How time enters into spatial research

Digital creativity – Understanding innovation processes
Climate and energy transition – Pathways to policy formation
The dynamics of migration – Cities in a management dilemma
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From space to time and back again? Spatio-temporality as a new research perspective at the IRS

That the IRS researches spaces and spatiality is well known. In its new research programme “Cities and Regions as Open Arenas” (2019-2021), the institute focuses on collective conceptual work on “spatio-temporal dynamics”. What does this mean? For the researchers it involves finding out how the diverse objects of research at the IRS manifest, spread, and change in space and time. To this end, theoretical and methodological tools are required: How can one understand time and “temporality”? How do these relate to our established research object, space? By what means can this interrelation be investigated? And finally: What new insights does this perspective bring?
Space and time are the two central systems of ordering in human experience and thought. Space orders those things that occur together, while time orders them sequentially (one after the other). For many of the questions posed by scientists, it makes sense to analytically separate space from time. A map, for instance, is an appropriate medium for revealing spatial structures, but it always carries the cost that processes underlying such structures must be, so to speak, frozen. Conversely, social-science models of processes, such as innovation or crisis processes, offer a good insight into the dramaturgy of the typically sequential actions, but they suppress the spatially unequal distribution of those participating and affected, their causes and impacts.

The IRS has already examined temporal orders and used them in connection with space. Since 2015, for instance, the research department “Dynamics of Communication, Knowledge and Spatial Development” has investigated social innovation processes in rural communities. The department “Institutional Change and Regional Public Goods” has examined institutional transformation processes in the supply of infrastructures. Finally, in the Department for Historical Research the IRS explores recent German planning history – thus with an explicit bearing on time. Still, in the current research programme the institute seeks to pursue this theme further. Spatio-temporality will be promoted to an independent research dimension and category of analysis that, theoretically and methodologically underpinned, could perhaps lead to completely new accounts of social phenomena – such as why some policy attempts to exercise influence succeed where others fail.

We are used to thinking of time in the sense of the notion of “chronos” – as something objectively given. It flows uniformly, always in the same direction, independent of an observer, and the same in all places. Various means of recording time, such as watches and calendars, appear to us to verify this concept. Social-science approaches, on the other hand, emphasise the socially constructed character of time: time and temporality are based upon social conventions, negotiated between actors, enforced by means of power, and prescribed as norms. The necessity of synchronising time across many locations and of measuring it uniformly only first emerged in the 19th century, for example. Railway networks were built, and timetables were established. From a social-science perspective, it is interesting to examine how the actors involved – such as railway companies, administrators, traders, clock makers, and passengers – came to a common understanding of the way in which time should be measured, displayed, documented, and used. It is through such procedures that the notions of time which a society constructs changes, and thus also what it is that people experience as the "objective" truth about time.

A number of basic observations hold true for social-science research on time and temporality:

**Time is relational**

Environments that are constantly in flux, such as sea surf or the contents of a lava lamp, and those that appear motionless and unalterable, such as a stony desert, both give an observer the impression of timelessness. By contrast, environments in which transience and stability can be vividly experienced, such as in the city, in the juxtaposition of historic and futuristic buildings, younger and older generations, obsolete and modern technologies, all create strong impressions of temporality.
The human body serves as the measure of temporality

Impressions of temporality are closely tied to our bodily experiences. The temporality of processes that considerably exceed our lifetimes, such as climate change, are perceived as threats only abstractly. Computer programmes, whose stimulus-response sequencing is calibrated to match the limitations of our sensory organs, are not termed “real-time simulations” by chance. Interactions such as so-called high-frequency trading, that is, the rapid trading of bonds and foreign currencies, are by contrast no longer sensually perceptible. They must therefore be delegated to algorithms processed by high-performance computers.

Socially constructed time does not pass uniformly

Time pressure is thus generated by the setting of deadlines. Conversely, organisations can intentionally plan in time buffers. Socially constructed time is also not spaceless. Places with higher time intensity can thus be created, such as a workshop in which researchers collaborate intensively, or a party at which one encounters many friends in a short span of time. By setting up particular moments that everyone agrees count for something, such as the final of the football World Cup or the premier of a stage play, the course of things can be significantly influenced. It was to this end that the term “kairos” was coined. Likewise, there are places in which deceleration and relaxation are achieved – an example would be the Cittàslow (“slow city”) movement initiated in Italy, which attempts to prevent the increasing uniformity of cities created by capitalistic forms of value creation such as franchise chains. The movement associates the latter with increasing acceleration and temporal heteronomy over people. Temporal conventions such as punctuality or adherence to schedules allow technologies to record (or better, to generate) objective temporality. But at the same time, time is – in its conveyance through cultural values – subjectively experienced in highly different ways.
Differing temporalities coexist

Different groups, actors, subcultures, places, and public spheres each follow their own time regimes, and thus handle time in fundamentally different ways. Especially when these multiple temporalities meet in limited spaces, such as in neighbourhoods characterised by migrant populations, or when various groups have a common goal despite differences in such time regimes, there emerges the challenge of asynchronicity and the necessity to synchronise. Conversely, strategies of temporal uncoupling are also conceivable, such as in the form of a sabbatical year or a retreat, allowing people to free themselves from the temporal routine – for instance, in order to develop new ideas.

Space and time are mutually convertible

Spatial categories are often invoked to express temporal scales (e.g. the “timespan” between two events) and, likewise, temporal magnitudes might be used as a measure of spatial distance (as in an “eight-hour flight”). But beyond such linguistic metaphors, there are approaches in which space and time can even be mutually converted. In a study on the restructuring of stock exchanges, for example, the sociologist Karin Knorr-Cetina has shown that their traditional spatial setting, the trading floor, where traders meet as if in the marketplace and are able to move between various junctions, has taken on a rather more temporal character as a result of the introduction of computer-based, real-time updates on market values via ticker: This binds traders to monitors on which “the market” is depicted as a sequential progression of market values.

