So many regions, so many borders

A behavioural approach in the analysis of border effects

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Abstract

Regions and borders are inseparably joined. Although quite some time is devoted to the discussion about the nature of borders, in essence borders are marking the ultimate extent of regions. The character of borders of course may differ, from for instance dividing elements between regions to more or less uniting areas of communication. In the present day Europe a lot of effort is put in diminishing the barrier-effects of borders between the member states of the European Union. Whether or not these borders are really acting as barriers however depends on the fact what type of action (e.g. economic or cultural) is undertaken on either side of these border. Understanding border-effects, whether positive or negative, therefore implies grasping the nature of the region it defines.

Putting borders in the centre of attention is especially interesting when looking at the process of integration. In general studies concerning integration were performed on several levels of scale and from several points of view. Co-operation along the inner-borders of the European Union differs from national co-operation. In this case the following question can be asked: to what extent do borders influence different types of interaction between residents of different types of regions.

In this contribution some thoughts are dedicated to effects of borders especially on the local or regional scene of action of individuals. Therefore a behavioural point of view is taken. One of the starting-points is a multi-scale/multi-sector model, which tries to integrate different levels of scale and thematic viewpoints which can be taken when studying border-effects.

Keywords: Borders, Integration, Regions
Introduction

In the present-day Europe a lot is talked about integration. Especially the creation of a borderless Europe is an appealing perspective. It is however not always clear how this future can be reached. All kinds of developments, which at first glance look opposite, take place at the same time. In an integrating Europe also disintegrating trends are visible. This apparent paradox shows in general that the process of integration and co-operation is not yet fully understood. One of the main reasons is the fact that regions and borders are ambiguous concepts. National borders attract the majority of the attention in the discussions about European integration, because they are the most tangible features. National borders however are no more than lines drawn on a map. Whether they are nowadays acting as borders in the sense of obstacles, or are mere remnants of the past without any actual significance, is depending on a lot of factors.

The main goal of this paper is to elaborate on the two concepts, region and border. This discussion must lead to the formulation of a conceptual framework for studying the borders. When talking about the process of integration across borders an important role has to be given to human interaction processes. After all integration implies crossing borders.

After a sort introduction about integration and interaction, the next parts concentrate on the concepts of region and border. Next some empirical evidence is presented, partly from the literature and partly from own research. This contribution will end with an agenda for further research.

Integration and Interaction

Talking about integration, in fact means talking about people or organisations willing to cross, literally or figuratively, the border of their region of origin. In recent years quite some articles and books are published concerning integration and borders. It becomes clear when looking at the titles of some of these recent publications, that the process of regional integration can be looked upon from several points of view. The publication "Continental Trading Blocs; the growth of regionalism in the world economy", edited by Gibb and Michalak (1994) considers regions to be large transnational blocs, like the European Union, the NAFTA (in Northern America) and ASEAN (in Southeast Asia). The publication suggests that it is better to speak of a process of growing regionalism instead of global integration or globalisation, because integration and disintegration take place at the same time.


One of the conclusion of these examples is that regions and borders are two central concepts when talking about integration and co-operation. Regions are marked out by borders. Consequently it is only possible to have borders, when there are regions. However because there are many different types of regions, also many kinds of borders exists. To understand the process of integration it is necessary to have a clear view of what is meant by regions, and what concepts of border are used.
Regions

Especially in the geographical sciences there are a lot of definitions and interpretations of regions. This comes as no surprise, because the concept of the region is one of the pillars on which geography as a discipline is build. Phenomena are studied in their spatial setting.

Before categorising the different types of regions it is important to keep in mind that a region always is part of a larger entity. This entity does not necessarily have to be a country. The concept of the so-called "Triad Power" (Ohmae, 1985) also uses a kind of regionalisation. The world's most important economic areas are divided into three "transnational" regions, the European Union (at that time European Community), North-America and Japan.

A second important notion is the fact that every regional subdivision is created with a specific goal in mind. This way, at least in a scientific way, there are an infinite number of possible regional subdivisions and their resulting borders.

The two most important criteria on which a sensible regionalisation can be based, are homogeneity and cohesion. One way or another it must be possible to discern one region from the other. Put in other words, a region must be a distinct unit.

