Students mobility, gender and polycentrism in Europe

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STUDENTS MOBILITY, GENDER AND POLYCENTRISM IN EUROPE

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Introduction

The issues of territorial organisation in Europe is not something new, neither are cities interacting in networks. Study conducted over the last few years made it possible to develop several functional urban models that have interesting features. However, because they are always positioned within a logic of competition in interpreting territorial dynamics, the models are restricted to a hierarchy of "poles" in which only processes of wealth generation are taken into account. Indeed, the great majority of existing researches seeks to produce knowledge on the cities themselves, to evaluate their strengths and weaknesses, and to estimate their growth rates. Consequently, this means that a large majority of studies constantly produce and reproduce urban typologies, reducing the patterns of territorial integration in Europe via city networks to two classic representation models, which are the centre-periphery model and the hierarchic network model for national urban systems. In these acceptations, the European space is seen in a dichotomous manner. In the first case there is a predominant centre to which dependent or isolated peripheral areas are more or less well connected; in the second, there are major poles which have secondary, less prominent or visible centres as satellites.

Yet in many current analyses the functionality of a network of relationships is rarely taken into account. The reasons given by many scientists to explain that it is difficult to take the realities of mobility into account consistently relate to material or technical contingencies, ranging from lack of access to relational data to the methodological complexity of using such data. It is true that these limitations are considerable. However the debate is incomplete, while any attempt to give meaning to space, and to the populations, in terms of linkage and interdependence, rather than in terms of zone and distribution, meets resistance in various forms : symbolic, ideological, and institutional. Peter Taylor (2002) denounces the paradox of researches on the world cities in the following way : whereas the essence of world cities is their relations to each other, studies continue focusing on case and comparative studies neglecting ipso facto intercity relations.

The objective of this study is to provide a necessary counterweight to the dominant visions and perceptions of the researches on the European cities networking and its dynamic. By viewing, on the hand, the territories and the cities in the way they articulate one to another, i.e. in terms of functional relationships, rather than principally in terms of locality, i.e. of spatial distribution of the nodes, the study highlights the fact that deeper consideration should be given to the flows as a factor of producing territory. By focusing, on the other hand, on the students' mobility whereas the majority of work on urban networks focuses on what is known as structuring flows, such as financial flows, commercial exchanges, freight or commodity flows, this paper underlines the interests to pay attention on the flows which are usually considered as less structuring such as cultural exchanges, scientific cooperation and information relationships.

This study explores the way in which today inter-urban students' mobility in Europe provides scope for a reappraisal of the patterns and representations we entertain concerning spatial integration. In the information-based society, access to knowledge is a factor in competitiveness that is as vital as the access to transport infrastructures. Today, universities, by positioning themselves in relevant partnership networks, are active agents in territorial dynamics. Inter-university cooperation and the way in which it directs relationships between different places is therefore a major issue, both for the cities themselves and for the regional territory as a whole. Very few studies have explored the spatial aspects of student mobility in Europe and those that have observed this mobility at the infra-national level from city to city are extremely rare. Student exchanges are a particular migratory phenomenon, because the migrations occur within a time scale that is relatively shorter than that of other migratory flows, and because the decision to migrate results from personal decision even if the destination could be in part conditioned by cooperation agreements established between universities. Thus students mobility can be considered as representative, even if only indirectly, of society models, lifestyles and representations that the students entertain on the European space. The present work analyses student exchanges taking place within the ERASMUS programme (box 1). Every year more than 110 000 students stay for a period of three to twelve months in a town or city other than that in which they normally study.

Box 1 The data

This study was made possible by the individual data on student migration for the year 2000 provided by the French SOCRATES/ERASMUS programme centre.

A process of aggregation of university establishments was performed to develop a database corresponding to inter-urban student migrations in Europe. The spatial aggregation of university establishments by city is based on the coding of these establishments as given in the ERASMUS database i.e. mainly at the municipality level. This way of doing can be criticised for the fact that it does not group certain university establishments located in the immediate outskirts of large metropolises with the establishments in the centre of these metropolises. However, apart from the fact that there is no official delimitation of urban areas in Europe, the main reason for the choice was to preserve a visible distinction in the large metropolises, in particular for France, between the central and the peripheral university offer. This differentiation is particularly suited to the aims of the present study. In addition, this aggregation problem only concerns a few large cities, London and Paris in particular, and has very little or no effect elsewhere.

