

VISUALIZING GERMANY VIA MAPS IN A MAGAZINE: ‘FANCY’ GRAPHIC DESIGN AS COMPARED TO ‘PROPER’ CARTOGRAPHY

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Abstract

The paper starts with a comparison of nowadays cartography and the new trends in information design. The initial conception and production process of the Germany maps for the ZEITmagazin LEBEN are shortly described. Then, the ‘Sellings via eBay’ map serves as example to discuss the two different approaches. Here, cartography students had been asked to prepare a map based on the same material as the graphic designers had used. This has prepared the ground for a lively discussion from which conclusions for a collaboration between graphic designers and cartographers are drawn.

1. Introduction: cartography versus information design

»There has been never more map«, as a lifestyle magazine is announcing (Waldt, 2008). »Hobby cartographer«, »citizen cartographer«, or »democratization of cartography« are trendy phrases, referring to the fact that everyone can visualize geospatial data nowadays. The craft skills formerly required to understand map-making (referring here to cartography as art and science) are getting less and less important (Dorling & Fairbairn, 1997). However, cartographers still believe that cartographic design rules are needed to ensure effective communication, i.e. to allow the conveying of geospatial relationships. With either sticking to conventions (cf. topographic maps and their symbols) or by employing the general characteristics of the graphic cues (cf.

thematic maps and the use of graphic variables resulting in map types), the establishing of an information hierarchy plus the adding of text primarily for providing geospatial addresses, the major building bricks of a cartographer are concisely summarized (see Kraak & Ormeling, 2003). As such 'cartography is more than just "the activity of" preparing graphics for a map', it is 'about the "packing" of information', meaning how the content is carried by the graphics (Brodersen, 2005, p.28). While in the past common standards were maintained by teaching the proper making and look of maps, today common standards result from the restrictions of the mapping packages. Further, the emerging alternatives are not mainly interested in 'minute details of accuracy' (Dorling & Fairbairn, 1997, p.137). With this erosion of the cartographic rule set, this also is becoming true for the efforts towards the possibly most objective representation of reality (Waldt, 2008).

Maps do not imitate reality, they interpret it (see Schwartz, 2005/06; Ramonet, 2006). And, in the words of Kraak & Ormeling (2003, p.33): 'It is not possible to get an overview of an area in any way other than by consulting a map.' Meaning here that visual analysis is among the most versatile types of spatial analysis for which simply good eyes and a good brain are sufficient (Poiker, 2005a). That is why the relevant knowledge on concepts and techniques of cartography or geovisualization need to be provided to the many potential map-makers and why cartographers are responsible for convincing those to stick to the proven design principles (Kraak & Ormeling, 2003). For cartographers to take the role of "leaders in esthetics" or to become "the architects of the spatial science", there is the need to first tell the world what they really do (Poiker, 2005b; 2003).

It is common opinion that the importance of information design is rapidly growing today. The many available data apparently requires to be packaged in handy, self-explaining and illustrative graphics (cp. Schuller, 2009): as orientation or navigation systems, as graphical representation of statistics, by means of maps, as on operating instructions, for interface design or information architectures (see Wilbur & Burke, 1998). Here, 'escaping [...the] flatness [of the paper or monitor] is the essential task of envisioning information' (p.12), this by applying design strategies which are quite independent of content and technology (Tufte, 1990).

