeded to strengthen its legitimacy beside decisional and executive actors, the gradual implementation of its evaluation criteria generated nevertheless some hostile reactions. Its initiatives disturbed the interests of certain previously established alliances having great influence on the research funding processes and the professors' selection and promotion procedures. This situation generated few open conflicts but also led to the emergence of some more opaque and obstructive political mechanisms, mysteriously slowing down the processes of reform. To prevent these new kinds of barriers, *Ad-Astra* organized an online petition defending the necessity of more deep reforms and the introduction of a new system of evaluation and promotion of the researchers according to international practices. Signed (on line) by 466 scientists, this petition was addressed in December 2006 to the Romanian National Authority for Scientific Research (ANCS), to the Ministry of Education and Research (MEdC) and to the President of Romania.

A presidential commission dedicated to the analysis and the development of the policies in the field of education and research was created in 2007. Chaired by the former Minister of

Education and Research (a fervent supporter of the reform) this commission includes also three members of the *Ad-Astra* association. One of the most active members of the network, research director in a prestigious Western university, was appointed as vice-president, while the executive director of the association became the secretary of the commission. The participation of these persons in a structure charged to develop a better strategy of reform brings in the ideas, the principles and the values promoted by *Ad-Astra*.

3. As a conclusion: the e-diaspora option, a realistic alternative to valorise the migrant elites resources and reverse brain drain

The *Ad-Astra* case study shows how a de-territorialized virtual network can enable deep changes of the Romanian system of research through larger debates within the Romanian civil society. Moreover, the electronic network constitutes a key vector of scientific, social, cultural and political exchanges between its members, but also between the latter and social and political structures of the origin country. The *Ad-Astra* members participate to the diffusion of universal democratic values, which are directly derived from their inter- or trans-national experiences. The activist orientation of the network (Fibbi and Meyer, 2002) induces an extra-territorial unity and stimulates a common civic sense. Internet facilitates the propagation of transnational values and activities within a social field that associates migrant and not-migrant actors. But, in the same time, knowledge transfer and collective expertise are carried out by a symbiosis between mixed action and interaction dynamics, both virtual and face-to-face.

Ad-Astra shows how *e-diaspora* networks can efficiently replace the retention and return options, long time conceived as the only strategies to reverse brain drain phenomena (Wickramasekara, 2004; Barré and *al.*, 2003). Networking is crucial to recover expatriate brains potential. In this way, Romanian scientists stay connected and actively participate to the improvement of the research system through a collaborative cooperation between expatriate and resident members of the network. To be efficient, this involvement requires a long-term social, political and technical effort.

The positive echo that *Ad-Astra* initiatives received within the Romanian civil society contributed to the conversion of the social and cultural capital of the highly-skilled Romanian migrants into effective expertise and know-how to use in setting-up of projects. The receptiveness of the political and institutional actors also proved to be fundamental for the success (or the failure) of these actions. The *Ad-Astra* example clearly suggests that collective expertise is the key concept for the capitalization of resources incorporated by the Romanian researchers from abroad.

This study also revealed the emergence of new ways of being and belonging in a world essentially made by interconnections and interdependences, in which the borders between mobile and sedentary, migrant and not-migrant, inside and outside gradually grow blurred. It particularly highlights a deep transformation of the way of being together of migrant and not-migrant populations and of their capacity to jointly transnationally enact local change. In digital era, new migrants' generations can practice daily a biography liberated from territorial constraints, being "here and there" at the same time and able to take decision and act over the borders. This new transnational dynamics represents a major challenge both for Nation-States and social sciences researchers.

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