

Ing. Mikuláš Farkaš  
/Czechoslovakia, Bratislava/

## Some Problems of Design of Maps with Up-to-date Information

### 1. Introduction

The map represents, in contrast to the written description, the shape, the dimensions, the mutual position of objects and phenomena on the Earth's surface or other celestial body in a clear form. It can represent also the roughness of the Earth's surface with the representation of its third dimension - the elevation by the methods of cartographic representation /hypsometry, contourlines, hillshading etc./ It doesn't inform us only about the static existence of subjects or phenomena, but also about their dynamical relations and makes possible by the clear representation of them and their characteristics to find legality between the phenomena and so to come to new perceptions.

The main function of a map is to inform. We can read the informations directly from the map /direct informations/ or indirectly derive them from the other read-through informations /indirect informations/. In the school, during the lessons the map accomplishes its information function in form of school-maps and atlases with geographic, political and thematic contents, which are sources for the obtaining of informations for the students and at the same time means for their spreading for the teacher. The map keeps its information and perceptual function also at the adults and realizes it in form of outline maps, atlases, thematic maps etc. Their effective utilization presupposes a certain education. Moreover the producttime of atlases and maps is too long and therefore it gives new informations only within a certain period. According to a statistical survey in Czechoslovakia, which confirms the interest in geographical informations, in the opinion of nearly 70% of the inquired persons it is necessary a continuation training in the geographic knowledge since the school.

Contrary to the comparatively long producttime of maps and atlases of existing kinds it is the rapid succession of political, social and economical events placing into the foreground in many forms at present time. Their study and understanding requires time and also presupposes certain knowledge. The map makes possible their clear representation, but the complex of phenomena and also the necessity to bring them nearer to the multitude of inhabitants requires new forms of the cartographic representation, understandable for the widest population strata. The cartographic representation of phenomena must be suitable completed by texts, diagrams, tables etc. Cartographic forms of representation completed in such a form help effectively to direct the viewpoint of the user to represented problems and form their consciousness.

According to the above mentioned statistic survey only about 15% of the inquired persons would buy a map for the process of learning. That requires to find such forms of cartographic representation, which would seek out the man and offer them informations.

A common characteristic of all proposed forms of cartographic representation of objects, phenomena or events on the Earth is, that they contain up-to-date information, therefore let us term them as "map with up-to-date information" with the follow-

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ing attributes:

- they must be worked up by scientific founded cartographic methods with the utilization of knowledge of other related sciences /e.g.geography/
- they must attract with their graphic form the attention of user,with other words they must seek out him
- they must represent and explain the phenomena in complex form understandable for the widest strata of the users
- their producttime must be short in order to keep the actuality of the informations of their contents

Their function is to give geospheric localized informations about actual problems or phenomena and explain them for the widest users strata. On the other hand the maps and atlases of existing kinds must give fundamental geospheric localized informations which must enclose by steps all up-to-date informations.

## 2. The Classification of Maps with Up-to-date Information.

We can divide, just like the other kinds of maps, the maps with up-to-date information according to the contents which contain most frequently social-economic elements. We differ maps with

- up-to-date political information
- up-to-date economical information
- up-to-date social information
- up-to-date cultural information

The four groups can contain informations from the present or past time /history/ or about past phenomena, which influence the presence /historical anniversary/. The majority of maps with up-to-date information is in small- or medium scale and can be edited in manual or panel form. The manual form can be flat, folded or stitched. There are also used media for mass-communication for the publication of them/ newspaper, magazines, television etc./ or special form, as e.g. stamps, postcards, posters for the sake of approach to the users.

## 3. Principles of the Creation of Maps with Up-to-date Information

In the last chapter we spoke about the fundamental requirement, thatthe maps with up-to-date information must be understandable for the widest population strata. With other words the receiver of informations influences retroacting with their "communication capability" the whole process of the cartographic working up of informations. It consists of the factual and cartographic knowledges of the receiver.

The creation of maps with up-to-date information is a complicated process. It presumes before all a very good documentation of the fundamental initial material of various /statistics, economic yearbooks, historical schoolbooks, bulletins, reports from newspaper or magazines etc./. All data must be very quick accessible lest the actuality of informations would be influenced. The creator of them must good know:

1. the given theme /object or phenomena/
2. the psychological influence of various methods of graphical representation
3. the methods of cartographic representation of contents
4. the technology of the reproduction and printing of the maps

The degree of the knowledge is multiplied by the necessity of quick creation and printing for the sake of keeping of the actuality of information.

Between the typical characters of the given subject belongs:

1. the qualitative characters /representing attributes/
2. the quantitative characters /representing quantity or values/
3. limitation or unlimitation
4. the static or dynamic form

From those typical characters the compiler must chose the most typical for the given subjects by study of the fundamental material and generalization.

The influence of the map on the publicity and its attractive power highly depends on the graphic working up, especially on the combination of colours. Some colours influence soothingly /e.g. green/ cold colours are used for the representation of negative- and warm colours for the representation of the positive phenomena.

