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The dilemmas of interregional institutional learning

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**Abstract** Recent research and literature addressing regional development concepts and regional innovation policy show a strong interest in the role of knowledge and learning. In doing so, a strange phenomenon can be observed. While much work concentrates on learning within regions, and some reference is made to learning from external sources, there is scant attention for the interregional dimension. This seems to amount to a dilemma: while development concepts and policy strategies are themselves subject of constant exchange and learning process at an interregional level, the aspect of interregional dissemination of such concepts, and concomitant processes of learning, are largely ignored. Even if concepts adopt a supra-regional perspective, little is said, neither analytically nor empirically, about the nature and role of learning processes between regions. One basic message that follows from this paper, is that researchers on regional development and regional policy need to become more reflexive. In order to achieve this, a model of knowledge cycles is presented in this paper. The model does not only help to understand how observations taken from regional experiences can be translated into more general analytical concepts and policy prescription, it also draws the necessary attention to the way such general abstractions are part, as well as catalyst, of processes of interregional learning.

1 Introduction

Observing the development of theoretical thinking on regional economic development in the last fifteen years there is a clear tendency to increase its relevance for practical regional policy-making. Thinking evolved from the relatively
abstract concepts around the shift from Fordism to post-Fordism in the 1980s to the more applied concepts of industrial districts, innovative milieus and production clusters in the first half of the 1990s. Recently, regional development models such as the 'learning region' and 'regional innovation systems' have become popular, mainly because of difficulties of translating the somewhat older concepts into practical policy advice. As Reid (1996, page 3) puts it: "most [concepts] are based on the analysis of success stories (...) and offer few hints on how to translate the, often intangible, factors underlying the success of specific regions to other less fortunate regions". These most recent concepts stress, among others, that regional policy-makers should learn more from each others’ initiatives and strategies. Recent comparative studies on national and regional innovation systems, learning regions and innovation and technology policy initiatives try to help policy-makers with that. This literature, which is mainly focused on Europe, is describing policy initiatives in full detail and is trying to come to some kind of comparison in the concluding sections (Dodgson and Bessant, 1996; Braczyk et al., 1998; Hassink, 1997b; Clement et al., 1995; Roveda et al., 1995; OECD, 1995). Learning from best-practice initiatives is the main credo of many of these studies.

An often cited argument in favour of the plea for interregional learning is that one should benefit from the strengths of the diversity of innovation policies in regions and nations. "Differences in national [and regional] economic performance motivate comparative studies, attempting to locate the sources of these differences" (Johnson, 1992, page 40) and "building strength from this diversity depends crucially upon the effective transfer of best practices. The policy challenge is to maximize learning opportunities" (Dodgson and Bessant, 1996, page 11). How to exploit this institutional diversity in Europe as a source for institutional learning is becoming a key question for the members of the European Community (Dalum et al., 1992).
Institutional diversity is recently further stimulated by decentralisation and regionalisation trends in innovation policy in the USA and many countries in Europe and East Asia (Lagendijk and Charles, 1998; Dodgson and Bessant, 1996; Clement et al., 1995; Jessop, 1994; Amin, 1998; Cooke and Morgan, 1998; Markusen et al., 1999). As it is impossible to find institutional set-ups that permanently serve innovations in a region best, regions must constantly change their set-up. Institutional set-ups in once-successful regions can rapidly become out-of-date as recently has been shown in Baden-Württemberg (Braczyk et al., 1996). Therefore, in order to stay competitive and to avoid institutional lock-ins in regions, policy-makers must be engaged in continuous institutional learning, both intra-regionally but certainly also inter-regionally.

Based on a survey of recent literature, this paper seeks to find out to what extent these interregional institutional learning processes play a role in regional innovation concepts and strategies and if so, to what depth this issue is dealt with. In pleading for more reflexivity when it comes to these interregional learning processes, this paper adopts an institutional approach. The next section will clarify the ideas underscoring this approach. The empirical focus of the paper is on regional innovation concepts and strategies and their contribution to the understanding of interregional institutional learning, which will be presented in Section 3. Section 4 will illustrate the argument by presenting some case evidence. On the basis of insights found in the literature survey and case evidence, Section 5 will present the dilemmas of interregional institutional learning and the main opportunities and barriers to this learning process. Section 6, finally, concludes by stressing the need for further developing a dynamic perspective on interregional institutional learning that may help to address these dilemmas.
2 Institutional learning and borrowing: the conceptual framework

Before presenting the regional innovation concepts and strategies and the dilemmas of interregional institutional learning in the next sections, institutions, learning and borrowing need to be defined. Learning, as central concept, is interpreted as an interactive process, undertaken by actors set in specific socio-cultural arrangements guided by institutions in the sense of routines, rules, and conventions (North, 1990, Healey, 1997; Vermeulen et al., 1997). Learning actors are part of a more specific organisational environment, in which interaction is facilitated by social networks and steered by particular divisions of power and interests. Moreover, learning is not only supported by institutions, it is also about the role of institutions. An institutional-organisational approach helps us thus to frame learning processes at the regional, as well as the interregional level, within a wider social context; it also helps us to encode observations in such a way that they can facilitate institutional change elsewhere through processes of interregional learning.

A note of clarification is due here on the notion of institutions. There is a lot of confusion in the literature about the concept of 'institution', which besides the definition presented above (routines etc.) can also refer, in the tradition of political scientists, to organisations and organisational forms. Since the latter corresponds to the usage of the term in the regional innovation and learning literature, 'institutions' will generally be used here in this way, except when specified otherwise.

