Visual Storytelling

Assessing the power of maps in planning

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URBANISM

Visual Storytelling

Assessing the power of maps in planning

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There is an abundant use of visualisation in spatial planning. This chapter is particularly concerned about planning on the regional level and beyond. On these higher levels of scales maps form the dominant visualisation mode. To fully comprehend and evaluate the content of these maps this chapter first discusses a set of theoretical concepts and considerations under the heading of maps as constructs. This is followed by the main part of the chapter: a discussion about the techniques which map makers seek to use. The main objective of this particular section is to provide a number of tools to interpret and assess the stories told by maps and to look beyond the visual style and seductive image of maps. We round off with the conclusion: the unity of text and maps in (supra)regional planning.

MAPS, VISUAL STORYTELLING, PLANNING, DESIGN, SEMIOTICS

1. Introduction

One can define spatial planning in many different ways. In this particular chapter the emphasis is on planning as spatial design. We then enter the domain of spatial images (see also Zonneveld, 2021a). The range of such images or 'visuals' which are used in spatial design is bewildering: photographs, drawings, diagrams, and schemes to name just a few (for examples see for instance Thierstein and Förster, 2008). Certainly, the most widespread imagery is that of the map. Briefly a map can be defined a schematic, reduced depiction or representation of a territory where there is at least some sort of connection between the territory in question and what has been selected and imaged on the map. At first sight this short description looks rather neutral. However, what is depicted on maps is most certainly not. We know from literature, especially the literature known as 'critical cartography' that the so called 'correspondence theory of mapping practice' is profoundly flawed: there is no direct relationship between a map and the territory it supposedly represents (Crampton, 2001). In fact, maps are socially constructed (Harley, 1989). With spatial planning in mind, we can even say that maps are politically constructed.

What this chapter seeks to do is twofold. First, to arrive at an understanding of the role of maps in planning. Second, to provide handles and levers to interpret and critically discuss the content of spatial planning maps. These two objectives basically structure this chapter. In the next section we discuss a number of theoretical concepts and considerations under the heading of maps as constructs. This is followed by the main part of this chapter: a discussion about the techniques which map makers seek to use and methods to identify and assess the stories told by maps and to look beyond the visual style and seductive image of maps. We round off with a short conclusion.

2. Maps as constructs

2.1. Framing and storytelling

In Dutch academic discourse the use of maps in spatial planning has been approached in its own unique way. There is distrust that comes very close to the title of Mark Monmonier's well known book 'How to Lie with Maps' which got its first edition in 1991. In fact, the book is an evergreen; the third edition dates from 2018. Other scholars take a more neutral stance. They look at how maps can lead to controversies but how they can also be used to reach consensus (Carton & Enserink, 2006; Carton, 2007). Abroad, Throgmorton became widely known as he interpreted planning as persuasive storytelling about the future where persuasion is based on power and the use of verbal as well as visual languages in discourse (Throgmorton, 1992; 1996; 2003).

Let us first look at what might be called the 'Dutch school of distrust'. In a paper in the Journal of the American Planning Association, Van Eeten and Roe (2000; see also Zonneveld, 2005) attack the Dutch Green Heart policy in an unprecedented way. For the readers who are not familiar with the Dutch concept of the Green Heart: preserving the openness of this large rural landscape amidst a wide circle of fast-growing cities known as the Randstad was a cornerstone of Dutch national spatial plan-

ning for decades (Zonneveld, 2021b). It only came to an end when the policy was handed over to local government about two decades ago (see Zonneveld & Evers, 2014).