We can accent or suppress by a suitable graphic combination and stylization certain represented phenomena. Also by colours and graphic work up there must be differ the main and secondary part and this hierarchy must be clear at first sight.

An organic part of a map with up-to-date information is the lettering, additional texts, diagramms and pictures. The lettering must be differed by type and size according to the importance. Italics have dynamic effect, since other types have more statical effects. Roman type can be used e.g. for the lettering and text of historical phenomena.

Between the methods of cartographic representation belong:

1. the methods of mathematical cartography /to determine a suitable projection/
2. scale of determined reduction
3. geometric methods of representation with the preservation of mutual situational relations
4. choosing of characteristics for the cartographic representation /cartographic generalization divided according to different viewpoints/. In case of complex maps we must decide which characteristics will be represented by cartographic methods and which will be described by text, panels, diagramms etc.

The contents must be represented by cartographic signs so that it should be understandable and legible for the widest user strata. Such signs are ideal which don't need explanations. The pictorial signs /ikon signs/ are adequate to that requirement. They are essential diminutions of the presented object. Their simplified form are the cartographic symbols, which can be good used for maps with up-to-date information. Some phenomena have their used symbols, e.g. crossed swords symbolize a battle field. Also certain colours can be used as symbols, e.g. the red colour is used for the representation of the revolution.

The maps with up-to-date information are printed by offset and the maps published in newspapers or magazines by the same technology as the newspapers or magazines. The used technology influences the working up of the contents, which must be compiled in definit form before the fair draughts. On the other hand the technology must be simple as possible lest the actuality of the map would be influenced.

#### 4. The Kinds of Maps with Up-to-date Information

##### 4.1 Maps published in newspaper or magazine

They are determined for widest circle of the publicity. Therefore the contents must be represented in a accessible

form. Their function is to give up-to-date, geospheric localized information and the selection of the fundamental elements for orientation must subordinated to the main function. The explanation function of the represented contents is accepted by the media for mass-communication. They are usually of one colour and printed by relief printing.

#### 4.2 Maps for television

By the development of black-and-white and colour TV it became more and more necessary to make suitable maps for the TV relations, most frequently for news. They have rare fundamental contents /state boundaries, contours of continents/ completed by the actual contents according to the necessity. The whole contents is reduced on the minimum and the lettering and conventional signs are as large as the TV visitor would be able to percept the map-contents during the relative short time on the telescreen. Its function is to inform about the location of the actual objects and phenomena, while the explanation function is accepted by the relation. The interest territory is accented by colours, which gives on the black-and-white TV various tones of black, similar as on the black-and-white photo. It is possible to prepare the fundamental contents in anticipation and afterwards according to the necessity to complete the actual contents. The short time for the working up of maps for the TV has its influence on the creation.

#### 4.3 Special maps with explaining complements

A special form of cartographic representation of a full topic, completed by text, panels, graphs etc. with informing and explaining function determined again for the widest circle of users. The subject can be of various form: from the present time, from history /but in this case it must be continually actual to a certain anniversary/. All parts of this map must be easy understandable and their graphic layout must be attractive and effective.

Because maps with up-to-date information of the above mentioned kind represent a wide and full topic, there are possibilities here of the representation of widest connexious and relations of the main topic. E.g. political or economical phenomena, their reasons, connections with other phenomena etc. They can be edited in manual or panel form, where the panel form is usually edited as a poster. Maps edited in such a form are combination of poster and wall map with an emphasized object of cartographic representation. There are valid certain principles of the creation for them. A poster-map must "force" the object into the eyes by its graphic form and must "look up" the walker forcing him to meditate on the contents of the poster-map. The manual form, which by its characters is near to the leaflet, must be as well attractive. It must be devoted attention also to the polygraphic working up of the poster maps, which must be printed by light- and weatherproofed colours.

#### 4.4 Maps on post-stamps, postcards etc.

Also stamps, postcards and other materials are used for the publishing of maps with up-to-date information. The choosing of the represented elements is according to the size of the material.

They have usually on explanations, therefore the phenomena must be presented in such a form that it would be possible

to recognize the object only from the cartographic representation.

#### 5. The Creation of Maps with Up-to-date Information in Czechoslovakia.

Like in other countries of the world, also in Czechoslovakia it is devoted attention to the creation of the above mentioned maps.

Some examples: In occasion of more important anniversaries and events the publishing-house Kartografia, Praha edited leaflets with multicoloured maps with up-to-date information, completed by explaining texts, diagramms, photos, which give a complex picture about the development of our country and about the successes of its building up. The print order is 90 000 copies. A further manual edition "Mapové aktuality" /Topics on maps/ which contents map and explaining text from the topical part of the world has a print order 100 000 copies.

The publishing house Slovenská kartografia in Bratislava edited in 1975 five poster maps with topics. They give us also geospherical localized informations about the phenomena and explain it in a complex form by the texts, graphs etc. The print order is again 100 000 copies and their manual edition is also in preparation.