Beyond that, elements of information design are more and more used in the context of commercial media. Only recently, information design is considered fashionable, it is contributing to lifestyle. It is the narrative character, the individual addressing and the entertainment (the so-called infotainment) that take centre stage here. The aim is not only to serve the reader's or user's desire for being up-to-date but also to establish a link between the producer and consumer. This link is always also an emotional one and a matter of style to the reader or user. The identity-founding character of the consumer loyalty has to be considered here. In consequence even maps (while appearing in magazines, newspapers, traveller guides or image folders) will become part of an area where questions of lifestyle or social distinction are often more important than

(geospatial) accurateness. For a selection of such maps see the Web pages of Nigel Holmes (<http://www.nigelholmes.com/work/maps1.htm>), »caepsele_visual strategies« (http://www.von-rotwein.de/Projekt/IF_Projekt.php?projektid=0902), Hosoya Schaefer Architects (<http://www.hosoyaschaefer.com/dumag.htm>, .../seedamm_exhibition.htm, .../mg.htm), Süddeutsche Zeitung magazine column 'The perfect plan' (<http://www.ilijin.com/szmagazin.htm>), Stefan Bräutigam's diploma thesis (<http://www.overnewsed-but-uninformed.de/inhalt.html>), the infographics platform Golden Selection Graphics (http://www.phiii.com/category.php?online_category_id=28), the Weblog www.infosthetics.com/ (search for e.g. 'cartography'), or the Atlas of Shrinking Cities. Atlas der schrumpfenden Städte by P. Oswalt & T. Rieniets (Ostfildern: Hatje Cantz Verlag 2006).

While in the Atlas of Globalisation (Ramonet, 2006) it is stated that journalism is increasingly forgetting about cartographic presentations, in the lifestyle magazine DE:BUG (Waldt, 2008) it is pointed out that maps would get more lively when using elements of info graphics, and info graphics would become more catchy when appearing in map form. This might explain why graphic designers and not cartographers are creating the Germany maps for the magazine 'ZEITmagazin' which is delivered together with the weekly newspaper 'Die ZEIT'.

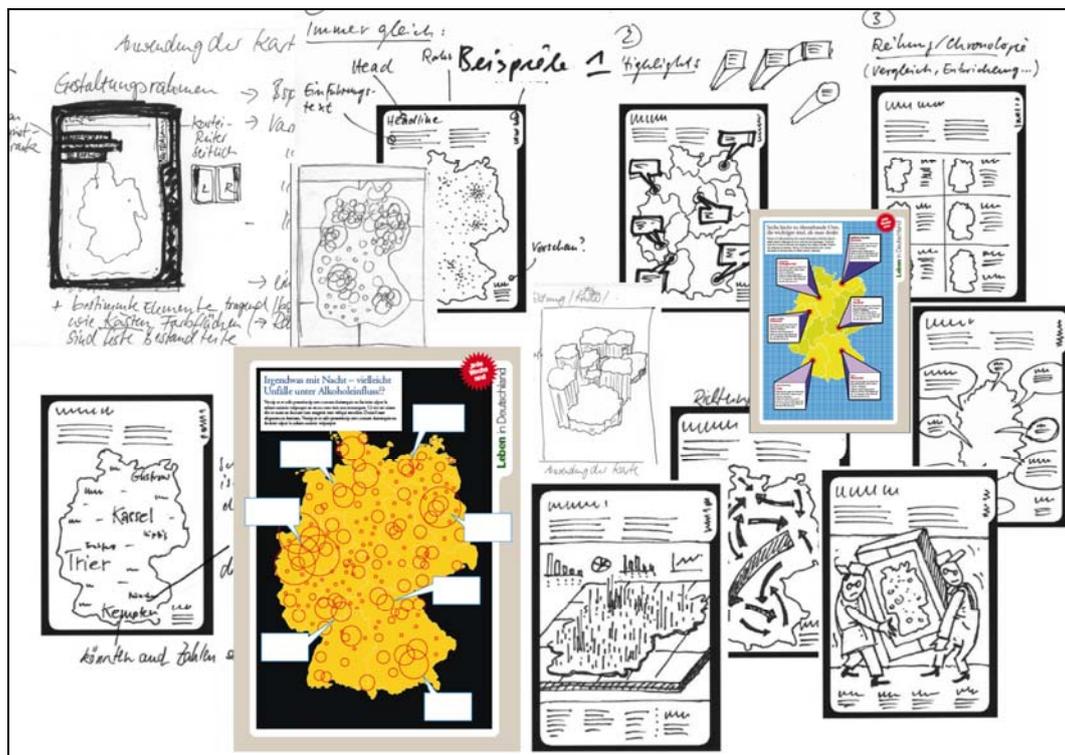
2. The ZEIT Germany maps: conception and production