The main argument of Van Eeten and Roe is that the spatial planning concept of the Green Heart is a fiction but nevertheless has become immune to criticism. They argue that alternatives to the Green Heart policy have not given a fair chance. In trying to explain this hegemonic position of the Green Heart they point to the communicative power such a metaphor can have and conclude that planning must renounce that which has proven to be the most powerful weapon in planning discourse, namely mapping. Certainly not ill disposed towards using metaphors for their own rhetorical purposes, they reject any planning strategy which uses maps as nothing less than an 'iconographic gaze' (Van Eeten & Roe, 2000: 64). Following Denis Wood's well-known book, The Power of Maps (1992), Van Eeten and Roe conclude that maps are by nature fictional if for no other reason than that they exclude certain details of what is present 'on the ground', which of course is a truism. Indeed, maps are useful and powerful precisely because they always have to leave out detail, even the most detailed ordnance survey maps (in literature, see Lewis Carroll, Jorge Luis Borges, Adolfo Bioy Casares, and Umberto Eco for interesting discussions on drawing maps at a scale of 1 to 1; see also 'exactitude in science' on the Internet). As alternatives to the seemingly hegemonic Green Heart policy have all used mapping strategies, 'there is no mapping our way out of the deadlock [...] One way out of the controversy is to adopt planning approaches that depend much less directly on maps and cartographic imaging' (Van Eeten & Roe, 2000: 65). To summarise their conclusion: let us plan, but please try to do this without maps.

Does the proposal of Van Eeten and Roe make sense? Not really, I would say. Simplification, stereotyping, and hegemonic discourse could also be reached through mere verbal language. Being critical towards the societal groups or governmental agencies using maps and metaphors makes far more sense. On top of that, is the making of spatial plans possible without making maps? In a response to Van Eeten and Roo, Christopher Alexander, well acquainted with Dutch planning, and familiar with the Dutch planners' predilection for spatial imagery, strongly rejects this idea, but not because he wants to protect the Dutch style of spatial planning or the protagonists of the Randstad/Green Heart 'doctrine'. Alexander asserts that 'some form of graphic representation [...] is essential for communicating any ideas that have a spatial dimension, as planning concepts and doctrines must have; and [...] the fact that all metaphors are essentially fictions in their relation to reality in no way diminishes their usefulness in conceptualising and communicating planning ideas.' (2001: 98). Similarly, Faludi argues that what sets planning apart from other policy fields is its focus on spatial dispositions and activity patterns, and that space is best depicted visually, saying that the 'most common way in which this is articulated is by means of a plan in the classic sense: a map' (Faludi, 1996: 96). He relates imaging, or figuring, to framing. Hence the title of his journal paper: 'Framing with Figures'. Problems are never objectively given, but socially constructed 'through frames in which facts, values, theories and interests are integrated' (Rein & Schön, 1986: 4).

Power, hegemonic discourse and a variety of different sorts of languages come together in what the

American scholar James Throgmorton calls planning as persuasive storytelling about the future (Throgmorton, 1992; 1996; 2003). This interpretation of what planning in essence is and how it works drew a lot of attention at both sides of the Atlantic. Many recognised that persuasion is highly important to get any planning message across. Some criticised Throgmorton because his nutshell like description of planning seemingly underestimated power. In fact, he was highly interested in the rhetorical and often manipulative sorts of storytelling: power comes first and stories second (Throgmorton, 2003). One of the interesting dimensions of Throgmorton's analytical approach is what may be called the unity of text and images. Texts which may include imaginative but often also manipulative metaphors and tropes combined with visuals together constitute a storyline.

2.2. Agency

The combination of mapping, other sorts of spatial representation (like photographs, satellite images, and schemes and diagrams) and verbal expressions have acquired certain names in the relevant literature. Examples include 'imagery' (Van Duinen, 2004; 2021), 'imaginaries' (Davoudi, 2018) or 'spatial concept' (Zonneveld, 2007; Balz, 2019). The visual language of the map and the verbal language surrounding it come together in its legend. A legend explains in a concise way the signs which have been used to create the map. There is another word used interchangeably with legend (which is in fact a metaphor!) and which is rather meaningful in understanding the map: the key. As a thing a key unlocks a door, and the map key unlocks the map. This does not necessarily mean that all maps in planning or regional design have a key. There is an abundance of maps which are not 'unlocked' via a legend but through a supporting explanation in a text or storyline. According to Van Dijk (2011) this combination can be very powerful, much to the chagrin of some of the observers we have met above.

