

Bisher erschienen in unserer Reihe:

- Heft 4: Arbeitskreis Leitbild (2003): Leitbildkonzept Hallt: Zukunft gestalten – Zukunft erhalten.
- Heft 5: Böhn, T. und Thomi, W. (2005): Knowledge Intensive Business Services in Regional Systems of Innovation – the Case of Southeast-Finland.
- Heft 6: Thomi, W. und Böhn, T. (2005): Standortstruktur und räumliche Entwicklungsdynamik der wissensintensiven, unternehmensbezogenen Dienstleistungen in Finnland.
- Heft 7: Henn, S. (2006): Evolution of regional clusters in nanotechnology. Empirical findings From Germany.
- Heft 8: Pink, M. (2006): Globale Portfoliodiversifizierung im Rahmen der Anlagestrategie offener Immobilienpublikumsfonds.
- Heft 9: Kranepuhl, S. und Ziervogel, D. (2007): Mental Maps als Instrument der Bürgerbeteiligung? Erfahrungen aus Einem Pilotprojekt in Leipzig.
- Heft 10: Glorius, B. (2007): Polnische Migranten in Leipzig. Eine transnationale Perspektive auf Migration und Integration.
- Heft 11: Knabe, S. (2007): Images großstädtischer Quartierstypen. Empirische Befunde aus Halle/S. und Leipzig.
- Heft 12: Pink, M.; Henn, S. (2007): Struktureller Wandel innerstädtischer Industriegebiete. Das Beispiel Halle-Ost.
- Heft 13: Ngui, D. (2008): Determinants of the Informal Sector Performance in the Semi-Arid Areas of Kenya: Evidence from Makueni District.

Hallesche Diskussionsbeiträge zur Wirtschafts- und Sozialgeographie

- Heft 14 -

Sebastian Henn u. Eric Laureys
(2008):

Bridging Ruptures
The Re-Emergence of the Antwerp Diamond
District after WW II

Heft 14 (November 2008)

Dr. S. Henn
Martin-Luther-Universität Halle-Wittenberg
Institut für Geographie
Fachgruppe Wirtschaftsgeographie
Von-Seckendorff-Platz 4
06120 Halle
sebastian.henn@geo.uni-halle.de

Dr. E. Laureys
Scientific and Technical Information Service (STIS)
of the Belgian Federal Science Policy Office
Blvd de l'Empereur 4
1000 Brussels
Belgium
Eric.Laureys@stis.fgov.be

Herausgeber: Prof. Dr. K. Friedrich, Prof. Dr. W. Thomi,
Institut für Geographie, Martin-Luther-Universität Halle-
Wittenberg

Verlag: Selbstverlag des Instituts für Geographie,
Martin-Luther-Universität Halle-Wittenberg, Halle

Erscheinungsweise: Unregelmäßig

ISSN 1618-2111

1 Introduction

“Diamonds love Antwerp” – these three words constitute the present slogan of the Antwerp World Diamond Centre, the organisation concerned with the promotion of the diamond trade and industry in the Scheldt city and keeping the latter an important diamond hub in the age of globalisation with new diamond centres evolving especially in low-cost countries like China and Thailand (The New York Times, May 31 2005; EVEN-ZOHAR 2006, 371ff.). In fact, diamonds seem to have loved Antwerp even in the past as the city has been a major centre for trading and polishing the precious stones since the 15th century (WALGRAVE 1993, 37). Despite some ups and downs there had not been any interruption of the commercial activities in this sector until World War II reached Belgium and trading as well as processing diamonds gradually were discontinued (LAUREYS 2005, chapter 5f). Surprisingly, however, the Belgian diamond sector experienced a long-lasting boom after 1945, contributing significantly to the country’s economic power even though the former infrastructure had partly been taken away or destroyed, many workers had fled, been deported or killed and other diamond centres had evolved during the years of the German occupation (VAN DYCK 1989). Given these aspects, the paper on hand addresses the question whether the window of locational opportunity arising after the abrupt break of the trajectory was restricted by past structures that actually have favoured the re-emergence of the cluster at its former location. By doing so, two aspects of conceptual interest are concerned as well: On the one hand, evolutionary literature up to now has emphasised chance as the major determinant of the emergence of regional trajectories thereby neglecting the underlying social processes. Furthermore, due to the concentration on concepts like path-dependency and lock-in potential ruptures in the development of clusters were only seldom taken into account yet (BATHELT/BOGGS 2005; 2003).

To address the mentioned issues the paper is structured as follows: First of all, the evolution of regional clusters will be discussed from a theoretical perspective. Though it will be stressed that the window of locational opportunity approach can be regarded as a sound theoretical basis for the explanation of the evolution of regional clusters (chapter 2), it will be highlighted that the concept tends to disregard strategic measures of actors trying to create a new trajectory intentionally. As such purposeful action, however, is expected to play an important role when overcoming a (temporary) rupture of a development path this must be regarded as a shortcoming of the concept (chapter 3). Having outlined the research design and methodology (chapter 4) the trajectory of the diamond district in Antwerp will be reconstructed (chapter 5) with special attention being paid to the factors having brought about the break of the path (chapter 6). Moreover, it will be shown that the war years can be regarded as a stage of shifting centres as they led to the development of new growth centres at different locations (chapter 7). Finally, the re-emergence of the former cluster structures will be discussed as an outcome of strategic actions and chance aspects, both of them limiting the degree of openness to the new window of locational opportunity (chapter 8). The article ends by summing up the most important results and shedding light on the need for further research (chapter 9).

2 Clusters as an evolutionary phenomenon

Whilst for long clusters were treated as quasi-stable entities showing certain positive impacts on their regional economic environment in terms of increase of local productivity, entrepreneurial activities and corporate innovativeness (COOKE 2001) with each of these aspects being analysed in a vast number of publications, recent research has shifted towards a more dynamic view allowing for clusters to underlie certain changes in the course of time (HENN 2008; DALUM et al. 2005, 231). Amongst the different concepts dealing with cluster dynamics (e. g. cyclical approaches), evolutionary approaches recently have attracted most interest. His-

torically, the evolutionary view is rooted in social sciences, in particular in evolutionary economics. Still at an early point of development, this field is yet not characterised by a consistent framework, but in fact combines a number of different approaches (SCHAMP 2002, 42) characterised both by their criticism of the neoclassical paradigm and by highlighting the relevance of economic change over time. In this context special attention has been paid to the concept of path dependency with its earliest precursors to be found in the 19th century (MARTIN/SUNLEY 2006, 3) and being re-introduced into modern economic thinking especially by the seminal works by DAVID (1985) and ARTHUR (1994). The key characteristic of a path-dependent process is that its outcome arises from its own history. More generally the long-term development of a system is considered to depend on its point of departure and interferences occurring during its history¹ with even minor accidents assumed to exert great influence on the process.² Referring this aspect to spatial issues, past technologies, organisational forms and schemes of interpretation have to be taken into account when trying to explain the evolution of locational patterns of an industry as these factors come to shape the present practices and actions of individuals and organisations along a certain regional development path (so-called trajectory). Up to now, different approaches have been developed to address these aspects: Stochastic approaches (see for example ARTHUR 1994) seek to explain the evolution of industrial patterns on the basis of mathematical models (e. g. polya urn experiments). Considering several shortcomings of these approaches (for a criticism see BOSCHMA 2007; BATHELT/BOGGS 2005), however, a different concept has been able to attract much more interest: The authors of the window of locational opportunity concept argue that new requirements cannot be met at any location for they are far too innovative and therefore yet have to be provided by the companies themselves. As there are no specific regions offering better conditions there is great freedom when choosing the location, usually referred to as “window of locational opportunity” (STORPER/WALKER 1989, 74). In a seminal refinement BOSCHMA (2007; 1997) suggests that industries do not really start from scratch but rather typically rely on certain generic factors a priori not being evenly spaced and therefore limiting the range of the window of locational opportunity. Accordingly, regions possessing these factors will, to a certain probability, contribute to the development of the said industry while in regions without them, development seems unlikely. However, this is not to imply, that the latter should be excluded from the analysis from the start: It can rather be assumed that these factors will develop by-and-by. In general, it therefore cannot be predicted where an industry forms; it can only be stated that the more regions are endowed with these generic factors the more the window of locational opportunity is open.