In 2007 the editorial office of the 'ZEITmagazin LEBEN' (now 'ZEITmagazin') approached the graphic design studio »caepsele_visual strategies« asking for a graphical conception for the column 'Germany map'. Via scribbles (see figure 1, top) proposals for the graphical look were developed. Here, in the foreground stood the idea to create a concerted graphic frame but at the same time to meet the distinct map topics by applying various design means like photography, illustration by hand or DTP, and typography (i.e. mixed media). With the design in the end depending on the respective theme, the boundaries set for the Germany maps could be more and more let down as the column is getting established. Thus the maps would become more abstract with time.

Data having been delivered in very different formats had to be transformed into graphics on a weekly rhythm. This was happening in the conflicting field of consistent, reliable content versus attractive form, information versus entertainment, claim for quality versus feasibility. But, as non-cartographers they soon found themselves confronted with unexpected problems (see figure 1, bottom). This was exaggerated by facts as the state the data was handed over in as well as by very tight time schedules. The graphic designers were in particular not familiar with the often required coordinate transformation, i.e. how to generate the spatial reference for the many data points. Rather soon a fundamental difficulty arose: a medium like the ZEITmagazin lays claim on highest factual competence and reliability, but at the same time on stylish, spirit of the times, and pioneer forms. What this means was experienced very acutely: in favour

of form it could happen that content fell by the wayside, this due to time pressure and the impossibility to employ qualified editors for such an enormous diversity of topics. Nevertheless, mistakes were on no account allowed.

Until spring 2008 ca. 30 maps were published. The column is still ongoing, although with changes in the graphic designers commissioned. In the meanwhile the ZEITmagazin was awarded various prizes, all related to the design only (e.g. »Malofiej Awards for Infographic Design« in Pamplona, Spain; see <http://www.zeit.de/2008/12/Ausgezeichnet>). With that the design sector is of course also celebrating itself.