All five lead projects in the research programme begun in 2019, as well as several third-party funded projects, are concerned with aspects of spatio-temporality. There are numerous differences, but there are also significant cross-references that could possibly serve a future, integrated research concept of spatio-temporality. In the following articles, three of these unifying elements will be presented. The article on page 8 examines processes of innovation and the organisation of creativity. On page 14 a new time heuristic is presented that has applications in research projects on infrastructure policy in the area of energy transition and climate adaptation. In the article on page 20, the focus is on the challenge of (spatio-)temporal desynchronisation for political and administrative management, using the example of migration and urban-development policy.
Oliver Ibert is director of the IRS and Professor for Spatial Transformation and Social Research at the BTU Cottbus-Senftenberg. Among his research focuses are innovation processes, processes of economic value creation, regional economic transformation, and the spatio-temporal dynamics of crises and resilience constructions.
Villages, designers, and digital innovation

Digital technologies both result from innovation and alter the way in which innovation is achieved: Ideas circulate online, the results of creativity are shared and recombined. Digital networks also expand the possibilities for long-distance cooperation. Two research departments at the IRS have devoted their lead projects to this reflexive dynamic. Examining design processes in the fashion industry and digitalisation processes in villages, they show how digital technologies in previously analogue domains have been taken up and what changes they bring.
What we have already learned about innovation processes

Innovation has been research at the IRS above all by two research departments, both in lead projects and in others with third-party funding. While projects in the department “Dynamics of Economic Spaces” are concerned with a broad spectrum of innovations – in high-tech industries, service sectors, user communities, and the creative economy – the department “Dynamics of Communication, Knowledge and Spatial Development” has focused on the issue of how social innovation arises in rural spaces, opening up new perspectives locally. The DFG project “InnoPlan”, submitted jointly by both departments, previously investigated social innovation in spatial planning. Out of this cross-departmental work developed a common perspective – innovation research, as it were, “Made in Erkner”. Central to this work is the issue of how innovation can at all be defined.

A broad definition is employed at the IRS that goes beyond purely economic or technological innovation, oriented rather more towards the concept of social innovation. It concerns the emergence, implementation, and dissemination of new developments that solve problems or in some other way create value – this explicitly includes novel social practices. A new leisure activity (such as geocaching, the subject of an IRS study) can accordingly be understood as an innovation just as much as the (relatively new) systematic incorporation of temporary usages in urban planning or the concept of rural multi-purpose shops, expanding upon the traditional village shop to provide new postal, banking, or pharmaceutical services, for example. A further characteristic of this research is its focus on process sequences and the methods with which such processes can be investigated: With “innovation biographies” researchers are able to reconstruct successful innovations after the fact and follow them back to their origins. They trace their propagation and development in space and time, denominate the decisive actors, and delineate the relationships between them. There are good reasons for taking this approach.

The first is that innovation processes are mobile and multilocal. The emergence of innovation is inspired and encouraged by the circumstances of quite concrete places, such as through the creative energy that arises when specialists in various disciplines encounter each other on a daily basis to work on practical problems. But as soon as one person has the spark of an idea and wishes to implement it, other places are brought into the equation, such as the location of cooperation partners, funding institutes, gatekeepers (that is, actors “guarding” entry to a field, such as regulatory agencies), courageous first-time customers, or specialised producers and service providers. Thus, new local and regional, national and international connections are created. In the end, a successful innovation has travelled through many places and territories.

The second is that individual innovations transform in the course of this process, passing through the hands and heads of many actors, each of whom will leave their traces, and each of whom, at different phases of the processes, are quite different from one another.
Following on from this is, thirdly, the creativity that goes into innovation; not the product of a single, gifted, visionary mind (although these certainly have their place in innovation processes), but rather the effect of collaborative action, sometimes methodically controlled, sometimes enabled by fortunate coincidence.

*With a focus on process, the IRS has been able to answer such questions in innovation research as:*

- What development phases must be undergone for innovation to succeed?
- What places, actors, and constellations of relationships are of influence at each phase?
- Where does innovation begin and end, and what places and territories does it meet on its way?
- How long can experiment remain open and when must tough decisions be made – such as for a technology, a product, or a business model?
- What are the turning points, and at what stage in a certain development is there no going back?
- What role is played by phases of interruption, temporary failure or deadlock, and reorientation?
- What takes place simultaneously, and what sequentially?
- Which activities need be brought together and which kept separate – either spatially or temporally?

The insights thus won are also of practical relevance. The innovation-policy strategic concept of the "Open Region" developed at the IRS shows, for instance, how regions can stimulate innovation processes, and how they can profit from and participate in them, even when only a small part of such processes take place within their own territory. These ideas have already been taken up in a number of regional innovation strategies, and in rural spaces, too, innovation research from the IRS has led to concrete policy recommendations. These aim to enable and support rural innovation on overcoming specific problems (e.g. in local supply or with regard to mobility), for instance through coaching and consultancy for local actors. Funding programmes may also be adapted on the basis of this research by, for instance, taking individual phases of innovation into account and facilitating co-operations spanning a number of locations.

**On design platforms and digitalised villages**

In the current research programme, both research departments have turned to address the interrelation between digitalisation and innovative creative processes. In the lead project “Platform Ecology: Creative Collaboration in the Field of Tension between Virtual and Concrete Spaces in the Case of Fashion Design”, the contribution of online platforms to design processes in the fashion industry is examined.
The fashion world has always organised creativity over long distances. Practitioners meet at trade fairs and fashion events, ideas travel globally, and importing the "foreign" into one’s own work is the staple of designers. At the same time, one’s own choice of location will significantly co-determine one’s success. Renowned fashion cites such as Paris, London, and Milan have until now staked their claim as centres of creativity.