In the view of most authors who endorse an institutional approach to regional development, learning presents a vital element of the regional development and planning processes. Concepts focusing on learning have been increasingly adopted as a solution to innovation and organisation deficits (Oinas and Virkkala, 1997).
'Learning companies', 'learning organisations', the 'learning economy' (Lundvall, 1996) and recently also 'learning regions' (Morgan, 1997) have been propagated as future concepts for successful economic development. Learning in this context has two core components: (1) interaction and (2) knowledge development in the context of application. The role of interaction is emphasised in recent work on regional economic development (Storper, 1997) and planning (Healey, 1997), who draw, in particular, on the communicative approach based on the work of Habermas. In this literature, interactive processes of learning are also seen as an important pillar of institution building. The same perspective underpins a phenomenological interpretation of the relationship of knowledge to action (Healey, 1997). This means that knowledge is essentially seen as a social construction, not a set of revealed truths; it involves a close association between scientific processes and practical reasoning, including storytelling, and the shaping of interests. The social situatedness of knowledge and the emphasis on the link to action is a central theme in the work of Gibbons et. al (1994). In the view of these authors, the context of application (through action) is an intrinsic element of knowledge development. Even if knowledge is somehow abstracted, that is, reduced to concepts such as 'learning regions' or 'regional innovation systems', its application history, and the accumulated trace of 'empirical evidence', remains part of the concept. It is the link to the context of application that will also feature in the model of interregional institutional learning presented below.

As part of the interactive, action oriented process of learning, various forms of learning appear to play a role:

- **Cognitive learning**, learning that contributes to grasping the understanding of a particular situation or problem. In the context of pluriform environments, and faced with complex problems, cognitive learning capabilities will include the ability...
to work across disciplinary fields, and to link analytical skills with action oriented
design competencies (Verkaik, 1997).

- **Social learning**, learning that improves the understanding of other actors involved
  and their actions (Vermeulen et al, 1997). Interactive learning processes draw
  strongly on this form of learning, although cognitive aspects are also important.

- **Institutional learning**, where the formation and embedding of routines, attitudes
  and organisational forms underpinning learning is stressed. Since institutional
  set-ups are socio-cultural phenomena, they differ strongly between localities,
  regions and nations. They do not only differ geographically from each other, but
  "the relations between institutions and innovation [also] (...) change, sometimes
  fundamentally, over time" (Johnson, 1992, page 23). In line with the literature on
  territorial innovation systems (Edquist, 1997), Johnson sees institutional learning
  as a vital component of competitiveness strategies: “the capacity of national [and
  regional] economies (...) to learn about, adapt and change their institutional
  frameworks - to engage in 'institutional learning' - is important for the
  development of their international competitiveness” (Johnson, 1992, page 23).

In a policy context, institutional learning is associated with the notion of institutional
change. The emphasis on institutional change is important when addressing the
relationship between learning and regional development. Many regions where
industries and their supporting institutions tend to cluster geographically, such as old
industrial areas, have suffered from sclerosis, inertia or cognitive, political and
institutional lock-ins and thus from path dependence (Grabher, 1993; Enright, 1995;
Cooke, 1998; Hamm and Wienert, 1989; Lâpple, 1994; Hassink, 1997c). The
institutional set-ups in these regions not only lagged behind technological change.
Even worse, they have been hindering technological change and industrial
restructuring processes to a large extent. Therefore, the role of _forgetting_ is an
important part of institutional learning. Forgetting is closely linked to replacing old, obsolete institutions by new, more effective ones. However, not all forms of institutional learning are geared to such progress. Indeed, in many regions the institutional set-up may be engaged more in what is referred to as cybernetic forms of learning, that is, learning to adapt to changing circumstances with the objective to maintain the status quo.

Vermeulen at al. (1997) give a detailed overview of under which conditions more progressive forms of learning can be sustained. This includes an appropriate level of transparency, an appreciation of equal access and shared responsibilities, a focus on collective competencies and confidence building. They also stress the need to be action-relevant and purpose-oriented, acknowledging the dilemma that this action and purpose will often include the shaping the development agenda itself. Finally, the authors argue that there should be a central actor, comparable to an animateur, facilitator, or reference forum, which is able to identify and communicate innovations. When these conditions are fulfilled, learning will become more reflexive, that is, taking the subject as object. Institutional learning thus means that regional actors are capable of reflecting, in a critical way, upon their own institutional arrangements and derive conclusions about the need and potential for change (see also Cooke and Morgan, 1998).

The discussion on learning has focused so far on single regions. The focus of this paper is clearly wider, and includes the methods and routines of interregional learning. This involves another layer of interaction, in which the same forms of learning distinguished before (cognitive, social, institutional) play a role. Because of socio-cultural differences, however, interregional learning is facing more difficulties. In particular, since the context of application differs, there will generally be a need for
adaptation, even when the intention is just to copy or ‘borrow’ a regional development concept. Dalum et al. (1992, page 312) signal this problem for innovations in general: "When innovations are diffused across national [and regional] borders, adaptations are usually necessary: (...) parts of the receiving institutional system (...) have to adapt. Learning becomes an extension of borrowing. Borrowing becomes a part of learning". Since there are large risks of superstitious borrowing, in which regional actors actual lack insight into, or do not agree on, the causes of regional problems, just borrowing is not enough for regions to stay competitive. They should instead be engaged in adaptive learning, that is carefully studying the functioning and the purposes of institutions in other regions and adapting them to their own regional conditions.

Besides the issue of borrowing and adaptation of knowledge, the interregional dimension also bears on the context and form of knowledge. In order to ‘travel’ from region to region, new knowledge about regional development need to be encoded. One can envisage new ideas to be transferred in a tacit form, for instance via prominent academics, consultants or politicians who apply ideas acquired in one region in another region. Other forms of knowledge, especially those that become more widespread, become codified in concept form through written texts (e.g. books, policy documents), verbal communication (e.g., in conferences), or embodied in policy instruments. Codification and embodiment do not mean that there is no tacit knowledge involved. On the contrary, also ‘generalised’ concepts can only travel through a process of interaction, moulded by cognitive, social and institutional dimensions. Indeed, even for the most widespread codified concepts, users will always need appropriate tacit knowledge in order to absorb and apply its contents (Lundvall, 1996).
Interregional learning does not only invoke the notion of regional development concepts as encoded and mobile objects of learning; it also bears on the role of actors and institutions relate to regional development as subjects of learning. Not only what regional actors learn from elsewhere, but also how they learn should be part of the focus on institutional interregional learning. As subjects, regional actors absorb and translate new ideas from outside, enabled as well as constrained by their institutional resources. As objects, specific regional institutional configurations are taken as examples and serve to incite changes in host environments. In effect, most of the literature focuses on the latter, while only referring to how learning is institutionally embedded when difficulties in adaptations are observed. This point will be illustrated, in particular, through the evidence presented in Section 5.

