

REPORT ON THE FIRST TREE RING CONFERENCE

WALDO S. GLOCK

A group of people directly interested in the use of tree rings for scientific purposes met in conference as the guests of Dr. and Mrs. H. S. Colton at Flagstaff, Arizona, June 11-12, 1934. All meetings were held under the chairmanship of Dr. A. E. Douglass who originated tree-ring studies and who founded the so-called Douglass method of tree-ring analysis for dating and climatic purposes.

Among those attending the conference there were two groups: the active workers, and those without special tree-ring experience, but deeply interested in the science. In the first group we must mention A. E. Douglass, W. S. Stallings, Emil Haury, John C. McGregor, Gordon Baldwin, Carl Miller and Waldo S. Glock. Florence Hawley and H. T. Getty were invited but were unable to be present. In the second group were Harold S. Colton, Lyndon L. Hargrave, L. F. Brady, Katharine Bartlett, E. H. Spicer, Louis Caywood, Ben Wetherill, and Claybourne Lockett. Virgil Hubert recorded the minutes of the meetings.

Since the workers are few in number the conference provided the unique opportunity for nearly all of the individuals in a certain field to meet for exhaustive discussions of all problems, much as in a Committee of the Whole. Topics freely touched upon for mutual benefit pertained chiefly to methods and practice, such as: tags to be left on beams from which specimens are taken; collection and preservation of charcoal; photography of tree rings; preparation of wood surfaces; illumination of specimens and the physical problems involved; cutting of sections; and the manner in which a tree puts down the annual ring.

The subjects upon which definite action could be taken will be considered under separate headings.

Government Permits to Collect Tree-Ring Specimens. Our National Park Service desires to preserve Indian ruins in a way to merit the appreciation of an intelligent public. And justly so! But no one is so vitally interested in the preservation without mutilation of ruins for historical and educational profit as is the trained archaeologist or the tree-ring man. Either one, in fact, has a clear-cut conception of his duty when collecting and, since his life work deals with the human history of the Southwest, either one above everybody else earnestly desires that the National Park Service preserve scrupulously our Indian ruins intact. Furthermore, tree rings have given a lucidity to the history of the Southwest unknown before their use: they have given definite calendar dates to the various ruins; they have placed occupations and migrations in orderly sequence; they have furnished a background against time for the cultural development of races; and they have yielded intimate glimpses into the history of a single ruin, its original construction, its repair, and those vicissitudes of fortune reflected in the home of a family. A beam which has been sampled by a tree-ring man, even to the sacrifice of half its length if need be, instantly becomes a prize exhibit because it has a story to tell, a story of the dim centuries when our land was occupied by strange races whose cultures and environments take on a new meaning, oddly enough, through the trees those people felled with infinite labor and incorporated in their dwellings. Tree-ring men are indeed anxious for our National Park Service to make use of their findings for the benefit of a public eager for information about those ancient races. It is a well-known fact that thousands of old beams have been burned wantonly as firewood by a portion of the public which little realized the irreparable damage mirrored in

the smoke and flames. And such destruction continues where direct Government supervision is not maintained constantly.

Therefore, the Conference recommended that stringent qualifications be demanded in the recipient of a permit, that the collector be an experienced field man, that he secure adequate samples with as little effect on the beams as possible consistent with the necessities of science, and that the information derived be furnished the National Park Service for its educational program in making the beams and ruins tell their stories to the citizens of our country.

Accuracy of Dates. Dr. Douglass kindly consented to the requests of the assembled scientists that he take sufficient of his time to check all dates before they are published with finality.

The University of Arizona a Depository. Since the University of Arizona is the center from which tree-ring knowledge has radiated, it was decided to make the files of Dr. Douglass a depository for photographs of all valuable tree-ring specimens, skeleton plots, duplicates of valuable specimens where possible, and a system of index cards containing useful and pertinent information on prehistoric specimens and living tree materials. Duplicate cards and photographs will be supplied to other workers at their expense.