Mapping as part of a design strategy is not necessarily to depict possible or desired futures. Design through mapping can also have understanding as its prime goal; to grasp, for instance, the structure of a region or how a particular place is positioned in its wider setting and what determines this position. Whatever sort of mapping is applied, according to Corner 'the function of mapping is less to mirror reality than to engender the re-shaping of the worlds in which people live' (Corner, 2011). In fact, 'mapping is the most formative and creative act of any design process, firstly disclosing and then staging the conditions for the emergence of new realities' (Corner, 2011; see also Zonneveld, 2021a). Corner calls this the agency of mapping. However, in which direction map agency works is not easy to foresee: 'designers' of visualisations and maps, 'like designers of anything, cannot anticipate all the ways people will understand and use their design' (Tversky 2019: 193). One example is given by Van Duinen (2004) when she wrote an interesting analysis of the (former) Dutch National Spatial Planning Agency's blundering when it sought to introduce a novel perception of the spatial structure of the Randstad in which there was no longer a place for the city of Utrecht. The agency completely underestimated the intrinsic power of an existing spatial concept and its adherents, both in the national parliament and among a regional advocacy coalition (i.e. Utrecht). This example shows that being on a map (Jensen & Richardson, 2003) can be as contentious as being omitted from one.

2.3. Constructed realities

Before we turn our attention to a variety of interpretative tools to analyse the content and meaning of planning maps, we have to say a few words about the question: is there any objectivity in cartography? Is there a clear dividing line between planning maps, overwhelmingly the result of political decision-making combined with designerly knowing (Cross, 2001), and the cartography to be found in, for instance, atlases?

It seems that cartography must deal with more persistent demands for objectivity than other areas (Zonneveld, 2005). The introduction of new seemingly clean technologies like the Global Positioning System, remote sensing, or Geographical Information Systems may lead to a belief that such technology could lead to a sort of new objectivity in cartography, or at least intersubjectivity; a sharing of subjective experience. There is a parallel here with photography and its introduction in the ninteenth century, namely that photographs could show reality as it is. We now know that photography is not 'innocent' (Verweij & Boie, 2000). A photographer constantly makes decisions on focus, distance, and framing, not to mention the possibilities for manipulation in the darkroom, or on the computer. Likewise, Robbins (2001) shows us how emergent technologies, like remote sensing and geographic information systems, are not the impartial tools we may expect them to be. Satellite images always have to be interpreted and, in the process, one must make decisions about, for example, in Robbins's case, what exactly constitutes a forest in India which then becomes an element on a map legend. Frames like this are inextricably linked to the institutions in which the interpreters operate, their practices, and their interests. In the case of forest policies in India, Robbins explains how state authorities used their power to produce outcomes that were detrimental to local farmers. Robbins calls this the hegemonic position of state-fixed categories (Robbins, 2001: 163) and speaks of the 'politics of categorisation' (Robbins, 2001: 172). By fixing certain interpretations of the environment, certain forms of management are forced, reengineered to suit technical means (Robbins, 2001: 175). This is perversely reminiscent of the computer term 'what you see is what you get'. As a counter strategy Robbins advocates the creation of competing maps to break through the hegemonic practices of state institutions (Robbins, 2001: 162). In planning, this may translate as multiple visioning: creating a diversity of possible futures supported by different sorts of cartographies.

According to Crampton (2001), one of the leading figures in an area called critical cartography (see various essays in Dodge et al., 2011) it is only fairly recently that cartography seems to have broken with the 'correspondence theory of mapping practice', based on the assumption of a direct relationship between a map and the territory it represents. Maps, as Wood (1992) points out, construct and do not reproduce the world. According to Crampton, quoting the cartography theorist Harley: 'Cartography has never been an autonomous and hermetic mode of knowledge, nor is it ever above the politics of knowledge. My key metaphor is that we should begin to deconstruct the map by challenging its assumed autonomy as a mode of representation' (Harley quoted in Crampton, 2001: 24). On this basis, Crampton infers that maps are social constructs. A map is not objectively 'above' or 'beyond' that which is presented; one cannot use the representation to trace back to some ultimate object, knowledge,

or thought. Maps should be accepted as rhetorical devices which dismantle the arbitrary dualism of propaganda versus true maps, or scientific versus artistic maps. Or, we would also like to add, planning maps.