The multi-level dynamics of knowledge development as presented here can be illustrated in the form of a cyclical process. Figure 1 depicts the way concepts move from the regional level of application to the interregional level of abstraction and generalisation, and back. While illustrating the dynamics of knowledge development - as object -. the figure thus distinguishes between two basic subject levels, that of the regional actors, engaging in local application and implementation, and the interregional actors, acting as carriers and translators of concepts across space. Obviously, this is a highly schematic illustration of a complex process of knowledge creation, transfer and learning.

The question is now what concepts that have acquired a dominant position in the discussion on regional development have to say about the topic and process of interregional institutional learning. In the perspective developed here, concepts have a double role. On the one hand, they are outcomes or abstractions of processes of learning at the regional level, and exchange between regions. In this sense, they
result from observations - some based on a more analytical basis, others with a more normative outlook - about institutional configurations as objects of learning and action (in the sense of ‘what’). On the other hand, the concepts also present catalysts of learning processes (the ‘how’). They intentionally contribute to the reflexivity of processes of learning within the regional development arena at the subject level, bearing on methods of observation, interaction, and institution building. Hence, both along the object and subject dimension, these concepts serve to encourage and shape institutional learning, as will be further shown in the next section.

3 Regional innovation concepts and institutional learning

Four concepts will be discussed here: ‘regional innovation systems’, ‘learning regions’, ‘institutional thickness’ (together with ‘institutional capacity’), and ‘learning-by-monitoring’. The concepts, which differ considerably from each other, have been deliberately chosen to highlight different aspects of interregional learning1. The first three concepts generally apply to the level of single regions, although they also give some indication of the role of interregional learning. They differ, in particular, in the way the institutional dimension and institutional change is perceived, how they bear on the subject/object duality of institutional learning, and to what extent the concepts are normative in character, such as the learning region, or based on real situations in regions (institutional thickness). The fourth concept, learning-by-monitoring, which is associated with the notion of regional experimentalism, is a concrete example of a

1 Only those recent concepts have been selected that play a role in regional economic development. Although valuable in their own right, it goes beyond the scope of this paper to deal with concepts from political, social and cultural sciences that touch upon the issue of institutional learning.
strategy of organisational learning and throws more light on the interregional institutional dimension of learning. Finally, experiences are presented which stem from a supra-regional initiative to facilitate and mobilise learning processes through the provision of a script of action. This thus represents the most ‘catalysing’ approach, with the strongest ambition to change the subject of learning.

Drawing on the conceptual framework presented above, the discussion of the four concepts will focus on three aspects (see Table 1): (1) the kind of learning approach associated with the concept; (2) the nature of the empirical evidence accumulated and (3) the way the concept addresses the dimension of interregional learning. The main outcomes of the analysis, summarised in the Table, will be explained in more detail in the remainder of the section.- insert Table 1 here -
3.1 Regional innovation systems

In the series discussed here, ‘regional innovation systems’ can be seen as the oldest concept that has gained prominence in the learning-oriented institutional approaches of regional development. The concept is based on what has been written on the national innovation systems since the early 1990s (Lundvall, 1992; Nelson, 1993; Freeman, 1995; Edquist, 1997). One of the basic arguments behind the development of the concept of ‘national/regional innovation systems’ was to come to a framework for comparatively analysing nations/regions: "in order to get a more realistic assessment of the potential of institutional borrowing it is (...) useful to analyse countries as 'national systems of innovation' (...) In this perspective, we might get a better understanding of when, where and to what extent foreign institutions may be transferable from one system to another (...) The concept of 'national systems of innovation' may have an important role in defining opportunities and limits for institutional borrowing and learning between countries" (Dalum et al., 1992, page 315) (for similar remarks concerning regional innovation systems, see Cooke, 1998).

Regional innovation systems, the national innovation system’s recent offspring, are increasingly attracting attention (Braczyk et al., 1998; De la Mothe and Paquet, 1998; Asheim and Isaksen, 1997; Lagendijk, 1997). Cooke et al. (1998, page 1581) define regional innovation systems as systems "in which firms and other organisations are systematically engaged in interactive learning through an institutional milieu characterised by embeddedness". "The central achievement of regional innovation systems lies (...) in their ability to solve (...) cooperation problems" (Braczyk and Heidenreich, 1998, page 435). Cooke (1998, page 11) makes an important distinction between ‘operational’ and ‘conceptual’ innovation systems. An operational
system refers to a real phenomenon; a conceptual system represents a logical abstraction, a theoretical construct or analytical framework. According to Cooke et al. (1997) regional innovation systems should be operational systems in the first place.

Through its references to ‘borrowing’ and to nested spatial levels, the ‘regional innovation systems’ approach certainly touches upon the issue of interregional exchange of knowledge. However, little is said about the institutional underpinning of learning processes at the interregional level. Because of its emphasis on systems, the regional innovation system approach tends to adopt a structural approach in which mainly the interaction between the system components is emphasised. Indeed, although the focus is on innovation and change, this seems to amount to a cybernetic view of learning, in which a local system adapts itself in order to achieve a stable, pre-given set of goals (continued innovation, enduring competitiveness). ‘Local’, in this perspective, does not necessarily mean that the system consists primarily of local actors and exchange. Rather, it refers to the fact that the frames of reference and action for system institutionalisation and development are defined in local (regional) terms.