Typology

There are two main types of regions. As was mentioned earlier, regions must either be homogeneous or coherent. Regions based on the first criterion are called formal regions. Formal regions are based on the presence or absence of a particular phenomenon. Areas based on type of soil or climatic zones are examples of formal regions. Coherent regions are also known as functional regions. These kind of regions find their legitimacy in the fact that all the "places" in the region are functionally linked together. This could for instance be the orientation on one city, the so-called city-regions or agglomerations, or the action space of an organisation. Most of the time the borders of these kinds of regions do not coincide with the borders of the administrative region of a city.

A second distinction is based on the fact whether or not regions are "real". In this respect regions which are "real" can be characterised as societal. This kind of regions is based on for instance cultural aspects like history, language or way of live. Administrative regions are also examples of societal regions. Regions which are not "real" can be characterised as "artificial" and can be marked as scientific. The regional subdivision of Europe in NUTS-regions is an example. This subdivision is the result of the need for a more or less sound regionalisation, for statistical purposes. To summarise we are regions (societal regions) and we see regions (scientific regions). The scientific regions are mental constructions, for classification purposes, the societal regions are "real". Of course "real" and "artificial" regions can be formal or functional. When we talk about borders and integration, most of the time borders of formal regions of the societal type are meant.

European transborder regions

Regions are not only an interesting phenomenon with regard to the present-day situation. The efforts to create a borderless Europe, will lead to the formation of new regions. In this respect it is
interesting how the future of Europe as a *Europe of regions* is seen by for example scientist, politicians and planners.

One regional subdivision is the regionalisation of the territory member-states of the European Union into seven so-called study-areas. The main reason for dividing the territory of the European Union into seven transnational areas, is to provide a framework for strategic planning. In general the European Commission observed an increase in interregional and transnational contacts. Their conclusion from this observation is that the interregional perspective has to be incorporated into European planning. (Gripaios & Mangles, 1993). The main criteria to define the regions are geographical proximity and their developing mutual relationships.

In the 1991 publication of the EC, Europe 2000, in which these regions where introduced for the first time, the expectation was expressed these regions had the capability to develop into European super regions (Europese Commissie, 1991). In the 1995 edition, Europe 2000+, the regional subdivision was brought back to a simple working hypothesis, which could be of assistance in analysing the present-day situation and developments (Europese Commissie, 1995). In 1997 the (slightly redefined) regions are also used in the INTERREG II C programmes, which aims at a general transnational co-operation at a much larger scale then until now was usual in the INTERREG-programmes. When looking at the criteria for a reasonable regionalisation, a lot of arguments can be found to criticise this map of Europe of the regions (Van der Velde, 1997).

The next three examples stem from scientist. One of the most famous examples is the European "banana" designed by Brunet (1989). On the basis of growth and industrial structure of European regions the French national planning agency, DATAR, identified the most dynamic regions in Europe. This region turned out to be a banana-shaped transnational region, stretching from the south-east of England to the north of Italy. This effort attracted a lot of attention especially from local and regional governments, but was also criticised, because of its conservative character. The demarcation of the banana was largely based on the current economic status. One remarkable outcome of this model was the fact that Paris was not part of the most dynamic region of Europe. This fact and the present discussion about the main transport-corridors in Europe already has led to an adjustment of the "banana" to a "mushroom", with extensions towards Paris and Berlin.

A second and less famous example is the "European green grape". This model was more or less a reaction on the "banana-model". Kunzmann and Wegener (1991) state that the future of Europe is better described as a bunch of grapes. Each grape symbolises a larger or smaller urban agglomeration, with its hinterland. These grapes together form the nodes of the European network economy. The final version of this map should paint a picture of Europe's functional regions. Of course the position of the grapes does not represent exactly the location of the functional regions. This picture has to be regarded as the expression of an idea. When this bunch of grapes should have been drawn in 1997 it would have been extended to the east and north.