3. Reading maps

There are all sorts of possibilities for reading and interpreting maps. Various levels of abstraction are possible. The guidelines below are arranged in a particular order. We start with guidelines addressing major, contextual issues. Gazing at maps and trying to understand their logic and connections with textual elements is not enough. What is needed, first, is to arrive at an understanding of the nature of the carrier of maps, the strategic plans, as well as their makers. Only after that can map analysts apply guidelines to identify the linguistic structure of a particular strategic plan, and how to make sense of the particular graphics to be found on concrete maps. Four elements form the structure of this section.

3.1. Understanding the nature of a strategic plan and explicit or hidden objectives

Strategic plans may have all sorts of formats on different sorts of scales and can be written and compiled by a wide range of actors which may have

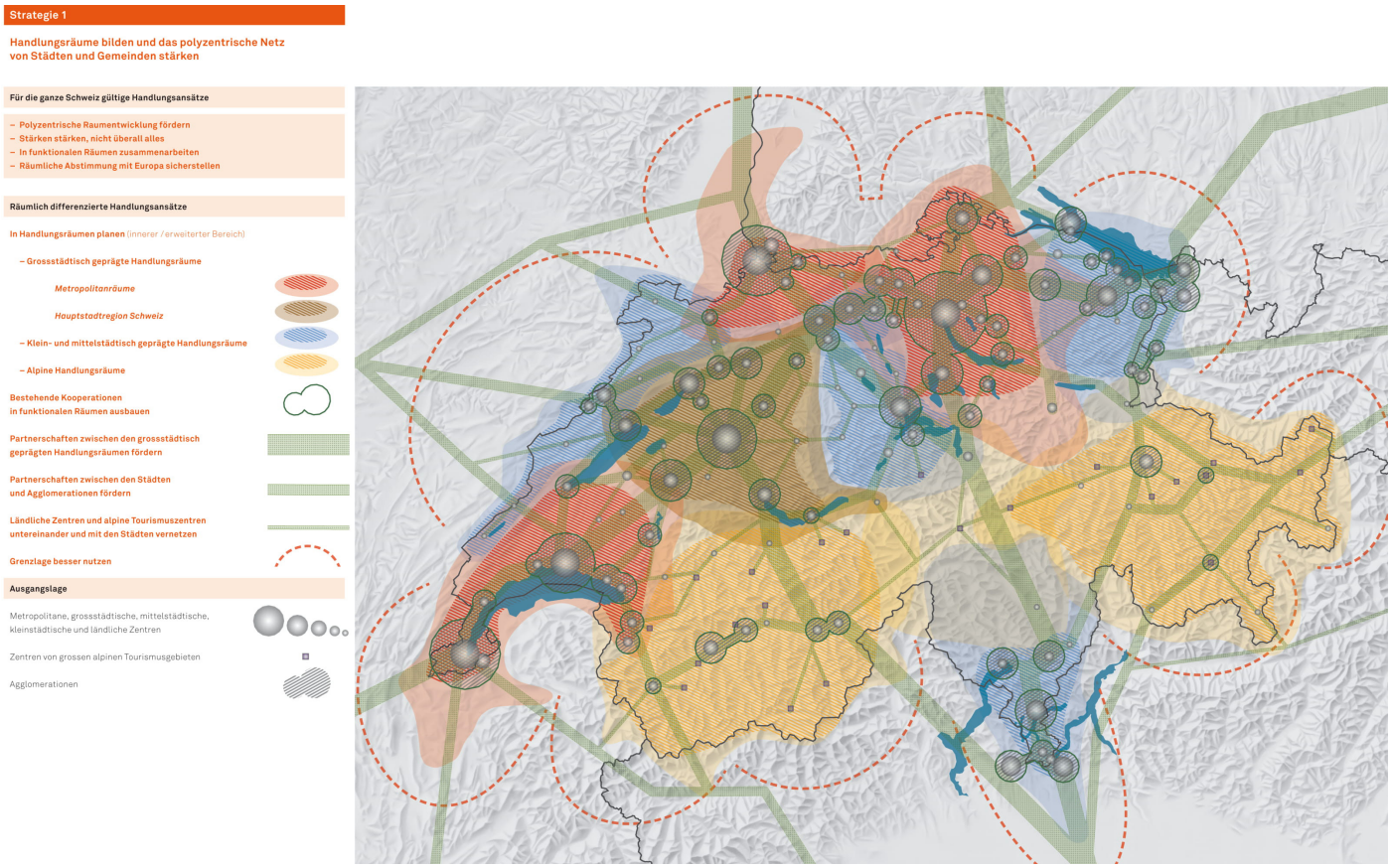

Figure 1: "The Swiss Territorial Project presents a common strategy in favour of sustainable territorial development, in which partnership reflection and action in terms of intervention areas take on a priority role". The Swiss Territorial Project, Development and Planning, Swiss Confederation. Consiglio federale svizzero, CdC, DCPA, UCS, ACS (2012): Progetto territoriale Svizzera. Versione rielaborata, Berna. Available at: https://www.are.admin.ch/are/it/home/sviluppo-e-pianificazione-del-territorio/strategia-e-pianificazione/progetto-territoriale-svizzera.html. Printed with permission

particular repercussions on the sort of visuals and maps. Several distinctions can be made and it is up to the researcher to determine the sort of correlation between the nature of a planning document, i.e. its particular form and anticipated effects, and how space is mapped.

First, the nature of the match between a strategic plan and a particular sort of administrative level needs to be determined. If there is a match, the question needs to be asked whether the strategic plan is formal or informal. Formal means: based on a concrete (planning) law, regulation, or directive. In most cases this means that the plan is focussing on the territory of a specific administrative authority with planning competences. Imagery may zoom out beyond the borders of this territory to determine the nature of all sorts of connections ranging from infrastructure to functional relationships between, for instance, cities. Imagery may also zoom in on certain sub-areas. Why is that?

