

books. The inference from the experiment is fallacious; moreover the experiment does not work if the dielectric is dry and low potentials are employed, or, in any event, if the dielectric is a gas or a vacuum.

Despite these minor blemishes the book is an excellent one. The style is admirable and the whole treatment is calculated to inspire the interest of the student. We can thoroughly recommend its use with classes which have already had a general course in physics.

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SPECIAL ARTICLES

RELATIONSHIP OF THE INDIAN LANGUAGES OF CALIFORNIA

ANTHROPOLOGICALLY California has always been noted for its linguistic diversity, which has been accepted as being greater than that of any other part of the world. Since Powell's standardizing classification, which allotted 22 distinct families of native languages to the state, only one consolidation, that of Shasta and Achomawi, has been positively asserted and generally accepted. Two or three other pairs of languages have for some time seemed to be probably each reducible to a common origin; but the specific similarities determined were weakened by the frequent occurrence of both lexical and grammatical resemblances between many other families which there was no justification for connecting genetically. These grammatical resemblances have been several times discussed by us and attributed to the inter-influence of distinct families, due to geographical contact. The lexical similarities we have assumed, in all but a few cases, to be the result of borrowing. It became clear that until the degree and extent of this mutual influencing and borrowing among unrelated languages were more precisely ascertained, the relationships suspected in the few instances referred to were capable of explanation through such borrowing on a slightly more intensive scale, and would therefore never advance beyond the stage of probability. For this reason we undertook some time ago a comparison of more than 200 stem words in

all the languages and dialects of California so far as material was available. From the time the material began to be assembled, some interesting results as to the character and scope of the borrowing of words commenced to appear; but after analysis of the collected information had progressed beyond a certain point, it became apparent that the only satisfactory explanation of the resemblances between certain languages was genetic relationship. On the basis of these indications the grammatical information extant on the same languages was reexamined, and in every instance was found strongly confirmatory. Lexical and structural similarities coinciding and being relatively abundant, true relationships have been accepted as established. The new larger families and their components are:

Penutian, comprising the groups formerly known as Maidu, Wintun, Miwok, Costanoan and Yokuts. This is a relatively large and compact family, occupying practically the whole of the drainage area of the great valley of California.

Hokan, comprising certainly Shasta, Chimariko and Pomo, probably Karok, and possibly Yana. The territory of this family is in the hill country to the north and west of the Penutian, and is more irregular.

Ritwan, comprising Yurok and Wiyot. No new proof on the previously suggested possible relationship of these two languages was obtained, except the negative evidence of complete lack of resemblances of both to any other family, which of course increases the weight of the similarities between the two, insufficient though these may yet be for absolute demonstration.

The number of distinct families in California is thus reduced from 21 certainly to 15 and possibly to 12.

Owing to the absence of one of the undersigned in Asia at the present moment, some time must elapse before our material and conclusions can be finally revised and published. For this reason the present announcement is issued.

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