

and texts, probably speaking of "the same events", but placed differently in the canon. It also indicates that, to restore the chronologically correct order of chapter generations, the chapters the Old and New Testament should be reshuffled by shifting them towards each other, i.e., both of these groups were, probably, created at the same, and not at different epochs as stated traditionally. The events described in the New Testament overlap with the epoch described in the First and Second Books of the Chronicles, and are, probably, those from the 11–13th cc. A.D. occurring in Italy during the epoch of the Holy Roman–German Empire. These corollaries are consistent with the results obtained by other dating methods, including astronomical methods [16], [19]–[22] (see Part 1).

In conclusion, we give an interesting modification of the described methods for duplicate recognition, worked out and computerized by G. Nosovsky. This argument is actually based on the above-mentioned frequency-damping principle.

## 6.5. Scatterings of related names in chronological lists. The relation matrix

*1. Introduction.* Here, we consider certain methods for verifying the conjecture that a particular chronology contains duplicates [21]. All of them are based on the study of personal names mentioned in historical sources. Certain ideas regarding the organization and use of the data of this type with the purpose of dating are due to the author ([21], [24]). We introduce the concepts of a narrative source divided into chapter generations, chronological list of rulers' names also divided into chapters, and square and rectangular name frequency matrices corresponding to a partition into chapters. Note that, eventually, the frequency-damping principle formulated by the author in [24] is the basis of the methods under consideration.

All the probabilistic models considered below are finite; thus, we use only classical probability theory.

The whole procedure was computerized by G. Nosovsky in the language PL/1. A certain standard technique for coding square and rectangular name matrices was chosen, so that the same programmes could be used for computations involving various data such as name or nationality lists, narrative sources, etc. We omit the particulars related to the computational side of the matter.

Items 2–9 regard the construction and study of the frequency histograms for related name scattering, and Items 10–16 deal with the construction and use of the name relation matrix in the chronological list of rulers. All the items consist of:

1. Introduction.
2. Name list. The structure of a list, the related probabilistic technique, definition of random variables  $\xi_1, \xi_2, \xi_3$ .
3. Basic assumptions about the list with correct and incorrect chronology, use of frequency histograms for related name scattering in order to determine the chronological shifts.
4. Form of histograms of the frequencies of  $\xi_1$ ; computation of the histograms of the frequencies of  $\xi_2$  and  $\xi_3$ .
5. Results related to the lists II of the names and  $H$  of nationalities of Roman popes.
6. Narrative source, its particulars and normalization.