So what influence do digital platforms have on creative processes? Platforms serve not only as means of publicity – crowdfunding and crowdsourcing, design collaborations, and production services can all also be mediated online, and even inspiration itself can be found in online media such as Instagram. On the other hand, many factors crucial to fashion, such as the touch and workmanship of a material, can hardly be conveyed digitally.

The projects seeks to understand how various, specific exchange relationships are intertwined in the course of a creative design process (such as the development of a new fashion collection). Some of these exchange relationships are mediated online, some are maintained more traditionally through personal contact. The interplay of spatiality and temporality is thus once more present, though in this case expanded by the possibilities of online mediation across large physical and cultural distances. Such platform-based mediation can have tangible consequences for both the organisation of creative processes and for the role of creative centres. The aura of established fashion cities and their centrality to creativity can be scrutinised, whilst other places (virtual or physical) can emerge on the map.

In order to understand digitally mediated creative processes, the project team – consisting of Oliver Ibert, Anna Oechslen, Alica Repenning, and Suntje Schmidt – initially compiled a general survey of the "platform ecology" of fashion: What digital platforms are used in fashion design? In what relation do they stand to one another and to creative processes in fashion design, and what points of intersections between the digital and analogue world do they each produce? On the basis of this general survey follows the reconstruction of design processes. To be able to illustrate the influence of digital technologies in the fashion industry, the project team considers various exemplary design processes: those that are more conservative, i.e. that hardly require digital support, and those that more heavily incorporate digital possibilities.

The lead project "Smart Villagers: Digitalisation and Social Innovations in Rural Spaces" pursues the question of how digitalisation changes villages and how these changes occur. Rural spaces, especially those in structurally weak regions, often suffer from a deficit of digital infrastructure provision. There are nevertheless examples of villages in which innovation-oriented initiatives not only offset such deficits, but also develop local models for solving specific situations and problems. In the process, they connect new ranges of services with creative usages of digital technology, occasionally including improved digital infrastructures or new education models. One therefore speaks of digitally supported social initiatives. On the one hand, a great variety of approaches and fields of activity have been found – from app-supported mobility services to telemedicine to coworking spaces that allow for flexible forms of work in rural areas while also enabling encounters that typically would
Digitalisation is more than 5G, that much is certain. Through organised studies of spatio-temporality, a clear picture can be developed of how situation- and place-specific factors take their effect over time to achieve quite individual results.

These innovation processes are fascinating, not least in comparison with other social innovations: Whether they take place differently or not, faster or slower, over large-scale networks or locally on a small scale, do ideas emerge in the villages themselves or are they introduced by actors from outside? Another issue addressed is the supposed contradiction between the perception of digitalisation and its effects as contributing to the accelerated pace of everyday life on the one hand, and the view of rural spaces as "decelerated" on the other. Does digitalisation accelerate life in rural areas or do digital initiatives make it less stressful, increasing their attraction for more people in the process?

Spatiality and temporality are thus not only abstract topics in innovation research, but should rather be considered a part of everyday reality. The project team is first of all interested in the last five years; changes in the investigated villages during this period will be intensively examined. Their prior histories from periods in the further past will also then be explored, however. Questions such as "Who in the village had the first computer, and when?" should provide information as to when and how a village community first came into contact with digital technologies.

**What does the new perspective bring?**

What important new impulses are to be anticipated from this research, especially from the application of the notion of spatio-temporality to digital innovation and creativity? A feature of both projects is that they investigate the emergence of novelty at the intersection of the digital and analogue worlds. Regardless whether the focus is a fashion designer or a smart villager, the concern is creative action that uses, adopts, or even shapes digital technology. This takes place partially in virtual spaces, but finds efficacy in the everyday, material world. In addition, because the temporal course of the emergence of new solution will also be researched, we ultimately hope to arrive at a new, multifaceted concept of the role of digital technologies in creative processes – going beyond their typical classification as infrastructure. Digitalisation is more than 5G, that much is certain. Through organised studies of spatio-temporality, a clear picture can be developed of how situation- and place-specific factors take their effect over time to achieve quite individual results.

Finally, the issue of power relations will not go untouched upon. How much room for manoeuvre do the actors investigated actually have to develop solutions as they would like? Where do they come up against the boundaries of closed but, most likely, translocal systems? And who finally appropriates the fruits of their creativity? The actors themselves, the communities they belong to, or, for instance, concerns with data-based business models? On the other hand, can intensive engagement with innovation and creative processes lead to visible changes in power and appropriative relationships? Old (analogue) and new (digital) monopolies wrestle to maintain influence or, where possible, reinforce one another. This might ultimately reveal itself to be an emancipatory moment, however: the creation of the new, nourished by both the analogue and digital spheres, as an act of self assertion.
Prof. Dr. Suntje Schmidt | Tel. 0241 80 92309 | suntje.schmidt@geo.rwth-aachen.de

Suntje Schmidt currently has a temporary professorship for economic geography at RWTH Aachen. She was previously the acting head of the IRS research department “Dynamics of Economic Spaces”. Her research focuses on the geographies of work, particularly those of creative work and work in precarious job markets, innovation in response to problems, and regional innovation policy.

Dr. Ariane Sept | Tel +49 3362 793 146 | ariane.sept@leibniz-irs.de

Ariane Sept is the acting head of the research department “Dynamics of Communication, Knowledge and Spatial Development”. She currently researches digitalisation processes in rural communities. Additional research focuses include social innovation, socio-spatial acceleration and deceleration, and European urban and regional policy.

