Transformation of Grown City Centers

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Abstract: Urban district centers are key in supporting community life in European cities. The vitality of these centers is essential for the functionality not only of the districts but indeed the entire city. Many established city centers suffer a high adjustment pressure; formerly vital centers experience a loss of importance. In order to explore the hypothesis that the required transformation of those centers can only be positively affected by strategies of different actors, especially local actors, researchers conducted four case studies in German cities. The city centers examined throughout the study offer various challenges and opportunities, specific constellations of actors and different development options. The article analyses the role of transformation research, real-world laboratories and social innovations in the transformation of urban district centers.

Keywords: Transformation, Social Innovation, Transformation Research, Real-World Laboratories

Introduction

Established district centers bear an important meaning for community life in European cities. The vitality of these centers is of essential relevance concerning the functioning of the entire city. Grown city centers suffer a high adjustment pressure, former dynamic centers experience a loss of importance. There are various reasons for these developments: structural changes in retail, digitalization and e-commerce, changed mobility behavior of consumers, demographic change and so on. The consequences of these developments are for example underused commercial properties, high vacancy rates, and underused and neglected public spaces.

Principle thesis of the research project TransZ, Transformation of Urban District Centers (2017-2020), is that the required transformation of those centers can only be positively affected by strategies of different actors, especially local actors. In order to explore the hypothesis, the research is based on different case studies in German cities. The city centers examined throughout the study offer various challenges and opportunities, specific constellations of actors and therefore different development options. The article will discuss the different interests and opportunities of action the actors in urban district centers have and in how far urban real-world laboratories can help to initiate social

innovations. These are in this case, broadly speaking, understood as new solutions, which meet social needs, improve capabilities, relationships, and optimize the use of resources.

Research Project TransZ

In the research project TransZ (cf. www.transz.de), different real-world laboratories were set up to test alternative methods of center development and to possibly initiate social innovations. The project is funded by the Federal Ministry of Education and Research (BMBF) as part of the flagship initiative "Zukunftsstadt" under the funding stream "Sustainable Transformation of Urban Spaces". As part of the project 4 institutions (HafenCity University Hamburg and University of Applied Science Hamburg, University of Applied Science Hildesheim / Holzminden/ Göttingen and University of Applied Science Stuttgart) collaborated over a 3-year period of time (2017-2020) to identify and strengthen transformative forces in the city centers. Specific approaches to accompany transformation processes positively and to improve the situation in the centers sustainably have been developed with local actors. The universities have been deepening their work in the project areas themselves as well as in thematic research areas such as public space and planning processes or self- organization and governance in center development.

Importance of Grown City Centers

Not all cities and districts profit from the spatial processes of urban development such as growing population or rising real estate prices. Grown city centers for example suffer a high adjustment pressure, former dynamic centers experience a loss of importance. Especially local supply centers, urban district centers and outskirts of central positions suffer a high loss of function. There are various reasons for these developments: structural changes in retail, digitalization and e-commerce, changed mobility behavior, demographic change and so on. However, urban district centers bear an important meaning for community life in cities. The vitality of these centers is of essential relevance concerning the functioning of the entire city.

As place for identification in the daily life of residents and community, district centers fulfil multiple functions. They are places of social cohesion, economic viability and cultural innovations (Bundesministerium des Innern, für Bau und Heimat (BMI), n.d.). Structural change adversely affects centers resulting in multidimensional challenges. City centers are a focus of scientific, technical, economic and social development, but they are also the place of social and ecological problems and structural changes (Frauns and Scheuvens, 2010, p. 10). Challenges resulting from changes in economic structure reach far. Many commercial spaces no longer appear interesting for investors under the current requirements of building structure and location. Extensive concentration processes, the growth of retail floor area and a simultaneous thinning of the shop network makes small units unattractive for investors. As a result, they remain vacant and may be converted into flats. Another reason for structural change is the expansion of discounters and large chains with which smaller, locally owned shops are often unable to compete. Large-scale retailers are located at the outskirts of cities, are easy to reach by car and offer free parking. E-Commerce is putting owner-managed commerce under pressure as well, while e-commerce turnover in 2008 was 12.6 billion euros, it rose

4fold to 53.4 billion euros in 2018 (Frauns and Scheuvens, 2010, p.10, Bundesministerium für Wirtschaft und Energie (BMWI), 2017, p. 2, Handelsverband Deutschland (HDE), 2019). Many centers are in danger of becoming deserted (BMWI, 2017, p. 2). Shop vacancies lead to a loss of attractiveness, a reduction in turnover and frequency and soon to a loss of image. This results in a loss of customers and a loss of value of the property. Vacancies are therefore a major problem for centers (Greipl, 2007, p. 16f).