The last regional model of Europe is the "European house with seven apartments" (Lutzky, 1990). This regionalisation was designed with the specific goal of extending the European horizon towards the east, to include especially the countries in Central and Eastern Europe. In this model Europe is divided into seven socio-political and economic-geographical regions. The most important criteria to determine these apartments are based on the main activities in the region. The main contribution of the model is the fact that historico-cultural factors are taken into account (Nijkamp, 1993), which could result in a very rough map of Europe's "real" cultural regions. As was said about the "grape"-model, when this model had been designed in 1997, probably the "house" would have had more apartments and the apartments would have had different borders.
These four examples of regionalisations of Europe show that one perfect model is not and probably never will be available. Depending on the goal of the regionalisation, whether channelling spatial planning, describing economic or socio-historic structures or future development opportunities, the Europe of regions puts on a different face. Whatever form this face will be, the resulting picture will lead:

"... not to new rigid boundaries but a patchwork pattern of overlapping jurisdiction or to a variable geometry of multiple transnational co-operation networks..." (Cappellin, 1993)

Borders

One of the property of regions is that they end somewhere. When considering countries as regions it is (or should be) always clear for all spots to which region it belongs. In general all administrative regions have clear boundaries. This is not the case with other types of regions. When using the concept of cultural regions, for instance, how much of the "culture" has to be present at a certain place to classify that spot in the specific region. In this case there is a gliding scale. The same goes for functional regions, based on spheres of influence. The further away from the core the lesser the influence. Notwithstanding this problem, borders are inseparably linked with regions. Depending on the type of region, the nature of borders differs.

Before going into this problem, first we have to deal with the different terms that are used when talking about border-crossing. In this contribution the definitions presented by Reichman (1993) are used:

- Boundary: line indicating the limit of the sphere of influence of a state or political authority;
- Limit: line which marks out the ultimate extent of an administrative jurisdiction usually with the confines of a state;
- Barrier: an obstacle designed to or capable of delaying or preventing the free flow of either goods, money, labour or know-how, and thus interfering with the normal functioning of markets;
- Frontier: a dual concept, representing either a boundary as defined above, or referring to a marginal or peripheral area, situated far from the core centre of a country;
- Border or border-region: an ambiguous concept, with the same dual meaning as frontier. As a region its geographical extent is not necessarily clearly delimited, and it usually refers to a strip of land lying astride the boundary (Reichman, 1993, p.56,57).

The differences between the first two concepts, boundary and limit, is very subtle. According to Rykiel boundary is an expression of the formal aspect, while limit is connected with a physiographic aspect (1995). The differences between border and boundaries can be found in the different effects of centripetal and centrifugal forces. Boundaries are more or less inner-oriented and therefor connected to the centripetal forces. Border(-regions) are outer-connected and consequently connected with centrifugal forces (Kristof, 1959).

As becomes clear in the last definition of borders and borderlands, borders can be dividing elements but also uniting or binding elements (Sanguin, 1983). When regarded as binding element, first of all we have to take into account that borders are the places where a region interacts with its surroundings. In this context Ratti (1993) speaks of a border as a separating line versus a contact zone. Besides this aspect, when talking about cross-border interaction, in general we are talking about borders of countries. In this respect the area near country borders are often considered to be
peripheral areas. From this peripheral situation stem all sorts of problems. The fact these regions are considered to be peripheral is that the are the consequence of the fact centripetal forces of for instance politics, which are directed towards the political centre of regions, on the one hand and centrifugal forces of for instance local companies which would like to expand but are hindered by border. On both sides of the border, one can observe similar problems. All over the world, neighbouring regions put together their efforts in all sorts of regional co-operation. This way they create borderlands or border-regions in which interaction is intensified instead of being blocked by the border.

The aforementioned version of a borderland can exist only when neighbouring countries are on friendly terms. Based on a continuum ranging from hostile to friendly relationships, Martinez (1994) created a typology of borderlands:

- Alienated borderlands: no cross-border relation due to warfare, political disputes, intense nationalism, ideological animosity, religious enmity, cultural dissimilarity and ethnic rivalry;
- Co-existent borderlands: economic and social interaction is put "on hold", borderlanders interact;
- Interdependent borderlands: full interaction on economic, social and cultural levels as far as is possible while a border still is functional;
- Integrated borderlands: ultimate state of integration, with free movement of people, goods, money and ideas.