Lukas Vogelgsang | Tel +49 3362 793 131 | lukas.vogelgsang@leibniz-irs.de

Lukas Vogelgsang is a doctoral student in the research department “Dynamics of Economic Spaces”. He completed his PhD as part of the DFG research group “Organized Creativity – Practices for Inducing and Coping with Uncertainty” at the FU Berlin. Both the research group’s subproject (realised at the IRS) and his doctoral project investigate the manageability of creative processes by organisations.
Increasingly critical

The term "critical infrastructures" has experienced an upsurge. Leaving the orbit of security authorities and disaster prevention, it has diffused into general policy discussion. But how is it that some infrastructures are graded as "critical", and what are the effects of this? The research department "Institutional Change and Regional Public Goods" investigates this issue through the example of energy networks and the adaptation of urban infrastructure to climate change. Involved is a new research approach that places time on an equal footing alongside space in social-science infrastructure research.
The critical infrastructure of the research department “Institutional Change and Regional Public Goods” is the computer used by its project assistant. A few weeks following the 30-hour blackout that occurred in Berlin-Köpenick in February 2019, it became a victim of a power failure lasting several hours in Erkner and had to be substituted. While departmental staff worried about their data and traversed the darkened corridors of the IRS using their smartphones as torches, they experienced first-hand how sensitively hi-tech societies react to power failures of all kinds. Ironically, the outage occurred in the early stages of the departments own research on the criticality of infrastructures.

Why infrastructures count as critical and what the consequences of this classification are – these are the questions asked by the new lead project “Critical Infrastructures: The Political Construction, Spatiality, and Governance of Criticality”. Its basis is the long-established profile of the department in infrastructure research, especially in its analyses of the energy transition and climate adaptation. “Critical” – this means crucial and indispensable. It is not surprising that infrastructures such as energy, water, and communication networks receive this epithet: they belong after all to the national livelihood. Their indispensability legitimises the substantial public expenditure made for them.

Nevertheless, speaking about critical infrastructures conveys an additional sense of threat. This derives from the security discourse that arose in the wake of the attacks on 11 September 2001, first in the USA and later in Europe, about the vulnerability of, above all, digitally networked systems. Since then the perception of imminent danger from criminal hackers, terrorists, and even from intelligence services working with the methods of cyber warfare, have all increased.

In Germany, the security services and the Federal Ministry of the Interior responsible for them are particularly keen to identify critical infrastructures – but they are not the only ones. The struggle against infrastructural failure resulting from extreme weather events is an important root of the discourse surrounding critical infrastructures in Germany. The ever more pressing issue of climate, the heavy flooding that occurred at the turn of the century, and recent heatwaves have all contributed to this.

**Energy transition and climate adaptation as research fields**

Infrastructure is not traditionally a topic to get excited about. It is part of its essence that one does not normally perceive it, at least when it functions. Many networks, such as those for electricity, gas, water, sewage, and telecommunication are hidden, literally “deep” (for which the prefix infra- stands) underground. Others, such as roads and railways, are ubiquitous in our daily lives. Yet we use them with so little conscious regard, that only when they fail to function are their significance and complexity revealed – such as in the case of the Berlin S-Bahn crisis since 2009. Infrastructure also receives attention when it first arrives, altering our environment in unusual ways, such as in the case of wind farms. The research department focused on new energy spaces in...
Infrastructures are usually permanent. Some, such as roads, underground railway networks, and sewer tunnels, characterise cities for centuries.

Its previous, BMBF-funded lead project ReGerecht, investigating the “installation landscapes” of energy transition and the current conflicts of values surrounding wind turbines.

To state that infrastructures are “critical” is now a relatively novel way of drawing attention to them and mobilising resources for their technical design. Political and economic actors are motivated by the pursuit of specific interests to engage in such mobilisation. The category “critical” is, furthermore, closely interwoven with countless prior legal regulations and technical standards. These, but also the material assets of existing infrastructure (pipes and cables already laid in the ground) are significant factors in the decision of where one can draw the boundary between critical and less critical systems, and how one can proceed with those infrastructures already designated “critical”. As for energy transition, the criticalisation of infrastructure is thus an important and, to date, little examined topic for social-science infrastructure research. Who advances it, why, how, under what conditions, and with what effect?

The new lead project investigates infrastructural criticality on the basis of two fields of investigation, for which the research department has proven expertise: the energy transition and urban climate adaptation. As the previous lead project showed, energy transition is first and foremost a process of decentralisation, of increasing flexibility, and of the opening of energy networks. In a system that must increasingly manage with fluctuations in the generation of energy, intelligent management is imperative. If, on the topic of “critical energy infrastructure”, one might involuntarily think of the scenario of an aeroplane crashing into a nuclear power plant, then the more obvious vulnerability of the energy system lies in its highly complex digital networking. A further conduit for potential threats exists in the trend of linking sectors, as has been promoted by energy transition: today’s energy networks are no longer closed systems and are increasingly intertwined with other functional areas such as mobility and transport, the coupling of electricity and heating, power-to-gas (P2G), the use of electric cars as energy storage devices – all solutions which increase the number of interfaces through which (presumed) threats might enter the energy system.

Whereas the perceived danger to critical infrastructure remains unspecified, in the case of climate-adaptation policy the threat to infrastructure from climate change is abundantly clear. The extreme dryness and heat experienced in 2018 and 2019 impressed the vulnerability of cities to their effects. Heavily sealed areas, in particular, accumulated a long-lingering summer heat. The peaks in temperature thus arising compromised the health and welfare of city dwellers. Water scarcity in 2018 brought inland harbours and shipping to a standstill in parts of Germany. In isolated cases it even led to shortages of drinking water, an occurrence that could become more frequent in the future. Yet the opposite extreme has also been encountered increasingly in recent years: Masses of water from torrential rain have overwhelmed the capacities of urban sewerage systems – most recently in August 2019 in north-east Germany. Heavy storms have damaged transport, electricity, and communications while pushing emergency services to the limit of what they can handle. New political conceptions of criticality
arise in these cases. Ever more German municipalities are now declaring a climate emergency, meaning that all urban-policy decisions must be assessed for their climate suitability.