Publication. Everyone present at the Conference felt the urgent need of an avenue of publication for results distinctly tree ring in nature, because the many ramifications of tree-ring studies make their results somewhat alien to many of the standard serial publications. As the meetings progressed, the need for a separate journal evolved into the concrete form which makes its first appearance with this issue of the "Tree-Ring Bulletin." At first the Laboratory of Anthropology at Santa Fe, New Mexico, through Mr. W. S. Stallings, generously offered to print from time to time several mimeographed pages to the number of about twenty copies, but later it was realized that the demand for information concerning tree rings exceeds what the Conference felt it could accept gratuitously from the Laboratory of Anthropology. Plans were so made that the "Tree Ring Bulletin" can expand as material for publication increases and as support for the project becomes greater. Paramount among plans for the future is the desire to print photographs of type specimens and ring sequences much after the fashion among paleontologists and biologists.

Definitions. Certain definitions of important terms were agreed upon by the Conference in order to obviate any ambiguity, to further precision in the declaration of dates, and to serve as a guide in publication.

Center Ring: The actual center of the tree; the first ring formed by the tree around the elongating axis.

Inside Ring: The first ring of entire width shown by a specimen whose center ring is absent.

Outside Ring: The last ring of entire width shown by a specimen; not necessarily the final ring grown by the original tree.

Bark Ring: The ring immediately under the bark of a tree or specimen.

Bark Date: The date of the ring immediately under the bark of a tree or specimen. The ring represents the last one formed before the original tree died or was felled, which occurred after growth ceased at the end of the season responsible for the bark ring or before growth started in the following season.

Estimated Bark Date: The estimated date of the bark ring on a specimen, expressed as a date with probable error + and -. Used where the outside ring is not the bark ring.

Estimated Building Date: A composite date, derived from all specimens, of the year in which a ruin was originally constructed. Expressed with probable error + and —. The building date may be up to a year later than the estimated bark date or the actual bark date.

Resolutions. Several resolutions were formulated to express the sentiment of the Conference. They are as follows: (1) When the date of a ruin is published it should be accompanied by a photograph of a type specimen and its skeleton plot. (2) It was strongly felt by the members of the Conference that the value of tree-ring studies and the renown brought to the State of Arizona by the work of Dr. Douglass amply justify the State in releasing him from many of his other duties so that he may devote his time more fully to research. (3) The benefits of the present meetings made it clear that another Conference should be held next year. To this end the Laboratory of Anthropology at Santa Fe extended a cordial invitation. (4) A resolution of thanks was voted unanimously to Dr. and Mrs. Colton for their kindness and hospitality.

DATES FROM TSEGI

JOHN C. MCGREGOR

The beam material which is included in this report was collected by Lyndon L. Hargrave, and party, as members of the Rainbow Bridge-Monument Valley expedition in northern Arizona, June to September, 1933. The sites from which the material was collected are located in the Tsegi canyon and its branches, between its mouth and the base of Navajo Mountain. The sites listed in the table by number are here listed with their respective popular names, and approximate locations.

N. A. 2507—"Swallows Nest"—Tsegi Canyon proper.

N. A. 2519—"Kiet Siel"—Tsegi Canyon proper.

N. A. 2521—"Turkey House"—Tsegi Canyon proper.

N. A. 2536—"Twin Caves Pueblo"—In a branch canyon above Bat Woman Canyon.

N. A. 2542—An unnamed and unexcavated pithouse. (Loose material from the side of the structure).

N. A. 2543—"Ladder House"

N. A. 2630—A site thus far unnamed.

From these sites, and several others thus far undated, the field party collected about two hundred specimens of beams, mostly in the form of wood poles, but with a few charcoal fragments. From the larger sites with abundant material only the most likely pieces were taken, whereas from those with a small amount of beam material present every available specimen was collected. Subsequent study, particularly of the latter group, indicated that many of them are undatable.

The most easily datable material was selected for preliminary study. Of this much was pinon and juniper, one juniper and three pinon being readily datable. The accompanying table lists the forty-four definite dates which were secured, all having been read and checked by Dr. A. E. Douglass.

The table was compiled in its present form at the suggestion of Dr. Douglass, with the idea that the selection of data might be improved as necessity demands. The following explanation of the table will serve as a key to its interpretation.

It was decided that sites numbered by institutions would merely be listed in this table by such numbers.

Individual specimen numbers represent the serial catalog numbers of