In all of these borderlands exist a borderland milieu. This milieu is formed by borderlanders (the inhabitants of border regions), subject to frontier forces and international influences (Martinez, 1994). According to Ratti when thriving for a free European market, border area economies or borderland milieus have to be changed into transborder economies (Ratti, 1993). He states that the most important difference between the Europe of the late 20th century and the "old" Europe of countries will lie not just in the abolition of barriers and frontiers, but also, in a more general sense, in the transformation that the frontier will undergo, from a barrier into a contact line.

**Regions, Borders and Integration**

Regions and borders are two important factors in the (European) integration process. As was mentioned in the introduction, to understand the integration process, a clear picture has to exist about the type of regions and borders involved. At least two types of distinctions have to be made. What type of integration are we talking about and on what level of scale integration is aimed for?

*dimensions*

In Europe the most important dimension with the longest history is economic integration. The emphasis on the economic dimension of integration is also visible in the former name of the European Union, namely the European Economic Community. The final stage of the economic integration process should be an "integrated space economy" in which the only restraints on conducting business are those restraints imposed by the natural environment (Dawson, 1993). In other words people, ideas, goods, money etc. are flowing freely through the integrated space and distance is becoming less important. According to Gibb several levels of economic integration can be observed. First of all there are several forms of sectoral co-operation and free trade associations. This
kind of co-operation only involves removal of internal quotas and tariffs. A custom union in which common external customs-tariffs are established. The common market guarantees a free movement of labour, capital and services. Forming a economic union involves harmonisation of economic policies and development of supra national institutions. The ultimate stage of economic integration leads to the formation of a political union (Gibb, 1994, p.22-28). In general economic integration is from a theoretical point of view still based on neo-classical economics. According to Dicken research into this field is to much based on case studies which are not integrated (1996)

Whether or not these different levels of economic integration comes into being is depending on the second dimension of integration, the political aspect. Most striking is political integration by central governments. At this level all kinds of problems have to be tackled, ranging from common foreign and defence policies to the transfer of power from national governments to the European Commission and European Parliament. However difficult this process, this form of European integration is proceeding at a reasonable pace. Of course hurdles sometimes slow down the process, but little by little the European Union is increasing its influence. Whether or not the end stage of the political integration, "The United States of Europe", will ever be reached remains the question. It is even questionable if this kind of a federal Europe is worth aiming for as the best solution.

The third dimension to be distinguished is social integration. This takes place at a completely different pace. Governments try to create favourable conditions, but the public or society has to take the challenge created by these conditions. As is said for political integration the end result of social integration, the "European citizens", will probably never come into existence.

levels of scale

Beside these thematic dimensions, it is also useful to draw distinctions between the levels of scale. In the framework of this contribution a subdivision between the national and the local/regional level seems necessary. The general rule in this case seems to be, that preconditions are created on a national level, but the actual implementation has to take place at the local or regional level. Of course there are exceptions to this rule. Sometimes integration at the local and regional level is ahead of the integration at the national level.

Co-operation and integration is also emerging between regions which are not neighbours. Regional governments from Rhône-Alpes, Baden-Württemberg, Lombardy and Catalonia consider themselves the economic driving forces in the new Europe. They strive to present their regions as such, collectively. In this paper this kind of cross-border co-operation and integration is left out of consideration.

In this case also the INTERREG-program should be mentioned. It is supposed to be a kind of framework which should guide these financial stimuli. At the present time the second program is operational. It is very interesting to observe a change of focus of the program from the first to the second period. Next to the stimulation of economic and political cross-border co-operation, which caught the eye primarily in the first period, in the second period a much more important role is awarded to social and cultural co-operation. Apparently intensification of the cross-border co-operation needed a new stimulus. This was sought in a greater participation of the inhabitants of the border regions in the integration-process. In the first period of the INTERREG-program most of the efforts were put in letting the economic and political institutions interact on a national scale, in the second period social and cultural initiatives on a regional scale are also provided with a financial support. Whether or not this change of strategy will be successful remains to be seen.
The thematic dimensions and levels of scale interact with each other and exert influence on one another. It is important to take this fact into account. It can be presented in a simple matrix.