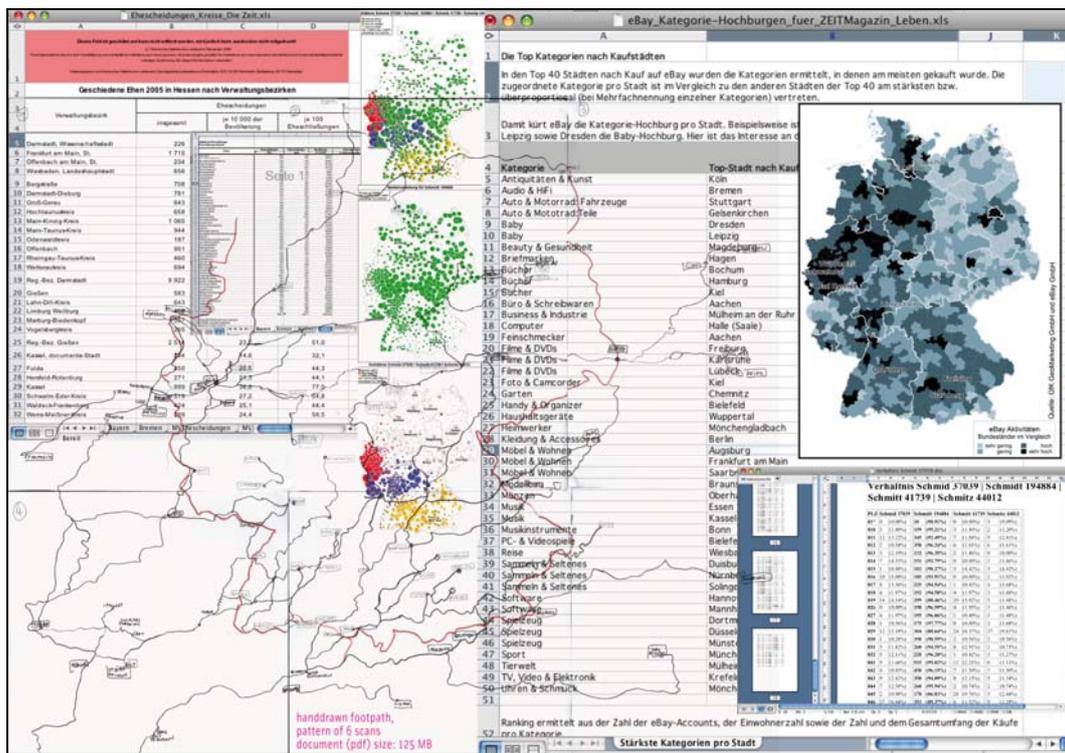


Figure 1: From the scribbles for deciding on an overall conceptual frame (top) and the working stages when producing actual ZEIT Germany maps (bottom).

3. 'Sellings via eBay' map comparison: cartography students' versus graphic designers' version

After a contact had been established to Karlsruhe University of Applied Sciences, based on a strong interest in cartography by the graphic designers, the idea arose to select one of the map topics and to ask students following the Bachelor course 'Cartography and Geomatics' for their map solution without them having seen the map as published in the 'ZEITmagazin LEBEN'. They were only told that the map was meant to be included in a magazine. The students prepared their maps on 'Sellings via eBay' according to the learned cartographic rules and conventions, based on a base map already prepared in the for DTM used software Freehand, an Excel file listing 40 lead towns together with their dominant eBay-sellings category, and a graphics file of a simple business graphics map revealing eBay activity per postal directing areas (distinguishing 4 ranks). Only in the presence of the graphic designers the rather distinct visualisations were then presented to both sides (see figures 2, 3, and 4).

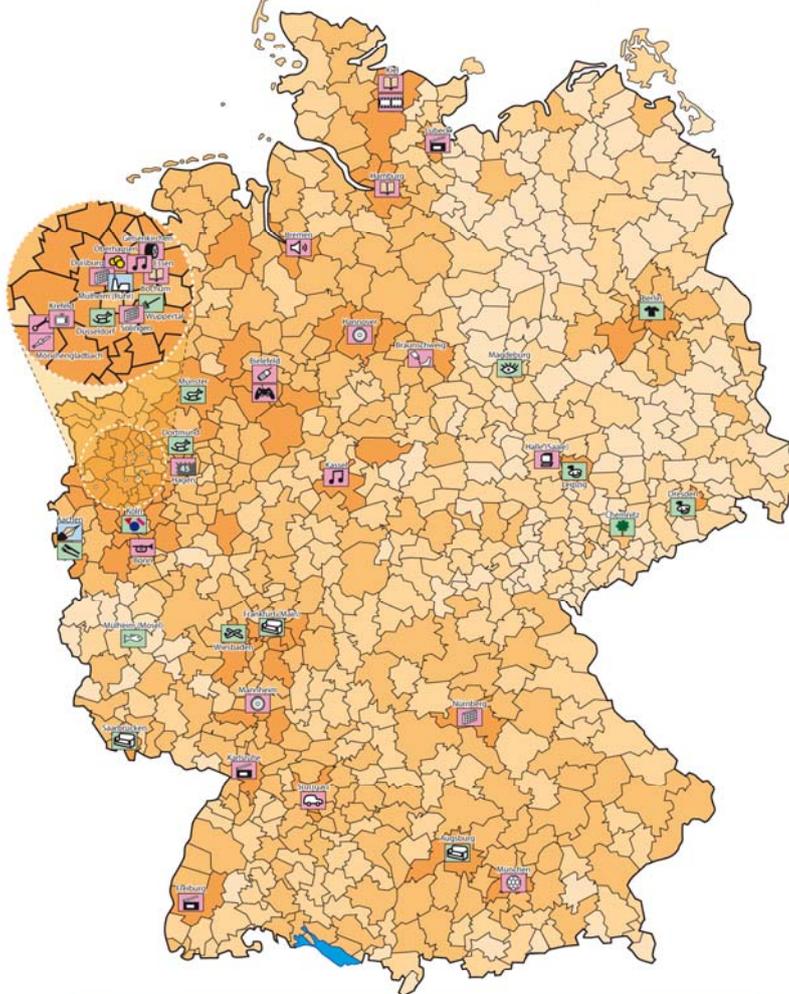
The graphics people were astonished about the similarities between the graphical solutions by the students as well as regarding the effort (in particular time-wise) and meticulousness the students afforded for developing associative map symbols, most of them right-away understood without the need for a legend. Designing pictograms is