An informal sort of plan often means that the plan in question is based on a sort of political agreement between actors; for instance, between representatives of various administrative levels as strategic plans are often created in a sort of multilevel governance context (Zonneveld & Stead, forthcoming). Often, such a plan maps indicative interpretations of spatial structures which may serve as a kind of framework for decision-making by planning authorities on each individual level. In Europe, such multilevel strategic plans are common in countries with a federal structure: Germany, Switzerland, and Austria.

There may also be national plans which are not prepared in a multilevel setting but serve as a framework for how national governments (this may be a particular national agency or a specific ministry) perceive the national territory. In a follow-up process, spatial perceptions may be used in operational decision-making. One can think of policy programmes for specific areas or regions or particular sorts of investments in particular places (often in the field of infrastructure) or yet changes in certain legal frameworks. An informal strategic plan may also be prepared and published by a particular administrative agency to start a political debate or to test certain proposals as a sort of kick-off of a process which is expected to lead to a formal strategic plan. In such a plan, maps often present novel interpretations of spatial structures. The general idea of this particular sort of informal plan is to test whether consensus within and outside administration can be reached which can then function as a sort of foundation to prepare formal strategic plans and/or policy frameworks. This sort of approach is known in many countries. Terms used here are, for instance, reconnaissance, outline, Leitbild, spatial vision, or scenario (see also Dühr, 2007: 55-70).

Informal plans may be prepared by a wide variety of actors, for example, (statutory) advisory bodies, academic institutes, NGOs, or even individuals. Often agenda-setting is the prime motive. Classic examples dating from late 19th and early 20th centuries include, for instance, the famous 1909 plan of Chicago prepared by Daniel R. Burnham and Edward H. Bennett under the direction of the Commercial Club of Chicago (Krueckeberg, 1983). At this time, plans formed a sort of elaborate plea towards government to become active in the field of urban, regional, or national planning. The level of scale determines to a high degree the sort of imagery and maps. The 1909 plan for Chicago includes a bird's eye view of the (future) city plus a wide range of other imageries, including photographs, while the America 2050 report of the Regional Plan Association contains somewhat

abstract maps of the entire country and a call for a federal approach towards spatial development. So, again, agenda-setting is the prime motive.

