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ECO-CITIES VS. ÖKOSTÄDTE: DIFFERENCES AND SIMILARITIES

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Abstract: This essay locates the German ökostadt movement within the broader history of the 'eco-city', and identifies some of its distinctive characteristics. By comparing examples of the former with global examples of the latter, it identifies the broad overlaps, as well as some key differences in emphasis. It finds that ökostadt initiatives place a greater emphasis on air and water quality, less of an emphasis on transport and no emphasis on wider economic and social goals. These differences can be partially explained by differing priorities amongst actors, but also by the fact that ökostadt initiatives tend to exist at smaller scales. This all serves as a reminder that real-world urban sustainability initiatives come about in varied, particular local contexts.

Keywords: sustainable city, eco-city, ökostadt, urban scale.

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Relatively little information is currently available in English on the German 'ökostadt' concept. This is perhaps surprising, since the initiatives associated with it were among the most significant early attempts to introduce 'eco-friendly' principles into urban design and policy-making. Some of the long-term achievements which grew out of this concept, furthermore, in cities such as Freiburg, continue to be widely cited international as 'best practice' in urban sustainability. Drawing on my own research, this essay locates the ökostadt movement within the broader history of the 'eco-city', and identifies some of its distinctive characteristics.

One of the problems with talking about different types of 'eco-cities' is that the term has no widely accepted definition. It has been used as shorthand for a wide variety of urban-scale initiatives taking place around the world which are all in some ways related to goals of urban sustainability (Joss, 2010; Joss *et al.*, 2013). The actual labels used to describe individual eco-city

initiatives vary considerably; while these overlap and often appear to be used interchangeably, they may also indicate significant conceptual and practical differences (de Jong *et al.*, 2015). Further variety results from these labels being translated from one language to another. However, the assumption that terms such as, for example, 'eco-città', 'éco-cité', and 'ecocuidad' are conceptually equivalent, simply because they appear to be direct translations of each other, may potentially blind us to important differences in the context through which they emerged, and the intended goals of their application. The ökostadt is one such apparently directly translatable concept, and in my research I aimed to discover whether in fact it represents a distinctive approach to urban sustainability, and might be better demarcated from other cognate terms in the field.

1. A short history of the ökostadt

The term ökostadt was rarely used before 1990, though there was already a well-established tradition of 'city ecology' thinking, connected to 'green development' in German-speaking regions (Sukopp & Wittig, 1998). The first significant influential use of the term was by the research group *Öko-Stadt – Gesellschaft für ökologischen Städtebau und Stadtforschung*, in 1991. This had previously called itself the *Arbeitsgemeinschaft Ökologischer Stadtumbau* ['Ecological Urban Restructuring'] working group, set up in 1983 in Berlin by Professor of Ecological Spatial Planning Ekhard Hahn, who had been publishing books on ecological urban planning since 1975. Following the name change, its research outputs included proposals for redesigning a series of city quarters in more ecologically friendly ways. These proposals in turn encouraged the federal government of Baden-Württemberg to initiate a *Modell-Stadt Ökologie* simulation game in 1996, in which a series of communities (Stadt Ulm, Stadt Ravensburg, Stadt Waldkirch, Landkreis. Emmendingen, Stadt Güglingen, Landkreis. Heilbronn, Stadt Niederstetten, Main-Tauber-Kreis, Gemeinde Dauchingen, and Schwarzwald-Baar-Kreis) were chosen as suitable candidates for potential ecological urban development (Baden-Württemberg, 2001). This simulation game inspired various practical attempts to implement principles and ideas, and led several local authorities to declare themselves as ökostädte. One of the most prominent cases was the city of Schwabach (Joss, 2010) in Bavaria, which incorporated several ecological development approaches into its City Charter under the guidance of Professor Gerd Schmidt-Eichstaedt (Schmidt-Eichstaedt, 1996).

The German ecologists Herbert Sukopp and Rüdiger Wittig commented at the time that the ökostadt posed a challenge to the technical traditions of urban planning, and that it was a "product of the green movement" which was "introduced by architects and sociologists and accepted by ecologists" (Sukopp & Wittig, 1998:20). However, they saw the concept as lacking effective measures to bring about any actual differences to city planning processes, and suggested that the *Agenda 21* process might possibly provide a vehicle for it to be translated into practices (ibid). *Agenda 21* was the implementational programme which grew out of the UN's influential 'Earth Summit' conference in Rio de Janeiro in 1992, urging local authorities to develop their own 'Local Agenda 21' programmes (UN, 1992: Chapter 28). Although *Agenda 21* did not contain

specific guidelines for how to preserve the environment, in Germany it helped define a new general orientation in urban development referred to as *nachhaltige zukunftsverträgliche Stadtentwicklung* ['future sustainable urban development'] (Sukopp & Wittig, 1998). Two years later this orientation was brought into the German constitutional law in the form of article 20a. Since 1997/98 the *Raumordnungsgesetz* ['regional planning law'] and national building codes have included targets related to sustainable development.