Once established, the development of the sites will vary since only a few of them will be able to develop into growth centres. Others, however, will stagnate, grow only slowly or even decline. In other words: By and by companies in certain locations gain competitive advantages over their competitors due to positive feedbacks. As soon as the latter exceed a certain threshold, the window of locational opportunity closes (STORPER/WALKER 1989, 86ff.) and selective growth patterns dominate.³ Moreover, during their life-cycle most industries tend to establish remote locations (growth peripheries). Depending on whether this happens for reasons

¹ A common and often cited example of the phenomenon of (technological) path-dependency illustrating it very well is the development of the typewriting keyboard (DAVID 1985): Although different studies showed that other keyboard arrangements proved more efficient, the QWERTY pattern established itself as the most common keyboard in the second half of the 19th century (GROTE 2004, 80ff.).

² Whether this implies, however, that the outcome of a path-dependent process can be inefficient is still under debate (see GROTE 2004, 84ff.).

³ While STORPER/WALKER (1989, 86ff.) assign this selection process to economies of scale, an improving technological infrastructure, the migration of qualified labour and increasing investment in recent years a closer examination of institutions and learning processes was brought to the fore as highlighted in the knowledge or learning-based cluster approach (WOLFE/GERTLER 2004, 1073; MASKELL 2001; MALMBERG/MASKELL 2002).

of expansion or cost reduction the former locations typically will be kept or closed. As an industrial development path finally comes to an end, a reorganisation of the respective industry is likely to take place leading to new windows of locational opportunity which favour the dislocation of the incumbents (stage of shifting centres). Such a shift is likely to occur as a continuous reaction to structural (loss of importance of certain industries), endogenous (rigid structures within the cluster) or exogenous factors (changes on the demand side, technological advance; ISAKSEN 2003, 262), but also as a consequence of a sudden, unpredictable rupture of the trajectory.

3 Strategic action and the re-emergence of regional clusters

Though the window of locational opportunity approach focuses on the dynamics of regional clusters from an evolutionary perspective it does not explain where (and why) a cluster forms initially as several authors criticise (e. g. BATHELT/GLÜCKLER 2002, 208; MOBIG 2000, 45); it rather traces the development of the different sites to chance aspects. In principle the consideration of chance clearly helps to avoid deterministic thinking when trying to understand the development of regional clusters. Furthermore, the emphasis of chance in the mentioned concepts has contributed to understanding an important aspect of cluster evolution, namely that the latter should not be regarded as logical outcomes of purposeful processes (MENZEL 2008; see for example FELDMAN/FRANCIS 2004 or ORSENIGO 2001 for studies concerning the failed development of clusters). However, at the same time referring to chance as a crucial factor of the emergence of clusters bears several shortcomings: First, models referring to chance as the main explanatory factor in general tend to neglect “contextual and causal processes and fail to explain why some apparently trivial events in some places are selected and become significant, whilst other similar chance events in other locations do not trigger the birth of new industrial trajectories” (MARTIN/SUNLEY 2006, 31). Second, chance does not constitute a basis for policy advices which is not unproblematic in a discipline increasingly aiming at shaping the policy debate (MENZEL 2008; MARTIN 2001). Third, when attributing the emergence of a cluster to chance a closer examination of the processes underlying its emergence is avoided resp. rendered impossible: The so-called “small events”, for example, are often regarded to be accidental while in fact they are a result of intentional action of single actors (SCHAMP 2000, 43) embedded in a certain social and technological environment (MARTIN/SUNLEY 2006, 32). Against this background it seems necessary to analyse empirically whether the emergence of the path in question can be attributed to purposeful or strategic action of relevant individuals.⁴ If so their actions and motives should be studied in more detail.

With reference to the evolution of technological paths GARUD and KARNØE (2001) were the first to discuss the role of strategic action from a conceptual perspective. They argue that “path dependence assigns too much weight to history; it inadequately characterizes the fragility of any path as it is produced and reproduced through micro level practices where social rules and artefacts are enacted“ (p. 8). Based on this view, they developed the concept of path creation departing from the path dependency-perspective in two main aspects: On the one hand, the authors argue that “entrepreneurs meaningfully navigate a flow of events even as they constitute them ... entrepreneurs attempt to shape paths in real time, by setting processes in motion that actively shape emerging social practices and artifacts, only some of which may result in the creation of a new technological field” (GARUD and KARNØE 2001, 3). On the other hand, they highlight the process of “mindful deviation” implying that entrepreneurs often have to change existing social practices, regulations or institutions. All in all, path creation thus highlights “the active role of the entrepreneur and the firm, for it is these actors that help

⁴ The notion here simply refers to any action in pursuit of an objective based on the conscious, rational calculation of likely actions of others.

shape the evolution of markets and the rules by which markets operate“ (STACK/GARTLAND 2005, 421). Regarding the relation between both concepts, PUFFERT (2000) stresses that purposeful action should not be regarded as an alternative to path-dependency, as the latter would make actors even more interested in starting a new path, based on their technologies and techniques. Furthermore, according to MEYER/SCHUBERT (2007) the driving force behind emerging paths should be situated on a continuum between unplanned processes on the one hand and intentionally controlled action on the other hand.

As the concept of path creation is introduced into geography, local actors (entrepreneurs, policy makers) (HASSINK 2007; MARTIN/SUNLEY 2006, 32) can be regarded as being able to exert influence on the emergence of development paths (for example by mobilising certain resources). Following MARTIN/SUNLEY (2006, 32) two kinds of mindful deviation can be distinguished in this context: First, there is an incremental form of path creation, implying that actors actively search for new solutions, i. e. processes, products, technologies etc. Second, there may be “critical junctures and large-scale events or shocks“ (ibid.) making agents shape new strategies.

While, in general, strategic action increasingly is taken into account (MENZEL 2008; MARTIN/SUNLEY 2006) as an element of path emergence, it has only seldom been subject to empirical analysis so far (see for example HASSINK 2007). Especially when referring to ruptures of cluster development caused, for instance, by wars, natural catastrophes or other historical events (PORTER 1990) with the cluster infrastructure being destroyed or the relevant actors intentionally or unintentionally hindered in carrying out their businesses it can be hypothesised that strategic actions is of relevance: First, based on past experiences actors formerly associated to the sector might be willing to use their power to reinvent the cluster structures for different (e. g. individual) reasons. Second, if the sector once had performed well, regional policy might be interested in re-developing the sector thus providing an adequate support to get it going again as soon as possible. Third, depending on the kind and duration of the rupture, some parts of a local knowledge base or infrastructure might still exist thus in principle facilitating a comparatively rapid growth of the sector. Given these aspects, it is assumed here that a (potential) window of locational opportunity occurring after a (short-term) rupture of a cluster trajectory is likely to be closed by strategic actions of the actors related to the former cluster trying to revive it.

