map. Meanwhile, Item 7 (list of the map names) is especially important, because it indicates whether the map belongs to a particular cartographic tradition first of all. The geometric characteristics (configurations of water reservoirs, rivers, etc.) are more complicated for formalization; hence, in a rough "sorting-out", the maps were only classified in accordance with Items 1–7. Note that the geographical size of the region described in one item of the MC should not be too large if we employ Items 8 and 9 to compare MCs in order to eliminate a possible influence of various projections also used today in making plane maps. If desired, we can introduce additional and more differentiated characteristics into the MC structure; however, we should always fulfil the condition that this list of characteristics must be included in each map from the collection under investigation, i.e., it must be indicated for each of them whether a particular feature is present.

Consider some set of concrete maps, enumerate them arbitrarily, and order them as $M(1), M(2), \ldots, M(H)$. The map is denoted by $M(T)$, where the number T varies from 1 to H. The question arises: How does one find a chronologically correct order, in time, so that their sequence may correspond to their real datings and coincide with the order in which they were made? To solve the problem without resorting to some side information (which is often unavailable), and only making use of the data fixed in the maps themselves, we shall do as follows: For each map $M(T)$, we fill its table MC (T) and make up the list of the basic features, indicating whether they are present or not. We introduce the concept of *correct* and *incorrect feature*. We call a feature *correct* if it corresponds to geographic reality, and *incorrect* otherwise. For example, the absence of a strait between the Black and the Mediterranean Sea should be regarded as an incorrect feature. We now formulate the *map-improvement principle* describing the chronologically correct ordering of maps with respect to the time they were made: (1) *in passing from one map to another map, the incorrect features not corresponding to real geography vanish and do not appear on subsequent maps any longer* ("errors are not repeated"), and (2) *a correct feature which has appeared (e.g., a bay or river) is fixed and retained on all the subsequent maps.*

This principle is natural, because it is based on the fact that the maps were always made mostly for the purpose of practice, seafaring, military expeditions, trade, etc. Therefore, it was important for map owners in each epoch that their maps should reflect reality more precisely. Under these conditions, the appearance of a correct feature had to be immediately fixed and retained; on the contrary, if some feature turned out to be incorrect, it was immediately removed and not retained any more. In spite of its obvious nature, the principle needs verification. Note that it is not a consequence of other principles formulated by the author in [15]–[25]. To check, it is convenient to formalize the whole procedure as follows. Fix a map $M(T_0)$ numbered T_0, and find the value $L(T_0, T_0)$ equal to the number of features first appearing there, both correct and incorrect, and absent on all the earlier maps (as they are ordered now). We then calculate $L(T_0, T)$ showing how many of them were preserved on $M(T)$, where T is greater than T_0. We can thereby construct the graph of $L(T_0, T)$ for each $M(T_0)$.

The map-improvement principle can now be re-stated as follows: A sequence of maps is ordered chronologically correctly if and only if each graph of $L(T_0, T)$ is of the form shown in Fig. 39, i.e., vanishes to the left of T_0, attains an absolute maximum