The polycentric network of student mobility

The main student inter-urban migrations show a polycentric connected Europe (figure 1). Most of the metropolises, whether they are political or economic capitals, in southern Europe (such as Lisbon, Madrid, Milan and Rome) and in northern Europe (such as Dublin, London, Paris, Brussels) exchange more than 45 students a year. To the east, only Berlin is part of this main network. Vienna, which sends more students to Paris, Berlin and Madrid than it receives, is in a position of relative dependency in this migratory network.

In the networking processes of the European territory, this "capital city" effect is not surprising: work has been done by several researchers on this metropolitan structuring of the spatial integration dynamics through inter-urban exchanges (Cattan 1993, Cattan, Saint-Julien 1998, Demmateis 1996). Student mobility, however, is a case apart. In most previous work, the network of capital cities always emerges as a second-order structuring in spatial integration dynamics in Europe. It is the centre-periphery model that always appears dominant in the networking processes of the European space. With student migration, the metropolitan network of European capitals forms the major structure in the interdependency of the territories. This leading position is probably connected with the long-standing academic tradition of the capitals, characterised by the presence of several university centres enjoying

prestige over the territory as a whole. But there is another originality of the spatial organisation of student migration in Europe that couldn't be explained by this structural factor. Indeed, unlike a large number of inter-metropolitan connections which are dissymmetrical, oriented and often highly polarised, student mobility is balanced, symmetrical and non-oriented. No city or pair of cities dominates the network of exchanges, and metropolises of different size and in very different locations exchange equivalent numbers of students. This is the case for instance between Dublin and Paris, Madrid and Paris, Barcelona and Rome, and Lisbon and Madrid (figure 1).

Figure 1 - Erasmus students migration

Source: Socrates - Erasmus
N. Cattan, CNRS-Géographie-cités

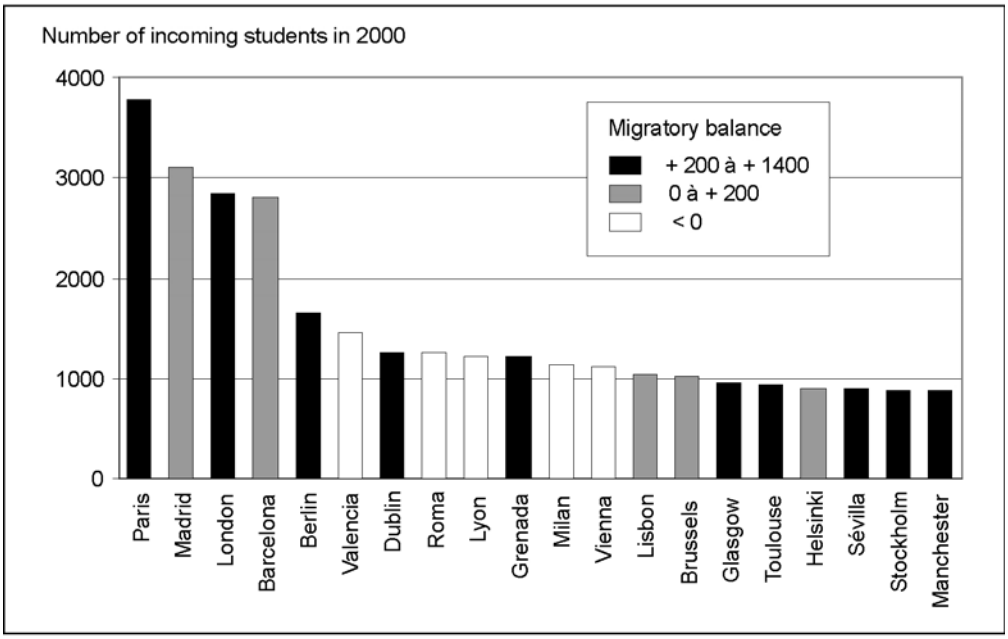
Whether this networking is targeted as a result of agreements between partner universities or as a result of a more spontaneous process is not the question. The above observations make it possible to describe the organisation of the main network of student mobility in Europe with regard a polycentric development issues (Cattan 2004). More than other types of exchanges, the students' mobility point to a reticular configuration of the European territory where there is greater diversity in the connections. This type of organisation is a powerful vector for integration of the European space.