considered even a separate area within the graphic design. The graphic designers had not been aware that cartographers make largely use of the same technical means (note, that in this case GIS had not been applied but DTP/DTM). An experimental handling of the graphics means (colour, typography, drawing) and in the respective context (what presentation form for which medium?) as well as consideration of legibility had been missed out. Instead, the cartographic approach seems to be very much orientated by strict rules. Questions related to media, society, and communication theory seems to be lacking. Priority is clearly on 'carto' while the graphics got lost.

Contrary the cartographers' eye was hit by the poster-like, only approximate (cartographic generalisation?), not necessarily the type positioning rules following map design. Cartographers start the thematic map making by analysing the data regarding their levels of measurement leading them to the appropriate use of the graphic variables and the final map type. The concept for a structured legend is considered of major importance. Layouting and final design of the map is of more secondary importance. For the graphic designers the visual concept becomes the focus of attention, with the overall design at the beginning in which the data has to be integrated. The result is that we see an 'art work' for the entire space used, while in case of the students' maps, although being correct from the point of semiotics the map faces appear rather isolated from the rest. The use of map symbols shows clearly to be a major distinction from the information design field, in that they allow to communicate qualitative and quantitative information accurately, take advantage of association and thus model reality closely. It is hoped that the skilled map reader is still more convinced of the traditionally looking map, however, the general public might be easier reached by the other.

Das Kaufverhalten Deutschlands

Die Top - Kategorien bei eBay nach Kaufstädten



In den Top40-Städten nach Kauf auf eBay wurden die Kategorien ermittelt, in denen am meisten gekauft wurde. Die zugeordnete Kategorie pro Stadt ist im Vergleich zu anderen Städten der Top40 am stärksten bzw. überproportional vertreten. Das Ranking wurde aus der Zahl der eBay-Accounts, der Einwohnerzahl sowie der Zahl und dem Gesamtumfang der Käufe pro Kategorie ermittelt.

Figure 2: Example 1 of a student map solution for the topic ‘Sellings via eBay’ (map maker: Jakob Altenstein, module ‘Thematic cartography I’, Karlsruhe University of Applied Sciences, summer term 2008).

