

## Items of Interest

### **TREES TO KEEP BUDAPEST CLEAN**

Budapest is to plant a forest belt in a semi-circle round its eastern and southern environs during the next few years to block dust clouds which come annually from the Great Plains.

The belt, part of 2,400 acres of tree-planting to keep the air of the city pure, will run from Vác, some 20 miles north of the city centre, round to the southern limits of the city.

Other parts of the scheme include more than 500 acres of plantations, parks and avenues within this semi-circle on the left bank of the Danube. The work will be begun before next spring.

*(Hungarian News and Information Service).*

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### **HOW EFFECTIVE IS A SHELTER BELT**

It has been calculated that a broad-leaved shelter belt, when in leaf, can cut wind velocity as much as 50% at distances up to 14 times its own height. When defoliated, in the winter, however, the effective shelter area is reduced to about 8 times the shelter belt's height. A shelter belt of trees causes no draughts as does a solid body and it breaks the wind without the formation of gusts.

Proper shelter belt protection can effect considerable saving in the fuel costs of maintaining a comfortable temperature in the house. An unprotected house exposed to a 20 m.p.h. wind can take  $2\frac{1}{2}$  times as many B.T.U. to heat as the same house exposed to a 5 m.p.h. wind, other conditions being the same.

## RINGS OF MYSTERY YIELD VITAL SECRETS

By JOHN WESTBURY

**P**UZZLING over the cause of sunspots and their possible effect on the weather, a young astronomer one day in 1902 suddenly recalled to mind the odd appearance of the pine-forest on a nearby mountain-side in northern Arizona. Hitching his horse to a wagon, he drove to the forest, noting again with inward excitement the changes in the forest as the road led him down to the desert.

From that outwardly inconsequential wagon-ride the astronomer, whose name was Andrew Douglass, returned home to formulate a new theory on sunspots. The climate, he reasoned, affects the growth of all plant life, including trees; if (as we believe) sunspots in turn affect the climate, should we not be able to find a history of sunspots written in the slow growth of trees?

Investigation soon proved that his theory was soundly based, and the scientist and anthropologist interested in the story of human life and climate down the ages, found opened to him new 'history' of these things, written by nature in 'code' in the world's trees.

Science has adequate proof that sunspots are linked with the great magnetic storms which sweep the earth at regular intervals, interrupting radio communication and making telephonic and telegraphic transmission almost unintelligible. Until Douglass interested himself in sunspots and tree-calendars scientists had few if any reliable 'tools' whereby to seek the cause of sunspots and their effect upon the earth's climate. Now, after more than fifty years intensive study of tree-rings, some of the mysteries of sun and earth (especially the latter) are being slowly yet significantly revealed.

But you may wonder, what link is there between tree-rings and sunspots? How can an examination of the former tell us what kind of climate was experienced, say, 500 years ago in some part of Canada or Britain or New Zealand?

Studying the 'ring-calendars' of thousands of trees in many different climates, Professor Douglass soon discovered that the width of these rings varies with climate, especially in those regions where temperature and rainfall are factors vitally affecting plant growth. In widely separated regions having the same climate, ring patterns were found to match exactly.

Further investigations revealed many other secrets. It was found, for instance, that by tracing the rings back through over-lapping lives of generations of trees (a process known as "crossdating") a chronology of hundreds of years could be constructed. Moreover, the ingenious idea of examining closely the beams of wood from ancient buildings as

well as long-buried logs enabled the experts to take the story back still further centuries.

By carefully collating and analysing results of investigations carried out in many part of the world, but especially in Gt. Britain, the United States, Alaska, Scandinavia and Europe generally, Professor Douglass and his associates established that the rythms or cycles of tree growth correspond closely with the 11-year sunspot cycles.

It was this new science of ring-tree studies which enabled experts to discover the exact date of origin of the pre-Columbian Indian settlement known as Pueblo Bonito, in Chaco Canyon, New Mexico. Studying its many ancient timbers, they found that the earliest timber was cut in 919 A.D. The settlement, they found, was still occupied in 1127. This knowledge helped the world's archaeologists to fit into the pattern of history more than 40 other Indian settlement ruins, so that they knew exactly when each settlement had been founded and when it more or less ceased to exist as a place of the living.

It is fascinating to learn, also, that the tree-ring research experts have a tree calendar, written by desert conifers, which goes back to the year 11 A.D. Another tree calendar has been traced in the giant sequoias of California to a period before 1,000 B.C.

By studying the rate of growth, the distance between the rings, their appearance and width, and other factors, the experts can give a fair summary of the climate experienced for centuries back in the region where the tree (and its ancestors) stood. In the same way a knowledge of man (his methods of building, knowledge of tools, customs and other information) can be deduced from expert examination of ancient timbers taken from centuries-old buildings.