3.2. Identifying the 'authors' of a strategic plan

Next, and highly connected to the sort of strategic plans briefly discussed above, is the identification of what may be called authorship. This is relatively easy in the case of a formal plan as it explicitly refers to an administrative level. But even then, certain difficulties may arise. For instance, a specific sort of national plan may be prepared by a ministry with its logo on the cover, but this may not say a lot about the planning competences or political weight of that particular planning ministry, and similar questions may arise at sub-national levels.

To determine authorship is often far more difficult when the map interpreter has to deal with informal plans, in particular those which have been prepared in a multi-level setting. For instance, a plan or planning document may be obtained from just one of the participants, or from a specific publisher, printer, or website. It then becomes quite critical to have a careful look at the first few pages or, alternatively, at the rear pages to determine who made the plan.

Mistakes are easily made. An example from the recent past is illustrative: the 1999 European Spatial Development Perspective (ESDP) was published by the Office for Official Publications of the European Communities in Luxembourg. This office normally prints material from the European Commission. Academic literature referring to this document invariably refers to the European Commission as the author but this is not correct. In fact, the Commission did not make the ESDP it just participated in its making. One has to read the document to find out that it has been prepared by a committee and agreed upon by national ministers responsible for spatial planning and that neither the European Union nor the Commission have any sort of competence in spatial planning (the full story of the making of the ESDP can be found in Faludi & Waterhout, 2002). This absence of such a competence explains why the ESDP does not contain any sort of policy or analytical maps presenting spatial structures on the European level. What it does contain are rather abstract icons illustrating aims and options (note the language) which may inspire national and sub-national decision makers on spatial planning issues. The present Territorial Agenda 2030 is just text, so this is certainly no framing with figures. It is up to the analyst to find out why a spatial planning document does not contain any sort of map. The answer may be impossible to deduct from the document itself. Secondary literature may help, including professional journals or newspapers. If these do not give any sort of clue then an answer really is needed and finding spokespeople to interview seems an obvious route.

So, questions about authorship of planning documents may lead to all sort of follow-up questions on the content of these documents and the use of visuals and maps. Yet another illustrative example is the so-called Finger Plan for Copenhagen, which is widely known internationally because it has been consistently applied in spatial and infrastructural decision-making over a number of decades. The most recent 2015 planning document bears the title: The Finger Plan: A strategy for the development of the Greater Copenhagen Area. The responsible gov-

ernment actor is the Danish Nature Agency which, on the surface, seems rather surprising. The obvious question is: Why? Does a nature agency have a say in urban development? and, if so, to what extent in relation to other governmental agencies and departments and towards municipalities in the capital region? The analyst has to find out. For the curious reader, the document contains a highly stylised image of the capital region (indeed, this map looks does show a sort of hand). The resolution of the map is very low, however. If one were to increase the map resolution would the finger shape of the urban structure of the capital region be as distinct as the maps pretends to suggest?

3.3. Unravelling the structure of storylines: text and maps

Above we briefly discussed the linguistic structure of (in our case) a planning document. A general method to analyse this structure has been introduced by John Pickles (1992) and adapted by Stefanie Dühr (Dühr, 2007: 82-84). Before we discuss principles and suggestions, it is important to emphasise a critical difference between a verbal and a visual image. Although there are people who have the intellectual capacity to understand what is in a text through scanning techniques, most people will read a text word by word, sentence by sentence, and paragraph by paragraph. Most visuals, however, can be read at a glance. A map, for instance, is one single whole, although one needs movement of the eyes to fully comprehend what is on it.