This matrix can be used twofold. First of all with this two-dimensional subdivision of the process of integration it is possible to systematically present the efforts explaining and understanding integration. Each of the squares can be investigated separately, but perhaps it’s more fruitful to combine different squares. Secondly by extending the figure little by little with the result of empirical studies, it may be possible to get a better notion of the nature of the integration process.

**Formal and perceived borders**

Whether or not formal boundaries of for instance countries or other administrative entities are perceived as barriers by individuals and organisations in border-regions, depends on the incorporation of these borders by the actors. For a large part the administrative borders of communities are hardly perceived as barriers by for instance companies. The perception of the boundary in this respect can be regarded as a human factor. In this respect we have to mention Leimgruber (1991) and Van Houtum (1996). These authors have translated the spheres of influences into everyday concepts like apartments and countries.

The further away from the centre, the lesser the level of interaction. If the formalised borders coincide with the shells of humans they will not pose any problems. When they do not coincide, the formal borders will be perceived as barriers. At this stage it seems useful to introduce a behavioural approach. Borders are only causing problems, when they are perceived as barriers by individuals and organisations. They have different action-spaces for different activities. When the natural action-space for a certain activity is cut off by a border, interaction is dimmed. Lifting the border, in this situation, immediately should result in integration. When the formal borders and the human shells coincide, there will not be immediate effects of erasing country borders. To understand the process of integration human behaviour should be incorporated in the studies.

One important factor in this respect is culture. Not only on a national level cultural differences complicate co-operation, also on the regional level cultural differences on both sides of the border may impedes co-operation. Van Beek (1996) goes even as far as claiming that an ongoing process of regional integration in the Euregion Maas-Rijn is not to be expected because of the cultural differences. These differences are not only manifest in for instance perception, but also influence economic and political co-operation. In this respect she also points to the interesting study of Hofstede (1991) in which he uses four dimensions to indicate differences in culture. The first dimension is power distance, defined as the extent to which the less powerful member of institutions and organisations within a country expect and accept that power is distributed equally. The second dimension, individualism, measures the extent to which individuals are tied to each other and integrated in social groups. The masculinity index is an expression of the persistence of social gender roles. The last dimension of uncertainty avoidance is defined as the extent to which the members of a culture feel threatened by uncertain or unknown situations. When countries are positioned in a graph in which each time two of these dimensions are reflected it is remarkable that neighbouring countries often differ to a great extent. To what extend these difference prohibit co-operation remains to be investigated.
With regard to this study it is important to keep in mind the fact Hofstede was not primarily directed towards studying integration. Secondly Hofstede talks about "national" characteristics. Whether these sharp national distinctions also exist on a regional scale along borders, remains to be investigated. The main reason to present Hofstede at this stage is to stress the importance of non-economic and non-political factors in the region and border-building process.

**Empirical data**

Some empirical results with regard to integration and the role of borders can also be found in a research-project in the Euregion Rijn-Waal. In this area a project has been started to determine the pattern in consumer and other trips in a cross-border region. The prime motive of this project is not to determine the level of integration in this region, but the level of interaction (see e.g. Vergoossen & Van de Wiel (1994), Van der Velde & Vergoossen (1995) and Van der Velde et. al. (1996)). In this part some of the results are presented of the study concerning shopping interaction between Nijmegen and Kleve.

At first glance it seems citizens are not hindered by the border as far as is concerns an almost daily routine like shopping. This was also one of the results of the questionnaires in which was asked whether or not the border was a reason not to go to Nijmegen or Kleve. In this respect the Dutch-German border is hardly acting as a barrier.

**Table 1: Key figures for Kleve and Nijmegen**

<table>
<thead>
<tr>
<th></th>
<th>Nijmegen</th>
<th>Kleve</th>
</tr>
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<tbody>
<tr>
<td>number of questionnaires</td>
<td>405</td>
<td>323</td>
</tr>
<tr>
<td>inhabitants (&gt; 18 years of age)</td>
<td>120,000</td>
<td>33,000</td>
</tr>
<tr>
<td>floor space of shops in city-centre</td>
<td>96,500 m²</td>
<td>30,000 m²</td>
</tr>
</tbody>
</table>

Next the results of the questionnaires were used to elaborate on the attractiveness of city centres. One of the factors which brought up was the role of the border in this pattern. First three groups of shopping trips were discerned, "fun" and "run"-shopping trips and shopping trips made because of price differences in the two countries.