The issue of criticality in both fields of research is examined from a spatial perspective. In recent years, the research department has made essential contributions to the understanding of space and spatiality in social-science energy research. It has shown how, in the course of energy transition, places have been changed and created anew, how territorial scale levels have been renegotiated and placed in relation to one another, and how new networks – that is, relational spaces – have resulted.

As in many other IRS projects, the focus has been on processes of spatial change, whereby space is understood as a condition, a resource, and an object of activity all at once. The temporal dimension has until now been taken into account somewhat implicitly. In the new research programme, the department will now address temporality explicitly – time, like space, will form a dimension of analysis.

**Incremental, disruptive, and strategic progression in policy formulation**

Every object of research possesses its own temporality. Infrastructures are usually permanent. Some, such as roads, underground railway networks, and sewer tunnels, characterise cities for centuries. To be classified as “critical”, on the other hand, some notion of the future is necessary. Every concept of criticality used in the political sphere involves scenarios and presumed probabilities about the form and time frame in which a threat might be anticipated. How do these “political imaginaries” come together with the inherent temporal logics of infrastructures?

In order to examine this, the research team developed a heuristic differentiating two forms of temporal progression. In a “disruptive” progression, it is the sudden occurrence of some drastic event forces politicians to act. In an “incremental” progression, gradual changes force actors to adapt little by little. Both possibilities are plausible. The presence in the media of large-scale disasters creates pressure on those with political responsibility “to do something at last”, as a result of which placative and radical responses become more likely. On the other hand, infrastructures must be regularly maintained. But a political conception of criticality can also accrue out of (absent) daily defence against countless small threats at the operational level.

How is regularly occurring, large-scale damage (such as that caused by extreme weather disasters every few years) to be understood? The two progression types mentioned thus far are not mutually exclusive. “It is not about saying that one has occurred here and the other here”, says Ludger Gailing, acting head of the department. “We want to determine how the two logics interact, which of the two possibly dominate in the justification of a political concept, and how the two research fields of energy transition and climate adaptation differ in terms of temporality”. The heuristic will have use beyond the lead project, having been designed as a general tool for analysing the processes of political change.

Initial findings are already available for the field of climate adaptation, albeit not from the lead project itself, but from the BMBF project “Urban Resilience Towards Extreme Weather Incidents (ExTrass)” led by Kristine Kern. In this project, the focus is not on criticality in its narrow sense,
but rather on the general issue of how cities arrive at new climate-adaptation policies. Nevertheless, the project – working with the above-mentioned heuristic – considers among other things the problems of critical infrastructures, and has shown that a "strategic" temporality apparently also exists. Some cities proactively formulate strategies for the future even before they are forced to by catastrophe or daily wear and tear, while others seem little concerned even under imminent pressure to act. Inspired by these findings, Kern’s team expanded the heuristic's original dyad into a triad of temporalities: disruptive, incremental, and strategic.

What decides which path is adopted? Here, too, there is a clue: History matters, and not simply the history of extreme weather events in a city or its local climate-policy discourse. Other historic influences are often of obvious significance. Thus, the introduction in the past of reforms in energy supply appear to play a role, even if they pursued quite different motives such as supply security. If an urban society has previously achieved larger-scale infrastructure reform, then it will devote itself to the topic with resolve and with foresight. The self-image and external perception visible in urban marketing also appear to be of significance. Does an image already established and nurtured (e.g. that of a "cultural city") suit the new image of a "climate city"? Then again, having special status (as a UNESCO world heritage site, for instance) appears under certain conditions to encourage policy favourably oriented towards sustainability. A strong local academic tradition also seems to promote openness and forward thinking in dealing with this issue.

With its application in ExTrass, the new research heuristic has passed its first practical test. Another practical application followed in October of 2019 when the research project “Matching Forerunner Cities (MaFoCi)” began. Whereas ExTrass focused on climate-adaptation policy in smaller German cities (both pioneers and late adapters), the MaFoCi project singles out four internationally leading cities: Turku in Finland, Malmö in Sweden, Rostock in Germany, and Groningen in the Netherlands. Here, too, the issue of how the cities arrived at their respective climate policies will be the focus, but the ways in which good practice can be transferred between cities will also be examined. The heuristic divisions of disruptive, incremental, and strategic temporalities have thus been applied in three projects to date, and is on its way to becoming an interdisciplinary research tool for the department "Institutional Change and Regional Public Goods" in its analysis of infrastructure policy.
CONTACT

▶ Dr. Ludger Gailing | Tel +49 3362 793 252 | ludger.gailing@leibniz-irs.de

Ludger Gailing is the acting head of the research department "Institutional Change and Regional Public Goods". His research is concerned with the geographies of energy transition, the analysis of socio-materialities, and governance forms in relation to public goods and infrastructures, as well as with the institutional transformation of regional management.