4 Research design and methodology

To prove empirically whether this is the case the diamond district in Antwerp which has re-emerged after a short-term rupture in World War II will be used as an example. Unlike the majority of empirical work on clusters the study primarily makes use of historical methods: In detail, one of the authors was able to conduct searches in 34 different archives (amongst them the Archives Nationales in France, the Bundesarchiv in Germany and the National Archives and Records Administration in the US) throughout the years 1997-2003 to analyse the development of the diamond sector during the Nazi rule. The results of these inquiries also provide the basis for several publications (LAUREYS 2005; 2003a; 2003b). In addition, an in-depth study in the Antwerp City Archive (*Stadsarchief Antwerpen*) carried out in 2008 aimed at explaining the developments in the post-war era. More than 70.000 datasets of the *registers van aankomst en vertrek* (Registers of arrival and departure) covering the period 1948-1965 were analysed to shed light on the immigration of diamond people who contributed to the stabilisation of the resuscitated district. In doing so, a total of 1.186 diamond people could be identified as having migrated to Antwerp in the above mentioned period. Furthermore, the archive was searched for files documenting the re-emergence of the local diamond industry. Relevant dossiers could not only be found in the modern archive (*Modern Archief*) but also in

the Camille Huysmans mayor office archives (both belonging to the Antwerp City Archive) where the correspondence of the former mayor of Antwerp can be found. Since Jews play an important role in the history of the district (see also chapter 5), it was important to consider their role during the rupture and the re-emergence of the structures as well. In this context the authors were kindly provided with a list of all registered Belgian Jews dated from 1940 as well as with the lists of deportation to the concentration camps by the Jewish Museum of Deportation and Resistance in Mechelen. Given the kind permission of its owner, it was furthermore possible to make use of the Brachfeld Archive thus gaining valuable information on (the) Jews in the diamond trade. Finally, important insights into the rebuilding of the Jewish community also could be gained by several interviews with (former) diamantaires from Antwerp.

5 The trajectory of the diamond district until 1940

The history of the diamond sector in Antwerp dates back to the 15th century (WALGRAVE 1993, 37). The reasons for the location of the diamond trade in this harbour are to be found in an early chapter of globalisation: In the 14th century, Bruges traded Indian diamonds with Venice. With the Portuguese taking over the trade routes however, Venice was replaced by Lisbon as the main European trade centre. And as Bruges' sea access silted up in the course of the 16th century, the trade between the emerging commercial centre Antwerp and Lisbon started to rule out the connection Venice-Bruges. While for long the economic activities in the sector remained on a comparatively low level, the discovery of South-African diamond deposits in the 19th century provoked a massive influx of rough diamonds allowing for the employment of thousands of workers. Later, a significant strengthening of the institutional basis set in: Between 1887 and 1907 three unions were founded as a reaction to a rapid price collapse which had resulted in high unemployment rates in the sector. As a countermeasure the "Syndicate of the Belgian diamond industry" (*Syndicaat der Belgische Diamantnijverheid*), an employers' federation, was established in 1927. Moreover, the *Diamantclub* (established in 1893), the *Beurs voor Diamanthatel* (1904), the *Fortunia* (1910) and the *Vereniging voor Vrije Diamanthatel* (1911) were founded as so-called diamond bourses allowing the trade of diamonds to be carried out in an adequate manner (LAUREYS 2005, 84ff.; KINSBERGEN 1984, 94ff).⁵ Furthermore, in the 1930s different vocational schools with special foci on polishing were established for apprentices and unemployed people in Antwerp and its surroundings (LAUREYS 2005, 62f.). Last but not least, the sector was granted credit through specialised diamond banks such as the *Comptoir Diamantaire Anversois S.A.*⁶ resp. the *Amsterdamsche Bank voor Belgie* in 1934, both of them having an exclusive focus on the diamond sector (ADB 2008; LAUREYS 2005, 76f.). The continuous progress of the industry since the waning years of the 19th century is reflected in a growing number of employees: In 1908 there were around 66 working benches with 1.184 polishing wheels and around 1,500 employees in the district. During World War I the supply of rough was interrupted due to the occupation of the city. In 1920, however, the number of diamond workers in the Antwerp region amounted to approximately 20.000 workers, and in 1929 to about 27.000. When import prices rose due to the devaluation of the Franc in 1935, so did unemployment. The Great Depression of the thirties, however, resulted in a tangible, albeit temporary impact on the diamond industry. It was not unusual for polishing shops to close for several weeks in these days. In 1937 the number of workers fell to 13.312 while as a result of immigration waves just before the German occupation in 1940 there were about 23-25.000 diamond workers as well as 2.000 manufacturers,

⁵ Originally the trading took place in cafés close to the Antwerp central railway station (LAUREYS 2005, 58).

⁶ Since 1937 *Banque Diamantaire Anversoise S.A.*, also known as *Antwerpse Diamantbank N.V.* and Antwerp Diamond Bank N.V.

4.000 traders and 400 brokers in the district. Due to some overlaps, however, about 15.000 people can be assumed to be dependent on the diamond sector as a whole. Antwerp at this time accounted for cutting about 80 % of the world's diamonds (measured by value) (LAUREYS 2005, 48ff., 131ff.).

From a geographical point of view it should be stressed here that in these days the sector was centred around Antwerp with the strongest concentration in a small area close to the Antwerp main station. While larger stones were cut in the city, too, for different reasons its surroundings (so-called Kempen) since the turn of the century had become home to the fabricants of smaller stones (KINSBERGEN 1984, 138f.). Given the spatial concentration of specialised economic actors and activities, the cluster term can be applied here, though in view of the fact that both trade and processing were in the hands of tightly interconnected family owned businesses the notion of a "diamond district" following the works on industrial districts (MARKUSEN 1996; MARSHALL 1920) seems even more apt.⁷

For understanding the further course of the cluster trajectory it must not be unmentioned here that the development of the diamond sector has been closely connected with the local Jewish community since its beginnings (VERBRAECK 2008; VANDEN DAELEN 2006a, b; LAUREYS 2005, 48ff.).^{8,9} There are, however, differences depending on whether the trade or the processing of diamonds is considered: While 80-90 % of the bourse members were immigrated Jews, the largest share of the workers (estimated 80 %) was traditional of Flemish origin (LAUREYS 2005 48ff.; KINSBERGEN 1984, 104). Due to the strong Jewish influence in the sector, specific institutions were created in the course of time which are still relevant to the industry today: For instance, even though second generation immigrants mostly adopted the French language, Yiddish was to have some influence in the diamond district as indicated by the expression *mazl un brokhe* (good luck and blessing) which is still used when a deal is closed (VANDEN DAELEN 2006a, 3). Moreover, working rhythms are adapted to the Jewish calendar (the *luach*) and they are acknowledge by non-Jewish traders as well (for example the diamond bourses are still closed on Jewish holidays like *Yom Kippur*).¹⁰

6 The Nazi rule and the end of the trajectory

The looming war and the invasion of German troops into Belgium in May 1940 brought about some confusion into the Antwerp diamond world. While at first there were some uncertainties whether to stay in Belgium or to move abroad, it was finally decided to relocate the industry

⁷ However, industrial districts can be regarded as a special type of regional clusters (STERNBERG/LITZENBERGER 2004, 768; KOSCHATZKY 2001, 200).

⁸ See also the document prepared by E. Schmidt in the Brachfeld Archive (BE SA 7537).

⁹ VANDEN DAELEN (2006a, 2) lists several reasons for explaining the Jewish engagement in the diamond industry (for a more theoretical consideration see RICHMAN 2006): First, as immigrants, Jews often were looking for professions that did not require intensive trainings. Furthermore, they preferred jobs allowing for an adaptation of their working rhythms to their religious practices. In fact, a closer analysis of the *Jodenregister* (Registry of Jews) dated 1940 shows that most of the Jews had worked as diamond cutters (40.7 %). In other words, jobs that easily could be carried out in a very flexible way at home or in small workshops allowed for the practice of religious rituals.