Another challenge is the urban space. Pedestrian precincts are for example an important part of urban space, they are economically very important but the aesthetics are not meeting today's expectations anymore. Public space is central in European cities, new concepts are required to meet the needs of all generations. Contemporary solutions are important; the diversity of the European city is endangered if urban planning solely keeps to traditional top-down planning processes. It is an important space for example for social needs and integration; therefore, it is for example important that public space allows encounters (Frauns and Scheuvens, 2010, p. 13f). Some of these challenges can end up in trading-down effects if nothing happens. Trading-down effects result in a reduction of company costs in order to be able to survive in the local market. Consulting services are reduced, the staff is reduced, and pound stores set up. This can also happen due to a mismatch between supply and demand. Productivity per unit area has fallen; an oversupply of sales areas that are no longer marketable emerges. This often leads to a downward spiral outside the prime locations (Achten, 2017, p. 66f). Secondary centers are the big losers of these developments. Centers with an extensive business area and a lack of space for larger units are particularly at risk. Customers are switching to other options. This also weakens the secondary center as a residential location. Occasional purchases are not enough to let retail trade survive. A loss of significance and function, "erosion processes" in smaller cities, decentralized secondary locations, or even in suburban areas are the result (Fischer *et al*. 2011, p. 26, Oswalt *et al*. 2014, p. 10). Urban development policies can strengthen the diversity of land use in these centers using investment and non-investment measures, but the success is not always permanent. In Germany, urban development funding is very important for urban development in general, but especially for urban district development. There are various support programs, which aim to address a variety of difficulties - structural, functional and social. The federal government grants financial assistance in accordance with article 104b of the constitutional law, which is supplemented by funds from the federal provinces and the municipalities (Städtebauförderung, 2019).

Transformation Reseach

Sustainable development is a challenge for the entire society. Research has been trying to find new options and solutions for sustainability problems in fields of, for example, economy, consumption, mobility or energy. The awareness of transformation processes in sustainability research has grown. New concepts are being developed to get scientific findings as well as socially robust information to initiate concrete solutions. Exemplary research fields dealing with the transformational processes are sustainability science (e.g. Kates et al 2001), transition studies (e.g. Markard et al 2012), resilience research (e.g. Olsson et al. 2014), social innovation sociology (e.g. Westlex et al. 2013), political science , future studies, and psychology (e.g. Haum and Pilardeaux 2014, Heyen and Brohmann 2017, Patterson *et al*. 2015). Scientists work together with practical actors to integrate their concerns, knowledge, and competencies in research processes (Schneidewind, 2014, p. 1, Wittmayer and Hölscher, 2017, p. 13, Rose *et al*. 2018, p. 2). In international context "sustainable transition

management" (e.g. Grin *et al*. 2010) has become more popular, in national context, talking about Germany, transformation processes and corresponding research was promoted through the main research report by the scientific advisory board of government global environmental changes (WBGU) about "great transformation" (Schneidewind, 2014, p. 1, Wittmayer and Hölscher, 2017, p. 13). Transformation research can be understood as a research perspective that studies complex and pervasive societal problems. Fundamental societal change processes and dynamics are supported towards sustainability. Wittmayer and Hölscher (2017, p. 15) define transformation research as follows: "Transformation research studies and supports fundamental change processes of societal systems towards sustainability from a scientific perspective. These research goals require both, descriptive-analytical as well as transformative research approaches, which yield conceptual and actionable knowledge through trustworthy, transparent and reflexive research processes. The complementary research foci of transformation research include the objects of transformation (what changes over the course of a transformation), the change dynamics of transformation processes and emerging transformation pathways (how do transformation processes occur), and the drivers of transformation processes (by whom/how are transformation processes supported). "(Wittmayer and Hölscher, 2017, p.15)

