Section 13 Media training

Chapter 31 **Media cartography**

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31.1 Introduction

When maps have to be inserted in newspaper articles, or have to be shown in television broadcasts, they have to answer special requirements. These are of a **graphical nature** – because they often will be printed on coarse-grained paper in a high-speed printing process, with inferior inks - and of a **conceptual nature**, because of restrictions in size and in the time available for viewing the image – so the graphical contents have to be reduced to the essential spatial aspects of the message, and the same goes for the accompanying toponyms. The message will be about some theme, and everything irrelevant for that theme should be omitted, with the exception of those features (boundaries, communication lines, extent of built-up areas, with their names) that are deemed necessary for orientation.

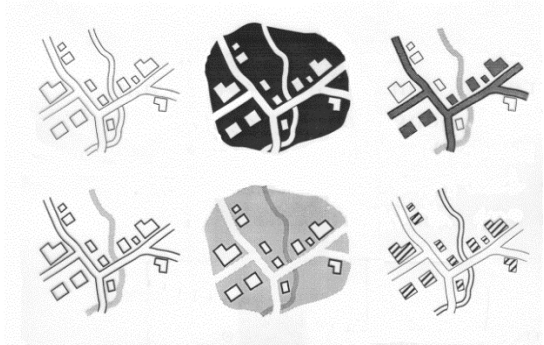

Figure 31-1 Different forms of graphical emphasis

31.2 Graphical requirements

In order to get some idea of the graphical requirements for media maps, we can refer to the contrast that is necessary to let the items mentioned in the message stand out. An example of the techniques to be used is shown in figure 31-1. It shows that graphical emphasis determines the relationships perceived between groups of symbols. The darker elements will be perceived as the map subject, and the lighter ones as background.

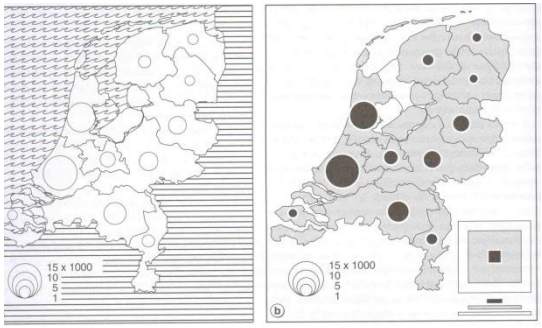

Figure 31-2 Emphasizing the map subject on the map

So, this is the first rule our media maps have to answer: through graphical emphasis the map theme or subject has to be highlighted. This is followed in figure 31-2. Here the number of people working in the IT sector in the Netherlands is shown for 1980, by proportional circles. In the map at the left, foreign parts and the sea are more conspicuous than the proportional circles, and this has been redressed at right. Note that the legend has not been coloured in, as this would draw the attention to the southwest undeservedly.

In traditional newspaper maps, from the second half of the 20th century, the use of pre-printed screens allowed cartographers to differentiate between the subject area and the non-subject area on the map, thus highlighting the location of the subject area in its regional setting. Figure 31-3 shows the example of Kosovo in its regional setting (Yugoslavia), with the non-subject area coloured in by a dark screen. Albania, as an area related to Kosovo because of its language, gets an intermediate screen.

Figure 31-3 Carpress newspaper map agency: Situation of Kosovo in Yugoslavia 12-2-1991

Other graphical aspect of our media maps would be the minimum dimensions of the symbols we were to use on the maps. Even if today we can click on a symbol to see better what is represents, for a proper idea of the distribution of a phenomenon the symbols that represent it should be perceived clearly. Tests have been done, using charts similar in concept to ophthalmologist charts (Snellen charts, developed in the Netherlands in 1862), on which symbols or figures (called optotypes) are displayed in varying sizes, being filled in colour or in black or left unfilled (see figure 314).

When viewed at specific distances, like the average distance to a newspaper or to a television set, the percentage of viewers who would be able to discern correctly between the symbols would be decisive for accepting symbols for specific news media.