¹⁰ Traditionally, and mostly after World War I, established diamond dealers expressed themselves in French which was also the dominant language in the diamond bourses whilst Jewish diamond people of Dutch origin sticked to Dutch. Recent immigrants or less educated diamond workers however, still spoke Yiddish which they had spoken in Eastern Europe (TEITELBAUM-HIRSCH 2001, 42; Interview with David Urlik, former president of the Vrije Diamanthatel, Antwerpen, 26 March 2002; Interview with Nathan Ramet, Member of the board of the Diamantclub van Antwerpen, Chairman of the Museum for Deportation and Resistance in Malines, 1 October 2008).

in Cognac, France.¹¹ In fact, around 5.000 people, most of them Jews, moved there (LAUREYS 2005, 158). For different reasons however, the establishment of the refugees in France proved difficult. As a consequence a new escape wave set in resulting in two types of refugees. A first group moved overseas mainly to the UK, the USA, Cuba, South Africa, Brazil and Palestine (LAUREYS 2005, 163ff.; 2003a, 181ff.) and started new businesses there. These refugees often benefited from support from relatives and friends of the Jewish Diaspora. A second group decided to go back to Antwerp, the more so as many of them were persuaded to do so by the German occupants.¹² It has to be mentioned, however, that not all diamond people had fled. Indeed, most of the fabricants and workers of Belgian origin had stayed in Belgium hoping that the Germans would allow their activities to be continued (LAUREYS 2005, 163ff.).

All diamond people, whether they had stayed in Antwerp or returned from France were soon put under German military control. Shortly after that, several measures taken by the Germans not only led to a reorganisation of the sector but resulted in a complete discontinuation of the commercial activities in 1942 (LAUREYS 2005, 224ff.; 2003b). First, intermediaries like brokers were excluded because their business was not only regarded to be clearly Jewish but also to contribute to price increases. Second, only people who had been active in the diamond trade for at least ten years were allowed to continue their activities.¹³ Third, in 1941 organised raids were carried out in two of the diamond bourses by the Devisenschutzkommando and the Sipo-SD (see also VANDEN DAELEN 2006b, 104f.). Fourth, the traders' stocks were confiscated in three stages. Fifth, the Germans removed about 2.500 workbenches from the largest 10 companies while smaller machinery for about 10.000 workers were left untouched (The New York Times, 11.09.1944; 07.09.1944). Moreover, large numbers of qualified workers were deported to Germany for compulsory labour. The measures by the Nazis culminated in the deportation of nearly 65 % of the Antwerp Jewish population to the concentration camps, among them 984 diamond people as a closer analysis of the deportation reveals. Given the fact that in addition many people died due to enemy actions all in all it can be assumed that 40 percent of the city's diamond dealers and about 15 % of the workers were killed during the war (The New York Times, 27.03.1960).

The gradual reduction of the trading activities alluded to ??? above is well illustrated by the decrease of the number of members of the bourses: In 1941, 1.533 members were registered at the Diamantclub, the most important diamond bourse in Antwerp in those days; in 1944 only 339 were left. At the same time, however, the number of absent members rose from 0 to 1.159 (see table 1). The number of members of the *Beurs voor Diamanthandel* decreased from 1.654 in 1939 to 355 in 1945 (BEURS VOOR DIAMANTHANDEL 1979, 27). Despite missing data it can be assumed that, except for Fortunia which did not have any Jewish members, the other bourses met the same fate.

¹¹ Cognac was (among other things) chosen as a location because it was assumed that the German armies would not advance in much the same way they did in WW I – a surrender of France had not been expected. Furthermore, it can be assumed that the peripheral town was only selected as a refuge because a cosmopolitan and wealthy group of Jewish diamantaires would not settle there indefinitely, thus increasing the probability of their return to Antwerp (LAUREYS 2005, 156; JACK 1941, 112).

¹² The Germans at first were interested in keeping the Antwerp diamond industry alive for several reasons: On the one hand, diamond export provided a hard currency which was needed to import raw materials into Germany; on the other hand, industrial diamonds had a high strategic value. As LAUREYS (2003b, 59ff.) points out that, being well aware that the diamond industry was in Jewish hands to a large extent, the Germans did not push for anti-Jewish measures at the beginning of the occupation but tried to recover the stocks the refugees had taken with them. This “friendly” behaviour of the Germans, however, changed around 1941 when stocks were consigned by the Germans. As the USA entered the war and hopes for more diamond dealers to return to Antwerp dwindled, the Germans started considering the implementation of a “final solution to the Jewish problem” in the diamond industry as well.

¹³ As many Jews had arrived in the 1930s this step clearly can be regarded as an anti-Jewish measure, too (LAUREYS 2003b, 63).

Table 1: Members of the Diamantclub (1941-1944)

	1941	1942	1943	1944
Number of Members	1.533	699	683	339
Number of Members abroad	0	822	1.161	1.159

Source: Own calculations based on data from the Antwerp City Archive, BA0041.

The diamond processing industry also suffered under the German occupation, however in a rather indirect way: The allies did not want the Nazi regime to take possession of diamonds which were of strategic importance to the war industry and thus had ceased the supply of raw diamonds to foreign countries immediately after the German attack on Poland in 1939 (see also JACK 1941, 111f.). Due to the lack of rough stones to be polished the industry gradually wasted away: From 15.000 workers being active in the sector in 1940, only 2.000 remained in March 1941 resp. 1.000 in July 1940. A mandatory diamond deposit eventually hailed the end of the industrial activities, too (LAUREYS 2005, 236).

7 Shifting centres

Many of the refugees had left Belgium with their stocks trying to resume their activities overseas both in diamond trade and processing. In addition, the rise of the new diamond centres was encouraged by the gradual fading-away of their former main competitor Antwerp due to the reasons mentioned above. Both aspects imply that a new window of locational opportunity had opened making the industry pass through a development that resembles the stage of “shifting centres” as suggested by STORPER/WALKER (1989). To be precise, the refugees mainly were attracted to two locations (see Table 2): In the United States where many diamond dealers emigrated, the number of diamond workers rose from 350 (pre-war) to 4.000 in 1945. Up to 70-80 % of the world diamond production was to be found there after the war.¹⁴ The share of sales even rose from approx. 75 % (pre-war) to 85 % in 1948. At least the polishing industry in Palestine (after 1948 Israel) – the destination of many Zionist Jews hoping to contribute to the emerging Jewish state – experienced a similar development with the number of enterprises rising from 4 in 1939 to 45 in 1947 (SZENBERG 1973, 20). Similarly, the number of polishers increased from 200 just before to about 3.800 after WW II and to approximately 8.000 in 1965¹⁵. Finally, the UK gained in importance, too: On the one hand, it became home to some industrial activities; on the other hand, the Correspondence Office for the Diamond Industry (COFDI) was established in London by the Antwerp mayor Camille Huysmans and the prominent diamantaires Romi Goldmuntz and Herman Schamisso in October 1940 to support the former Antwerp diamond community during the war (for example by returning diamonds to refugees that had been confiscated by different states) (LAUREYS 2005, 164f.).

¹⁴ However, data concerning the exact number of diamond workers are inconsistent. One source, for example, points out, that in 1948 there were about 3.500 diamond cutters (The New York Times, 09.05.1948), while another one assumes about 800 diamond workers for the same year (SZENBERG 1973, 20).