Apparently, appropriate research is a challenge. It has to be organized transdisciplinary, as the design of transformation processes asks for a combination of system knowledge, target knowledge and contextual- and actor specific knowledge. There is an active debate about the right usage of research methods for studying and supporting sustainability transformations (Schneidewind, 2014, p. 1f, Wittmayer and Hölscher, 2017, p. 13f). At this point, classical methods of observation and modulation reach their limits, as the examined processes ask for knowledge about specific transformations (Schneidewind, 2014, p. 2). For this reason, social- and economic sciences experience an experimental turn. New ways of research help to improve classical observation and model-based approaches (Schneidewind, 2014, p. 2, Schäpke *et al*. 2017, p. 1,). In transformation research, different methods like research diaries, system analysis, hackathons, knowledge hubs, real-world laboratories or participatory action research are used, to just name a few of them. Each method has the potential to contribute to transformational research, yet a combination of methods enables the integration of different research topics (Wittmayer and Hölscher, 2017, p. 21ff). Moreover, the knowledge about social transformation is simultaneously affecting the community, as scientific knowledge influences the processes. A classical observation-system-division is not possible anymore. Transformation researchers are part of the explored transformation processes (Schneidewind, 2014, p. 2).

Transformation research wants to trigger a change; it is about developing creative and reflexive skills in dealing with transformation processes both in science and in society as a whole. The so-called "transformative literacy", describing the enabling of civil, political and economic actors to promote circumstances for sustainable oriented changes, is still at the beginning. These circumstances arise, for example, when people learn from each other within the framework of the research process or also from the input / intervention of the researchers (Schneidewind, 2013, p. 82, Schneidewind, 2014, p. 1, Parodi et al. 2016, p.17). Regardless of scientific research, transformation processes are not giving satisfactory evidence about mechanisms of successful transformation processes. One possibility to improve the understanding of causal links in these systems are scientific guided interventions in a real political, social and societal context (Schneidewind, 2013, p. 82 ff, Schneidewind, 2014, p. 2).

Real-World Laboratories

To improve the understanding of transformation processes, real-world laboratories are part of the research project TransZ.

In general, the usage of real-world laboratories in transformation research is in vogue. Still, real-world laboratories and the connected research "are new concepts, and therefore not yet clearly defined" (Parodi et al. 2016, p. 9). According to the frequently used and very popular definition of real-world laboratories in Germany by Schneidewind (2014, p. 3). They are based on the idea of real-world experiments and are a hybrid kind of experiment, lodged in between knowledge production and knowledge application as well as controlled and situation-specific conditions (Schneidewind, 2014, pp. 2 f, 6, Beecroft and Parodi, 2016, p.4, Schäpke et al. 2017, p. 1). Real-world laboratories form the context for real-world experiments; their aim is an improvement of knowledge about sustainable oriented transformation processes and the initiation of sustainable oriented transformation processes. Participatory methods like real-world laboratories generate conceptual and actionable knowledge (Schneidewind, 2014, p. 2f, Schäpke et al. 2017, p. 1f, Wittmayer and Hölscher, 2017, p. 25). Urban real-world laboratories are very important to study social change processes. It is easier to study social processes of change on the city level, as all technical structures can be found and the area is still not as big as entire countries. Besides that, cities are an easier reference object than entire countries. The complexity of cities is still manageable, socio-technical dynamics can be observed easier. Furthermore, cities are the origin of cultural changes, changing lifestyles and therefore an appropriate place for experiments. Macrosocial developments can be observed and be scaled to higher layers (Schneidewind, 2014, p. 3, Schäpke et al. 2017, p. 4). Urban real-world laboratories on district level study process happening in the districts more closely. Thereby effects of cultural identities and social diffusion processes can be observed. By a worldwide comparable substructure of cities in districts of comparable size, results from district related real-world laboratories enjoy a high degree of comparability (Schneidewind, 2014, p. 4).

Real-world laboratories have to fulfill some criteria: First, they have to be oriented towards civil society. The co-design and co-production of the research process have to happen with the civil society and societal actors, whereby all actors have to understand the (in real-world laboratories indispensable) transdisciplinarity of the process. Furthermore, the real-world laboratory research design has to have long-term support and orientation, must be continuously methodically reflected, and the research support has to be coordinated by institutions with experience in transdisciplinary processes. The process has to have laboratory character, which means that the required physical and personal research infrastructure of the transdisciplinary experiments is guaranteed. If these characteristics are fulfilled, real-world laboratories are more likely to generate value and innovation for the society (Schneidewind, 2014, p. 3, Parodi *et al*. 2016, p. 7 f, Schäpke *et al*. 2017, p.3).