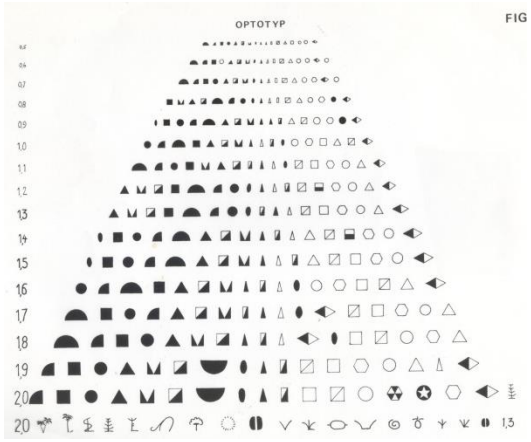

Figure 31-4 Set of optotypes on an ophthalmologist chart (from Kolacny 1969)

As a result of perception tests done with such ophthalmologist charts, tables can be developed that show the minimum dimensions of symbols to be used for media at specific reading distances. In the table in figure 31-5, these viewing or reading distances are for atlas use (40 cm), for hand maps (viewed at a distance of 1.5m) and for wall charts (10m).

The tests were based on the phenomenon of the (perceived) viewing angle, the relation between the size of the object or feature to be seen (the optotype) and its distance from the viewer (see figure 31-6). It is expressed as the angle $\vartheta = S/d$ (S=size of the object and d = its distance from the eye). When the viewing angle becomes too small it gets impossible for the viewer to discern between an o and a c. for example.

Symbol	The smallest possible dimensions for the symbols in mm.for the map reading from the distance:		
	d = 40 cm	d = 1,5 m	d = 10 m
a	a = 1,0	3,8	17,5
a	a = 1,0	3,8	17,5
v	v = 1,0	3,8	17,5
v	v = 1,0	3,8	17,5
v / a	a = 0,7 v = 1,3	2,6 4,9	15,1 25,0
v / a	a = 0,7 v = 1,3	2,6 4,9	15,1 25,0
d	d = 1,0	3,8	17,5
d	d = 1,0	3,8	17,5
b / a	a = 0,8 b = 1,6	3,0 6,0	17,5 35,0
a / b	a = 1,4 b = 0,7	5,2 2,6	30,2 15,1
b / a	a = 1,1 b = 1,1	4,1 4,1	20,1 20,1
b / a	a = 1,1 b = 1,1	4,1 4,1	20,1 20,1
d	d = 1,0	3,8	17,5

Figure 31-5 The smallest possible dimensions of map symbols differentiated by shape and colour. Results of tests by Kolacny (1969) into the legibility of map symbols for different media.

Typeface

The typeface used has to be adapted to the medium as well – especially when viewed on small screens. Typefaces that use thick lines and thin serifs are out, as the serifs may cause letters to appear merged. The letters may not be too bold either, because of the danger of filling up the white areas in letters like w, m or p. The conventional wisdom is that on maps

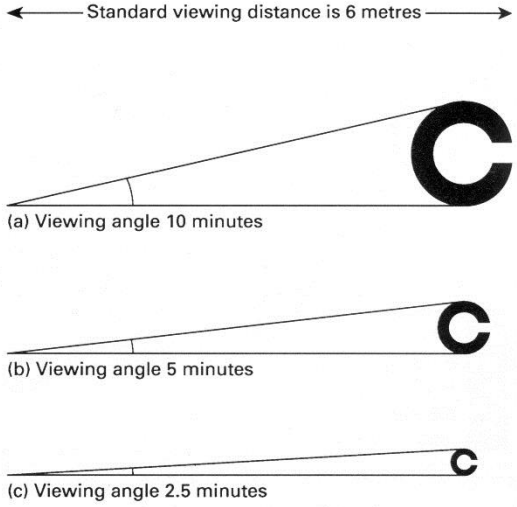

Figure 31-6 The (perceived) viewing angle concept.

lower case letters will do better than capitals, because ascenders and descenders improve recognition of letters (see also figure 31-7). Sans-serif typefaces like Univers with their open characters and wide angles are well-suited for most media.

