

**Knowledge and Patterns of Interpretation:
Two Complementary Approaches for a Better Understanding of Mental Constructions
in Economic Geography**

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Starting with conceptions of knowledge as a scientific-technical resource on the one hand and a social construct of reality on the other, this contribution highlights informal, implicit knowledge as the currently prevalent ‘in-between’ perspective in economic geography. It then points to further shared constructs of cognition such as interpretation which are highly relevant to explaining business and economy in place and space yet still underdeveloped in economic geography. ‘Patterns of interpretation’ are put forward as an additional concept reaching beyond that of knowledge. The article integrates this new approach with recent strands of literature in economic geography and critically discusses the performance of the approach.

Knowledge, knowledge economy, informal knowledge, social construction, interpretation

INTRODUCTION

Knowledge has become much debated in economic geography since it is considered a central premise for successful economic decisions, strategies and practices. There are three common modes of understanding knowledge. Whilst the first views knowledge as a scientific-technical resource, with focus on patents, basic innovations and R&D for high-tech, the second refers to knowledge as a social construction of reality, highlighting the contextuality of knowledge and the importance of additional mental constructs apart from knowledge. The third and predominant view is an ‘in-between’ perspective, putting forward a rather open understanding of knowledge and highlighting the importance of compound, informal and implicit knowledge. Beyond this broad understanding of knowledge, however, are additional cognitive constructs which are equally important for analysing place, space and scale. Interpretation seems to play a particularly significant role, as illustrated by the following examples: Top management’s interpretation of a situation which then guides strategies; a purchasing managers’ evaluation of supply companies; the way a trade unionist perceives their counterparts in management, or a shared perspective on local politicians and other regional representatives. None of these really represent knowledge, but are much better described as interpretation. Despite its obvious significance, interpretation has hardly featured so far in theoretical, conceptual analyses in economic geography.

Going back to the seminal concept of the German sociologist ULRICH OEVERMANN (1973/2001a; 2001b), this contribution puts forward the idea of ‘patterns of interpretation’ as an additional concept reaching beyond the notion of knowledge. Patterns of interpretation are complex, collectively shared mindsets and mutual rules which are neither accidental ideas nor selective individual opinions. Such rather stable and broadly shared interpretations seem a particularly attractive concept for economic geography. OEVERMANN (1973/2001a; 2001b) presents an elaborate procedure for discovering such ‘secret’ mindsets. Patterns of interpretation may thus offer a welcome contribution to the ongoing debate about knowledge.

KNOWLEDGE: THREE PERSPECTIVES

Knowledge as scientific-technical 'substantial' resource

In economic geography, knowledge is usually discussed with regard to competition of companies and locations. This leads to research questions concerned with profits and expenses. In economic geography – as in management studies, organisational sciences and regional economics - knowledge is therefore often conceptualized as a resource determining such parameters. The substantiation of 'knowledge' as a resource is mostly ensured by R&D, high-tech product innovations, patents and highly skilled employees, or 'talents' as intellectual capital hounded by headhunters (FAULCONBRIDGE *et al.*, 2008). Such resources are assumed to support the knowledge economies in global competition (LEYDESDORFF, 2006, p. 16).

The view of scientific-technical knowledge as a specific kind of knowledge can be traced back to the diffusion of information and communication technologies in the 'post-industrial society' (BELL, 1973). The importance of such knowledge was intensely debated in the late 1960s and 1970s in the context of sectoral economic change and the race to the stars in the Cold War, especially after the lunar landing of the Soviet Union and the shock this implied for the USA and Western Europe. Ever since, scientific-technical knowledge has been regarded as an opportunity to overcome the challenges of competition.

Scientific-technical knowledge is highly specialized knowledge generated under controlled conditions in laboratories or test centres. For the respective strands of quantitative economics and social sciences, the guiding paradigms are rationality and *ceteris paribus* assumptions, implying that knowledge follows methodological standards and can be assessed and ranked. Knowledge is institutionalised in research institutes and generated by professionals, often in networks of experts (KNOBEN and OERLEMANS, 2012). It is as objective as possible, representative, replicable, calculable and formalized. In this reading, knowledge is assigned independent facticity and substance, attributed universal validity, and qualified as fact. The view is that knowledge accumulates, inevitably progressing towards a larger amount of knowledge as well as leading to 'higher' knowledge (IBERT, 2007).

Knowledge as a social construction of reality

As early as the 1920s MAX SCHELER (1925/1960) and KARL MANNHEIM (1925) stressed that knowledge is dependent on social conditions and can vary between groups. Later, the idea was popularized that knowledge is an aspect of the social construction of reality (BERGER and LUCKMANN, 1966/1991). Apart from academic and everyday knowledge, the social construction of reality also embraces world views, attitudes, ideas, ideologies, values, beliefs and interpretations, with knowledge influencing these other cognitive constructs and vice versa. Knowledge for example is shaped by the general attitudes and world views held by the respective community: "What is 'real' to a Tibetan monk may not be 'real' to an American businessman" (BERGER and LUCKMANN, 1966/1991, p. 15). Knowledge in turn influences how things are understood and interpreted: managements' scientific-technical knowledge for instance influences their general interpretation of markets and labour.

Knowledge is a mental construct with specific characteristics. It is generally understood as the shared conviction that the phenomena of the environment are real and true; it also meets particular conditions such as relevance, explanatory power, evidence, appropriateness and inter-subjective confirmation (BERGER AND LUCKMANN, 1966/1991, p. 13). This makes knowledge ‘justified true belief’ rather than simple belief without validation. Language clearly distinguishes between knowing, believing, opining and interpreting, indicating from a practical linguistics point of view that good reasons exist for identifying such dissimilar practices. In addition, and unlike data and information, knowledge cannot be ‘wrong’. There is no expression of ‘wrong knowledge’; we merely state that we ‘do not know yet’ or that something is opaque.