The characteristics of real laboratories already described make clear how time-consuming the process is and how high the flexibility requirements are (Parodi *et al*. 2016, p.6). Real-world laboratory research is just at the beginning and there are many questions and challenges (Beecroft and Parodi, 2016, p. 5). One of them is context dependency and the limit of controllability of boundary conditions. The fundamental difference between a real-world laboratory and a classical laboratory is the partial controllability of boundary conditions. The higher the context- and situation dependency of real-world experiments are, the lower is the transferability of findings. A rebalancing of research

interest and situation dependent transformation profits of practical actors is necessary (Schneidewind, 2014, p. 4). Another challenge is the transferability of outcomes; they differ from classical quantitative empirical social research (Schneidewind, 2014, p. 4). Furthermore, the appropriate integration of actors is difficult. Research in real-world laboratories needs cooperation with practical actors in the transdisciplinary processes, meaning discussions between practical actors and researchers on an equal footing. It is important that practical actors do not feel like the object of research (Schneidewind, 2014, p. 4). Lastly, the terminology is quite important. The usage of the word real-world laboratory is subject of a controversial debate. Classical laboratory research rejects the term, as real-world laboratories do not fulfill the constitutional conditions of a laboratory – that is controllability. Despite the status of development and the justified concerns about the approach, real-world laboratories are an interesting methodical extension to improve the understanding of complex transformational processes in society. More experiments with real-world laboratories are needed (Schneidewind, 2014, p. 5, Parodi *et al*. 2016, pp. 6-9).

Social Innovations

To understand, in how far real-world laboratories can help to initiate social innovations, a short glance at social innovations is indispensable.

Social innovations can be very diverse; and there is no universally agreed definition (Rückert-John *et al*. 2014, p. 9). The social innovation academy (www.socialinnovationacademy.eu) hosts a blog which provides eight different definitions; the approaches differ by their ways of consideration. That is how it happens that for example the meeting of social needs, a change in daily routines, the generation of value primarily for society or empowerment /political mobilization are the focus of the definitions. The Young Foundation (2012) used a general approach for their definition of social innovation: "New solutions […] that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources." They also emphasize that "social innovations are both good for society and also enhance the society's capacity to act." Wigboldus (2016) made a very clear definition, it includes innovations, which emerge in the social realm of experienced reality, innovations which are "about new ways in which people interact and about new ways in which people interact with their environment" (Wigboldus, 2016, Balamatsias, 2018).

So the variety of different initiatives, projects or new production and consumption practices calling themselves social innovations or being called social innovations are emerging out of recent trends as sharing economy, collaborative consumption, DIY and Upcycling. These attempts have in common that they take action against the rising number of European societal challenges like throwaway mentality, anonymity, alienation, energy- and resource waste, refugee crisis or unemployment, which are all problems of our society (Rückert-John *et al*. 2014, p.6f, Max Weber Institut für Soziologie, 2015, Balamatsias, 2018). However, as a big social transformation is just possible if everyone in society is involved and willing to change habits and mindsets, everyone has to get involved. As social innovations develop out of the community as reactions to existing problems, they are likely to spread fast and get a high acceptance throughout the community. For this reason, politics is very interested in social innovations as well; social innovations became for example central points in the political program of the EU. The research program "TEPSIE – The Theoretical, Empirical and Policy Foundations for Building Social Innovation in Europe" for example has been focusing on strategies to

promote innovative solutions for social challenges in the EU since 2012 (Max Weber Institut für Soziologie, 2015, Rückert-John *et al*. 2015, p. 25).

Categorizations of social innovations are as diverse as the individual definitions. Socio-juridical, socio-political, socio-economic, etc. are categories describing the thematic background of social innovation (Wigboldus, 2016). A typology is also imaginable based on the “internal characteristics” of the single innovations – for example., the level of self-initiative, sense of community, level of innovation, formality or prevalence. Depending on these “internal characteristics”, the procedures to initiate, develop and promote social innovations are different (Rückert-John *et al*. 2014, p. 9ff). And, of course, different social innovations can bring about different degrees of change. A social innovation could be about a slight change, for example a new management process, but others might be about new ways of for example doing research and therefore involve a radical change (Wigboldus, 2016).