¹⁵ Volksgazet, 25.02.1965.

Table 2: Number of diamond workers by country before the war and in 1945

	Pre-war	1945
USA (without Puerto Rico)	350	4.000
South Africa	150	600
Brazil	---	4
Cuba	---	2
Canada	---	300
UK	10	750
Puerto Rico	---	1,5
Palestine / Israel (since 1948)	200	3.800

Source: Antwerp City Archive, letter from Romi Goldmuntz to Camille Huysmans, 25/08/1945 concerning the activities of COFDI (MA-KAB 1723).

8 Closing the window by strategic action

Yet before the war was over it was assumed that Antwerp would soon recover as a major trading hub, not only because tools and machinery were expected to be reinstalled quickly but also because of the “big potential demand for Antwerp types of cut gems” (The New York Times, 11.09.1944), i. e. smaller stones (so-called Melee) that could not be worked upon in New York for the labour costs were too high (JACK 1941, 112).¹⁶ This, however, is only one part of the story. Rather, as will be outlined in the following, strategic actions taken by a few key actors who were involved or closely connected to the diamond business and provided strongly needed resource (diamonds, tools and labour) were most relevant for the continuation of the pre-war structures and the closure of the window of locational opportunity that was open at this time.

8.1 Generating advantages on the supply side

The evolution of the new growth centres was a major threat to the re-emergence of the Antwerp diamond district that was desired not only by some Belgian policy makers but also by people from the diamond sector. For this reason COFDI had started looking for a solution thereby taking some particularities of the sector into account: Since the late 19th century the diamond industry had been characterised by cartel structures. By merging different smaller South African companies the “De Beers Consolidated Mines Ltd.” was founded in March 1888 controlling a vast share of the produced rough diamonds (the evolution of the diamond cartel is subject to many publications – see for example CAMPBELL 2003, 99ff.; CARSTENS 2001 – and therefore will only be outlined here). By-and-by the company managed to acquire different mines which started selling their stones to a London based de Beers subsidiary known as the Diamond Corporation Ltd (Dicorp). De Beers also managed to persuade outside

¹⁶ At the same time, however, it was feared that Antwerp would relieve the wartime shortage of smaller gems thus contributing to a fall of the prices for larger stones as well (The New York Times, 07.09.1944; see also The New York Times, 11.09.1944). Given the shortage of diamonds and diamond workers outside Europe, the supply of diamonds was greatly restricted in the period between 1940 and 1945. As a consequence prices had risen strongly. By taking up activities in Belgium again, it was assumed that the costs for cutting and polishing would decrease. In any case it could be expected that the supply of diamonds would increase and prices would fall (The Times, 10.10.1944).

diamond mining companies to sell their production via Dicorp, thus sparing them the establishment of an expensive distribution system. As a consequence, the company gained control over about 80 to 85 percent of the world's production of rough diamonds.¹⁷ Besides that, De Beers also centralised the distribution of raw diamonds through a unique system (effective until 1979): Approximately ten times a year, the Diamond Trading Company Ltd., a sister company of Dicorp, organised so-called sights in London (UK), Lucerne (Switzerland) and Kimberley (South Africa) where a certain amount of diamonds was offered at a fixed price (approximately 75 % of the market wholesale price) to only a small number of exclusive buyers (so-called sightholders) who had proven to be financially stable and loyal. Once a sightholder would not agree with the offer he was not invited again (LEGRAND 1991, 188f.; KINSBERGEN 1984, 68ff.).¹⁸

Given De Beers' control over the distribution of rough diamonds, it was obviously important to convince the company to favour Antwerp's rough supply if the city was to regain its competitive edge. Three factors actually persuaded De Beers to do so: The relevance of diamonds mined in the Congo, the renewal of a supply contract between the company mining the stones in Congo and the desire of the Dicorp not to lose its influence on the market action.

During the war, approximately 80 % of the world's raw diamonds were extracted in the Congo which at the time was a Belgian colony. The majority of the stones were industrial grade (KINSBERGEN 1984, 45f.). The mining was carried out by the Forminière company (*Société Internationale Forestière et Minière du Congo*) with the Belgian government being its main shareholder. Forminière distributed its production through De Beers' London operation, based on a contract dated 1926 (LAUREYS 2005, 40, 71ff.). In 1942 this contract had to be renewed. The Belgian government was very keen on the restoration of the diamond district once the war was over – it had accounted for 6 % of Belgian export before 1940 – and successfully negotiated the inclusion of a clause into the new contract specifying that large amount of cuttable raw diamonds should be reserved for the post-war diamond industry in Belgium. This matter had been brought to the Belgian government's attention thanks to COFDI's relentless lobbying. In return, Forminière committed to supply the allies at advantageous prices hoping that this might stimulate a continued demand for industrial diamonds after the war. Last but not least, the mentioned measures only were possible as De Beers was interested in a long-term binding of Forminière in order to keep its influence on the diamond market. As a consequence, the cartel was willing to compromise with its contractual partners (LAUREYS 2005, 285ff.).

In addition to these measures being highly important as a kind of initial spark¹⁹ for the re-emergence of the district, COFDI also succeeded in convincing De Beers to reduce or even stop the rough supply (LAUREYS 2005, 300) to Brazil, Mexico and Cuba – where only well established companies would be supplied. In addition, the supply of Palestine and to India was temporarily ceased for strategic reasons: It was feared that the enemy could get a hold of the stones through Palestine-Syria-Turkey resp. India-Japan (ibid.; JACK 1941, 111f.). All in all it becomes apparent, that through its strategic action, COFDI was able to contribute to closing the window of locational opportunity by securing a brilliant post-war position for Antwerp in terms of supply and thus outnumbering the other centres.

¹⁷ The rest of the production was sold by the mining countries which benefited from the stability of the market (LEGRAND 1991, 188).

¹⁸ According to LAUREYS (2005, 40) shortly before the war about 300 sightholders were specialised jewellery diamonds and 30 in industrial diamonds.

¹⁹ Though different files (e. g. MA-KAB 1723, summary of the Recovery of the Belgian diamond industry) point out, that the first deliveries from London were not sufficient – neither in quantity nor in quality (see also LAUREYS 2006, 378) – they actually were of great importance because they generated thousands of jobs (VANDEN DAELEN 2006b, 113) (see also the next chapter).