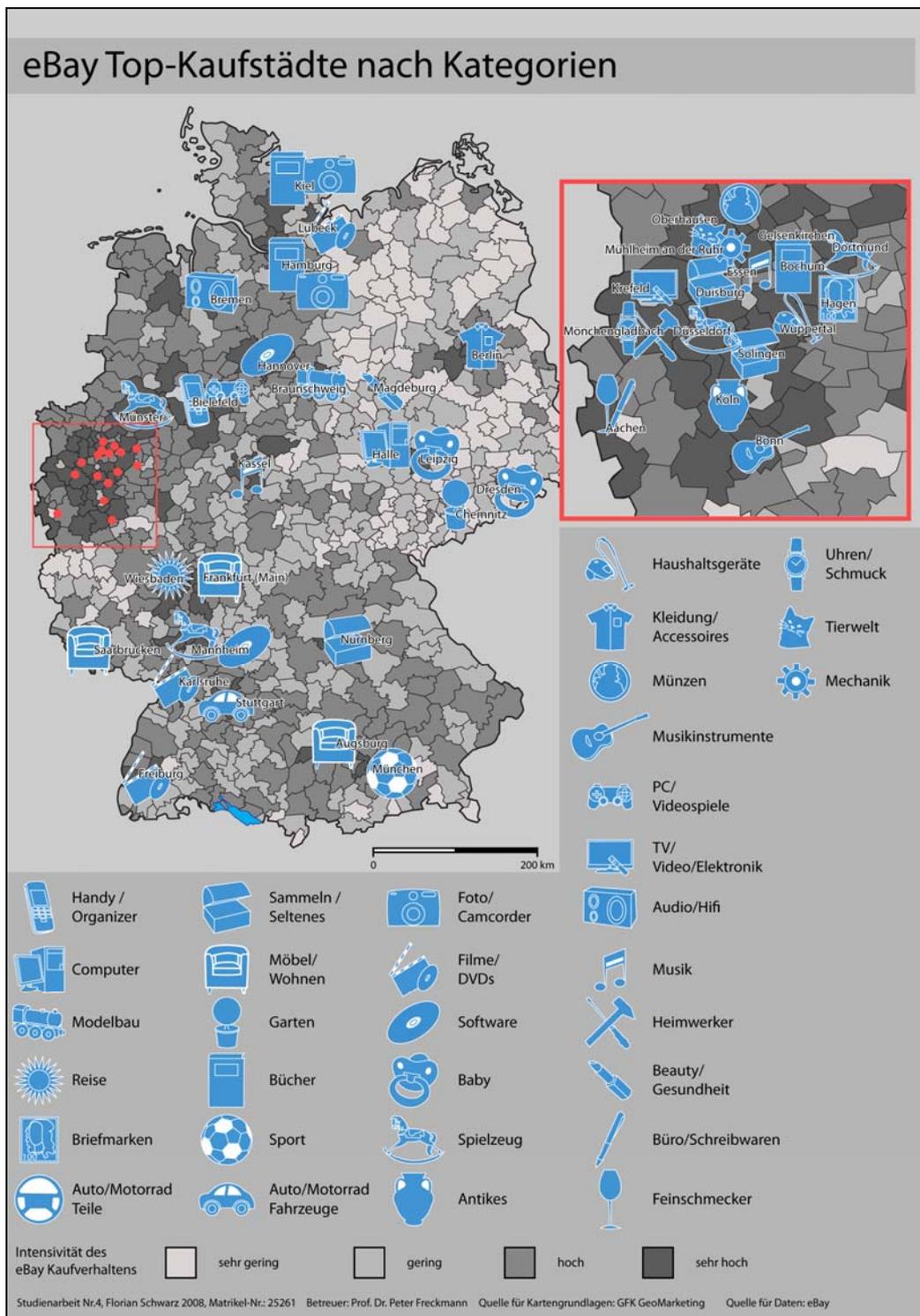


Figure 3: Example 2 of a student map solution for the topic ‘Sellings via eBay’ (map maker: Florian Schwarz, module ‘Thematic cartography I’, Karlsruhe University of Applied Sciences, summer term 2008).



Figure 4: ‘Sellings via eBay’ as published in the column ‘Germany map’ of the magazine ZEITmagazin LEBEN (no. 9, 21 Feb 2008).

In the joint discussion the in parts opposed approaches as well as ideas for a skilful (carto)graphic representation could be made better understood to the respective other side. Here, it became evident, that nowadays cartographers can see their role of being the only experts for the visualisation of spatial data and information getting continuously smaller. Therefore it is rather comforting that us cartographers, we are still clearly ahead of the graphic designers in regard to the handling of the spatial reference in the digital working environment.

