subsequent centuries whose persons certainly drive out the dead historical characters and memories of them.

We can, therefore, assume that the 'identity' name (= historical character) is valid (see above), and we shall investigate in the sequel the totality of all names of persons mentioned in a text under investigation.

Consider the set of the names of persons first appearing (for a given ordering of chapters) in a chapter $X(T_0)$ of a text X. Denoting the number of all the names in this chapter $X(T_0)$ by $K(T_0, T_0)$, we count each name with its multiplicity, and calculate the frequency of its being mentioned. We then see how many times these names have been mentioned in a chapter $X(T)$, and obtain a certain number $K(T_0, T)$. We stress once again that if a certain name is encountered several times, then all these occurrences are taken into account.

Thus, for each number T_0, we obtain a certain numerical graph $K(T_0, T)$, where the argument T is variable. We can now reformulate the frequency damping principle as follows.

In numbering the chapters correctly chronologically, with no duplicates (i.e. no two chapters describing the same events) each graph of $K(T_0, T)$ must have the following (theoretical) form. The function $K(T_0, T)$ vanishes to the right of the point T_0, while reaching its absolute maximum at the point T_0 itself, and decreasing monotonically to the right of T_0; see Fig. 1. Experimental checks have completely confirmed (on the average) this frequency damping principle for several dozen historical texts with a prescribed chronologically correct ordering of chapters.

4 The method of finding the chronologically correct order

We now describe the method of finding the chronologically correct order of chapters in a narrative text X (or in a whole set of texts). Number all the chapters of the text X in a certain order, e.g. that in which they occur in the text itself. We then determine the graph of $K(T_0, T)$ described above for each separate chapter $X(T_0)$. The number of these graphs will equal that of the chapters in the text X. All these values $K(T_0, T)$ (for variables T_0 and T) are naturally organized into a *square matrix* $K\{T\}$ of order $n \times n$, where n is the total number of chapters in the text. In the ideal (theoretical) case, the matrix $K\{T\}$ has the form shown in Fig. 2(a), namely, all the absolute maxima (lines and columns of the

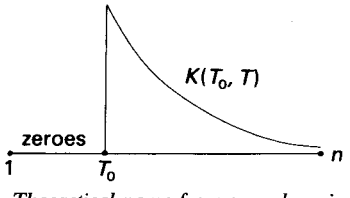

Figure 1. *Theoretical name frequency damping graph.*

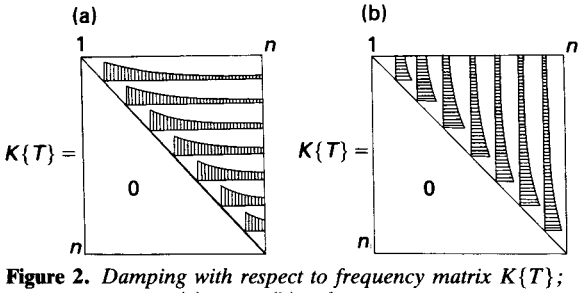

Figure 2. *Damping with respect to frequency matrix* $K\{T\}$*;* (a) *rows,* (b) *columns.*