

## WOOD AND CLIMATE OF THE YEAR 1000 A.D.

Tomasz Ważny\*

Historical events were usually related to the climate and natural events. So let us look at the world of plants in the year 1000 A.D. and get some information from this objective source.

Trees systematically register the history of climate in their annual rings, which are produced during the vegetative period. Single annual rings consist of porous earlywood formed in spring and more compact latewood formed in summer (Fig. 1). The strength of relationship between tree-rings and climate depends on the species and its genetic preferences. Studies of those relationships and reconstruction of climate are the objects of dendroclimatology — one of the most important subfields of dendrochronology.

The wood that grew exactly in 1000 can be located in two possible ways: by studying trees which are over 1000 years old or by analysing wood used in the construction of historical objects, or from subfossil trunks. The first kind of study material, trees over a millennium of age does not exist in Europe with only few exceptions but dendrochronological studies which are made in North America and Southern Hemisphere are based on such ancient but still living trees. An allocation of growth rings to the corresponding calendar years needs to be matched to a master chronology for the proper species of wood. The master chronology is a continuation of records of the modern tree established, by the overlapping older ring patterns.

A schematic presentation of this method is shown in Fig. 2. The year 1000 has been shown against the background of a longer time axis — from 950 to 1050. This can illustrate the nature of the year 1000 for trees. At the same time there is information about climate. The information of the International Tree Ring Data Bank (ITRDB) collected in the World Data Center–A for Paleoclimatology (WDC–A) were the main sources for the following analysis supplemented by the author's data.

### SOUTHERN HEMISPHERE

The data for this part of the world are very poor because only two time series coming from ITRDB reach the year 1000. One was made for Tasmania and the second for Argentina.

---

\* Academy of Fine Arts, Warsaw, Poland.

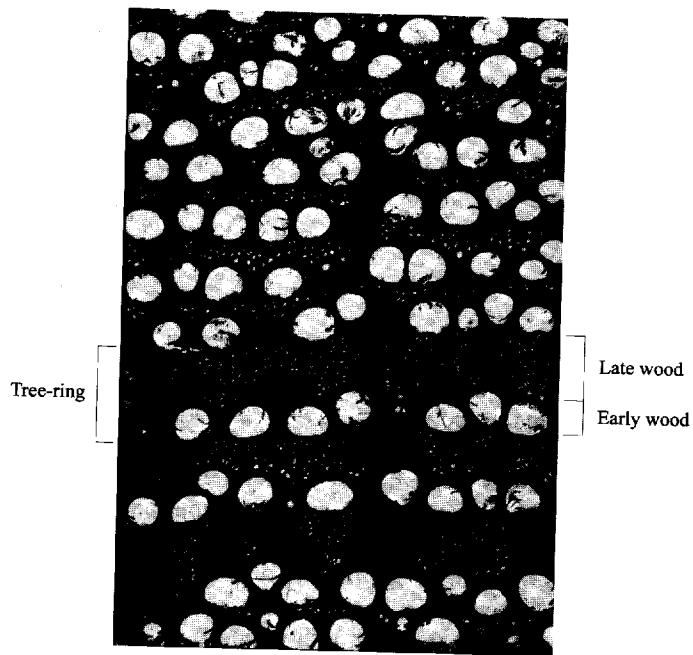


Fig. 1. Cross section of oak. Band of large early wood vessels is easy to distinguish from the late wood

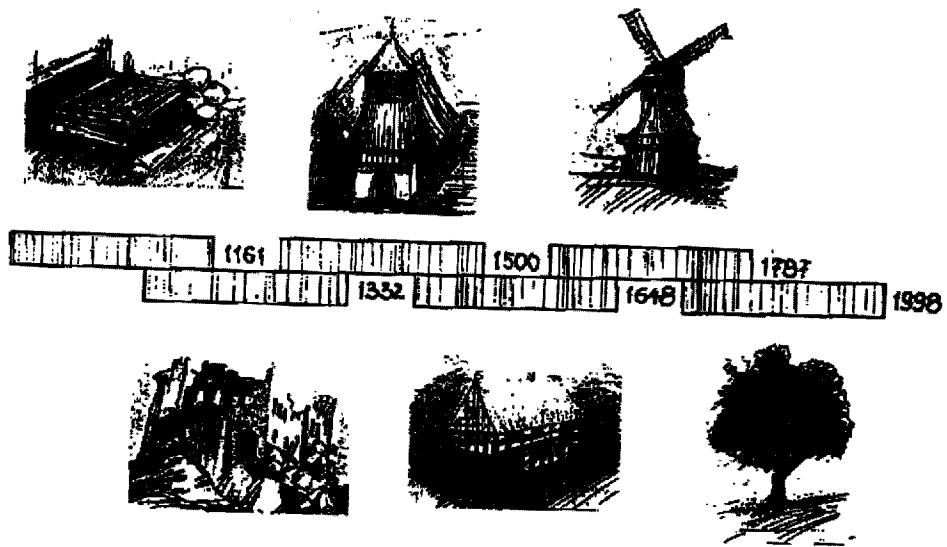


Fig. 2. Principle of chronology development