3.2 The learning region

Inspired by the notion of the ‘learning economy’ (Lundvall and Johnson, 1994), the concept of ‘learning regions’ was coined by academic authors working in the field of innovation studies and economic geography (Florida, 1995; Morgan, 1997). ‘Learning regions’ are regional development concepts in which the main actors are strongly, but flexibly connected with each other and in which both inter-regional and intra-regional learning is emphasised (Morgan, 1997; Butzin, 1996; Florida, 1995; Hassink, 1997a). The main actors will generally involve a highly diverse set of
regional agents including politicians, policy-makers, chambers of commerce, trade unions, HEIs, public research establishments (PREs), universities, innovation support agencies, financial institutions and companies. Morgan (1997) calls 'learning regions' the new generation of regional policy, which, compared to traditional regional policy, focuses on 'infostructure' instead of infrastructure, on opening minds instead of opening roads and branch plants and which devises policies with SMEs instead of just policies for SMEs. Other characteristics of this concept are: bottom-up approach, transparent, face-to-face relations, integrated solving of problems (crossing of policy fields), integration of policy, social and company networks and permanent organisational learning with feedback effects. In many ways, a 'learning region' is a much broader concept than a regional innovation system. While the latter explicitly focuses on the institutional set-up for innovation, a 'learning region' refers the build-up of a broad development coalition (cf. Ennals and Gustavsen, 1999). The concept refers, in particular, to the attitudes and interaction - i.e. cognitive and social dimensions - of the stakeholders involved in regional development.

The actors in such a region are seen as open both to intra-regional and inter-regional learning. "They are prepared, as it were, to change a winning team" (Cooke and Morgan, 1994, page 91), to "un-learn" (Maskell and Malmberg, 1995) or, what has been mentioned earlier, to forget. This process of 'un-learning' necessitates the removal of formerly significant institutions that now act as a hindrance to further development. Policy in such learning regions does not focus on individual firms and once-and-for-all solutions, but instead it is context-sensitive and focuses on continuously adapting regional economic capacities (Asheim and Isaksen, 1997). Interregional learning is an absolute necessity in order to make sure the regional 'milieu' does not have to 'stew in its own juice' (Thierstein, 1996). Instead of a system
view, accordingly, the ‘learning region’ concept adopts a more social perspective of interaction processes within regions, with more emphasis on cognitive aspects of learning.

The ‘learning region’ concept clearly touches on the importance of both intra-regional learning between institutions and firms and interregional learning through the absorbing role of regional institutions. It is significant that learning rather than innovation, is the starting point for development, which places more emphasis on outward-looking attitudes. As far as this concerns the interregional dimension, however, this is treated in a largely instrumental way, as a contributing factor to intra-regional learning processes. The concept does not give us in-depth knowledge on interregional institutional learning processes, and has not inspired empirical research on this topic.

3.3 ‘Institutional thickness’ and ‘institutional capacity’

With their concept of ‘institutional thickness’, Amin and Thrift (1994) take up a topic that is central in the discussions around ‘learning regions’ and regional innovation systems. They distance themselves from these concepts by taking the thickness of institutions as their starting-point of analysis. Amin and Thrift (1994) define institutional thickness as the combination of factors including inter-institutional interaction and synergy, collective representation by many bodies, a common industrial purpose, and shared cultural norms and values. Thickness both establishes legitimacy and nourishes relations of trust. Since institutional thickness is associated with regional innovative strength and flexibility of regions such as Baden-Württemberg and Emilia-Romagna (Tödtling, 1994), regions in catching-up positions have orientated themselves towards these institutional depths and structures and set
up many new initiatives and institutions in the field of technology promotion (Braczyk and Heidenreich, 1998).

Associating institutional thickness with economic prosperity, however, has provoked authors to stress that thick layers of institutions can be found in structurally weak regions, such as old industrial areas, as well (Amin and Thrift, 1994; Tödtling, 1994; Hudson, 1994). Hudson (1994), for instance, states that the culture of dependence of old industrial areas was sustained through the particular and thick institutional tissue of such areas. Institutional thickness can lead to path dependence and institutional lock-ins. Whether institutional thickness is beneficial or harmful to regional economic development seems not so much to be a question of the sheer number of institutions or the way they individually work, but rather a question of how and in which framework they are organised (Braczyk and Heidenreich, 1998; Grabher, 1994). Educational facilities, technology transfer, financing and industrial relations should be structured in such a manner at a regional level that a substantial degree of synergy is generated for regional players. The 'learning region' or regional innovation system concept could contribute to achieving such internal institutional coherence and compatibility in regions.

Through the emphasis on the strategic dimension and the creation of synergy, the attention has shifted from 'institutional thickness' to 'institutional capacity'. Institutional capacity is a concept with a similar vintage as that of learning regions. Recently attempts have been made to formalise the concept and engage in more systematic research (Khakee, 1999; Healey, 1997). Initially the concept was used in a rather loose way, connected to the notion of 'institutional thickness'. Later on it became clear that it is not thickness as such that facilitates innovative behaviour and change, but the joint capacities embedded in institutional configurations. Various of
such capacities can be distinguished (Khakee, 1997): social capacity - institutional resources for fruitful interaction -, intellectual capacity - institutional resources for the accumulation and application of knowledge - and political capacity - governance resources for engaging stakeholders and facilitating policy-driven processes of change.

At present, this line of research is in the process of establishing a comparative framework for analysing regional institutional configurations. So far, little attention has been paid to the interregional dimension of learning itself. Thinking about institutional density, in particular, has inspired initiatives to develop denser institutional structures in less-favoured regions, but without thoroughly addressing the questions of institutional capacity to enable and guide such changes.