This result does not mean that the imbalances are removed nor that the integration of the European territory is taking place in an equalitarian manner. It merely suggests that systematic and exclusive consideration, in a large volume of research work, of the same type of exchange, considered to be structuring elements distorts the view and that the work over the last fifteen years has enclosed discourse and representation in this dominant logic. Student mobility, because it questions, more than other types of exchange, the dual centre-periphery model and the hierarchical network structuring of the European area, opens the way to reviewing the excessively static representations of the European territory. It shows that the mode of organisation of the European territory is in reality much more diversified. On the one hand, territorial organisation is supported by specialised networks of cities as defined by common patterns of either material or non-material production. On the other hand, territorial organisation takes place through networks of cities that are either economic or political capitals. Freed from the constraints of distance, from the urban hierarchies and from political boundaries, the integration processes vis-à-vis student mobility tends to contributing to a change in perspective providing an alternative to the metropolisation and to the centre-periphery model. Rather than polarised and pyramidal, the spatial dynamics of the European integration is viewed in terms of interconnection and reticulation.

The return of medium-sized towns from the European "fringes", and the effect of gender

The multi-polar organisation of student migration is confirmed by the attractivity of cities according to the total number of students received by each city. It is indeed observed that the differences in attractivity from one city to another are not very great. The number of students received decreases regularly among the four cities receiving the largest numbers: Paris, Madrid, London and Barcelona (figure 2). If the gap is greater with Berlin which receives nearly 1000 students less than Barcelona, the decrease in the number of students received then becomes very regular, showing no threshold and no abrupt break. The regularity of the decrease extends well beyond the twenty most "attractive" cities. This means that the migrant students distribute themselves across the European urban system in a relatively homogeneous and balanced manner, and that they are not particularly sensitive to the structuring effects of a hierarchy or of some form of centrality, which hence lose a certain degree of their credit. Among the fifty cities receiving more than five hundred students, amounting to 40% more than the mean number of students received per city in Europe overall, half are "peripheral" cities. If, not unexpectedly, a "capital city" effect is observed, with metropolises such as Madrid, Dublin, Rome, Lisbon or Vienna, towns of relatively moderate size are also found in the category of "attractive peripheral" cities, for example, Valencia, Granada, Seville in Spain, Edinburgh in Scotland, and Rennes and Bordeaux in France. These not very large cities account in fact for nearly one third of the fifty top attractor cities in Europe.

Figure 2 - Most attractive European cities for Erasmus students



Note : University establishments located in the immediate outskirts of London and Paris are not grouped with the establishments in the centre of these metropolises