4. Conclusion

What can cartographers learn from the graphic designers apart from the fact that they are struggling and not fully enjoying making maps? The latter with regard to the task featured here and the experiences made that there is always somebody still finding a mistake or knowing it better. Graphics people make use in particular of typography as a design means. Further, not only the map (the foreground) can be designed but also the background, e.g. as a red-white-checked table cloth for the map topic 'Which food is protected within the EC?' Thus, context and lifestyle aspects are taken into account. They see the future of cartographers in 'mapping', referring here simply and in general to visualization or arranging on a planar surface. By extending the sphere of activity cartographers should contribute to reducing the number of attractive but useless computer-generated presentations of complex data which only depict but do not explain or reveal. Graphic designers might compete regarding jobs, the big money, however, they are also not making with such contracts. Therefore, not rivalry should determine the situation but the wish for a working-together. Only thus such tasks can be solved less nerve-racking for the graphic designers and by using cartographic expertise regarding an information presentation adjusted to the available space and scale. And, as we have been reminded: 'The ingredients do not make the whole, it also takes chemistry' (Robinson, et al., 1995, p.338).

References

- Brodersen, L., 2005. Is cartography dead? Or has cartography still a role to play in a modern, web-based GIS-environment? *GEOconnexion International Magazine*, September 2005, pp.28.
- Dorling, D. & Fairbairn, D., 1997. *Mapping. Ways of representing the world*. Harlow: Prentice Hall.
- Kraak, M.-J. & Ormeling, F., 2003. *Cartography: Visualization of geospatial data*. 2nd ed. Harlow: Prentice Hall.
- Poiker, T., 2005a. Is Google Map special? One aspect of having a good editor is that he is the driving force behind many of the columns that columnists write. *GEOconnexion International Magazine*, September 2005, pp.50.
- Poiker, T., 2005b. The cartographer. The changing role of the cartographer can veer in many directions with numerous opportunities. *GEOconnexion International Magazine*, November 2005.

- Poiker, T., 2003. Cartography and GIS. *GEOinformatics*, December 2003, pp.29.
- Ramonet, I., 2006. Ein Faden im Labyrinth der Welt. In: *Atlas der Globalisierung*. Berlin: »Le Monde diplomatique« / taz, p.4-5.
- Robinson, A.H., et al., 1995. *Elements of cartography*. 6th ed. New York: John Wiley & Sons.
- Schuller, G., 2009. *Designing universal knowledge. The world as flatland – Report 1*. Baden (Switzerland): Lars Müllers Publishers.
- Schwartz, D., 2005/06. Editorial of du762 – Weltkarten. Eine Vermessenheit. In: »du« – *Zeitschrift für Kultur*, no. 11/12, December 2005 / January 2006, editorial.
- Tufte, E., 1990. *Envisioning information*. Cheshire (Connecticut): Graphics Press.
- Waldt, A., 2008. Alles Karte. Mappen mit Sinn und Verstand. *DE:BUG. Magazin für elektronische Lebensaspekte, Musik, Medien, Kultur, Selbstbeherrschung*, no. 124, July / August 2008, pp.36-37.
- Wilbur, P. & Burke, M., 1998. *Information Graphics. Innovative Lösungen im Bereich Informationsdesign*. Mainz: Verlag Herrmann Schmitz.

Acknowledgements

G. Schaab and P. Freckmann like to thank all the students involved for their efforts designing quite labour-intensive maps, naming here in particular Jakob Altenstein und Florian Schwarz who also provided hints on what stroke them in the discussion with the graphic designers. S. Ortwein and R. Stegmaier appreciated the collaboration with Matthias Stolz, the editor responsible for the ‘Germany maps’ in the ZEITmagazin, and thank the Zeitverlag Gerd Bucerius GmbH & Co. KG for the permission of presenting some of the maps here. They are very grateful to Jörg Binder who provided helpful advice on data processing issues.