Figure 31-7 Ascenders and descenders improve recognition (Max Naylor 2007)

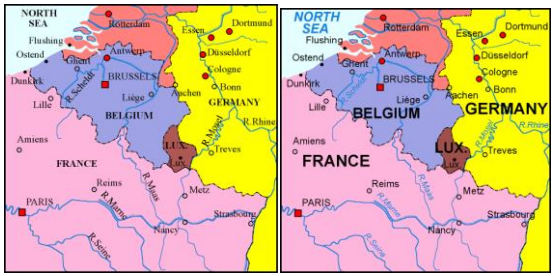

Figure 31-8: Differences in spacing of the names

By spacing the letters of a name and, of course, also by changing its orientation when the object to be named has a large non-horizontal extension (such as Chile for example) the extent of the named object should be indicated clearly by spacing the letters in the name. Thus, in figure 31-8 at left the country names characterize the respective countries insufficiently; at right this has been improved.

31.3 Communication aspects

The editors of the newspaper or TV news journal that includes maps in their papers or broadcasts want to make sure that their audience can handle these maps – abstract representations of reality at best. They have, therefore to match the previous knowledge of that audience – gained at school by using school atlases and looking at wall charts. So, this previous knowledge of the users has to be taken into account by the cartographers (see figure 31-9).

The geographical names on newspaper maps are the best link between these maps and the article in the newspaper. In these newspaper maps people are confronted with geographical features that are unfamiliar to them (such as the locations of earthquakes, tsunamis, battles, railway accidents, etc.). In order to be understood, the location of these new features have to be linked to map features people already know. Readers would be familiar with the names incorporated in the school atlases they used, and there is a good chance that these names would have been exonyms. Of course, the media also have an educational function, and that is why they should make the audience also familiar with the endonym. It is for the journal's editor to decide which course to take here.

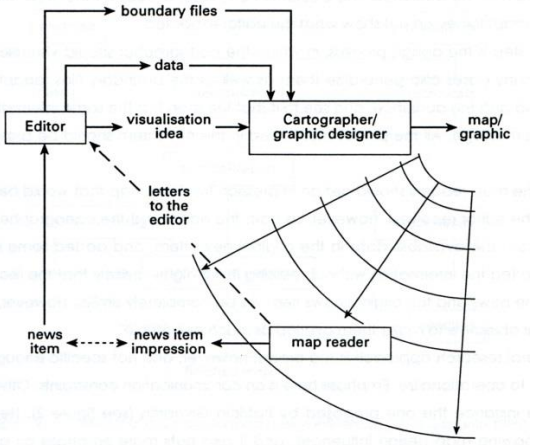

Figure 31-9 Model of the organisational procedure of spatial information transfer through the media (Ormeling 1997)

31.4 Conceptual aspects

For diapositive text slides we used to have the rule that because of the restricted time these would be on display, the number of words per line shouldn't exceed 7 or 8, and there should not be more than 7 or 8 lines either.

Marginal information
As maps in the media, especially when they turn out to be successful, tend to get detached from the presentation they belong to, it is essential that key marginal information is combined with the map display, such as the map title, the map scale (a graphic scale, that will be enlarged or reduced together with the map) and the legend (see figure 31-10). Of course, actually the name of the presentation and the producer should also remain linked to it, but we should already be happy when at least scale, legend and title have been preserved. The title will decide whether the map will be looked at all, and so it must be concise and informative, with mention of the geographical area concerned, the theme mapped and the year for which the data were collected: "Unemployment in Brittany in 1990" would be an example of a good title (see figure 31-10). Additional information, like the units in which the data have been measured or the nature of the enumeration areas, can be added in a subtitle.