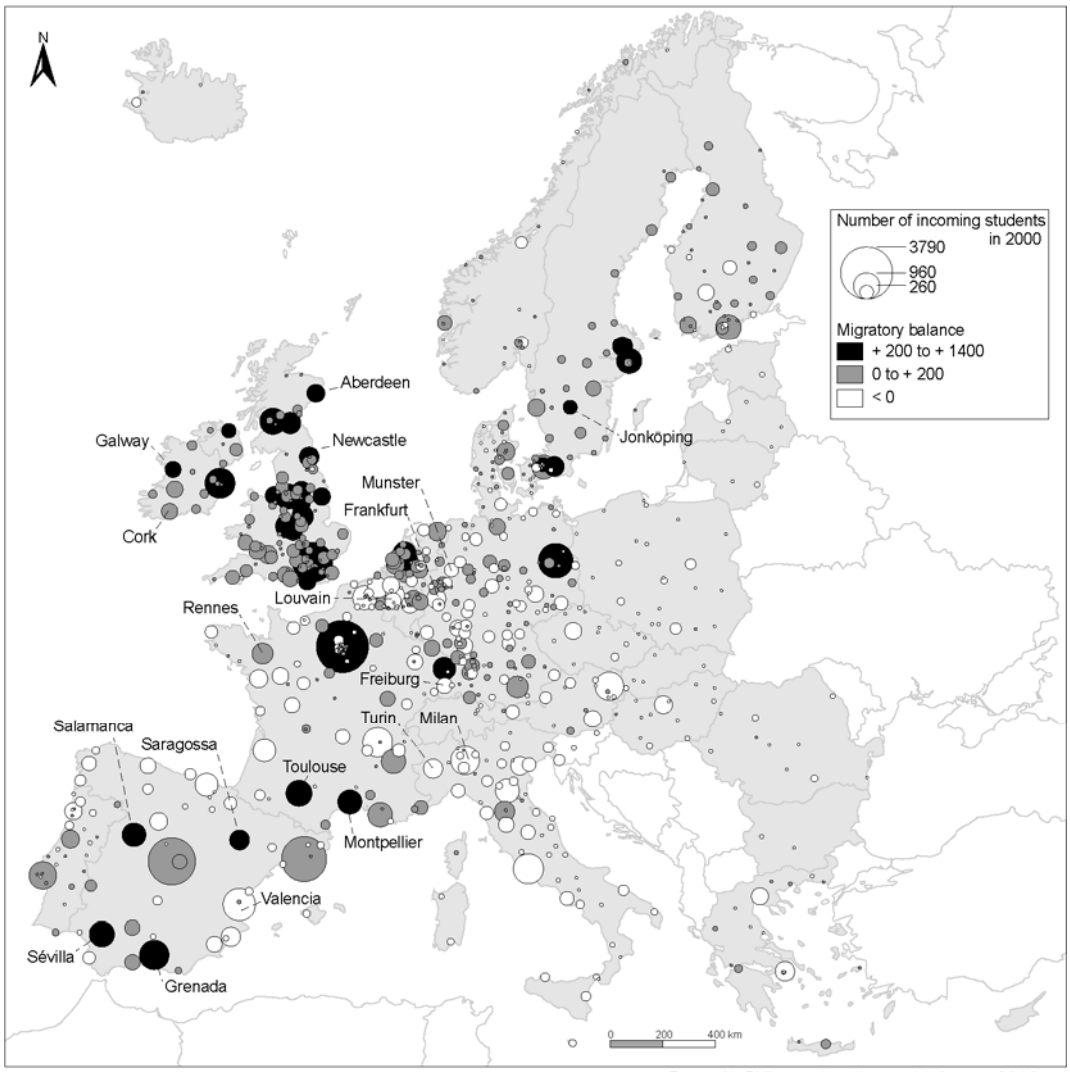
Source : Socrates - Erasmus

It is however the overall balance in inter-urban exchanges, i.e. the migratory inward and outward flows of a city, that provides the most markedly multi-polar picture of the students mobility networking. Indeed, in inward and outward migrations, with the exception of Paris, London and Berlin, it tends to be peripheral cities and medium-sized towns that show a markedly positive balance, with the largest numbers of students in excess (figure 3), for instance the towns of Galway in Ireland, Aberdeen and Newcastle in the UK, Toulouse and Montpellier in France, Salamanca and Saragossa in Spain, and Jönköping in Sweden. Conversely, capital cities and economic capitals considered to be integral parts of the centre receive far less students than they send out. This is true in particular for Leuwen, Milan, Turin, Frankfurt, Munster and Freiburg. The migratory balance therefore clearly questions the classic views of a vast majority of work on European cities. In a typological vein, partly as a result of institutional and social demands, and in line with the binary categories of contemporary modes of thought, these approaches nominate “top” or “winning” cities, often large central metropolises, and “losers”, often medium-sized peripheral towns. Student migrations, by restoring the image of some of these “peripheral” cities provide an alternative, less static image of the European space and its integration dynamics.

In a European context where 61% of migrating students are female it is logical to wonder about the role of gender in these urban networking configurations. In a recent work, I showed that medium-sized towns are a majority choice for female students and that most predominantly female flows are not markedly polarised and generate an eclectic network in which the most frequent associations correspond neither to a particular urban theory nor to a specific spatial logic (Cattan 2004). In the absence of socio-economic surveys, it is only possible to hypothesise explanations for the different motivations in these female migratory patterns. On the negative side, it is possible to suggest reluctance or fear in relation to the large city. Conversely, medium-sized cities may exert positive attraction, since they are often viewed as being more human in dimension, and thus may meet expectations of quality of life,

living environment and lifestyle that women students may involve in their decisions to a greater degree than the men. In these spatial choices by female students, is it possible to see the emergence of “a new model of migrations” where female migrations would be linked to “post-modern values” (Sanchez, 1997).