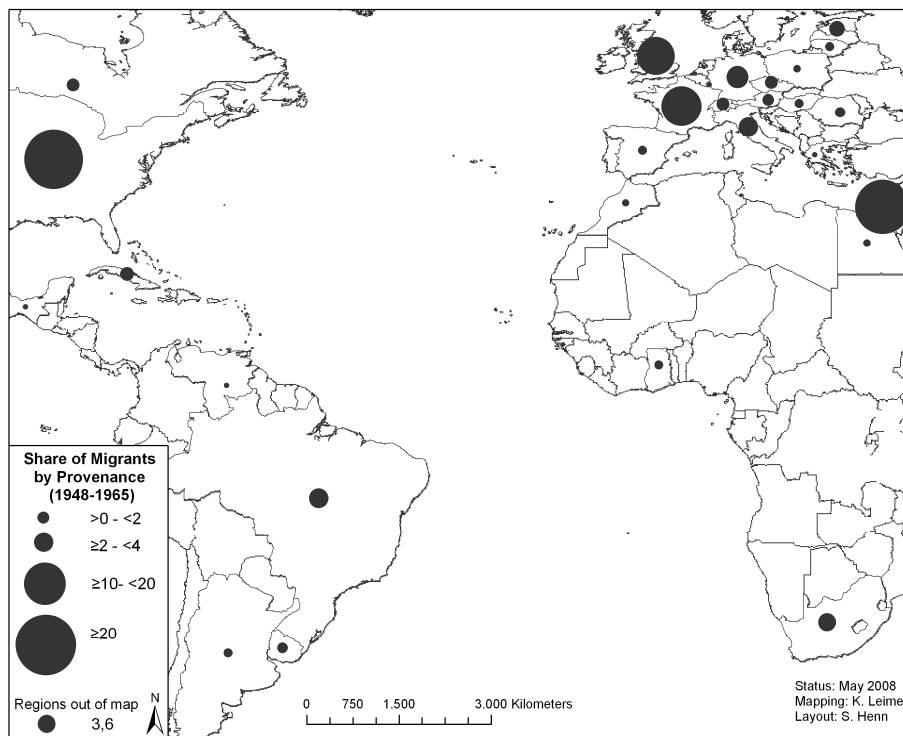
8.2 Recovery of labour

The worldwide dispersal of the diamantaires from Antwerp was regarded as another major problem in view of the potential attempt at resuscitation of the cluster structures. Against this background, yet during the war COFDI started to encourage the return of the fugitives through material and psychological incentives. Already in 1941 Goldmuntz and Huysmans had tried to convince the London based Belgian government in exile to contact different organisations related to the diamond industry, especially the ones located in New York in order to trigger a friendly attitude towards Antwerp. In addition, the organisation implemented several measures aiming at a quick recovery of labour after the war. In principal, they can be classified in two categories: The first one consists of general reparation measures such as the granting of transport benefits, the Belgian nationality, visas and the compensation for war damages. Personal assets were repatriated, apartments and furniture were resituated to the pre-war owners. Not unimportantly, the fight against anti-Semitism was of particular concern to Belgian and Antwerp authorities, too. The second category of measures was meant to rekindle business activities in the diamond sector: supply of rough stones, fiscal and financial advantages and support from the authorities when establishing business contacts. While at first the refugees tended to reject any thought of going back, many of them changed their minds with the first allied military successes in 1942 and with COFDI having successfully achieved to restrict the rough supply to the new centres (see above). All in all, however, convincing the diamond people to come back must be considered as one of the hardest challenges with regard to the recovery of the former structures (VANDEN DAELEN 2006b, 108ff.).

Though most of the measures referred to emigrants in the US (VANDEN DAELEN (2006b, 112) consulting the foreigner files for the period between 1948 and 1965 suggest that they might also have attracted people from other countries: Map 1 shows that the vast majority of the diamond workers coming to Antwerp in fact returned from those states having experienced the strongest immigration before, with the US and Israel but also France and the UK being most relevant.²⁰ Another important aspect is that according to the files many of the returning diamantaires were born in the Southern Carpathian region and – regarding their names – can (with caution) be considered Jews. It can be assumed that the above mentioned pull-factors (chapter 6) were effective as a kind of subsidiary factor for them: In many cases, an entry into the sector was rendered possible by different features of the district in these days. First, neither diploma nor any other certificates were required for a job in the diamond industry. Second, in many cases Jews took on jobs in sectors with limited government control for they often had temporary or no work permits. Actually the Belgian government adopted a very liberal attitude towards the diamond business and there were not as many formal rules as in other trades (VANDEN DAELEN 2006a, 2). This also allowed new immigrants to take up just a temporary profession in the diamond trade to get around until they left by ship for relatives in the US.

²⁰ Comparing the *Jodenregister* with the immigration files, however, it becomes obvious that only a minor part of the pre-war Jews actually returned to Antwerp. To be exact, only 32 persons could be identified as having lived in Antwerp before WW II and having immigrated after 1948. This number, however, for several reasons may be lower than the actual number: First, the immigration files only start in 1948 so that people who were repatriated between 1944 and 1948 could not be accounted for. Second, people may have gained Belgian nationality in a municipality outside Antwerp and thus were not registered as immigrants to the city. Third, people might not have registered in Antwerp but in a different municipality.

Map 1: Migrants to the Antwerp diamond district by Provenance (1948-1965)



Source: Own depiction based on the analysis of immigration files of the city archive of Antwerp (N=1,186).

8.3 Chance and other factors

Besides the COFDI-initiatives, emotional aspects (“homesickness”) surely may have made some people come back to where they had lived before, too.²¹ Furthermore, the migration to the district was favoured by factors that could not be influenced by the local actors. In a sense, these aspects could be termed as “chance”: According to VANDEN DAELEN (2006b, 114) the sector experienced a considerable growth after the first deliveries of stones, mainly triggered by the resumption of exports to the US. This, in fact, convinced some refugees to return. Moreover, during the Korean War (1950-1953) the United States were interested in the compilation of a strategic stockpile. Some Antwerp diamantaires succeeded in towing this market to them which resulted in a massive influx of capital to the city and thus attracted other diamond dealers to the location as well (LAUREYS 2005, 378). A different development was of importance in these years, too: Since the 1950s the Dutch diamond district, a traditional competitor to Antwerp, had been struggling. Efforts were made to restart the industry and an international consulting company was commissioned to analyse and suggest ways to improve the local quality and production. This in turn resulted in a strike in 1954 marking the final curtain of the Dutch diamond industry and encouraging many of its employees to move to Antwerp (Interview with Hans Wins, former De Beers PR manager in Antwerp, 16.04.2008). In fact, the analysis of the immigration files suggests that 9 % of the 1.186 identified diamond people moving to Antwerp in the period between 1948 and 1965 came from the Netherlands. Finally, the re-emergence of the structure was facilitated by the availability of parts of the former cluster know-how resp. infrastructure as well as by supporting factors external to the

²¹ One diamond-finisher quoted in the Sunday Express from October 1st, 1944, said: “One thing we don’t like – the Welsh Sunday. Nothing to do but sit and think of the Continental Sunday, with all the pubs, cinemas, theatres and other places open to give people full enjoyment on their one full day free from work”.

local actors but acting in the same line: In fact many of the diamond workers were of autochthonous Flemish origin and thus had not been persecuted during the war. In other words: The knowledge how to cut and polish a diamond was still to be found in the region. In addition, although some of the machines had been taken away by the occupants, most of the infrastructure was still available thus facilitating a recovery of the pre-war-activities. In the end, the above mentioned immigration of Jews to Antwerp was facilitated by another aspect: Due to some new anti-Semitic actions many Jews, especially from Poland but also from Russia and Czechoslovakia fled from their countries to Belgium which was known for the liberal attitude of its government. Many of them started as unskilled workers cleaving the stones (Interview with Hans Wins, 16.04.2008; Interview with Yvan Verbraeck, long-time editorial journalist for the Syndikaat der Belgische Diamantnijverheid, 2008).

All in all, together with the COFDI initiatives the mentioned aspects resulted in a “selective clustering” as reflected in the number of diamond workers: On April 1st 1945, there were 3.480 cleavers, cutters and polishers, in May 1946 their number had grown to considerable 13.570 (KINSBERGEN 1984, 105).