3.4 Learning-by-monitoring in the context of regional experimentalism

Compared with the above-described concepts, Sabel's (1996) regional experimentalism approach, which features the concept of 'learning-by-monitoring', addresses interregional institutional learning in a more explicit way. Sabel argues that a new approach is required to get out of what he observes as a deep crisis in regional policies. Therefore, he tries to adapt the Japanese learning-by-monitoring method of economic reorganisation to regional policy-making. The learning-by-monitoring is considered as "co-ordination by a form of disciplined goal-setting that links discussion of actual performance by the co-operating parties (monitoring) to discussion of how to improve operations given that performance (learning)" (Sabel, 1996, page 23). Regional institutions should be decentralised and organised according to the principles of "learning-by-monitoring". In his analysis he observes that both academic observers and policy-makers are desperately looking for new
economic policy ideas. They "(...) oscillate between the celebration of fads and the
despairing conclusion that the turbulence of our times admits neither general
conclusions nor effective public remediation" and "politicians waver between sincere
efforts to adapt the best of what seems to working elsewhere to local conditions and
an unspoken cynicism about the possibilities of economic policy in which
programmes become little more than stage props for electoral campaigns" (Sabel,

Besides addressing the internal regional dimension, Sabel (1996) notices that at the
moment very little systematic diffusion of knowledge and learning of regional policy­
making takes place. Policy instruments, such as science parks and venture capital
funds, diffused internationally: "old industrial regions such as the Ruhr or the area
around Pittsburgh, for example, have sought solutions from all quarters, borrowing
ideas and institutions from the Italians, the Americans, or the Schwabians of Baden­
Württemberg in their efforts to demonstrate some control of events" (Sabel, 1996,
page 41). But it did not seem to be happening systematically nor did policy-makers
really learn from each other's experiences. Furthermore, institutions that served firms
well in good economic times, now have their troubles providing assistance to which
turned out be much less well organised and managed firms in economic bad times.
In many German and Italian regions merely new institutions are being created (round
tables, customer-supplier conferences etc.), without touching existing service
providers which badly need reforms (Sabel, 1996).

According to Sabel (1996) regional experimentalism can play an important role in
overcoming the current crisis of regional institutions in Europe. Similar to what
Florida (1995), Butzin (1996) and Morgan (1996) have proposed in the context of the
learning region, Sabel urges institutions to learn the same lessons firms have
learned from the Japanese learning-by-monitoring approach. Sabel thus points to the need for systemic comparisons of regions' architecture of economic policy (whether it is addressed to the right problems and actors and whether the organisations, such as transfer agencies, HEIs, PReS, trade associations and schools, co-operate effectively). He is particularly stressing possible learning effects when there is a time lag in experiments between different regions: regions in the USA, for instance, have recently gained a lot of experience in devising programmes aimed at aspects of industrial adjustment. Regions in Europe could use experiential knowledge from these cases.

Learning-by-monitoring in the context of regional experimentalism presents a more reflexive approach to policy-driven initiatives for institutional change. It shifts the emphasis from the object, i.e. shaping a regional innovation system or learning region, to the process of observing, selecting and transferring good experiences, bearing more closely on a regional institutional system as a subject learning from a variety of internal and external experiences. In addition to reflecting on learning process within regions, another important organisational lesson is that the role of central authorities (national governments, the European Commission, USA government) should change. By revising and evaluating regional experiences and publishing these results, instead of devising programmes themselves, they should play an important role in stimulating interregional institutional learning.

In accordance with these observations, learning-by-monitoring presents a promising concept. However, although the approach throws light on the interregional infrastructure (or 'infostructure') of knowledge exchange, it does not really elaborate on the institutional aspects of this infrastructure. Also, unfortunately, Sabel's concept has not incited much empirical research on how learning processes take place. In
essence, it remains an interesting and challenging approach for policy learning, which, as yet, has not had much follow-up, neither analytically nor in policy practice.

4. Interregional learning in practice

Having presented the way certain dominant concepts on interregional institutional learning, this section will focus on specific practical cases of institutional learning. These cases, which include developments in Denmark, Germany and the European RIS/RITTs programme, all describe processes of borrowing and local translation of policy approaches from elsewhere, sometimes followed by a further ‘export’ of ideas to other regions.

A major source of inspiration for interregional institutional learning can be found in central Italy. Perhaps the most detailed case in this context is the development of the Danish Co-operation Network Programme (1989-1992), which was inspired primarily by institutional experiences in the Italian region of Emilia-Romagna (Pyke, 1994; see also Dodgson and Bessant, 1996). According to Pyke (1994, page 107) the programme “could be explained in terms of an adaptation of Emilian practices to specific Danish institutional and cultural conditions (...) The conditions in Denmark have features not present in Emilia-Romagna. These circumstances, peculiar to Denmark, have resulted in the Danes doing things ‘their way’, seeking to achieve functions similar to those carried out in Italy by different means, with particular appropriate mechanisms”. The conditions differed from those in Emilia-Romagna in a number of ways (Rosenfeld, 1996). Rather than being able to nurture networking on the basis of an already existing culture of trust, networking was considered a strategy towards trust building. The policy process was implemented in top-down approach through the appointment of about 40 trained industry advisors who managed to bring about 3000 firms on board. In practice, the problem arose that the
industry advisors acting as network brokers became too much oriented towards the
durability of networks, forgetting that networking presented essentially a vehicle to
cultural change and improving joint business performance within the region
(Ploughmann, 1991; Rosenfeld, 1996). The programme tended more towards
'imposing' networking and in a top-down way instead of facilitating networking in a
bottom-up fashion (Huggins, 1996). Nevertheless, the Danish set the example of
how a network approach could be used to fostering a culture of collaboration, thus
distinguishing itself from the Italian associational approach to set up service centres.
Many other countries and regions, such as states in the USA (Michigan, Oregon)
Massachusetts), Valencia (Spain), Canada, Finland, Norway, Portugal, emulated
this aspect of Danish programme (Pyke, 1994; Cooke, 1996). Such borrowing has
generally shown similar results, with as common problem the impatience of funders
and politicians for tokens of results, such as enduring networks (Rosenfeld, 1996).
Good long-term evaluation of these programmes, and the learning processes
associated with them, are therefore lacking.

