posts and bed-space; (2) a canoe made of five parts; and (3) the tanged adze; to Culture B, (1) the oval house; and (2) wooden head rests and utensils with legs.

It is interesting to note that the basal Polynesian physical type (Type I), as worked out by Sullivan, is universally distributed, but strongest in the south, and the original culture (Culture A), also universally distributed, is clearest in the south (New Zealand) and east (the Marquesas). Also physical Type II is strongest in north and central Polynesia, the same region in which elements in Culture B are dominant. This demonstrated parallelism of racial types and cultural stratification rests on conclusions arrived at independently by members of the museum staff working in widely separated fields with no opportunity for consultation. It is regarded as a very important contribution to the attack on the Polynesian problem. Another contribution is the definition of characteristics and elements belonging to the respective types and cultures—a prerequisite to comparative studies.

As regards the sources of these racial types and cultural elements and the routes by which they came to Polynesia, the evidence in hand indicates the region of the Malay archipelago (Indonesia) and southeast Asia as that from which the Polynesian ancestors commenced their eastward drift. Whither, beyond that region the search for ultimate origins may lead, can not be foreseen. The writing of the earliest chapters in the history of the Polynesians and of other Pacific races must await the definition of ancient and modern Asiatic types and cultures and the determination of early stages revealed through archeology.

The work of the acheologists of the Bayard Dominick Expeditions revealed no very ancient human habitation in the central and south Pacific. For the Polynesian settlement the evidence serves to substantiate the conclusions of William Churchill, based on linguistic and cultural study. The following dates are considered reasonable estimates: A.D. 0, the first Polynesian migratory movement; A.D. 600, a second migration; and A.D. 1000, a period of great Polynesian expansion. According to S. Percy Smith and other Maori scholars, New Zealand was already in possession of original settlers by the tenth century although the main Maori migration did not occur until the thirteenth and fourteenth centuries. Dr. Handy has concluded that the Marquesas Islands were first settled in the tenth century or slightly earlier, and Fornander presents good reasons for the belief that the original settlers of Hawaii experienced the coming of a migratory wave at the beginning of the eleventh century.

At least three general routes of migration appear to have been used through Indonesia: (1) along the coasts of New Guinea, (2) through Micronesia, (3) through and along the marginal region east of Melanesia.

Two years of organized study has shown that the history of Polynesia is fundamentally a field problem and that progress depends upon the accumulation of facts by trained students.

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SCIENTIFIC EVENTS

A FOREST UNDER THE CITY OF WASHINGTON

EVIDENCE of the existence of an ancient swamp in which great trees flourished in days long past, possibly contemporaneous with earliest man in America, has been discovered in a deep excavation made for the foundation of a hotel under construction in Washington, D. C. At a depth of about twenty-five feet below the street level the excavation disclosed a layer of black swamp muck, containing large quantities of wood, tree trunks and stumps. Some of the stumps are of great size, a few of them reaching a diameter of nine or ten feet. Much of the wood is well preserved, showing clearly the woody structure and the external markings of the bark. A preliminary examination indicates that one of the more common trees of this ancient swamp was cypress.

The story of these trees, however, is only a brief chapter of the whole geologic history shown in the excavation, which has just been examined by Chester K. Wentworth for the

United States Geological Survey. Ages ago this part of the Atlantic Coastal Plain was from time to time covered by the sea, into which streams swept vast quantities of mud, sand and gravel and boulders which formed thick deposits that covered large areas. When the region finally emerged from the sea the Potomac River cut its valley in these deposits, which were carried about here and there also by smaller streams. The larger boulders are derived from the granite on which the gravel lies, but some of the smaller pebbles come from parts of the Potomac basin beyond the Blue Ridge and others from veins of quartz in the granites of the Piedmont Plateau.

Over the layer of plant débris and muck in this old swamp fine clay and pebbles were laid down by streams of water during the glacial epoch, when the northern part of North America, as far south as northern Pennsylvania, was covered with immense sheets of thick ice, showing that the trees lived in the latter part of the Great Ice Age, which is variously estimated to have ended from 20,000 to 30,000 years ago.

OPPOSITION TO EVOLUTION IN MINNESOTA

IT was reported in SCIENCE last week that at a conference in St. Paul, Minn., of pastors representing Baptist, Congregational, Presbyterian and Lutheran churches, it was decided to issue a call for a state-wide meeting of Protestant ministers to oppose the teaching of evolution in the public schools of Minnesota.

At this meeting, which was held on October 26, the following resolutions were passed:

Preamble—As American citizens we believe in the complete separation of church and state, and are opposed to religious teaching in public schools—higher or lower.

As those who wish to teach Christianity must support their private schools, we believe it but just that those who wish to teach anti-Christian theories should be forbidden the use of tax supported schools for propagating their opinions.

Whereas, The evolutionary hypothesis has come to be accepted by many American teachers, and is increasingly taught in the public schools of Minnesota, including high schools, our state normals and state university, and

Whereas, This hypothesis, after sixty-three years of study, remains wholly unproven, and has increasingly shown itself to be a foe to the Christian faith, denying as it does the veracity of the Scriptures,

Therefore be it resolved, That we, citizens of Minnesota, representing thousands of our fellow citizens, hereby utter our protest against this propaganda of infidelity, palmed off in the name of science, and we call upon the trustees of state institutions to demand of teachers a cessation of such teaching and the removal from our schools of such text-books as favorably present the same.

We do this in the interest of true science *vs.* science falsely so-called; and in the interest of fair dealing.

We hold that the first amendment to the constitution of the United States, "Congress shall make no law respecting an establishment of religion," was never intended to be interpreted that the state should become sponsor for irreligion; and that it is manifestly unfair to impose taxes upon Christian taxpayers to inculcate teaching inimical to the Bible and destructive of civilization itself.

We have waited patiently for this hypothesis to either prove a truth or to pass from public instruction. Having now no prospect of either, we demand that the state shall prove its impartiality toward its citizens by dispensing with a subject that is utterly divisive; and is, in the judgment of thousands of its taxpayers, utterly false.

And we declare that if the school authorities prove derelict in the enforcement of the law relating to the teaching of religion or of theories subversive of the Christian faith, we will appeal to the legislature for the enactment of such laws as shall eliminate from our tax-supported school system this antiscientific and antiscriptural theory of the origin of man and the universe.

THE ADMINISTRATION OF THE UNITED STATES GEOLOGIC SURVEY

ON November 15, David White completes ten years service as chief geologist. This contribution to the administration of the survey has been at the expense of his own scientific work, even though he has thereby increased the scientific value of the work of his associates. It seems fair that his oft-repeated request for permission to return to his own geological studies should now be granted, not only to gratify the natural desire of an investigator