This understanding of knowledge is different from a substantialist or static view. Knowledge can be reflected and advanced but only exists in the social and historical context of place, space and scale (JÖNS *et al.*, 2010). Even scientific-technical knowledge which is produced in research laboratories and test centres is the result of ‘epistemic cultures’ (KNORR-CETINA, 1999). As a result, LIVINGSTONE (2003) demands that science is ‘put in its place’, and SHAPIN (1998) criticizes the technocratic standpoint as ‘the view from nowhere’, calling for a local perspective instead on the creation and transformation of scientific knowledge.

The debates surrounding the social construction of reality have fundamentally and sustainably influenced economic and cultural geography. Imagination (DANIELS 2010) and imaginative geographies (GREGORY, 2007; STEPHENS, 2011) have become central topics, relating back to earlier ideas about imaginaries (LOEWENTHAL, 1961) and stressing the normative influence of mental constructs. Currently, central topics are the impacts of imaginaries on city planning and regional policy (BOUDREAU, 2007; WETZSTEIN and LE HERON, 2010), the semantic production of places and strategically planned geographies of space design (FAULCONBRIDGE and MCNEILL, 2010), or the facticity of mental concepts which are constructed socially (HARVEY, 1990). The social construction of firms (LEYSHON, 2011; SCHOENBERGER, 2001) and markets (BERNDT and BOECKLER, 2009) are important issues, too.

Until recently, the ‘cultural turn’ was received skeptically by some branches of economic geography. For a long time, ‘social construction of reality’ had become code for epistemological commitment and confession (HACKING, 1999). Today it can safely be said that the gap between the different views has been bridged (BATHELT and GLÜCKLER 2011; BERNDT and BOECKLER, 2009; LEYSHON, 2011). Authors stress the importance of scientific-technical knowledge whilst also emphasizing the importance of other forms of knowing. Thus, current literature has come to hold an ‘in-between’ perspective on knowledge.

The ‘in-between’ perspective

A particular contribution to broadening the understanding of knowledge in economic geography has been made by organisational sciences. Inspired by POLANYI (1958) and particularly NONAKA and TAKEUCHI (1995), they focus on informal, implicit knowledge, going beyond the idea of scientific-technical know-how. Non-formal skills, the contextualised knowledge held by teams, and everyday experiences are acknowledged as important features for organisational learning. Such knowledge is rarely set out in manuals and can only be captured with difficulty, if at all. Experiential knowledge defies and even calls into question ‘rational’ calculation (FUCHS and SCHARMANSKI, 2009). Consequently, some authors criticise the idea of knowledge as a quasi-substantial ‘resource’ for companies to draw on, stressing instead the peculiarity of knowledge (IBERT, 2007). Others stick to the notion of knowledge as a resource

but place it into a social-relational context (GLÜCKLER and BATHELT, 2011). The resource-based tradition was advanced by notions of dynamic capabilities (EISENHARDT and MARTIN, 2000; TEECE and PISANO, 1994) as well as the notion of complex architectures of knowledge (AMIN and COHENDET, 2004).

With increasing focus on the significance of such informal, secret and elusive knowledge for local companies and regional networks, the perspective has shifted towards ‘untraded interdependencies’ and ‘localised capabilities’ in industrial clusters and metropolitan areas (STORPER, 1995; MALMBERG and MASKELL, 2006) and towards ‘regional social capital’ as a basis for innovation, learning and entrepreneurship (MALECKI, 2012). It became obvious that polarisation between local, sticky, informal knowledge on the one hand and ubiquitous, universal, formal knowledge on the other was too simple an equation (ASHEIM and ISAKSEN, 2002; GERTLER, 2003). Apart from ‘local buzz’, ‘global pipelines’ of knowledge thus came into focus. Both territorial and distant relational dynamics are now considered important for knowledge creation and innovation (BATHELT *et al.*, 2004; 2011) and regional development (BELUSSI and SEDITA, 2012; OINAS, 2000), suggesting that knowledge is produced at different scales (LAGENDIJK, 2001). The notion of learning in space has been put forward to replace the idea of the learning region (HASSINK and KLAERDING, 2012) and to advance the concept of learning in place (HEALY and MORGAN, 2012). Informal and context-dependent knowledge were even suggested as the new fundamentals of the knowledge economy (RUTTEN and BOEKEMA, 2012). Obviously though, this is not a simple shift from scientific-technical knowledge to other forms of knowledge which are relevant to the new service economy. Rather, the different kinds of knowledge are acknowledged to co-exist. ASHEIM (2012) proposes to differentiate between science-based knowledge (codified, universal, abstract), engineering-based knowledge (problem-solving, interactive, more context-specific) and arts-based knowledge (creating meaning and used in cultural industries) (p. 997). Additionally, there is a view of high-tech vs. low-tech and successful low-road strategies in global competition, highlighting the windows of opportunity for regional development using ‘traditional’ local knowledge (SCHAMP, 2012).

Organisational and social sciences suggest that analysis may benefit from the inclusion of other mental constructions *beyond* knowledge (GLÜCKLER and BATHELT, 2011). In the 1980s and 1990s, organisational studies looking at team capabilities expanded their research to include commonly shared cognitive models and mindsets (CANNON-BOWERS and SALAS, 2001; STRUBE *et al.* 2005). PRAHALAD and BETTIS (1986) for instance study the dominant logic of management as mindsets based on experiences whilst CANNON-BOWERS and SALAS (2001) discuss shared cognition constructs. They distinguish knowledge which is precisely related to tasks from knowledge which is broadly related to tasks, as well as the knowledge the team members have of each other and the shared convictions they hold. DENZAU and NORTH (1994) refer to shared mental models which are essential for interpreting reality and for anticipating the future. NOOTEBOOM (2000) also refers to mental constructs and differentiates between knowledge and meaning.