Another example of the exchange (in the sense of 'borrowing') of ideas about
institutional change - and its potential negative consequences - can be spotted in
Thuringia, one of the states in eastern Germany (Hassink, 1996a). Here the
Steinbeis Foundation of Baden-Württemberg has set up ten transfer centres at
higher education institutes (HEIs)\textsuperscript{2}. Presumably due to the lack of governmental
support from Thuringian policy-makers, the Steinbeis Centres do not have a clearing
house or any co-ordinating facility in Thuringia, so that networking between the

\textsuperscript{2} The centres were initiated from Baden-Württemberg, probably because of personal links
between professor Löh, the director of the Steinbeis Foundation, and the influential Lothar
Späth, who is chief executive of Jenoptik, Thuringia's largest high-tech company, and who
used to be prime minister of Baden-Württemberg.
centres is at a low level. Here it seems that the lack of adapting the centres to the regional institutional setting, in other words the lack of learning, hinders the functioning of the centres in the region (Hassink, 1996a). This illustrates the notion of failures in the institutional context as subject of learning.

Other examples of interregional institutional learning are offered by innovation support agencies in the city region of Duisburg, Germany (Hassink, 1998). The technology transfer agency of the regional chamber of commerce in Duisburg has lately clearly benefited from interregional institutional learning. In the framework of an EU/INTERREG-sponsored co-operation with the Dutch Innovation Centre in the neighbouring border region, they discovered an interesting method the Dutch colleagues are using to make quick SWOT (strengths, weaknesses, opportunities, threats) analyses of companies in the region. The Duisburg agency modified and adapted the method to its own customers and is now using it successfully in its district. Compared to this one-to-one co-operation with the Dutch colleagues, the chamber is learning less from the larger, institutionalised and anonymous meetings with other chambers in the state of North Rhine-Westphalia, a point which also became clear from interviews with other agencies in the region. Meeting each other in small groups generates much larger learning effects, since then participants dare to speak about failures and what they have learned from them.

While also addressing the intersections between the intra-regional and interregional level, the latest European regional innovation programmes show a different approach. They present a top-down process of facilitating and catalysing bottom-up institutional change within regions geared to innovation; they also intend to exchange experience between regions. Since these programmes have been put into practice throughout Europe, and have been recorded and evaluated meticulously, they are a
rich source of empirical evidence on learning processes. They match, to an increasing extent, Sabel’s notion of learning observatories, as focal points of experiential knowledge exchange, in a wider (i.e., European) policy framework.

Recent European regional innovation policy programmes include the Regional Innovation and Technology Transfer Strategies and Infrastructures (RITTS), Regional Technology Plans (RTP) and Regional Innovation Strategy (RIS) Programmes. All these programmes aim at both intra- and interregional learning. They support regions in Europe (re)organising their innovation strategy in order to meet the demands of firms more than they did before (Nauwelaers et al., 1996; Reid, 1996). At the regional level, these programmes are bottom-up (demand-driven, dialogue with SMEs), regional (built on a consensus at regional level), strategic (plan based on socio-economic objectives), integrated (both public and private sectors are involved) and international (international co-operation).

These programmes responded to the feeling that, in general, previous attempts to build regional innovation infrastructures had far from been successful. Even after many years of support and two decades of European regional policy, many regions in Europe appeared to lack the capability to organise technology transfer and advice agencies in such a way that they are tailored enough towards the needs of firms, especially SMEs, in the region (Hassink, 1996b). They lack a clearly defined innovation strategy with industry involvement, placed in a proper national and international context. Partly because of the lack of this strategy, in many regions there are too many transfer and advice organisations aiming at the same target group, SMEs, and providing them with nearly the same services (I&TT, 1998; Hassink, 1996b). This causes a lack of transparency and hence frustrated SMEs which do not know who is doing what.
In the framework of the recent programmes, interregional institutional learning is clearly stimulated, both through regular meetings of the participating region's policy-makers and through the obligatory involvement of international experts in strategy development. Nauwelaers et al. (1996) provide us with some first evaluating observations of the RTP programme experiences in several pilot regions (Limburg, the Netherlands, Lorraine, France and Wales, UK). According to them (1996, page 20), "in none of the regions there was a natural tendency, at the time of launching the RTP, towards international exchanges of experiences in the field of policy building related to the areas of technology and innovation". The public administration sector is seen as the least open to international exchanges. From the RTP exercise a crucial value-added was expected to favour interregional learning processes in regional policy-making. In principle, there was ample room for exchange of international experiences between RTP regions, as there was a large overlap in key priorities the region's policy-makers wanted to be tackled by the programme (Nauwelaers et al., 1996).

Concerning the extent to which the individual regions benefited from international exchange, Nauwelaers et al. (1996, page 24) come to the conclusion that "because of the unmatching of the timings between the activities of the network and the efforts in the regions, the international exchange of experiences was probably not developed to its full potential in the course of the three RTP's". Interregional exchange, however, is seen as one of the six gains the regions got from the RTP exercise and "looking beyond the borders is becoming a more natural attitude within the regions" (Nauwelaers et al., 1996, page 29). In addition, interregional learning through the external experts proved to be of great help to ensure important unlearning processes and therefore to avoid institutional lock-ins.
In order to fully exploit interregional learning opportunities offered by these
programmes, Nauwelaers et al. (1996) recommend regions to define regional
priorities first. "Otherwise, one runs the risk of a collection of discrete, uncoordinated
operations and schemes with no real leverage effect on regional competitiveness"
(Nauwelaers et al., 1996, page 31). Only after having got a better understanding of
the regional situation and a definition of priorities (intra-regional learning), one should
become involved in external exchanges on the basis of the results achieved
internally (interregional learning).

Because of the evolutionary character of a regional innovation system and the
RTP/RITTS/RIS programmes, there is not such a thing as an optimal system of
innovation or one best way. They are constantly in evolution or as Edquist (1997,
page 20) writes: "we cannot define an optimal system of innovation because
evolutionary learning processes are important in such systems and they are thus
subject to continuous change. The system never achieves an equilibrium since the
evolutionary processes are open ended and path dependent". The programmes do
not result in optimal institutional configurations (object) but in encoded processes
that help subjects to change their institutional characteristics through learning. What
is produced, accordingly, is not an image of optimal institutional set-ups, but a set of
scripts of how to work towards institutional change and optimal exchange of
experience.