Figure 3 - ERASMUS students migratory balance



Source: Socrates-Erasmus
N. Cattan, CNRS-Géographie-cités

Done with Philcarto - http://perso.club-internet.fr/philgeo

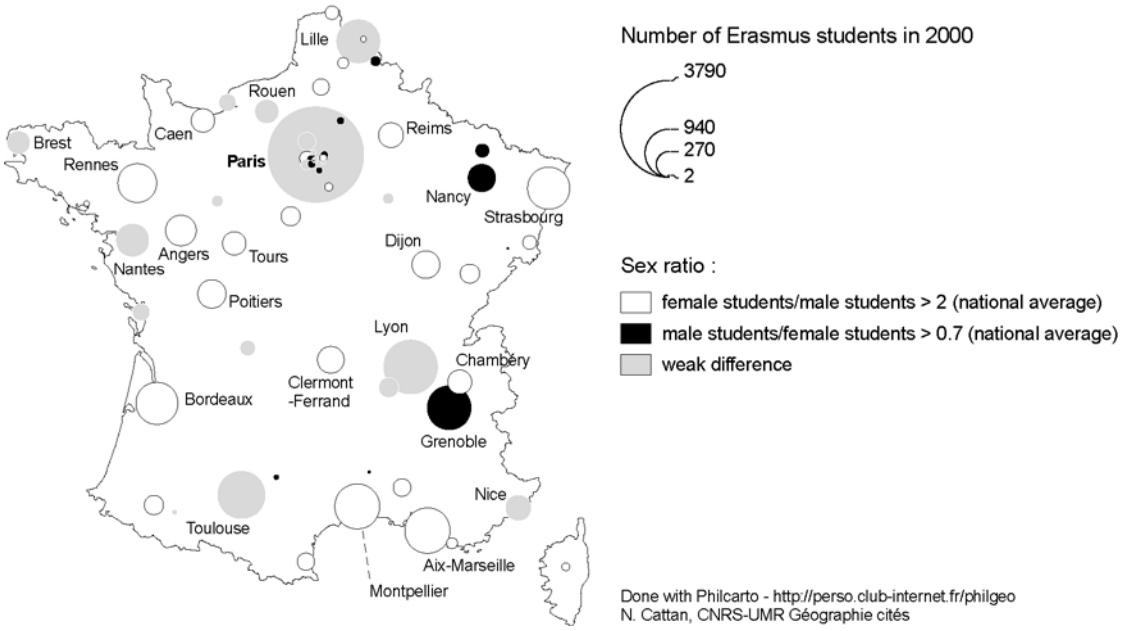
Alongside these urban patterns, student migratory behaviours also evidence specifically national and macro-regional spatial configurations. The national effect is spectacular, in particular in the UK where all cities show a positive balance, which means that the numbers of students emigrating in the ERASMUS programme are much lower, whatever the city considered, than the numbers of students migrating into UK cities from cities in other European countries. Conversely, in Italy, the universities do not make up the departures of their own students by arrivals of students from other European countries. On this point, Italy is in line with the profile of most central and east European countries, where all cities show an overall deficit in the migratory balance, underlining the strength of territorial “belonging” and the persistence of a macro-regional pattern still at work today.

Consideration of these elements overall suggests that it is well worth devoting further study to a case study centred on a particular country that underline explicitly the gender spatial differentiation in students migrations. The choice here is to focus attention on student migration linking France to the other European countries because France constitutes the second most attractive destination for students and receives 65% female students (against the European average of 61%).

Female students from the rest of Europe prefer French regional capitals and medium-sized towns while male students prefer Paris and its metropolitan area

On average, French cities receive twice as many female as male students. Almost half of these cities have a gender ratio[1] that is above this average. Among the cities that receive significantly more female than male students, there are large regional metropolises like Marseille, Bordeaux, Rennes and Strasbourg (figure 4). But the large majority of these preferred destinations for women students are medium sized towns such as Avignon, Pau, Cortes or Perpignan in the south of France and cities in the Great Paris basin situated at about an hour's travel from Paris, such as Amiens, Reims, Orleans, Caen, Angers, Poitiers and Dijon.

Figure 4 - Attractivity of French cities for ERASMUS students



Conversely, one fifth of French cities receive relatively more male than female students in relation to the national average. Cases in point are, on the one hand, large cities like Nancy, Metz or Grenoble where the university offer is in science and technology, and which stand out in the French university offer by way of the presence of an *Institut National Polytechnique*, and, on the other, towns or municipalities in the wide suburban area around Paris ("*francilian*" region) which house universities with a markedly professional bias, and "*grandes écoles*" (in France these are the seats of academic excellence in science and

[1] Number of women received over the number of men received.

technology), such as Evry, Jouy-en-Josas, Gif-sur-Yvette, Palaiseau, and also the town of Compiègne (figure 4).