A first step in the analysis of the linguistic structure of a particular planning document is the assessment of the relative weight given to text and maps. Dühr rightfully assumes that the more use is made of visual language in general and maps in particular the better what she calls planning actors are able to read and communicate through maps. But who are planning actors? In a narrow sense we are talking about those who prepare drafts of a planning document and, in a wider sense, those who finally decide what can be found in a document (a minister, an alderman, member of parliament, or councillor). Skills in reading maps may differ substantially.

In many cases it is highly interesting to find out what sort of maps appear in the very first drafts of a planning document, and what ends up being allowed to stay in the final version. So, comparing various versions can guide the researcher in follow-up investigations: why have some maps disappeared? or, the opposite, why have some been inserted? Are there key differences between various versions of the same map? And, if so, why?

Healey, in discussing the imaginative power of strategic spatial planning (Healey, 2006), assumes that the number and cartographic qualities of a map give an indication of how spatially conscious a planning tradition is (Dühr, 2007). On the one hand, this is about the capacity to unravel spatial structures and make sense of those structures (which of course can be highly normative). On the other hand, certain competences are needed to broadly assess potential spatial impacts of policy aims and options as well concrete policy decisions.

The above may give quite a bit of room to all sorts of speculations by the map interpreter. Some concrete aspects may contribute to a more rigid interpretation (these are partially based on Dühr's suggestions: Dühr, 2007: 83):

• The number of pages with text compared with the

number of maps

• The difference between analytical and policy maps. One has to realise that although the dividing line between these two categories is rather thin and porous, one may also assume that the insertion of any sort of analytical map has a purpose which the map reader needs to detect through connecting the map with the text (and follow-up research techniques). Also, if one category outnumbers the other there is something else to find out

• The relationship between the themes and, if present, the policy options discussed in the plan text and those that are pictured on policy maps. According to Dühr, this may give insight into the spatiality of such options and, again, into the sensitivity of plan makers in this field

• Finally, the plan analyst has to find out what are the dominant policy themes in texts and maps. Is there some sort of selectivity or bias? If plan makers speak (write and draw) in terms of comprehensiveness (remember, this claim is often made) what is included or excluded?

The above is about relationships between text and images. One can also try to unravel the linguistic structure of a map. Dühr mentions two critical aspects (Dühr, 2007: 82-84):

• Visual hierarchy. What are the most dominant visual elements in the cartographic representations of spatial policy? Obviously, the door to speculation is wide open here. Some sort of intersubjectivity can be found in a proper analysis of the map legend. What elements are to be found here? Is it possibly to identify themes behind a legend? What is actually pictured on the map? Does a map show some sort of interpretation of the present or desired spatial structure of territory? or does it only show the location of projects? If the latter sort of map is the most important or even the sole map in a strategic plan, then this may lead to the conclusion that some sort of refined reasoning about spatial structure was probably absent in the making process. Triangulation through interviews or the analysis of internal documents may be needed

• Visual representation of the planning context. This is (or should be) an important element in any sort of strategic plan because this is about the conceptualisation of the position of a particular place or territory in its wider spatial setting. If this sort of thinking cannot be found in a plan, in most cases everything outside the planned territory is simply kept white or left blurred, therefore it is relatively easy to detect. A next level for this analysis may be reached through an identification of key relationships, and how they are visualised. Here we enter the field of semiotics (see more on this below). The use of arrows is widely applied in regional and national planning documents. Some sort of exaggeration of the strength of such relationships can often be found (big and bold arrows which – depending on the scale of the map – may be tens of kilometres wide) to substantiate claims for the funding of new infrastructure (see various examples in Davoudi & Strange, 2009)

3.4. Probing the semiotics of maps

Maps created in planning processes usually do not follow clear standards, like (for instance) atlas makers do. For this reason, the possible choices map makers can take are bewildering. Let us discuss a few possibilities (using words) (Zonneveld, 2021a).