In the course of the *Local Agenda 21* process, a range of federal states, cities, stakeholders, and even individually motivated citizens initiated model projects and described these as ökostädte. Mostly, these projects related to small parts of cities or small towns which were to be redesigned; in the majority of cases, their aims covered little more than single streets, several housing blocks or gardens. Usually the construction would take part over a fixed timeframe (the model life was about one to ten years); the cities involved were committed to supporting and adopting any successful outcomes, but did not at this stage have a clear idea about what would turn out to be practical (see e.g. Grazer Umweltamt, 1995; 2000; BRK Aachen, 2003). The focus of those projects was mostly on reducing private car use in favour of bus, tram and bicycle journeys, creating green spaces in the city, and reducing waste and energy consumption, as well as involving citizens in specific 'ökostadtprojekte' and the urban planning process generally. They were often conceived as demonstration projects, and initiated by local authorities: leading examples included the cities of Aachen, Herne and Hamm (all inspired partly by another simulation game conducted by the Federal State of Nordrhein-Westfalen in 1992), and the Austrian city of Graz. In other places, however, they were more obviously driven by a growing grass-roots ecological consciousness and active citizen participation. In Freiburg, most famously, which was chosen as Germany's Environmental Capital in 1992 (Academy of Urbanism, 2011), government action responded to earlier public protests over local environmental issues (ibid).

Many specific initiatives whose roots lie in the idea of the ökostadt have continued to develop and flourish, even if the term itself gradually fell out of use during the 2000s. It is now used only rarely, usually in connection with very small cities or even villages, to describe initiatives which focus on particular areas of activity (e.g. sustainable agriculture) or are very small-scale and informal. In some cases, in reflection of a more general increase in the use of English vocabulary in the German language over this period, the term 'eco-city' is used instead.

2. Sustainability dimensions of the ökostadt

To understand what was distinctive in the ökostadt approach to sustainability, my research focused on a sample of three particular cases: Aachen (Germany), Freiburg (Germany) and Graz (Austria). These were selected because in each location significant and varied practical 'eco'-experiments took place (in other words, they were substantial initiatives and not narrowly focused on one particular area of activity); because substantial documentation of these activities was accessible; and because none was obviously untypical of ökostadt initiatives generally. All

three were existing cities to which ökostadt principles were applied between the late 1980s and early 1990s, and they therefore represent 'retro-fit' initiatives in Joss' (2011) eco-city typology – as opposed to 'new build' or 'urban in-fill/extension' projects. So as to gain some understanding of how these may collectively represent a distinctive approach to urban sustainability, I compared them with three 'retro-fit' cases from other countries where eco-city principles have been integrated into city-level policies: Copenhagen (Denmark), Portland, Oregon (USA) and Vancouver (Canada). To make the comparison, I developed an analytical framework consisting of 21 criteria, grouped together into 7 overall categories. This framework drew on a literature review which explored the historical roots of the eco-city and ökostadt concepts, and the way these have been variously defined. My understanding of the ökostadt here drew partly on documentation from model projects (e.g. Hahn, 1991; and Schmidt-Eichstaedt, 1996), and partly on broader discussions about ecological urban planning in Germany and Austria (e.g. Malinsky & Mißbichler, 1992; and Sukopp & Wittig, 1998). The seven categories and the more detailed criteria within each were as follows:

- **traffic** (motorised private transport, public transport, non- motorised private transport);
- **energy** (production, consumption, infrastructure);
- **land use and soil** (land usage, green and open spaces, soil quality);
- **policy, social issues and economy** (public participation, integration, economy);
- **buildings and urban structure** (urban densification, urban buildings, urban structure);
- **waste** (avoidance, recycle, disposal);
- **water and air** (water quality, water consumption, air quality)

Looking at each criterion in turn, I evaluated the three ökostädte as a whole, and the three comparators as a whole, using the qualitative scale explained in Table 1 (further details are provided in the thesis itself). The overall aim of this analysis was to understand the relative prominence of each criterion within related plans and policies in each case.