These urban preferences that are markedly gender-differentiated show more pronounced dispersion of female migrant students among receiving cities. Measurement of the concentration of student numbers according to gender over urban centres confirms this observation: while 28% of female students from Europe migrating into France choose Paris or Lyon, which are overall the two most attractive French cities for all ERSAMUS students, 30% of male students make this choice. If a larger number of receiving cities is taken into account, it can be seen that the five most attractive cities receive 42% of the female students, as compared to 46% of the male students, and the proportions are 62% and 66% respectively for the first ten destinations.

Whatever the reasons for choice, scope for alternative forms of territorial development can be seen in this gendered attraction among urban destinations. This result suggests that the lights of the large cities do not attract women, while men are more inclined to be drawn. It means that migratory preferences of female students go further to questioning the neo-classic models of spatial mobility than do those of male students[2].

Female mobility as a way of highlighting "alternative" spatial functioning

The previous hypothesis is reinforced by the migratory itineraries preferentially engaged in by female students. By positioning the gender migratory networks in a more explicit relational approach, focusing more on "space of flows" rather than on "space of places" (Castells 1996), this section highlights a more expressive illustration of the lesser degree of polarisation in the female migratory network. The evaluation of the number of inter-urban links required to total respectively a given proportion of female students and male students migrating toward France show that 32 links between a European town and a French town are required to total 30% of male migrations towards France while 41 links are needed to give an equivalent proportion of female migrations. Differences in behaviour according to gender are even more visible when the migratory behaviours of a larger number of students are considered. Indeed, half the male students migrating towards France are concentrated on 74 links, while half the female students are distributed over 90 links. Finally to account for 80% of the male migratory behaviours towards France, 184 interurban links are required, as compared with 220 links to reach the same proportion for female migratory behaviour. Thus it can be said that male student migrations towards France are concentrated on a smaller number of links than female migrations. This means that male students have migratory patterns involving smaller numbers of departure and arrival points, while female students use a wider variety of places.

One can synthesize these figures in saying that the ten main flows of female students towards French cities represent 15% of the total number of female students migrating to France and 18% of the total of male students. When the fifty strongest flows are considered, the gender difference is slightly larger: 37% of female migrations and more than 41% of male student movements. That means that the migrations of the male students are concentrated on a more restricted number of interurban connections than the migrations of the female students.

[2] A remark however is required: it would be worth examining the gender attractivity of cities in relation solely to migrations between universities, i.e. excluding migrations arising from other higher education training institutes and the "*grandes écoles*". Although the latter account for only a small proportion of student migrations, they have specific features. Indeed, these establishments run courses that include compulsory times abroad as an integral part of the course, which is not the case in universities; in addition, these establishments have markedly different populations in respect to gender.

The combination of the lower attractivity of the large French cities for European female students and the less marked polarisation in the network of female migration towards France means that female mobility participate more actively than male migration in the territorial re-composition in progress and in the construction of alternatives to metropolisation. These female migrations patterns could indeed reflect more flexible spatial configurations in which more polycentric, more reticulated and possibly fairer territorial development patterns can form.

Conclusion

This study shows that student mobility between European cities forms a polycentric urban network in which interconnection and integration patterns are both reticular and symmetrical. By questioning the dual centre-periphery pattern and the hierarchical network structure more profoundly than is the case with other types of exchange, student migrations make it possible to envisage reappraisal of the terms and representations of integration processes, taking place at different geographical level, within the European space. Student mobility also made to go beyond certain over-static images of the organisation of the European territory where solely wealth-generating processes are taken into account.

The use of student migrations towards French cities, and differentiation of these behaviours according to gender, shows that it is female more than male spatial behaviours that contribute to spatial reorganisation and constructions providing an alternative to metropolisation and polarisation. Whatever the reasons and motives behind the decision to migrate towards a particular destination, an alternative for territorial development can be see in these student migrations, in particular among women. In debate in the scientific and territorial development communities on metropolisation, multi-polarity, sustainable development and re-composition of living spaces, the gender differentiation of the exchanges with regards the territorial attractivity and the networks organisations can no longer be ignored. The mobility of students and in particular of female students leads us to review our static, two-way representations of the integration of the European territory, and also to reconsider the spatial theories and processes that underpin such representations.

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