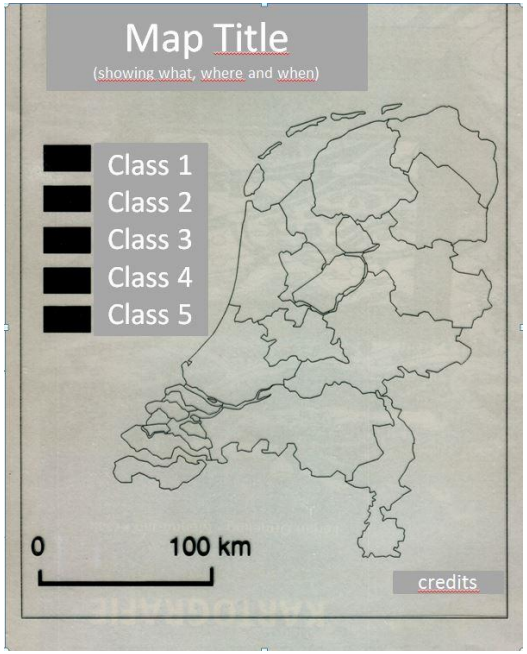

Figure 31-10 Essential marginal information on maps

31.5 Toponymic aspects

The maps should be adapted to the intended audience. As much as UNGEGN is trying to reduce the use of exonyms, many are still retained as they are felt to be part of the respective languages.

But apart from the choice between exonym and endonym, one should never subject one's audience to the use of exonyms in other languages. It would be foolish to use the English (or Dutch) exonym Ceylon for a French audience that would be familiar with the French exonym Ceylan for the name of the island on which the state Sri Lanka is situated (see figure 31-11).

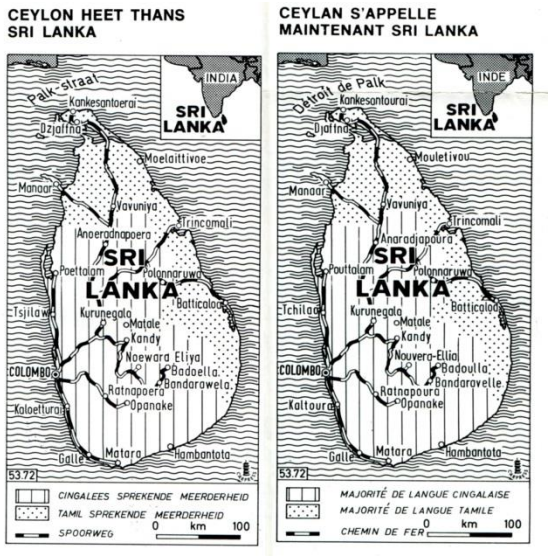

Figure 31-11 Dutch and French versions of a newspaper map produced by Carpress, Brussels, in 1972.

Generic terms should also be translated into the language of the intended audience. In figure 31-11 the name Palk Strait has been translated into Dutch *Palk-straat* for a Dutch newspaper (at left), and to *Détroit de Palk* for a French newspaper (at right). One should realize that there are also differences in the use of generics: on Dutch maps, the generics for river or island would not be shown, as these are thought to be obvious, because of the location of the toponyms on the map, while on French maps these generics would be included.

In figure 31-11, *India* is called *India* in Dutch as well, but *Inde* in French. If the map depicts a country using a non-Roman writing system (as is the case for Sri Lanka), then a Romanization system should be used which is either adapted to the language of the audience, or is an official UNGEGN-accepted conversion system. In the case of Sri Lanka, no UNGEGN-accepted conversion system from Singhalese into the Roman alphabet exists, and therefore on the map at left in figure 31-11, a transcription is used that allows for a correct pronunciation in Dutch, and in the map at right a correct pronunciation in French:

English	Dutch	French
Jaffna	Dzjaffna	Djaffna
Puttalam	Poettalam	Pouttalam
Mulaittivu	Moelaittivoe	Mouletivou
Chilaw	Tsjilaw	Tchilao
Badulla	Badoella	Badoulla

Box 1 Transcriptions of Singhalese names in figure 31-11 into different languages using the Roman alphabet

These considerations have been expressed by Stani-Fertl (1997) in the following guidelines:

1) all geographical names must either be in the language of the audience or in that of the country where the named feature is situated

2) if exonyms are to be used, they should be current

3) if no exonyms exist for a feature in a country not using the Roman alphabet, for an audience using that alphabet an official (UNGEGN-approved) conversion system should be used

The use of exonyms on media maps also depends on the name category: names of countries, seas, straits, mountain ranges usually have exonyms, while for the names of cities or administrative areas endonyms would be used.