In the above views put forward by the organisational sciences, the terminology of mindsets and cognitive models is shaped by the premises of productivity and competitiveness. Furthermore, notions are often tested under standardised conditions, sometimes in laboratories; the same applies to formally modelling best practices. Such an approach is unusual in those branches of economic geography which consider themselves confronted with the bulky complexity of place, space and scale and where the challenge is to deal with socio-political and institutional influences. In organisational sciences, mindsets are rarely traced back to general

patterns; cognitive models are merely recognized as shared by some individuals, shaped only by the organisation and its objectives. Even though mindsets are typecast (e.g. CANNON-BOWERS and SALAS, 2001), the typing simply takes place inductively, following case-related criteria and hardly driven by middle or high-ranging theories (VALLANCE, 2011). Furthermore, recent literature usually tends to ignore the question to what extent the hidden, secret mental constructs and ‘backstage rules’ can be discovered. Thus, the question remains how complex, informal, ‘elusive’ knowledge and cognitive constructs may be adequately grasped (ALLEN, 2002).

PATTERNS OF INTERPRETATION

‘Patterns of interpretation’ is proposed as an approach to overcome the shortcomings outlined above. Patterns of interpretation are collectively shared mindsets which are neither accidental estimations nor selective individual opinions. They are implicit and normative in that they guide human activities, and can be determined by means of an existing methodology. At present, the approach is one of the most visible, vibrant and widespread views in qualitative research in German-speaking countries (REICHERTZ, 2004), although the German language discussion has only partially arrived in the anglophone discourse to date. WAGNER *et al.* (2010) were first to suggest the use of patterns of interpretation in the analysis of industrial relationships and to apply the concept to management and organisational studies. The patterns of interpretation approach challenges the discussion surrounding knowledge in economic geography because it promises to explain the mindsets that guide economic decisions, strategies and activities in an enhanced manner, focusing in particular on the role of interpretation.

Although OEVERMANN (1973/2001a) developed the concept some decades ago the vivid discussion surrounding the idea has only sprung up recently. In a nutshell, patterns of interpretation are the commonly shared, broadly distributed, stable understandings and considerations held by a society or community. They are characterized by their *broad range* and *high stability*, and are *implicit* in that they are usually not conscious or explicitly known. Patterns of interpretation guide the activities and practices of people, offering orientation and thus helping to assess specific situations, general socio-economic conditions, or one’s own self. Thus, patterns of interpretation help to reduce the complexity of reality and make it accessible and available to human action. They are *normative* in that they explain and justify activities.

OEVERMANN gives the following illustration to better understand his idea: A river which is a vulnerable ecosystem with rare plant and animal species deserving protection is used by canoeists. Interviewed in a survey, all canoeists considered themselves ‘lovers of nature’. But when researchers confronted the canoeists with the overuse of the river by canoeing and the need for nature conservation, only some interviewees were willing to relinquish canoeing for the benefit of nature. Others insisted on exercising their sport and called for new rules on how to use nature. Referring to this example, OEVERMANN (1973/2001a, p. 48) illustrates the different patterns of interpretation which guide spatial action. Strong nature conservation (one pattern) sits side by side with the utilisation and exploitation of nature (another pattern), even though all interviewees consider themselves ‘nature lovers’.

The example illustrates that patterns of interpretation are hidden at first glance, revealing themselves only gradually. The self-assessment of being a ‘nature lover’ is *not* the collective and culturally distributed pattern of interpretation because it does not explain the activities of the canoeists and the principles that guide their action. In the case of the canoeists, there are

two patterns of interpretation: One interprets nature as worthy of protection and deep respect; in case of doubt it puts nature first. In the other, nature is understood as a setting for leisure activities and a space to enhance self-awareness (OEVERMANN, 1973/2001a, p. 48).

The essential criteria of patterns of interpretation – their broad range, high stability, implicitness and normativity – are discussed below together with deliberations on methodology.

Range and Stability

Patterns of interpretation are persistent and collective, non-varying attitudes and temporary engagements. Thus, OEVERMANN (2001b, p. 42–45) strongly distances himself from opinion polling or public surveys which examine questions such as “What political party would you vote for today?” Rather than opinions, patterns of interpretation correspond to the idea of habitus (BOURDIEU, 1990) in the sense of the social personality structure.

In his early papers, OEVERMANN (2001a, p. 4,23; 2001b) stresses that patterns of interpretation are ‘epochal’ in the sense that cultural patterns exist for long periods, for example the protestant ethic (see Weber, 1920/1986). At that time, he was inspired by structuralism and linguistic theories among other epistemological approaches (REICHERTZ, 2004). The notion of wide-ranging, elementary patterns of interpretation is reminiscent of ‘deep structures’ as regulatory units of language. Nevertheless, OEVERMANN (1973/2001a, pp. 8–19) has always stressed that patterns of interpretation are not universal structures, but patterns of understanding which are open to development. He distances himself from the idea of deep structures in the sense of architecture, producing speech acts and other activities quasi algorithmically. Nevertheless, his analysis refers to the underlying structures and general nuclei of cultural and social life, focusing in particular on cultural and social fundamentals and essentials (OEVERMANN 2001b, pp. 36–38). Such notions show some similarities to the idea of ‘memes’, which are taken to be analogous to genes and represent cognitive units, memory elements and socio-cultural patterns of meaning (DAWKINS 1989). OEVERMANN (2001b, pp. 41–51) rather sees patterns of interpretation as part of ‘World 3’ (POPPER, 1967/1983, p. 68): Theories, stories, myths and further cognitive structures are part of the ‘objective’ social sphere: although they are part of individual persons, they are also independent of the becoming and passing away of the single individual.