To support this view, Gregersen and Johnson (1997, page 489) observe in a recent
article an increase in "compatible institutional learning on the regional and European
levels" due to such programmes as RTP and RITTS. Nauwelaers et al. (1996) have
shown how these programmes can become a rich pool of evidence which can be
used in order to gain more understanding of interregional institutional learning processes. However, while strong on action-orientation and the capturing of local experiences, this approach appears to be lacking in relating to theoretical work. In particular, regional innovation approaches could benefit from further conceptual elaborations along the lines of Sabel’s suggestions, as well as from reflection on the basis of other concepts discussed before.

5 The dilemmas of interregional institutional learning

Reviewing the above-described recent regional innovation development concepts and practices, and their contribution to the understanding of interregional institutional learning, three dilemmas can now be identified.

First, although many new concepts and also comparative studies on innovation policy initiatives (Dodgson and Bessant, 1996; Clement et al., 1995; Roveda et al., 1995; Hassink, 1997b; OECD, 1995) plead for continuous policy improvement by monitoring best-practice initiatives in other appropriate comparative settings, they refer to different dimensions of learning and innovating and most of them do not go beyond pleading for interregional institutional learning. A broader view on how initiatives are exchanged and adopted in the context of interregional learning is generally absent. Some of the ideas, such as on regional experimentalism, give us some analytical remarks on the topic without showing empirical evidence, whereas others, such as the experiences with the modern European regional innovation programmes, give us empirical analyses without theoretical backing (Table 1). Although typologies are developed to understand the differences between innovation systems (see Cooke, 1998), little empirical research has been done on the transfer of policy initiatives from one region to another and to what extent this transfer worked
well or not. Therefore these studies do not analyse the interregional institutional learning process as such, leaving many unsolved questions behind, such as: What difficulties face policy-makers trying to learn from foreign success stories? What kind of barriers are there to interregional institutional learning? To what extent do institutional borrowing and institutional learning take place and what are the differences in success or failure rates? In addition to the practical policy implications, knowing more about successful or failing institutional transfer is also theoretically rewarding, since it might be a factor that explains why some less-favoured regions catch up while others do not.

This first dilemma is due to three factors. First, many concepts particularly aim at articulating the objects of change, i.e. what institutional change should lead to. They are less specific about the role of subject of change, i.e. the attitudes and roles of actors within actual regional institutional configurations and how they should engage in intra- and interregional learning. It is only very recently that concepts have tended to become more action oriented (cf. Ennals' and Gustavsen's (1997) work on the concept of ‘development coalition’). Secondly, the deficits might be caused by the complexity of the issue. Interregional institutional learning is a far more difficult and complex process than for instance technological learning because institutions are shaped by and embedded in slowly and incrementally changing socio-cultural settings and because of geographical and cultural distance. Therefore it might be understandable that the topic has only been dealt with in a superficial way. Thirdly, besides complexity, the position of the researcher must be mentioned. Many researchers are themselves part of the ‘infrastructure’ for exchanging experiences between regions and for abstracting general concepts from experiential knowledge. Reflecting upon the institutional dimension of interregional learning means reflecting upon their own work. This poses obvious difficulties for practical research work.
Researchers must need to shift their analytical viewpoint. From being part of the exchange infrastructure they must occasionally take a step back, by observing and reflecting upon, rather than directly participating in processes of interregional learning.

The last comment introduces the second dilemma, which is of a more analytical nature. Studying objects of regional development, such as innovation and learning dimensions, suits a comparative case-study approach. This is attractive since the same research template can be used for a variety of regions, and conclusions can be conveniently derived from comparison. Addressing interregional processes makes the analysis and drawing of conclusions less straightforward. Now regions are not cases for comparison but units that need to fit into a higher level of analysis. Now regional analysis needs to be combined with the study of the wider policy knowledge infrastructure, that is, of the interregional ‘carriers’ and ‘routes’ of regional development concepts. Both more insight into these carriers and routes, and the development of tools for useful interregional institutional learning will help regional actors to become more engaged in studying how the region is positioned in wider policy knowledge infrastructures, and how the effectiveness of interregional knowledge transfer and adaptation can be improved. At the regional policy level, the analysis of the interregional dimension may help to adapt the lessons about the role of institutions in other regions adequately to regional conditions (Dunford and Hudson, 1996).

After having addressed the first dilemma, i.e. the lack of conceptual emphasis on interregional institutional learning, and the second dilemma, i.e. the need for developing a multi-level, and more reflexive, analytical approach, researchers and practitioners still face a dilemma of a more fundamental nature. This is the problem
of regional institutional specificity. Many authors have identified institutional specificity and socio-cultural and historical embeddedness at the regional level as a significant obstacle to interregional learning (Asheim, 1997; Dodgson and Bessant, 1996; Asheim and Dunford, 1997; Hudson, 1999; Koschatzky, 1995; Tödtling, 1994; Braczyk and Heidenreich, 1998). Indeed, several authors are rather ambivalent when it comes down to the effectiveness of the transfer of innovative concepts because of institutional specificity. Reid (1996, page 12), for instance, gives regional policy-makers the following advice: "don't try to replicate other 'successful' regional innovation systems since these are largely based on intangible factors which cannot be repeated. Instead pay special attention to drivers and barriers to innovation arising from specific local circumstances and the institutional background", but at the same time: "be receptive to the transfer of best practice from other regions".