▶ Prof. Dr. Kristine Kern | Tel +49 3362 793 205 | kristine.kern@leibniz-irs.de

Kristine Kern is a senior researcher in the department "Institutional Change and Regional Public Goods" and a visiting professor at the Åbo Akademi University in Turku, Finland. Her research interests focus on local and regional climate and energy policy, the sustainable development of cities and regions, transnational urban networks, European regional seas, and macro-regional strategies of the EU.
The dynamics of discussing migration: Dilemmas in urban policy

How do urban policy and administration deal with migration processes that, from their perspective, can neither be controlled nor predicted with certainty? In its current lead project, the research department “Regeneration of Cities and Towns” investigates the planning-policy conflicts in Cottbus in the wake of unplanned migration by a large number of Syrian refugees in 2015 and 2016, combining spatial and temporal perspectives on urban governance in the process. These can help to better understand the frictions between different ways of thinking and behaving exhibited by different actors in urban society.
The lead project completed by the research department in 2018 showed clearly that cities handling migration meet with various dilemmas. Cities want increasingly to act locally, but are to a large extent dependent on national migration regimes. They require migrants in order to continue growing and to meet a supply of skilled workers, while right-wing forces impede the flow of international immigration. Finally, the dilemma emerges, on the one hand of perceiving “arrival neighbourhoods” characterised by migration as an opportunity for increasing diversity, or on the other as a social “problem area” marked by poverty. The current lead project “Migration: Governance Dilemmata of Cities” takes up this discrepancy. The project team, led by Manfred Kühn, seeks to ascertain what room for manoeuvre cities have in managing immigration, with a particular focus on the migration of refugees in recent years; what urban-policy and urban-society coalitions form in favour of or against migration; and which special challenges are to be overcome in the so-called “arrival quarters”, urban neighbourhoods where, due to low rents and/or allocation by the public authorities, many new migrants are concentrated. As the title of the project states, it begins from the premise that there is no unambiguous response to the issue of migration. But where exactly to the fracture lines lie, and how can they be characterised if one is to take into account the highly charged atmosphere without allowing the project to be governed by it?

The focus on Cottbus

The project team aims to yield answers to these questions through an exploratory study in Cottbus – that is, using an approach that is qualitative and without any fixed expectations regarding the results. The Lusatian city is virtually a prototype for the inner turmoil of urban policy regarding migration issues. As a university city and important economic and administrative centre in a region continuously wrestling transformation, and which is affected by emigration and a labour shortage, Cottbus is attempting to present itself as open and attractive to immigration. At the same time, Cottbus has a very strong right-wing scene: the AfD celebrated major successes in the recent Lusatian state elections (including in both of Cottbus’ electoral districts), and urban-society initiatives rejecting immigration have much influence. The reaction in Cottbus to the wave of refugees in 2015 was equally contradictory: While the city initially took in more refugees than it was obliged to by the Königstein distribution formula, it later urged a halt to immigration in Brandenburg under pressure from right-wing campaigns. How can these contradictions be explained?

Research no longer views the formulation of urban-policy approaches solely as the product of formally responsible political institutions. It is much more the result of negotiation processes between various urban-society actors and institutions – one speaks of governance. Important new perspectives have arisen at the intersection of governance research and more recent spatial-science approaches that help in the unders-
tanding of how cities can handle challenges that are disrupting both its borders and its formal responsibilities. To this is newly added the temporal perspective, so that the department's researchers view their objects of research, and the city of Cottbus, using a conceptual triangle comprising governance, space, and time.

Diverse perspectives on place

There is obviously a basic tension involved here, between local planning policy on the one hand and dynamic international-migration processes on the other. In this opposition, the local capacity initially appears rather weak, yet in scientific thinking on space and governance the clear demarcation between the local, national, and global levels has recently become blurred. Globalisation has led – in contrast to common perception – to a revaluation of specific places, especially those in which a global flow of goods, capital, and even human mobility has been organised. These are mostly urban centres. Even spatially wide-ranging social processes of change and design are incorporated into unique local conditions and contexts. At the same time, they come into contact with various spatial-administrative levels and create connections between them. Thinking in terms of clearly divided responsibilities, such as those of the federal government, state, and municipality, is thus increasingly coming into question.

Cities have the possibility in a certain way to appropriate topics that purely formally are incumbent upon some other level of responsibility (such as migrations policy, for which the federal level is responsible) or that disrupt their borders (such as economic transformation and emigration). Cottbus reacted to the massive exodus of the 1990s by incorporating new areas – a territorial response to a problem spanning many places. Both the absorption of more refugees than was legally required and the push to halt such absorption are further examples for such local thematic appropriation.

What role concrete places take on in such trans-local processes is not predetermined. This depends on what spatial notions are mobilised and disseminated by social actors. These "spatial imaginaries" are an important object of research. Should one view a place as a closed container, or rather as an open, evolving framework of relations? Is it the internal or rather the external relationships that one emphasises? Should one presuppose a single local identity or multiple identities? Does one perceive oneself as locally rooted or as mobile? These questions are obviously political. They steer one's focus towards contradictory notions of a place that are mobilised by opposing actors in urban society – embodied in Cottbus in exemplary form by the initiatives "Zukunft Heimat" and "Cottbuser Aufbruch". While the former represents the nucleus of a coalition hostile to "mass immigration" supported by various parts of the city's long-standing population, the latter favours migration-friendly
growth, and involves trade associations, the Carl Thiem Medical Centre, the state theatre, and the Brandenburg Technical University Cottbus-
Senftenberg. If this contrast seems to confirm a division between supposed local and global orientations, then the idea of a “global sense of
place” formulated by the late British geographer Doreen Massey draws our attention to the fact that even relations spanning various locations
are locally anchored – they simply involve more than one place, thus forming a multi-local network. People with experience of migration, for
instance, feel personally connected to several places. Massey campaigned for the focus, even in analysis of global interrelationships, to be on
the places connected with one another and on the diverse spatial bonds owned by the social actors investigated. Urban society is thus revea-
led as a mosaic of different geographical references, and therefore not per se as the antithesis of the “global”.