In a critical contribution, ULLRICH (1999, p. 429) accepts that patterns of interpretation refer to the overall culture but notes they can appear on different scales and in different parts of society. Patterns of interpretation may also be held by a group or community. KASSNER (2003) understands patterns of interpretation as phenomena in a ‘social field’, regarding the appearance of patterns as location-dependent and regionally bounded. This means that patterns of interpretation can be analysed in a local community for example, or with a focus on gender or the social backgrounds of specific groups.

Implicitness

Patterns of interpretation are usually implicit; they are ‘hidden rules’ or unspoken ‘everyday theories’ (OEVERMANN 2001b, pp. 42–45). Patterns thus need to be revealed gradually by means of interpretation. Persons incorporate the collective patterns of interpretation by habituation (socialisation during childhood and by further processes of internalisation). They learn how to interpret a situation and how to apply social rules. Thus, people do not learn the

rules piece by piece. This is different from how individuals conceive parts of their knowledge, for example at school.

Patterns of interpretation work implicitly as long as they provide an inner logic and consistency and offer appropriate and adequate interpretations of situations, social settings and the self. Internal discrepancies and conflicts with other constructs of reality make them open and vulnerable to reflection. In crises and catastrophes, patterns of interpretations often become explicit and with this subject to conscious and sometimes critical discourse. Although such processes are not methodologically and scientifically controlled, ordinary life offers opportunities for serious and critical reflection of patterns of interpretation (OEVERMANN 2001b, p. 38).

OEVERMANN (2001c, p. 39f) distinguishes between rules which generate meaning and case-related knowledge. Both can be analysed in transcripts of interviews and other documents. For example, asking policemen directly about their actions would reveal little of their personal perception of how they interrogate suspects. They would most likely talk about their routines and behavior but not their construction of 'suspicion' or their understanding of 'normal' and 'deviant' behaviour. The same is true for the analysis of hooliganism in sports: Fans supporting one team will profess to be completely unlike the other fan club although both follow the same rules of violence (SOEFFNER, 2004a). OEVERMANN'S view makes it possible to differentiate between the rules that generate meaning and specific knowledge about the subjects of research. To analyse the implicit patterns of interpretation, he suggests a specific methodology to discover the hidden patterns of interpretation.

Normativity

Patterns of interpretation are normative. They direct and channel the way how people think and opine, know and understand, speak and write, perform and realise all the daily things they do. Patterns of interpretation help the subject to anticipate the future and generate expectations. Persons refer to patterns of interpretation to anticipate possible reactions in the social world (SOEFFNER, 2004b).

Although patterns of interpretation work almost like prescriptions in the sense of commonly shared 'imprints' or 'scripts', subjects have relative autonomy in how to interpret, understand and construe reality. In contrast to behavioural approaches which deal with causality between the subject and its environment, patterns of interpretation refer to an intervening rule, a reason or explanation which guides the subject and is relatively independent of the environment.

As a normative setting 'in the mind', there is obviously a relationship between the concept of patterns of interpretation and the long tradition which understand institutions as 'transmitted institutional habits of thought' (VEBLEN, 1910; NORTH, 1991). Institutions as well as patterns of interpretation can provide legacy; both are 'carriers of history' (DAVID, 1994, p. 207). Particularly informal institutions share the characteristic of representing collective mental constructs and rules guiding activities. However, institutional notions are a less developed perspective of the approach; we will return to this topic in the final discussion.

Methodological implications

OEVERMANN (2001c, p. 39) terms his procedure to uncover patterns of interpretation 'objective' hermeneutics. Epistemologically, this is not based on the naïve essentialist idea that reality can be experienced directly and objectively. Signs, particularly language, are regarded as central for understanding reality. This approach is set apart from empathetic and sensitive

approximation to the research issue and its gradual re-construction. OEVERMANN seeks to avoid the hermeneutics of re-enactment and empathy for a particular singularity, distancing himself from phenomenological exegesis. 'Objective' to him means focusing on the research issue and explaining it as intrinsically as possible. As such, he does not deny the influence of the researcher and context but concentrates on the intersubjective, evident structures of culture and society represented in language. Today this view is often called 'structural hermeneutics'. In a broader context of understanding it is sometimes also interpreted as a 'strong program in cultural theory' (ALEXANDER and SMITH, 2006, p. 143; REED, 2003, p. 106).

At its heart, OEVERMANN'S (2001c, p. 39) method is the immanent interpretation of text and wording. The procedure is a specific method of text analysis, attempting to separate rules and structures from the case-related knowledge. In stressing the difference between the scholar and the research subject, he points out that disciplines with a temporal or spatial distance to their research topic such as history and ethnology have the advantage of research subjects characterised by 'otherness'. Their research topics are 'cold' while in other disciplines, researchers need to 'cool down' their 'hot' topics.

The methodological process aims to identify the patterns of interpretation 'sequentially'. Analysing written and spoken texts and other communicative material, researchers seek to become aware of the implicit essentials. In order to analyse patterns of interpretation, OEVERMANN (2001c) suggests to first read the document exhaustively and thoroughly. Then, the investigator selects phrases for the relevant structures. Each selected phrase is played through with regard to other versions which might occur. The differences which the varieties generate help to understand the structures beyond the expressions. Throughout this process the researcher is held to be economical without following vivid phantasies (OEVERMANN, 2001c, p. 40).