Likewise, Lagendijk and Charles (1998, pages 27, 28) point at the dilemma as they write: "it is clear that 'easy' copying of support models (...) does not fit to in a 'customised' approach to technology diffusion". However, "comparing specific forms of technology support between regions and nations has made major contributions to the exchange of valuable knowledge and to forms of interregional learning. Moreover, once issues of 'embedding' and consensus building are better understood and addressed, the institutional models can present highly useful scripts for improving technology support to SMEs". The EC (1995, page 16), finally, touches upon the dilemma in its green paper on innovation as it states with regard to some successful innovation policy initiatives: "positive experience abounds, therefore, but it is often difficult to transpose, as it is closely linked to the specific conditions under which it was acquired. However, knowledge of this experience and its dissemination are very inadequate, and there is a need for rapid progress in comparing it. The Commission's recently-established INNOVATION programme should contribute to this dissemination of good practice".
Other authors tend to play down the institutional barriers. Schmitz and Musyck (1994), for instance, ask themselves the question: "Do such historical specificities render the question of replicability absurd? Our answer is a simple one: history matters, but is equally important not to become (mentally) imprisoned by history. If one is not concerned with replications based on blueprints but with applications of selective lessons, then some of the experiences reviewed in this paper [on industrial districts in Europe] are at least worth considering". Asheim (1997, page 22) is one of the few authors who tries to differentiate between a specific and general level of knowledge transfer, as he states: "The more important the specific factors are, the more difficult it is to transfer experiences from one region to another. (...) the most specific socio-cultural factors (...) cannot be "repeated" in another region. (...) the general lessons (...) [are] much easier to transfer between regions" (Asheim, 1997, page 22). The latter general factors are for instance supporting SME networks, a positive attitude towards modernisation or the promotion of private-public cooperation. In the literature, however, this distinction between general and specific factors has rarely been made causing much confusion about what is typical to the region and difficult to transfer and what not. With regard to specific factors attributed to regions, much seems to be exaggerated. Not only are many differences of a largely symbolic nature, it is due to the existence of an infrastructure for knowledge transfer that such differences can be placed in context. It is the wider knowledge infrastructure that makes that interregional learning amounts to much more than simply borrowing. This, then, should be the basis for the further analysis of interregional institutional learning.

6 Conclusion
Viewed from an institutional perspective, the dissemination and absorption of development concepts between regions is far from an easy process. Not only is there the question of how regional institutional arrangements and approaches that are considered as successful become objects of learning, by processes of labelling ('regional innovation systems', 'learning regions', etc) and 'borrowing' between regions. There is also the question of how the 'borrowing' subjects, that is, regional agents on the receiving side of knowledge transfer, manage to change their attitudes and institutional embedding in such a way that they become more learning-oriented. This, in essence, requires adaptations in three directions: cognitive learning (understanding of new ideas), social learning (mutual understanding between regional agents) and institutional learning (reflecting upon local values, conventions, and organisational forms).

The dilemmas identified above, however, point at an additional dimension to the problem of interregional institutional learning. It is the interregional transfer of knowledge itself that needs to be conceptualised and analysed from an institutional perspective. Knowledge is transferred through carriers and along routes that are institutionally shaped, amounting to an interregional infrastructure (or perhaps better, 'infostructure') of knowledge exchange. Acknowledging this dimension has important implications for institutionally oriented studies of regional development. In addition to participating actively in the process of knowledge creation and transfer themselves, researchers also need to take a step back and reflect upon the way new ideas on regional development travel and evolve at different levels of analysis. At the level of single regions (as contexts of application), one should watch how new experiential concepts emerge and how 'borrowed' concepts are applied and changed. Even concepts that are primarily focused on single regions, such as 'learning regions, or 'regional innovation systems', should take more account, conceptually and
analytically, of the way regional agents are positioned in this wider infostructure. At the interregional level, the analysis should focus on how concepts are abstracted and become part of the 'universal' knowledge community on regional developments. In this way, Cooke’s distinction between ‘operational’ and ‘conceptual’ notions of regional innovation systems, and Asheim’s differentiation between a specific and general level of knowledge transfer can be further elaborated. Finally, the reflexive knowledge derived from these observations should be embedded in future policy approaches of regional development, notably in policy concepts that adopt a supra-regional perspective.

These concluding notes should be put in perspective. While signalling the need to explore the theme of interregional institutional learning and to adopt a multi-level approach in our studies and conceptualisation of regional development, this paper has not provided a detailed institutional view of the interregional institutional dimension. Exploring the cycle, then, as depicted in Figure 1, presents a key challenge for future work. Analogous to what has happened in business studies on innovation, where attention has shifted from single firms to the relationship between firms and their institutional environment, learning processes within single regions need to be perceived within an interregional institutional perspective.

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apply, however, and responsibility for the paper’s content rests solely with the authors.

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Table 1: The regional innovation concepts and strategies’ orientation towards interregional institutional learning

<table>
<thead>
<tr>
<th>Concept</th>
<th>Learning focus</th>
<th>Empirical evidence</th>
<th>Interregional dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional innovation system</td>
<td>system-based (institutional)</td>
<td>accumulation of (often comparative) studies</td>
<td>analytical-comparative, cybernetic</td>
</tr>
<tr>
<td>Learning regions</td>
<td>emphasis on cognitive-social aspects</td>
<td>unsystematic</td>
<td>one region</td>
</tr>
<tr>
<td>Institutional capacity</td>
<td>cognitive-social aspects, and institutional arrangements</td>
<td>recent proliferation of (more systematic) comparative research</td>
<td>comparative</td>
</tr>
<tr>
<td>Learning-by-monitoring</td>
<td>institutional-reflexive</td>
<td>patchy (e.g. in North Rhine-Westphalia)</td>
<td>institutionalised comparative</td>
</tr>
<tr>
<td>RTP/RIS/RITTS</td>
<td>institutional-reflexive</td>
<td>detailed</td>
<td>institutionally embedded (EU)</td>
</tr>
</tbody>
</table>
Figure 1. A cyclical model of interregional learning.

interregional institutional level

'reuniversal' knowledge regional development concepts

regional operationalisation (+ additions)

regional experiments/applications

area knowledge
Research on interregional institutional learning

case studies

carrier/translation

general

abstraction (concepts carried over)