A key choice is the frame of the map: where does a map begin or end? What kind of cropping is used? An example of how this might work is a map in the 2001 Dutch fifth spatial planning report which shows

Europe with a range of squares and rectangles on top of each other; each shape, each cropping stands for a different set of planning issues (Ministerie van VROM, 2001: 10-11). So, planning in connection with the North Sea and its coast (OMA, 2008) is about different issues compared with, for instance, a frame which connects the Netherlands with Belgium or the Flanders Region (de Vries, 2015).

Closely connected to cropping or framing is the use of scale. Many maps in strategic plans take an aerial perspective. On an intermediate scale, the projection can be tilted. The bird's eye view, heavily used in urban design, with some famous examples like the 1909 plan for Chicago, mentioned above, as well as Le Corbusier's 1925 Plan Voisin for Paris.

Rotation can also vary. North has become standard, but sometimes the rotation is deliberately turned around. Van Duinen (2021) gives an interesting example taken from Dutch planning discourse. An informal plan for the western part of the country was made to influence political agendas by planners and designers outside the government. This used an image of the Dutch Deltametropolis (framing with words!) but turned it clockwise 90 degrees. The resulting map shows a massive landmass criss-crossed by rivers on one side with a 'seamass' opposite; an interesting combination of cropping and manipulating projection.

The combination of frame, scale, projection, and rotation together is called the 'field' by James Corner, whom we already met above: 'The design and set-up of the field is perhaps one of the most creative acts in mapping, for as a prior system of organization it will inevitably condition how and what observations are made and presented' (Corner, 2011: 94)

Map makers have a lot to choose from when the field is determined. Dots, lines, and planes, as well as triangles, squares, diamonds, and other shapes belong to the basic graphic language, but even here a lot of decisions can be taken. There are some regularities, however. For instance, cities and towns, depending on scale, are often pictured like circles. Questions which map readers may pose are: which cities are shown? and for what reason? and how big are the symbols? Presumed relations between cities are often visualised through lines, which causes visualisations of urban networks to look like molecular visualisations in chemistry text books. Of course, map readers may (indeed, should!) question the true existence of relationships and their nature.

Other map decisions include the use of colour (see also Dühr, 2007: 80). Questions to be posed: what colours have been used? are the colours strong or pale? do they follow certain conventions (for instance, urban is red, non-urban green) or deliberately do not? is the transition from one colour to another strong or faint? and what suggestions may arise from that? Often, the use of colours (or shading, if the map is grayscale) refers to land use. The map interpreter needs to assess whether the differentiation, as well as the chosen resolution, match reality. Overall, there is a need to analyse the legend (key!) of any map and critically question various legend elements.

Typically, spatial planning maps today are created with computer graphic programs which generally gives them a smooth character. There is one class of maps which is nearly always made by a spatial designer: hand-drawn maps. They have become quite exceptional, however, as many maps in strategic plans are made as the outcome of political discussions, while hand-drawn maps are regularly produced in earlier phases of such discussions, or in informal sorts of plans. Drawing, i.e. holding a pencil, is seen by some (Palmboom, 2018; Lyn & Dulaney,

2009) as rather powerful because it brings the map maker closer to the design object in a state of 'reflective conversation with the situation' (Schön, 1983).

4. Conclusion

Often, planners (particularly those with a social science background) tend to regard maps and other visuals commonly used in strategic plans and planning reports as mere illustrations which can be ignored or, as we have seen, should even be deleted! Indeed, there are (strategic) spatial plans which do not have any sort of future-looking map. This is not to say that those plans are completely beside the point because, in many cases, such plans (or better, the plan makers) followed a distinct planning principle which we may call the objectives approach. This is an approach which first of all seeks to reach consensus about the underlying goals of spatial planning. When such consensus has been reached, and diffuses across different societal actors and administrative levels, other planning principles come into the picture which focus on particular places and spaces.

The main message of this chapter is that the verbal and visual languages used in strategic plans and plan making form one single storyline. Plan makers, as well as plan analysts, need to focus on the connections between these two languages as well as arrive at a proper understanding of the construction of maps. Students may use the content of this chapter to evaluate plans and come up with recommendations and alternative strategies in their graduation reports. Planning maps are utterly fascinating!

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