CRITICAL DISCUSSION AND STARTING POINTS FOR ECONOMIC GEOGRAPHY

Critical Discussion

There are some issues in the conception of patterns of interpretation which give rise to skepticism. First, OEVERMANN states the *range and stability* of patterns of interpretation as not given, suggesting they need to be determined by research. However, he fails to provide clear-cut criteria for setting apart 'small' patterns of interpretation from shared opinions in a community or society. One general criterion does emerge, which is the relation to overall culture. Patterns of interpretation resemble 'grand narratives', although here literature detects a spectrum ranging from 'small stories' to 'master stories', too (FENTON and LANGLEY, 2012, p. 1175).

Furthermore, concerning CANNON-BOWERS and SALAS (2001), it may be that patterns of interpretation are less clear and distinct as they seem. Patterns of interpretation might only partially overlap or be compatible or complementary; also they do not necessarily imply identical commonly shared notions within the community. Incidentally, the same is true for knowledge, which is often only incompletely shared by members of companies and organisations (HECKER, 2012).

Further difficulties arise from the notion of *implicitness* and the resulting *methodology*. Referring to OEVERMANN'S idea that 'hot' topics benefit from 'cooling down', a critical point is that issues of economic geography are rarely 'cold', with researchers at least partially sharing the same world as the analysed subjects. Researchers dealing with socio-spatial problems are

part of contemporary society and the current academic debate. Such givens cannot simply be blanked out. At the same time, there is little evidence that an economic geographer analysing foreign regions overseas is in a better position than the researcher working on nearby socio-economic places. OEVERMANN (2001c, p. 40) himself admits there is no 'tabula rasa'. His argument is simply that researchers should 'cool down' the research matters as far as possible, using criteria such as relevance, explanatory power, evidence, adequacy and intersubjective proof. As a result of these difficulties, and not least because of practical problems using the elaborate method, not all scholars follow OEVERMANN's 'art' of interpretation. Different methods have been set out, combining the analysis of patterns of interpretation with other techniques of analysis (REICHERTZ, 2004) or broadening the approach by combining discourse analysis and patterns of interpretation (KELLER, 2011; ULLRICH, 1999). Discourse analysis focuses on the processes of formation, negotiation and transformation of power relations in specific fields. Such methodological amplification also broadens the research subject by adding a perspective on power.

The topic of power leads to the third issue which is *normativity*. OEVERMANN stresses the character of patterns of interpretation as rules for guiding action. Analysis of power is mostly hidden in his approach, or rather included in the examination of power incorporated in patterns of interpretation. OEVERMANN (2001b, pp. 42–45) emphasizes the difference between ideologies, intentionally motivated by interest and power, and patterns of interpretation. Thus, power analysis, with issues of institutionalized domination, political strategies, monopoly power, exploitation etc., is not an issue in the approach.

Links to the knowledge-related debate in economic geography

The above made clear that OEVERMANN (1973/2001a; 2001b; 2001c) positions himself far from the idea of economic rationality exercised by homo oeconomicus. However, patterns of interpretation go beyond the behaviourist assumptions of decision theory in that the approach does not remain on the surface of observable behaviour. Instead, it attempts to decipher the basic rules that guide behaviour and action. From this point of view, there are no causal relationships between objective 'location factors' and subjective behaviour. Also, the focus is not merely on loosely connected motives for spatial activities, but on complex, broadly shared mental settings with their own architecture and logic and reference to a distinct social and cultural background. In many behavioural approaches, mental concepts tend to be marginalised; they simply belong to intentionality in some unspecified manner (EVERTS *et al.* 2011). Patterns of interpretation offer economic geographers an in-depth view of mental settings that are broad in range, of high stability and have rule-setting character.

A first starting point in the knowledge-related discussion within economic geography is thus the *broad range* and *high stability* of patterns of interpretation. As both knowledge (in the sense of 'in-between knowledge') and patterns of interpretation have a specific range and stability resulting from the social construction of reality, it is useful to follow an integrative perspective in order to better understand the character of knowing and interpreting of organisations and also of subjects within organisations. For example, some kinds of knowledge important for innovation are not durable, but need to be refreshed again and again. Other, more fundamental knowledge such as in engineering and mathematics is important for every innovation and thus durable. Patterns of interpretation, for example the commitment to permanent and lifelong learning, seem to be stable and broadly spread; however, in some parts of an organisation, patterns of interpretation may exist which explain why learning is avoided.

Second, the view on *implicitness* can advance the understanding of sticky knowledge, experiences, unconscious skills and capabilities. Like patterns of interpretation, such informal knowledge is implicit. Both kinds of mental constructs are subject to habitualisation, and although they work like hidden recipes they can be uncovered gradually. The differentiation between rules which generate meaning and case-related knowledge seems useful for the analysis of knowledge, too. Insofar, the elaborated *methodological* procedure will be worth the effort applying it to the analysis of informal, implicit, experiential knowledge. For example, the specific informal and implicit knowledge of personal networks needed for investments in a local 'future market' abroad is different from patterns of interpretation such as trust and reliance. Such deep analysis might well reveal that some specific issues formerly analysed as implicit knowledge turn out to be patterns of interpretation.

Third, as patterns of interpretation are *normative* mental models, they can enhance engagement with institutions, especially informal institutions which can be conceived of as cognitive constructs (FUCHS, 2012). However, the main difference between informal institutions and patterns of interpretation is their epistemological origin and objective. Institutional approaches seek to explain the stability and normative control of individual action; sanctions play an important role here besides legitimization. In economics, institutional approaches question rationality and equilibrium assumptions. Given that institutions are tasked with reducing opacity and uncertainties, there are also functional approaches which stress the institutional task of ordering economic and social life. In contrast, the patterns of interpretation approach seeks to reveal the commonly shared and hidden settings in society and culture. The two are quite distinct: The specific knowledge about institutionalised labour relations such as informal employment contracts is different from the commitment to paid work.