9 Conclusion

While Antwerp for a long time had been a prospering diamond centre, different measures taken by the German military administration led to a complete discontinuation of all activities related to the sector in 1942. Many of the diamantaires who were able to flee started new businesses abroad heralding a stage of shifting centres. The development of these new locations, however, was restricted by different measures mainly initiated by some actors from the former district in Antwerp. Some aspects deserve closer consideration in this context:

First, the outlined actions were carried out by only a few sector related actors whether they were business people like the diamantaires Romi Goldmuntz and Herman Schamisso, representatives of the colonial diamond extraction company Forminière or politicians like Camille Huysmans. Here we find convergence with other studies implying the high relevance of key persons in the process of the evolution of regional clusters (see for example ZUCKER et al. 1998 for the impact of key scientists on the emergence of clusters). The success of the above mentioned people was primarily due to their monetary power (financing of COFDI and its initiatives) but also due to their power and influence based on their relations (to the Belgian Government, to De Beers but also to the diamond diaspora).²² In this context it should not be hidden that some actors may also have benefited individually from their actions.²³

Second, it seems obvious that the mentioned measures were only taken because the actors in question were convinced of the fact that the rupture was not only of temporary nature but would eventually allow for a quick recovery of the former structures. In other words: Though not verifiable it is hard to imagine that similar steps would have been taken if the respective actors had expected the Nazi rule to last for a longer time. This line of reasoning is partly reflected in the evacuation of the diamond people to Cognac which was believed to be only a temporary hideaway.

Third, since the diamond sector was of great importance to the Belgian pre-war economy, strategic actions by the business people were explicitly supported by decision makers in government who hoped to contribute to a quick recovery of the industry in order to create new

²² See MOSSIG (2006, 92f.) for different concepts of power.

²³ Camille Huysmans, for example, had been mayor of Antwerp between 1933 and 1940. Given the fact that several thousand people were dependent on the local diamond industry at this time it can be assumed that aspects like the maximisation of votes and the recovery of political positions after the next elections influenced his course of action.

opportunities for income and employment. This not only highlights the relevance of policy support when trying to revive cluster structures but also suggests that the new trajectory in a way can be regarded as an expansion of the former successful path.

It would be wrong, however, to consider only strategic action as a factor leading to the re-emergence of the former structures. Obviously, this process should rather be attributed to a mixture of both strategic action and “accidental” events that could not be influenced by local actors but were nevertheless related to the further developments (see also MEYER/SCHUBERT 2007). For instance, as explained above, the growth of the cluster structures in Antwerp was also facilitated by the Korean War, resp. the demise of the Amsterdam diamond industry as well as anti-Semitic sentiments in Eastern Europe – aspects that were out of reach to the local actors but actually had a deep impact on the further development of the sector. In general, this suggests that chance should be regarded as a factor opening up certain “spaces” for strategic actions (like the renewal of the contract between Forminière and De Beers suggests).

Detaching the study from the context of the Antwerp diamond district the results show that the re-emergence of regional clusters should not only be regarded as a mere outcome of chance aspects but that strategic considerations of different actors should be interpreted as triggering factors that might be able to lead to an early closure of potential windows of opportunity. All in all these findings ask for a deeper consideration of the micro-processes (human actions) underlying the (re-)emergence of regional clusters instead of only focussing on macro-economic factors, certain regional features or sector statistics. To prove the relevance of human actions, further research on the re-emergence of spatial structures is necessary (e. g. the airship industry in Friedrichshafen, Germany). Furthermore, though it seems possible to generate cluster structures intentionally (see for example the case of Sophia Antipolis; see MENZEL 2008), evidence suggests that the development of a cluster is likely to fail when only based on purposeful action (FELDMAN/FRANCIS 2004 or ORSENIGO 2001). This raises the question whether strategic action is important for the re-emergence of regional clusters whilst the initial evolution of a cluster is mainly determined by different factors.

Literature

- ADB [Antwerp Diamond Bank] (ed.) (2008): History. URL: http://www.antwerpdiamondbank.com/index.php/ADB_en/profile/5,08/05/2008.
- ARTHUR, W. B. (1994): Increasing returns and path dependence in the economy. Ann Arbor.
- BATHELT, H.; BOGGS, J. (2003): Towards a Reconceptualization of Regional Development Paths: Is Leipzig's Media Cluster a Continuation of or a Rupture with the Past? In: *Economic Geography* 79 (3), 265-293.
- BATHELT, H.; BOGGS, J. (2005): Continuities, Ruptures and Re-bundling of Regional Development Paths: Leipzig's Metamorphosis. In: FUCHS, G.; SHAPIRA, P. (eds.): *Rethinking Regional Innovation and Change: Path Dependency or Regional Breakthrough?* New York, 147-170.
- BATHELT, H.; GLÜCKLER, J. (2002): *Wirtschaftsgeographie. Ökonomische Beziehungen in räumlicher Perspektive.* Stuttgart.
- BEURS VOOR DIAMANTHANDEL (ed.) (1979): *Diamantbeurs 75 Jaar. 1904-1979.* Antwerpen.
- BOSCHMA, R. A. (1997), New Industries and Windows of Locational Opportunity. A Long-Term Analysis of Belgium. In: *Erdkunde* 51 (1), 12-22.
- BOSCHMA, R. A. (2007): Path Creation, Path Dependence and Regional Development. In: SIMMIE, J. (ed.): *Path Dependence and the Evolution of City Regional Economies. Papers Presented at a Workshop at St. Catharine's College, Cambridge University, Cambridge 11 September 2007.* Oxford, 40-55.
- CAMPELL, G. (2003): *Blood Diamonds. Tracing the Deadly Path of the World's Most Precious Stones.*
- CARSTENS, P. (2001): *In the Company of Diamonds. De Beers, Kleinzee, and the Control of a Town.* Athens (Ohio).
- COOKE, P. (2001): Clusters as Key Determinants of Economic Growth: The Example of Biotechnology. In: MARIUSSEN, A. (ed.): *Cluster Policies – Cluster Development?* Stockholm (=Nordregio Report 2001:2), 23-38.
- DALUM, B.; PEDERSEN, CHRISTIAN Ø.R.; VILLUMSEN, G. (2005): Technological Life-Cycles: Lessons from a Cluster Facing Disruption. In: *European Urban and Regional Studies* 12 (3), 229-246.
- DAVID, P. A. (1985): Clio and the Economics of QWERTY. In: *American Economic Review* 75 (2), 332-337.
- EVEN-ZOHAR, C. (2006): *From Mine to Mistress. Corporate Strategies and Government Policies in the International Diamond Industry.* Edenbridge.
- FELDMAN, M. P.; FRANCIS, J. L. (2004): Homegrown Solutions: Fostering Cluster Formation. In: *Economic Development Quarterly* 18 (2), 127-137.
- GARUD, R., KARNØE, P. (2001a): Path Creation as a Process of Mindful Deviation. In: GARUD, R.; KARNØE, P. (eds.): *Path Dependence and Creation.* London, 1-38.
- GROTE, M. (2004): *Die Entwicklung des Finanzplatzes Frankfurt. Berlin (=Untersuchungen über das Spar-, Giro- und Kreditwesen).*
- HASSINK, R. (2007): Path Creation in City Regional Economies: The Case of the Computer and Video Game Industry in Seoul. In: SIMMIE, J. (eds.): *Path Dependence and the Evolu-*