Evaluation	Meaning
+	criterion explicitly important conceptually, and implemented (often through legal regulations)
o	criterion mentioned in the concept and implemented to some extent, either through voluntary actions by residents, or through local authority recommendations or specific plans to implement in future
-	criterion not included in the concept (and no further related concrete measures planned)

Table 1: evaluation scale used to assess criteria

The findings are summarised in Table 2 (grey shading indicates that there is little difference between the eco-city and the ökostadt on a given criterion).

	concept criteria	eco-city	ökostadt
traffic	public transport	+	o
	motorised private transport	+	+
	non- motorised private transport	+	o
energy	production	+	+
	consumption	+	+
	infrastructure	-	-
land use and soil	land usage	o	o
	green and open spaces	+	+
	soil quality	o	o
waste	avoidance	o	o
	Recycle	+	+
	disposal	o	o
policy, social issues and economy	public participation	+	+
	integration	o	-
	economy	o	-
buildings and urban structure	urban densification	+	+
	urban buildings	o	o
	urban structure	o	o
water and air	water quality	o	+
	water consumption	o	o
	air quality	o	+

Table 2: comparison of eco-city and ökostadt sustainability dimensions

The overall picture here is clearly one of similarity between the ökostadt and the (retro-fit) eco-city in terms of priorities. Fifteen of the 21 specific criteria match, and these are spread across all seven categories. In this sense, it does make sense to see the ökostadt as a particular type of eco-city, rather than as significantly different idea which happens to share the same name in translation.

In certain respects, however, different priorities are evident. The relatively stronger emphasis on transport issues evident for the eco-city comparators may reflect their larger size as cities; the idea of effecting eco-transformation across large urban regions remained theoretical at the time of the ökostadt. We might speculate that the relative priority given to air and water quality in the ökostadt reflected the particular local environmental agendas of the actors and green activists involved. But it is perhaps most striking that questions of the local economy and the integration of different social groups were never key issues in the ökostadt concept. Again reflecting the small scale of ökostadt initiatives, it would have been difficult to address those topics, and other policy mechanisms for addressing them were in any case already in place. This also marks out the ökostadt as belonging to an earlier, tentative phase of eco-city development. While current eco-city initiatives often explicitly attempt to intervene in the governance of (often large) cities, and encompass wider economic and social goals, the ambition here was the more modest one of attempting to demonstrate that changes could be made with little technical effort or upheaval, in simple, easily accessible and manageable ways; showing citizens how to act more sustainably by making only minor changes to their daily life. Some of these demonstrations may still be cited as exemplars of urban sustainability, but they could not themselves draw on existing 'best practice' elsewhere, and there was no guarantee at the time that any of this would be successful or be accepted by local residents. The ökostadt is therefore best understood as describing a preliminary wave of small-scale experiments which served to trial different possibilities for 'greening' urban life and improving living standards.

This all serves as a reminder that real-world urban sustainability initiatives come about in particular local contexts. Although there is value in evaluating successes and failures in absolute terms, it also seems important to consider how they emerge at particular times. It seems possible that the ökostadt would have remained little more than a normative concept without the catalysing effect of *Local Agenda 21* in Germany and Austria, and the funding available for related projects at the time. Its long-term influence, moreover, may be due to it resonating in people's minds during a particular period in Northern Europe, when older modes of urban planning were being questioned in the light of a newly widespread awareness of global environment problems.

This essay draws on research conducted by Teresa Damm for her MSc thesis presented to Dresden University of Technology in December 2014. The work was supervised by Professor Bernhard Müller, Chair of Spatial Development at TU Dresden and Director of the Leibniz Institute of Ecological Urban and Regional Development, as well as by Dr Paulina Schiappacasse, Senior Researcher and Lecturer at TU Dresden. For a copy of the thesis (in German), or for any other enquiries, please contact the author: teresad84@hotmail.com.

References

Academy of Urbanism (2011). The Freiburg Charter for Sustainable Urbanism: learning from place. London: The Academy of Urbanism. Available online: http://www.academyofurbanism.org.uk/freiburg-charter (accessed 5 May 2015).

Baden-Württemberg (2001). Ökologische Stadt- und Gemeindeentwicklung Modellvorhaben des Landes Baden-Württemberg. Ludwigsburg: Baden-Württemberg Ministry of Economy,

Ministry of Environment and Transport, and Ministry of Food and Rural Areas. Available online: http://www.stadt-umwelt.de/common/downloads/OESGE.pdf (accessed 20 May 2015).

de Jong, M., Joss, S., Schraven, D., Zhan, C. & Weijnen, M. (2015, forthcoming). Sustainable–smart–resilient–low carbon–eco–knowledge cities; making sense of a multitude of concepts promoting sustainable urbanization. Journal of Cleaner Production, online advance version.

BRK Aachen (2003). Modellprojekt "Ökologische Stadt der Zukunft" in Aachen. Kurzfassung des Abschlussberichtes. Büro für Kommunal- und Regionalplanung Aachen. Available online: http://www.aachen.de/de/stadt_buerger/umwelt/weitere_umweltthemen/aachen_agenda _21/oekologische_stadt1/zeichen_setzen/oekologische_stadt_abschlussbericht.pdf (accessed 18 June 2015).