At the same time, the patterns of interpretation approach is not static. Analysing change, fluidity and evolution is only possible if structures can be identified. Since patterns of interpretation become particularly visible in times of crisis and disaster, they can be used as an indicator of change and means for gaining deeper understanding of critical junctions in evolution and crisis (MACKINNON *et al.*, 2009, MARTIN AND SUNLEY, 2010).

The main overall benefit of the approach is its ability to broaden the perspective beyond knowledge. Since economic decisions, strategies, activities, and the resulting institutions are not only a product of knowledge, but also of interpretation, patterns of interpretation help economic geography to better understand phenomena of place, space and scale. Evidently, knowledge about an issue is different from the patterns of interpretation related to that issue. For example, knowledge about a river ecosystem is not the same as the pattern of interpretation which determines how we think about using nature. Case-related knowledge about a crime is not the same as suspicion. Or, to give examples more relevant to economic geography, knowledge of the causes and challenges of an economic crisis is not the same as the patterns of interpretation of the crisis (for example, whether the crisis is understood as an over-running wave or a path-dependent problem). With regard to proximity and distance, knowledge about topographical issues is not the same as patterns of interpretation concerning closeness and otherness. Differentiating between knowledge and patterns of interpretation and examining both will encourage greater precision in economic geography's analysis.

CONCLUSION

This article has identified three ways of understanding knowledge, with one strand of literature comprehending knowledge as a scientific-technical resource and another as a social construction of reality. In economic geography, the prevailing perspective is ‘in between’ the two, stressing the significance of informal, implicit knowledge in a rather broad sense. This contribution suggests a comprehensive framework for advancing the ‘in between’ view. The core proposal is to differentiate more firmly between knowledge and other mental constructs because shared cognitive constructs such as interpretation are highly relevant for analysing place, space and scale. For example, actors’ interpretation of general conditions and situations, or their view of their own role and that of their counterparts, is not exactly knowledge but better described as interpretation. To date, however, interpretation has not been a significant issue in theoretical and conceptual analysis in economic geography.

A deficit is noted in the general discussion of organisational studies with respect to cognitive models. Usually such notions are not traced back to general social patterns or cultural rules; instead, cognitive models are assumed to simply spread between some individuals and thus to be somewhat accidental. Furthermore, there is insufficient debate on how to discover such hidden mental constructs.

Responding to these deficits, ‘patterns of interpretation’ are put forward as an additional concept. Their broad range is attractive for studies oriented on rules and structures. Furthermore, the insight that patterns of interpretation are usually implicit can advance the understanding of informal knowledge, too. Patterns of interpretation are normative, thus building a bridge to informal institutions and institutional change.

Although ‘knowledge’ and ‘patterns of interpretation’ are shown to have aspects in common, caution is needed since they refer to different epistemological subjects. Clearly, the terms explain different issues. Thus, the concepts should not be used as substitutes, but as complementary approaches with the added benefit of complementary terminology.

‘Patterns of interpretation’ is an epistemologically differentiated, theoretically elaborate and methodologically sophisticated concept. Nevertheless the notion needs to be advanced for the purposes of research in economic geography. A broadening of the concept requires inspiration; at the same time, this must be done carefully to ensure ‘patterns of interpretation’ does not become an unspecific catchphrase.

REFERENCES

- ALEXANDER J. and SMITH P. (2006) A Strong Program in Cultural Theory, in Turner J. H. (Ed) *Elements of a Structural Hermeneutics. Handbook of Sociological Theory*, pp. 135–150. Springer, New York.
- ALLEN J. (2002) Living on thin abstractions: more power/economic knowledge, *Environment and Planning A* (34)3, 451–466.
- AMIN A. and COHENDET P. (2004) *Architectures of Knowledge: Firms, Capabilities, and Communities*, Oxford University Press, Oxford.
- ASHEIM B. and ISAKSEN A. (2002) Regional Innovation Systems: The Integration of Local ‘Sticky’ and Global ‘Ubiquitous’ Knowledge, *The Journal of Technology Transfer* (27)1, 77–86.