31.6 Political aspects

Many boundaries in the world are contested. So it would be wise to check whether the audience the media maps are produced for, agree with their delineation. The same goes for some names – especially sea names. For some audiences, a sea name using the name of an adjoining country would just be considered as a neutral name, for others using this name might involve the recognition of territorial claims over that sea area.

When the Netherlands and Belgium separated in 1830, some provinces, like Brabant and Limburg were split up, causing the emergence of similarly named provinces both north and south of the new border, and this has never caused any problems. Elsewhere the emergence of similarly named areas on both sides of the state boundary might be felt as creating political advocacy for claims (irredenta).

On maps produced by the United Nations Cartography Section, or Geospatial Information Section as it is now called, only those boundaries are represented that are recognised by all parties concerned. These would be *de jure* boundaries, as opposed to *de facto* boundaries. A special case of the latter is the administrative boundary between Egypt and Sudan, which apparently has been demarcated by mutual consent without having been codified by a boundary treaty. Here follow some other

examples of the various ways the UN renders boundaries:

- In the border conflict between India and China the UN recognises neither of the two claims, and consequently both the Indian- and the Chinese –claimed borderline have been demarcated on UN maps of these countries. Still there would be a proviso on these maps stating: *The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations*.
- Western Sahara is considered an independent country by the United Nations, and on UN maps of the area it would be rendered as such, even if the berm constructed by the Moroccan forces for protection against Saharan forces is indicated on UN maps of the Western Sahara.
- On maps of Sudan and South Sudan occurs the following statement: *Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.*
- In other places, the provisional character of the border line is indicated on UN maps by a dashed line (such as in the Ogaden area of eastern Ethiopia).
- In Cyprus, the cease-fire lines of the Turkish forces and of the Cypriot National Guard are marked.

Figure 31-12 Map of Israel, produced by UN Geospatial Information Section (no.3584 Rev 2, produced January 2004)

- For Israel, the 1949 Armistice demarcation line is still used on UN maps to demarcate Israel, although the UNIFIL and UNDOF operational boundaries are indicated as well on UN large-scale maps (see figure 31-12).
- For Georgia, Abkhazia and South Ossetia, according to UN maps, are regarded as integral parts of Georgia.

UNGEGN does not rule on individual names. However, in the United Nations some names have been voted upon by other UN bodies, and have thus been codified, either short-term or long-term. Among them are the sea names *Sea of Japan, Persian Gulf*, and the country names *Côte d'Ivoire, Myanmar* and *The Former Yugoslav Republic of Macedonia*, for use in international maps. The same is valid for the name pair Falkland Islands (Malvinas), so decided by the UN General Assembly in the 1960s. So in documents and maps for which the UN bears responsibility, these names have to be used. In other cases, the UN Geospatial Information Section has used its own authority to render on the maps name pairs, like Lake Malawi/Lake Nyasa. UNGEGN produces rules and regulations about the use of geographical names, expressed in resolutions accepted by ECOSOC. Those are binding for international use by UN, and we hope for its member states as well. But UNGEGN cannot oblige individual countries to use any particular geographical names for national use. This is something one has to bear in mind when producing media maps for strictly national consumption.

31.7 References

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Stani-Fertl, Roman (1997) Geographical names and mass media maps. Pp 173-178 in W. Scharfe (ed.) International Conference on mass media maps-proceedings. Berliner Geowissenschaftliche Abhandlungen Reihe C – Kartographie-Band 16. Berlin: Freie Universität-Technische Universität-Technische Fachhochschule.

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The Carpress cartographic News Agency was operational from 1950-1990, based in Brussels, Belgium.