Grazer Umweltamt (1995). Ökostadt 2000. Available online: http://www.graz.at/cms/dokumente/10022468_357000/aa00cb84/oeS2000-D.pdf (accessed 18 June 2015).

Grazer Umweltamt (2000). Ökostadt 2000 - Evaluierung. Bericht (Gutachten) des Grazer Öko-Teams.   Available   online: http://www.graz.at/cms/dokumente/10022468_357000/0df31cb4/eval1_97.pdf   (english) http://www.graz.at/cms/dokumente/10022468_357000/a1d1d707/oekostadt2000_eval.pdf (german) (accessed 18 June 2015).

Hahn, E. (1991). Ökologischer Stadtumbau: Theorie und Konzept. Berlin: Wissenschaftszentrum

Berlin für Sozialforschung Forschungsschwerpunkt Technik, Arbeit, Umwelt.

Joss, S. (2010). Eco-cities: a global survey 2009. WIT Transactions on Ecology and The Environment, 129: 239–250.

Joss, S, (2010b). Eco-cities: a global survey 2009. Part B. WIT Transactions on Ecology and the Environment, vol. 4, no. 129, pp. 239-250.

Joss, S., Cowley, R. & Tomozeiu, D. (2013). Towards the 'ubiquitous eco-city': an analysis of the internationalization of eco-city policy and practice. Urban Research and Practice, 6(1): 54–74.

Malinsky, A.H. & Mißbichler, C. (1992). Ökologisch orientierte Raumordnung. Freiraum- und Ressourcensicherung. Linz: Institut für gesellschaftspolitische Grundlagenforschung.

Martin, M., (2008). Ökostädte sind von ihren Bewohnern abhängig. (Interview with Dutch professor Kees Christiaanse). Published in Swiss Engineering STZ 7/8: 8-10. Zürich: Swiss Engineering Media AG.

Schmidt-Eichstaedt, G., Jung, S., Metscher, W. & Putz, J. (1996). Planspiel Modell-Stadt-Ökologie. Handbuch zum Ablauf der Planspiele in Schwabach, Altenburg und im Städteverbund Aue/Schwarzenberg. Stuttgart: Fraunhofer IRB Verlag.

Sukopp, H. & Wittig, R. (1998): Stadtökologie. Ein Fachbuch für Studium und Praxis. 2. Edition. Stuttgart, Jena, Lübeck, Ulm: Gustav Fischer Verlag.

UN (1992). Earth Summit Agenda 21: The United Nations Programme of Action from Rio. UN Department of Economic and Social Affairs, Division for Sustainable Development. Available online: https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf (accessed 24 May 2015).

Sources of Further Information on Selected Ökostadt Initiatives

Haag, M. & Köhler, B. (2012). Freiburg im Breisgau - nachhaltige Stadtentwicklung mit Tradition und Zukunft. Information Zur Raumentwicklung, 6(5): 243-256.

Österreichischer Städtebund (2000). Ökostadt 2000 - Auf dem Weg zu einer nachhaltigen Stadtentwicklung in Graz - Lokale Agenda 21. Available online: http://www.staedtebund.gv.at/oegz/oegz-beitraege/jahresarchiv/details/artikel/oekostadt-2000-auf-dem-weg-zu-einer-nachhaltigen-stadtentwicklung-in-graz-lokale-agenda-21.html?tx_felogin_pi1%5bforgot%5d=1 (accessed 3 August 2014).

Späth, P. & Rohracher, H. (2012). Transitions towards sustainability - learning from Graz and

Freiburg? Serbian Architectural Journal, 4: 75-98.

Späth, P. & Rohracher, H. (2014). The interplay of urban energy policy and socio-technicaltransitions: The eco-cities of Graz and Freiburg in retrospect. Urban Studies, 51(7): 1-16.

Stadt Aachen. (2001). Ökologische Stadt der Zukunft. Aachen. Available online: http://www.aachen.de/de/stadt_buerger/pdfs_stadtbuerger/pdf_oesz/oekologische_stadt. pdf (accessed 18 June 2015).

Stadt Freiburg. (2011). Freiburg GreenCity - Wege zur Nachhaltigkeit. Available online: http://www.freiburg.de/pb/site/Freiburg/get/640887/GC-Brosch%C3%BCre_D-2014.pdf (accessed 18 June 2015).

Stadt Schwabach. (2000). Stadtleitbild. Zukunftsorientierte Leitlinien für Schwabach. 1st edition. Schwabach: Buch- und Offsetdruckerei Hermann Millizer Schwabach.