- ASHEIM B. (2012) The Changing Role of Learning Regions in the Globalizing Knowledge Economy. A Theoretical Re-examination, *Regional Studies* (46)8, 993–1004.
- BATHELT H. and GLÜCKLER J. (2011) *The Relational Economy. Geographies of Knowing and Learning*, Oxford, Oxford University Press.
- BATHELT H., FELDMAN M. P. AND KOGLER D. F. (2011) Territorial and relational dynamics in knowledge creation and innovation. An introduction, in: Bathelt H., Feldman M. P. and Kogler D. F. (Eds.), *Beyond Territory. Dynamic Geographies of Knowledge. Creation, Diffusion, and Innovation*, pp. 1-17. Routledge, London and New York.
- BATHELT H., MALMBERG A. and MASKELL, P. (2004) Clusters and knowledge: Local buzz, global pipelines and the process of knowledge creation, *Progress in Human Geography* (28)1, 31–56.
- BELL D. (1973) *The Coming of Post-Industrial Society*, Basic Books, New York.
- BELUSSI F., SEDITA S. R. (2012) Industrial Districts as Open Learning Systems: Combining the Emergent and Deliberate Knowledge Structures, *Regional Studies* (46)2, 165–184.
- BERGER P. L. and LUCKMANN T. (1966/1991) *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*, Penguin, London.
- BERNDT C. and BOECKLER M. (2009) Geographies of circulation and exchange: Constructions of markets, *Progress in Human Geography* (33)4, 535–551.
- BOUDREAU J.-A. (2007) Making new political spaces: mobilizing spatial imaginaries, instrumentalizing spatial practices, and strategically using spatial tools, *Environment and Planning A* 39(11), 2593–2611.
- BOURDIEU P. (1990) Structures, habitus, practices, in Bourdieu P. (Ed) *The logic of practice*, pp. 52–79. Stanford University Press, Stanford.
- CANNON-BOWERS J. and SALAS E. (2001) Reflections on Shared Cognition, *Journal of Organizational Behavior* (22)2, 195–202.
- DANIELS S. (2010) Geographical Imagination, *Transactions* (36)2, 182–187.
- DAVID P. E. (1994) Why are institutions the ‘carriers of history’? *Structural Change and Economic Dynamics* (5)2, 205–220.
- DAWKINS R. (1989) *The Selfish Gene*, Oxford, Oxford University Press.
- DENZAU A. T. and North D. C. (1994) Shared Mental Models: Ideologies and Institutions, *Kyklos* (47)1, 3–31.
- EISENHARDT K. M. and MARTIN, J. A. (2000) Dynamic Capabilities: What are they? *Strategic Management Journal* (21)10/11, 1105–1121.
- EVERTS J., LAHR-KURTEN M. and WATSON M. (2011) Practice matters! Geographical inquiry and theories of practice, *Erdkunde* 65(4), 323–334.
- FAULCONBRIDGE J. R., HALL S. J. E. and BEAVERSTOCK J. V. (2008) New insights into the internationalization of producer services: organizational strategies and spatial economies for global headhunting firms, *Environment and Planning A* (40)1, 210–234.
- FAULCONBRIDGE J. and MCNEILL J. (2010) Geographies of space design, *Environment and Planning A* (42)12, 2820–2823.
- FENTON C., LANGLEY A. (2012) Strategy as Practice and the Narrative Turn, *Organizational Studies* (32)9, 1171–1196.
- FUCHS M. and SCHARMANSKI A. (2009) Counteracting path dependencies: ‘Rational’ investment decisions in the globalizing commercial property market, *Environment and Planning A* (41)11, 2724–2740.
- FUCHS M. (2012): Deutungsmuster als Beitrag zur wirtschaftsgeographischen Diskussion über Wissen und Institutionen [Patterns of Interpretation as a Contribution to the Debate about Knowledge and Institutions in Economic Geography], *Geographische Zeitschrift* (100)2, 65–83.

- GERTLER M. S. (2003) Local knowledge: tacit knowledge and the economic geography of context, or the indefinable tacitness of being (there), *Journal of Economic Geography* **3**(1), 75–99.
- GREGORY D. (2007) Imaginative geographies, in Gregory D., Johnson R., Pratt G., Watts M. and Whatmore S. (Eds) *The dictionary of human geography*, pp. 369–371. Blackwell, Oxford.
- HACKING I. (1999) *The Social Construction of What?* Harvard University Press, Cambridge and London.
- HASSINK R. and KLAERDING C. (2012) The End of the Learning Region as We Knew It. Towards Learning in Space, *Regional Studies* **(46)8**, 1055–1066.
- HEALY A. and MORGAN K. (2012) Spaces of Innovation: Learning, Proximity and the Ecological Turn, *Regional Studies* **(46)8**, 1041–1053.
- HECKER A. (2012) Knowledge Beyond the Individual? Making Sense of a Notion of Collective Knowledge in Organization Theory, *Organization Studies* **(33)3**, 423–445.
- IBERT O. (2007) Towards a geography of knowledge creation: The ambivalences between ‘knowledge as an object’ and ‘knowing in practice’, *Regional Studies* **(41)1**, 103–114.
- JÖNS H., LIVINGSTONE D. N. and MEUSBURGER P. (2010) Interdisziplinäre Geographies of Science, in Meusbürger P., Livingstone D. N. and Jöns H. (Eds) *Geographies of Science*, pp. ix–xvii. Springer, Heidelberg, London and New York .
- KASSNER K. (2003) Soziale Deutungsmuster – über aktuelle Ansätze zur Erforschung kollektiver Sinnzusammenhänge [Social patterns of interpretation – about recent approaches to analyse collective contexts of meaning], in Geideck S. and Liebert W.-A. (Eds) *Sinnformeln [Formula of meaning]*, pp. 37–57. De Gruyter, Berlin.
- KELLER R. (2011) *Wissenssoziologische Diskursanalyse [Discourse analysis in sociology of knowledge]*, VS publisher, Wiesbaden.
- KNOBEN J. and OERLEMANS L.A.G. (2012) Configurations of Inter-organizational Knowledge Links: Does Spatial Embeddedness Still Matter? *Regional Studies* **(46)8**, 1005–1021.
- KNORR-CETINA K. (1999) *Epistemic Cultures. How the Sciences make knowledge*, Harvard University Press, Cambridge, London.
- LAGENDIJK, A. (2001) Scaling knowledge production: how significant is the region? in Fischer M. M. and Fröhlung J. (Eds.) *Knowledge, complexity and innovation systems*, pp. 79–100. Springer, Berlin.
- LEYDESDORFF L. (2006) *The Knowledge-based Economy: Modeled, Measured, Simulated*, Universal Publishers, Boca Raton (Florida).
- LEYSHON A. (2011) Towards a non-economic, economic geography? in Leyshon A., Lee R., McDowell L. and Sunley M. (Eds) *The Sage-Handbook of Economic Geography*, pp. 383–397. Sage, Los Angeles.
- LIVINGSTONE D. N. (2003) *Putting Science in its Place. Geographies of Scientific Knowledge*, University of Chicago Press, Chicago and London.
- LOEWENTHAL D. (1961) Geography, Experience, and Imagination: Towards a geographical epistemology, *Annals of American Geographers* **(51)3**, 241–260.
- MACKINNON D., CUMBERS A., PIKE A. BIRCH K. and MCMASTER R. (2009) Evolution in Economic Geography: Institutions, Political Economy, and Adaptation, *Economic Geography* **(85)2**, 129–150.
- MALECKI E. J. (2012) Regional Social Capital: Why it Matters, *Regional Studies* **(46)8**, 1023–1039.
- MALMBERG A. and MASKELL P. (2006) Localised learning revisited, *Growth and Change* **(37)1**, 1–18.
- MANNHEIM K. (1925) Das Problem einer Soziologie des Wissens [The problem of a sociology of knowledge], *Archiv für Sozialwissenschaft und Sozialpolitik* **53**, 577–652.