Competing temporal orientations

The fact that the members of any one urban society vary in their relationship to their neighbourhood, to the city as a whole, and to other pla-
ces, provides the bridge to the temporal dimension. With a change in spatial orientation comes a corresponding shift in temporal orientation:
Different social milieus have differing daily and annual rhythms. Communities with migratory backgrounds must occasionally integrate activi-
ties in another time zone into their daily routine. With the combination of spatial and temporal relationships, an analysis perspective becomes
available that frees the issue of cultural differences from all too stereotypical attributions and helps to recognise both problems and potential
in the coexistence of the long-established and recent arrivals.

Such frictions can especially play a role in neighbourhoods characterised by migration. One need only think of the differing conceptions of
work and rest periods or biographical life stages and the uses of space they entail. Within the Cottbus case study, the project team focused
on the housing estate of Sandow in the east of the city, which became an arrival neighbourhood for refugees from 2015 due to the availabi-
ity of cheap living space. In the previous lead project, it was found that such arrival neighbourhoods are indeed very successful for providing
a doorway to integration within an urban community. At the same time, they mostly remain socially divided, despite abundant socio-political
measures. The project team now wants to analyse the discrepancy between the various space-time frameworks that meet in a new arrival neig-
bourhood such as Sandow, and from this to derive a clear picture of integration problems and opportunities. According to Massey’s notion,
least, the juxtaposition of differing daily space-time environments are a part of the reality of modern societies, and no temporal orientation
(such as the normalised nine-to-five workday) should be promoted above any other as the standard temporal structure.

Differences in temporal orientation do not exist only between differing groups of inhabitants in a city or neighbourhood, however. They are
also present between individual and institutional timescales (such as those with which public authorities work), as well as the timescales
used by different institutions. With regard to arrival neighbourhoods this means, for instance, that local planning and welfare offices require
a more reliable means of forecasting the composition of a neighbourhood’s inhabitants. The system used by the Federal Agency of Migration
and Refugees for granting asylum take no account of this, however: it has its own temporality. Even the antagonistic coalition formations of
urban-policy actors can be illuminated by taking into account their opposed orientation in space and time, in order to understand why urban policy results in conflicting results regarding the issue of migration.

A central effect mechanism here is desynchronisation: different parts of the urban community are aligned towards one another in their temporal orientations. If these mutual alignments fall out of sync, then the ability to work together meaningfully is lost. The sociologist Hartmut Rosa describes such desynchronisations in his book Social Acceleration: A New Theory of Modernity: "Acceleration in one subregion of society only remains compatible with the rest of society if corresponding increases in tempo at structural and cultural points allow for frictionless 'translation'”. When acceleration develops at different rates, the lead project suggests, the sustainability and predictability of urban planning policy is challenged. Its ability to effect social integration — a strength, in fact, of the formalised German planning system — is lost.

"We don’t start, however, from the assumption that there is a one-sided acceleration, i.e. one resulting from temporary migration”, says project leader Manfred Kühn. “We observe much more a plethora of desynchronisations. The calculability of long-term, objective analysis that is so important for planning processes suffers hugely from the extremely heated atmosphere surrounding the immigration debate, especially in the wake of spontaneous populist campaigns".
CONTACT

► Dr. Manfred Kühn | Tel +49 3362 793 238 | manfred.kuehn@leibniz-irs.de

Manfred Kühn is a research associate and acting head of the research department "Regeneration of Cities and Towns". His research focuses on urban regeneration strategies, peripheralisation, and the role of small and medium-sized towns and cities in spatial development. He heads the lead project "Migration: Governance Dilemmata of Cities" and the DFG project "Immigration Strategies: Planning Policies in the Regeneration of Cities".

► Dr. Laura Calbet i Elias | Tel +49 3362 793 247 | laura.calbet@leibniz-irs.de

Laura Calbet i Elias is a research associate in the department "Regeneration of Cities and Towns" and a visiting professor for planning theory at the Brandenburg University of Technology Cottbus-Senftenberg. Her research focuses on planning and urban-policy in the handling of social processes such as migration and the polarisation of housing provision. In addition she researches the concept of "public welfare" in planning theory and practice.
Since the retirement of long-standing IRS director Heiderose Kilper in October 2018, the IRS has been led on a provisional basis, firstly by Gabriela Christmann, head of the research department “Dynamics of Communication, Knowledge and Spatial Development”, then from April of this year by Christoph Bernhardt, head of the Department for Historical Research. On 29 May 2019 the IRS Board of Trustees appointed Oliver Ibert as the new Institute Director. His nomination as Professor for Spatial Transformation and Social Research at the Brandenburg University of Technology Cottbus-Senftenberg by Brandenburg’s Minister of Science Martina Münch on 24 June 2019 completed the joint appointment process begun with announcement of the position in October 2017.

“During Heiderose Kilper’s term of office, the IRS emerged as an internationally renowned, excellence-driven research institute, most recently attested by its successful evaluation in 2017. I shall now continue along this path while adding some emphases of my own. I am grateful for the trust and support that I have received. Above all, I would like to thank Gabriela Christmann and Christoph Bernhardt for their tremendous engagement”, says Ibert.

Oliver Ibert was Professor for Economic Geography at the Freie Universität (FU) Berlin from 2009 until his appointment at Cottbus. In addition, he has since 2009 led the IRS research department “Dynamics of Communication, Knowledge and Spatial Development” and will continue to fulfil this function together with the acting head of department, Jana Kleibert. The focus of his work is in the area of spatial innovation and creativity research, social-science crisis and resilience research, and research into processes of economic value creation.

Ibert studied geography, German, and political science from 1991 to 1997 at the Carl von Ossietzky University of Oldenburg. He obtained his doctorate in political science there in 2002, on the subject of innovation-oriented planning. In 2009 he completed his postdoctoral thesis “Learning dynamics: A relational economic geography of knowledge practice and innovation processes” at the Faculty of Mathematics and Natural Sciences of the University of Bonn.