To further develop, some innovations need seed capital, others need strategical support, for example contact to companies or assistance with the removal of impediments,for example obtain permits from the administration. Support in public relations helps all of the innovations; in this case, it is just important to figure out which target group wants to be reached. Nevertheless, as all innovations are very different, they all need different foci and combinations of foci; this also depends on actor constellations in the project (Rückert-John *et al*. 2014, p. 11, Rückert-John *et al*. 2015, p. 80).

In the real-world laboratories in TransZ, different kinds of social innovations developed out of the needs of the inhabitants. To actually activate existing potentials and to focus on existing problems in the urban district centers, the process was designed very openly.

Real-World Laboratories and Social Innovation in the Project TransZ

The University of Applied Science Stuttgart (HFT) initiated real-world laboratories in two different centers in the greater Stuttgart area. After introductory talks with representatives of the city administration, interviews with key personalities in the urban districts were conducted by which further motivated multipliers were identified. People with different backgrounds and perspectives could be won for the process: Residents, retailers, restaurant owners, representatives of social institutions, artists, etc. got involved in the process. They were invited to so-called "steering groups" to exchange ideas about the future of their district center, to develop actual ideas they could realize on their own and to initiate projects. Invitations to official meetings were sent by mail and e-mail, were published on the project website, in the local newspaper and communicated by the already existing participants.

The role of the city administration is very important. In the real-world laboratory, Stuttgart Wangen (S-Wangen) the University of Applied Science Stuttgart invited interested people to the first meeting, but from the very beginning, the city administration assured support in the process. They offered a room for the meetings, attended the meetings without making demands and even organized an information session about the planned real-world laboratory process. Still, the real-world laboratory process was clearly connected with the University of Applied Science Stuttgart, the city administration was in the background. The University of Applied Science Stuttgart set up the communication structure, invited to interviews, designed the real-world laboratory process, etc. This

trust of the city administration in the University of Applied Science Stuttgart led to the fact that new committed people in the urban district were reached due to the changed communication structure.

In Fellbach, the location of the second real-world laboratory of the University of Applied Science Stuttgart, the city administration did not support the real-world laboratory process as strongly as for Stuttgart-Wangen. There were no rooms offered, no attendance on meetings without clear communication about the importance of the attendance, no extra information about the real-world laboratory process. Nevertheless, the people in Fellbach were still interested in the real-world laboratory and attended the first meetings.

During the meetings, it became obvious, that the majority of those involved were willing to play an active role in the real-world laboratory process. In both real-world laboratories, the first self-organized processes already developed during an initial “idea development phase”. The ideas in the real-world laboratories are very different; they have been developing in the course of the process.

In S-Wangen for example, a homepage was created to improve the presentation of the district's potential, a city game for networking and education was initiated, a building workshop for the redesign and revitalization of a central square was carried out and a non-commercial flea market was organized. In addition, various temporary interventions were carried out in one of the real-world laboratories under the title "Talking Streets". An international and interdisciplinary team of students made "city stories" visible, pointed at deficiencies and articulated wishes of the residents. The interventions were an important part of the debate about the future of the center, which is developing from a former village center to a place of intercultural coexistence. For example, lunch was taken together on temporary furniture, several creatively designed "communication boards" in the district were used to ask about the district's potential in different languages, an oversized local newspaper was used to stimulate conversation or a temporary "blasting device" was used to draw attention to a disturbing fence. It was noticeable that the acceptance of the interventions decreased over age. There was little understanding on the part of many elderly in the district, whereas children participated in the different actions, were not too shy to write their thoughts on communication boards, etc.

The focus in Fellbach was different; participants there designed a new logo and developed a shopping guide for the area. Furthermore, the group discussed some ideas about a better connection between different actors in the area but did not develop them further.