- MARTIN R. and SUNLEY P. (2006) Path Dependence and Regional Economic Evolution, *Journal of Economic Geography* (6)4, 395–437.
- NELSON R. R. and WINTER S. G. (1982) *An Evolutionary Theory of Economic Change*, Harvard University Press, Cambridge.
- NONAKA I. and TAKEUCHI H. (1995) *The knowledge creating company. How Japanese companies create the dynamics of innovation*, Oxford University Press, Oxford and New York.
- NOOTEBOOM B. (2000) *Learning and Innovation in Organizations and Economies*, Oxford University Press, Oxford and New York.
- NORTH D. C. (1991) Institutions, *The Journal of Economic Perspectives* (5)1, 97–112.
- OEVERMANN U. (1973/2001a) Zur Analyse der Struktur von sozialen Deutungsmustern (1973) [About the analysis of the structure of social patterns of interpretation (1973)], *Sozialer Sinn* (2)1, 3–33.
- OEVERMANN U. (2001b) Die Struktur von sozialen Deutungsmustern – Versuch einer Aktualisierung [The structure of social patterns of interpretation – approach for an update], *Sozialer Sinn* (2)1, 35–81.
- OEVERMANN U. (2001c) Strukturprobleme supervisorischer Praxis [Structural problems of the practice of supervision], *Humanitas*, Frankfurt.
- OINAS P. (2000) Distance and learning: Does proximity matter? in Boekema F., Morgan K., Bakkers S. and Rutten R. (Eds.), *Knowledge, innovation and economic growth: Theory and practice of the learning region*, pp. 57–69. Edward Elgar, Cheltenham.
- POLANYI M. (1958) *Personal Knowledge*, University of Chicago Press, Chicago.
- POPPER K. (1967/1983) Knowledge: Subjective versus Objective, in Miller, D (Ed.) *A Pocket Popper*, pp. 58–77. Oxford University Press, Oxford.
- PRAHALAD C. K. and BETTIS R. (1986) The dominant logic: A new linkage between diversity and performance, *Strategic Management Journal* (7)6, 485–501.
- REED I. (2003) Structural Hermeneutics and the Possibility of a Cultural Science, *Yale Journal of Sociology*, 3, 105–111.
- REICHERTZ J. (2004) Objective Hermeneutics and Hermeneutic Sociology of Knowledge, in Flick U., von Kardoff E. and Steinke I. (Eds) *Companion to Qualitative Research*, pp. 290–295. Sage, London.
- RUTTEN R. and BOEKEMA F. (2012) From Learning Region to Learning in a Socio-spatial context, *Regional Studies* (46)8, 981–992.
- SCHAMP E. W. (2012) Constructing a Global Centre for Competence from Local Knowledge: The Case of Pirmasens, *Urbani Izziv* (23)1, 94–103.
- SCHELER M. (1925/1960) *Die Wissensformen und die Gesellschaft* [The shapes of knowledge and the society], Francke publisher, Bern and Munich.
- SHAPIN S. (1998) Placing the view from nowhere: Historical and sociological problems in the location of science, *Transactions of the Institute of British Geographers. New Series* 23, 5–12.
- SOEFFNER H.-G. (2004a) *Auslegung des Alltags – Der Alltag der Auslegung* [Interpretation of everyday life – Everyday life of interpretation], UVK publisher, Konstanz.
- SOEFFNER H.-G. (2004b) Social science hermeneutics, in Flick U., Kardoff E. and Steinke I. (Eds.), *A companion to qualitative research*, pp. 95–100. Sage, London.
- STEPHENS A.C. (2011) Beyond imaginative geographies? Critique, co-optation, and imagination in the aftermath of the War on Terror, *Environment and Planning D* (29)2, 254–267.
- STORPER M. (1995) The resurgence of regional economies, ten years later: the region as a nexus of untraded interdependencies, *European Urban and Regional Studies* (2)3, 191–221.

- STRUBE G., THALEMANN S., WITTSTRUCK B. and GARG K. (2005) Knowledge sharing in teams of heterogeneous experts, in Bromme R., Hesse F. W. and Spada H. (Ed), Barriers and biases in computer-mediated knowledge communication, pp. 193–212. Springer, New York.
- TEECE D. and PISANO G. (1994) The Dynamic Capabilities of Firms: An Introduction, *Industrial and Corporate Change* (3)3, 537–556.
- ULLRICH C. (1999) Deutungsmusteranalyse und diskursives Interview [Patterns of interpretation and discursive interview], *Zeitschrift für Soziologie* (28)6, 429–447.
- VEBLEN T. (1910) *The theory of business enterprise*, C. Scribner's sons, New York.
- WAGNER S., LUKASSEN P. and MAHLENDORF M. D. (2010) Misused and Missed Use – Grounded Theory and Objective Hermeneutics as Methods for Research in Marketing, *Industrial Marketing Management* (39)1, 5–15.
- WEBER M. (1920/1968) *Gesammelte Aufsätze zur Religionssoziologie* [Collective essays about the sociology of religion], Vol. 1, Mohr, Tübingen.
- WETZSTEIN S. and LE HERON R. (2010) Regional economic policy 'in-the-making': imaginaries, political projects and institutions for Auckland's economic transformation, *Environment and Planning A* (42)8, 1902–1924.