From 1998 to 2002 Ibert was a research associate in the working group for urban research at the Institute for Sociology at the University of Oldenburg. From 2002 until 2009 he worked in the area of the socio-economics of space at the Institute of Geography at the University of Bonn, firstly as a research associate, then as academic officer. In the summer of 2014, Ibert was Visiting Professor for five weeks at the Department of Political Sciences of the University of Toronto, and in the autumn of 2018 was Halsworth Visiting Professor for three weeks at the University of Manchester. He is a member of the board of editors of Palgrave Communications and functions as speaker for the project group “Experts in Crises” as part of the Leibniz Research Alliance “Crises in an Globalised World”.
From 4 to 7 June 2019, together with the Design Research Lab at the University of the Arts (UdK) Berlin, the IRS hosted its third Spring Academy, "Investigating Space(s): Current Theoretical and Methodological Approaches". The format, supported by the Volkswagen Foundation, has transformed Erkner into a location for creative encounters between many international junior researchers throughout the last three years.

Each edition of the Spring Academy had its own focal point. The Spring Academy in 2019, titled "Topologies", focused on an approach to spatial questions that don't function by means of territories and levels of scale, but rather through the inner, historically accumulated logic, complexity, and "messiness" of specific places. Oliver Ibert opened the Academy by symbolically scrunching up a city map, forming a unique, three-dimensional structure out of a two-dimensional, standardised spatial representation, and thus demonstrating the shift in perspective "from spaces to topologies". This theoretical and methodological development is not restricted to the ivory tower of academia, but has consequences for how one conceives of social action: not simply abstractly, caught up in relations of scale and power, but materially situated, entangled in specific local conflicts, but fundamentally productive.

The approach of taking on board recognised local partners, as was done in all previous iterations, was also pursued in this Spring Academy, with the Design Research Lab of the University of the Arts Berlin involved in its organisation. The DRLab is a platform for interdisciplinary research into practicable design solutions adapted to human needs, such as in human-machine interactions and digital communication. A part of the programme was held at the Berlin Open Lab, which the UdK runs in cooperation with the TU Berlin as a public place for innovation. Director and Professor of Design Gesche Joost presented the participants with a dynamic topology wholly in tune with the Spring Academy: how an old factory hall was transformed into the Berlin Open Lab, and how it grew into the very location-specific institutional ecology of the DRLab, a network that also integrates such bodies as the Weizenbaum Institute and the Einstein Center Digital Future, which seek to shape digitalisation with highly emancipatory aspirations. A kind of Berlin garden, if you will.
Including lecturers, thirty-eight participants from research institutes based in ten different countries convened for this Spring Academy, a majority of whom were doctoral students. An overall view of the disciplinary backgrounds, research topics, and engagements outside of research made it clear: Meeting here were predominantly young researchers who in all their variety were united in the endeavour of making first-rate, but also socially relevant contributions. The relationship of protest to urban planning, processes of gentrification and displacement resulting from earthquakes, acoustic environmental impacts – these are just a few examples of the diversity of topics treated.

The wide array of perspectives was also apparent in the three keynote lectures. Ruel Rutten, Assistant Professor at the Department of Organisation Studies at Tilburg University questioned the role of places and their interrelationships in the creation of knowledge. What leads creative individuals to remain in a particular place, and what leads them to traverse great distances? Richard Rodger, Emeritus Professor of Economic and Social History at the University of Edinburgh grappled with the question of how information systems and administrative demarcations influence the possibilities for realising the value of urban locales. He passionately advocated open-source information systems such as OpenStreetMap, whose currency and quality of data is maintained by a community of volunteers. Finally Merje Kuus, Professor of Geography at the University of British Columbia, took the example of diplomatic negotiation processes in EU bureaucracy in Brussels to demonstrate the difficulties as well as the potential to be found in research approaches that analyse social dynamics as local processes.

The participants evaluated this coming together of multiple perspectives as exceptionally enriching. “I was searching for a theoretical ‘injection’”, said Katharina Kullmann from the University of Applied Sciences Erfurt. “I’ve become acquainted with many different approaches that
were new to me. This helps to place my own work within a broader context.” Merje Kuus gave a personal summary in the concluding panel: “The many different perspectives I found here reminded me that intellectual diversity is not just icing on the cake, but the key to staying curious.”

A special format offered by the Spring Academy is found in the “Doing Research Workshops”. Here the focus is on exchanging experiences of the more down-to-earth research-practice problems. “These are things we don’t write about, so we have to talk about them”, said Jana Kleiber from the IRS, who led such a workshop together with Cristina Temenos from the University of Manchester. The encouraging effect of open exchange counts among the great advantages of the Spring Academy. “I now feel emboldened to integrate things into my research that I find interesting myself, but which are rather ignored within my disciplinary field”, said Hannah Wolf from Potsdam University. Sam Miles from the London School of Hygiene & Tropical Medicine is convinced: “This is an opportunity for people at the start of their research careers to network, to cite one another, and to cast off the hierarchy.”

The year 2019 saw a pause in proceedings: The Spring Academy 2019 was the last of the three originally planned events to receive funding from the Volkswagen Foundation. The format will continue, however. For May of 2020, funding was secured from the Leibniz Association for a fourth iteration focusing on “Spaces of Crisis” together with the German Red Cross as local partner. Ironically, due to the coronavirus crisis, this event had to be cancelled. However, organisers, speakers as well as the local partner agreed to involved in the event, including the financier, agreed to hold the Spring Academy on crises exactly one year later, in May of 2021. Funding has yet to be secured.