- tion of City Regional Economies. Papers presented at a workshop at St. Catharine's College, Cambridge University, Cambridge 11 September 2007. Oxford, 75-85.
- HENN, (2008): Formierung und Wirkungsgefüge regionaler Technologiecluster. Das Beispiel Nanotechnologie im Saarland und in Berlin-Brandenburg. In: *Zeitschrift für Wirtschaftsgeographie* 52 (2-3) (in print).
- ISAKSEN, A. (2003): 'Lock-in' of Regional Clusters: The Case of Offshore Engineering in the Oslo Region. In: FORNAHL, D.; BRENNER, T. (eds.): *Cooperation, Networks, and Institutions in Regional Innovation Systems*. Cheltenham, Northampton, 247-273.
- JACK, A. (1941): Nervous Ice - The World's Diamond Trade Flees the War. In: *Saturday Evening Post*, 19.04.1941, 105-117.
- KINSBERGEN, A. (1984): *Antwerpen, Briljant aan de Top in de Diamantwereld*. Antwerp.
- KOSCHATZKY, K. (2001): *Räumliche Aspekte im Innovationsprozess. Ein Beitrag zur neuen Wirtschaftsgeographie aus Sicht der regionalen Innovationsforschung*. Münster [a. o.] (=Wirtschaftsgeographie 19).
- LAUREYS, E. (2003a): De Joodse Diamantdiaspora en de Antwerpse Diamantindustrie 1940-1945. In: *Thuisfront. Oorlog en economie in de Twintigste Eeuw*. Zutphen, 179-191 (=Jaarboek van het Nederlands Instituut voor Oorlogsdocumentatie Amsterdam 14).
- LAUREYS, E. (2003b): The Plundering of Antwerp's Jewish Diamond Dealers, 1940-1944. In: Center for Advanced Holocaust Studies (ed.): *Symposium Proceedings of Confiscation of Jewish Property in Europe 1933-1945. New Sources and Perspectives*. Washington, 57-74.
- LAUREYS, E. (2005): *Meesters van het Diamant. De Belgische Diamantsector Tijdens het Nazibewind*. Tielt.
- LEGRAND, (1991): Die Central Selling Organization. In: MAILLARD, R. (ed.): *Der Diamant. Mythos, Magie und Wirklichkeit*. Erlangen, 188-189.
- MALMBERG, A; MASKELL P (2002): The Elusive Concept of Localization Economies: Towards a Knowledge-Based Theory of Spatial Clustering. In: *Environment and Planning A* 34 (3), 429-449.
- MARKUSEN, A. (1996): Sticky Places in a Slippery Space: A Typology of Industrial Districts. In: *Economic Geography* 72 (3), 293-313.
- MARSHALL, A. (1920): *Principles of Economics*. Philadelphia.
- MARTIN, R. (2001): Geography and Public Policy: The Case of the Missing Agenda. In: *Progress in Human Geography* 25 (2), 189-210.
- MARTIN, R.; SUNLEY, P. (2006): Path Dependence and Regional Economic Evolution. In: *Journal of Economic Geography* [Advance Access published 5 July 2006], 1-43.
- MASKELL, P. (2001): Towards a Knowledge-based Theory of the Geographical Cluster. In: *Industrial and Corporate Change* 10 (4), 919-941.
- MENZEL, M.-P. (2008): Zufälle und Agglomerationseffekte bei der Clusterentstehung. Eine vergleichende Diskussion des Core-periphery-Modells, des Window of locational opportunity-Konzepts sowie stochastischer Ansätze. In: *Zeitschrift für Wirtschaftsgeographie* 52 (2-3) (in print).
- MEYER, U.; SCHUBERT, C. (2007): Integrating Path Dependency and Path Creation in a General Understanding of Path Constitution. The Role of Agency and Institutions in the Stabilisation of Technological Innovations. Berlin (=Science, Technology & Innovation Studies 3).

- MOBIG, I. (2000): Räumliche Konzentration der Verpackungsmaschinenbau-Industrie in Westdeutschland. Eine Analyse des Gründungsgeschehens. Münster [a. o.] (=Wirtschaftsgeographie 17).
- MOSSIG, I. (2006): Netzwerke der Kulturökonomie. Lokale Knoten und globale Verflechtungen der Film- und Fernsehindustrie in Deutschland und den USA. Bielefeld (GlobalStudies).
- ORSENIGO, L. (2001): The (Failed) Development of a Biotechnology Cluster: The Case of Lombardy. In: Small Business Economics 17 (1/2), 77-92.
- PORTER, M. (1990): The Competitive Advantage of Nations. London.
- PUFFERT, D. (2000): Path Dependence, Network Form and Technological Change. Paper Presented at the Conference to Honour Paul David—History Matters: Economic Growth, Technology, and Population, Stanford University.
- RICHMAN, B. D. (2006): How Community Institutions Create Economic Advantage: Jewish Diamond Merchants in New York. Durham (North Carolina) (=Harvard Law and Economics Discussion Paper 384).
- SCHAMP, E. W. (2000): Vernetzte Produktion. Industriegeographie aus institutioneller Perspektive. Darmstadt.
- SCHAMP, E. W. (2002): Evolution und Institution als Grundlagen einer dynamischen Wirtschaftsgeographie: Die Bedeutung von externen Skalenerträgen für geographische Konzentration. In: Geographische Zeitschrift 90 (1), 40-51.
- STACK, M.; GARTLAND, M. (2005): The Repeal of Prohibition and the Resurgence of the National Breweries. Productive Efficiency or Path Creation? In: Journal of Management History 43 (3), 420-432.
- STERNBERG, R./LITZENBERGER, T. (2004): Regional clusters in Germany – their geography and their relevance for entrepreneurial activities. In: European Planning Studies, 12 (6), 767-791.
- STORPER, M.; WALKER, R. (1989): The Capitalist Imperative. Territory, Technology, and Industrial Growth. Oxford.
- Sunday Express (OCTOBER 1 1944): 'Red-Tape' may Rob Britain of a Trade.
- SZENBERG, M. (1973): The Economics of the Israeli Diamond Industry. New York.
- TEITELBAUM-HIRSCH, V. (2001): Diamantaire. L'Univers & les Coulisses d'une Passion. Brussels.
- The New York Times (September 07 1944): More Diamonds Due Freeing of Antwerp is Expected to Reopen Huge Market.
- The New York Times (September 11 1944): Antwerp's Diamond Industry Seen Restarting Despite Handicaps.
- The New York Times (May 09 1948): Diamond cutting Continues in US.
- The New York Times (March 27 1960): Diamond Market Busy in Antwerp.
- The New York Times (May 31 2005): Diamond Polishing Is One More Dynamic Facet of China. URL: <http://www.nytimes.com/2005/05/31/business/worldbusiness/31diamonds.html>, 16.06.2008
- The Times (October 10 1944): City Notes.

- VAN DYCK, P. (1989): De DIAMANTSECTOR en de Antwerpse Economie. Antwerp (Dissertation).
- VANDEN DAELEN, V. (2006a): Antwerp Jews and the Diamond Trade: Jews shaping Diamonds or Diamonds shaping Jews? Paper prepared for the XIV International Economic History Congress in Helsinki, Finland, 21-25 August 2006. Session 22: Ethnic, Religious or Cultural Plurality and Economic Institution Building. Antwerp.
- VANDEN DAELEN, V. (2006b): De Heropbouw van de Joodse Gemeenschap in Antwerpen na de Tweede Wereldoorlog (1944-1960). Lomir Vayter Zingen Zeyer Lid. Antwerp (Dissertation).
- VERBRAECK, Y. (2008): Belgische Joden of Joodse Belgen? Presentation manuscript. Antwerp.
- VOLKSGAZET (February 1965 25): Internationale Toestand van de Diamantnijverheid.
- WALGRAVE, J. (1993): Diamond in Antwerp. A Brilliant Story. In: Federation of Belgian Diamond Bourses (eds.): Antwerp. The Diamond Capital of the World. Antwerp, 33-49.
- WOLFE, D.; GERTLER, M. (2004): Clusters from the Inside and Out: Local Dynamics and Global Linkages. In: Urban Studies 41 (5-6), 1071-1093.
- ZUCKER, L.; DARBY, M.; BREWER, M. (1998): Intellectual Capital and the Birth of U.S. Biotechnology Enterprises. In: American Economic Review, 88 (1), 290-306.