**Table 2: Shopping-trips in Kleve and Nijmegen**

<table>
<thead>
<tr>
<th></th>
<th>From Nijmegen to Kleve</th>
<th>from Kleve to Nijmegen</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Daily&quot; shopping</td>
<td>116,900</td>
<td>92,500</td>
</tr>
<tr>
<td>&quot;Recreational&quot; shopping</td>
<td>25,700</td>
<td>102,200</td>
</tr>
</tbody>
</table>
The third group of trips of course exists because of the fact there are borders. This can be regarded as a positive border effect. Interaction is induced by the mere existence of the border.

In this first attempt in determining the coefficients for "fun"- and "run"-shoppers we can abandon the denominator, because it is supposed to be the same for Nijmegen and Kleve. A second assumption is that the coefficient $b$ equals 1. For now there is no evidence that an increase in population leads to an exponential growth in consumer trips.

With these assumption we can determine the coefficient $a$. It turns out that the coefficient for "run"-shopping trips is approximately 1.3 and for "fun"-shopping trips 0.0. These coefficients show that a two-way gravity model in this form and with these variables is not applicable two "fun"-shopping between Nijmegen and Kleve. Maybe this conclusion is too bold, but in this case we can at least conclude that increasing the attraction has less effect on the number of "fun"-shopping trips than on the "run"-shopping trips.

Explaining these results at least two consideration have to be taken into account. Consumer behaviour is in motion and shifting. First of all when we don’t take into account the existence of a border, the reality is that "the elegant and tidy" functionally nested systems of shopping centres which the hierarchy implies appears to be in some disarray, although the process which give rise to the differentiation of shopping centres still exist. Consumer trips are becoming polycentric within conurbations, not least because of new choices in new locations available to the mobile household (BDP Planning, Oxford Institute of Retail Management, 1993).

When we do take into account the existence of the border, it is possible that the value of both exponents is influenced by the border. First of all we could suppose a blocking effect of the border in the case of "run"-shoppers. When this is the case the value of this exponent would rise if the border disappears. In the case of "fun"-shopping the border could have a positive effect. One important dimension of "fun"-shopping is recreation. When shopping in a foreign country the recreational dimension is increasing. It is becoming a day-out. In this case maybe the fact that the coefficient for "fun"-shopping has a value of zero can be understood. When no border would exist between Nijmegen and Kleve the attraction of the later city would be influenced to a greater extent then the attraction of Nijmegen.

Because of these consideration and the difference in the character of "fun"- and "run"-shopping we could introduce a separate factor for attraction other than floor space. When this is applied to the relations between two cities, i.e. Nijmegen and Kleve, we could determine the relative attractiveness of the cities. Of course the existence of the border is an important factor in this attraction and plays different roles for the two cities. To elaborate and test these assumptions further research is necessary.

### Conclusions and research agenda

The main conclusion from this paper is that the border does not exist. As borders are inseparable connected to regions, there are as many types of borders as there are types of regions. To understand the integration and interaction process it is useful to distinguish different dimensions and different levels of scale. To systematise these efforts a simple multi-scale/multi-sector matrix was
presented. The principle effort of border studies at this moment should be directed towards integrating the existing studies which concern all kinds of dimensions and different levels of scale.

A second conclusion is about the fact that formal boundaries often do not coincide with the perceived boundaries by organisations and individual citizens. Therefor a plea was made to incorporate a behavioural point of view in border-studies. As most studies concerning borders have national boundaries as subject, most of the time the problem is approached top-down. Theoretical concepts with regard to integration at the regional level are conceptualised at the national level and more or less superimposed on the regional level. The results, however, are not satisfactory. At this time more attention should be given to a bottom-up approach. This way for instance strategies derived from organisational literature concerning the function of organisational boundaries could be incorporated and translated to spatial boundaries.

References