If one compares the two districts, the different spectrum of the ideas becomes visible. The social innovations developed in the real-world laboratory S-Wangen did not need much support from the University of Applied Science Stuttgart, the mixed group focused on many different aspects including history, education, urban design, etc. In Fellbach the group was mixed as well in the beginning but changed to a single retail-oriented group throughout the process. As a result, the actually developed projects focus solely on retail issues. In contrast, the district S-Wangen is not just about retail, it is a mixed district next to an industrial area where people live, work, go to school. The examined part of Fellbach is a mixed district as well, but the persons working in retail relate most to the street itself. Surrounding inhabitants, cultural or educational institutions rather relate to the entire city and not to the examined district center. Therefore the sense of responsibility for the street of the retailers is much bigger than from other, for example, institutions or inhabitants.

Conclusion

During the process, a number of findings could be ascertained.

It was important to trust in the ideas of the participants and to transparently communicate with all participants. The municipality (city administration and local city policy) has a central role to play. Without the trusting atmosphere created by the city administration in Wangen throughout the years, the various interested people would certainly not have been so motivated to participate in their center in the long term. In Fellbach the sustainability of the developed ideas is in jeopardy, there is not such a trusting atmosphere as in S-Wangen; it is rather an atmosphere of mistrust. Especially if the sense of responsibility for the area is rather limited, as it is in Fellbach, the role of the municipality is even more important. The neutral role of the University of Applied Science enabled a positive real-world laboratory to start in both areas. However it is not possible for a University of Applied Science to reorganize retail in a shopping street, social innovations would have to happen on a different level in this case. This is also not possible for retailers on their own; in this case, the municipality plays the most important role. Therefore, besides seed capital, strategic support, removal of impediments or support in public relations, sustainable social innovations need support and trust on the part of the city administration.

Of course, it must also be discussed how the individual people were addressed and which type of activation seems to be the best to motivate people to become part of the transformation process. The direct contact to first multipliers and the further contacts developing out of the interviews were very good to get an overview and the trust of the participants. This personal atmosphere motivated both sides, the University of Applied Science Stuttgart and the participants. On the other hand, the anonymous communication boards also activated many people to write down their opinion. The mix of methods – in this case, classical interviews and different kinds of urban interventions – could reach a wide mass. A mix of methods is recommendable for every project, only in this way numerous opinions can be captured and thus a greater acceptance in the population be generated.

The small administrative structures in the Stuttgart area further facilitate social innovations in urban district centers. Every urban district has its own district governor, thus it is easier for the citizens to talk to a responsible person. Moreover, it is easier for the district governors to “care” for their district and stay on top of things as the size of the area is manageable. These district governors have in turn better contact with the town hall than citizens have and therefore can achieve support for the social innovations in the district more easily. Nevertheless, this does not mean, that real-world laboratories are suitable and effective only on district/quarter level. It depends on the topic the real-world laboratory aims at, some topics (e.g. socio-technical dynamics) need the real-world laboratories on city level and for other topics (e.g. cultural identities), district level is enough (Schneidewind, 2014, p. 4).

Social innovations are highly dependent on diverse interests in the group. The different actor constellations, of course, led to different social innovations in the districts. Different professions, different ages, etc. result in different interests, lead to, for example, different abilities, and different amounts of time for the project. In the end, the thematically mixed oriented group in S-Wangen was very productive, as different interests met each other and therefore ideas could grow. Of course, there are also inconsistencies in this process, but they have to be accepted as part of the process

(Wigboldus, 2016). The participants developed social innovations that have value for a large part in society, not just for one group. In Fellbach the thematically one-sided discussion led to a potentially possible solution of one problem, but not to social innovations. Different opinions have to be discussed, different people have to find a problem or potential in common – this is what social innovation is about - not the generation of profit for retailers by designing a new logo or shopping guide.

The research project will continue to focus on these issues; there is more need for research.

Social innovations have the potential to support a sustainable transformation in urban district centers. Within the framework of a real-world laboratory process, the advantage of external support is added. An institution like the University of Applied Science Stuttgart can bring different people together, make them discuss their needs and the potentials of the urban district and thereby function as a catalyst for social innovations. Especially in urban district centers, it is important to support social innovations, they are places of daily routine, places where people live and not just go to work to, and therefore places for social innovations to happen. Many challenges can be solved best on the urban district level, but they have to be discussed with many different persons and need support and trust from the city administration. Top-down and bottom-up urban development are no opposites anymore but should be used to complement each other.

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