Research in Human Identification

REMAINS of human bodies, in all stages of decay, are constantly turning up and require the best efforts of the proper authorities to identify them. Natural causes, accidents, suicide, warfare or murder are possible explanations of such deaths. But regardless of what happened to these individuals, they present a common problem which is covered by the question, "Who are they?"

Answers to this question diminish in fullness as the state of decay is advanced or as fewer and fewer parts are recovered. At one end of this range is a freshly dead whole body about which everything in the way of identification—finger prints, blood groups, sex, race, age, and stature—all except perhaps the name, can be stated; at the other end is a minimum representation, say a few pieces of burned bones, which can only be said to be human. At the point in the course of decomposition when soft parts are no longer present or usable, the problem of identification often passes from the medical examiners to the physical anthropologists. Only the physical anthropologists have studied human skeletons from the broad point of view required in identification work.

Strange as it may seem, very little of the information that physical anthropologists use in identifying skeletons was obtained through research aimed directly at medico-legal applications. Such information has been a by-product of basic studies. For instance, out of the use of shadowed collodion replicas of tooth surfaces in routine investigations at the National Institute of Dental Research has come a new means of estimating age from teeth.

Strange, too, the groups utilizing such information in a practical way—law enforcement agencies, the military—have contributed very little to the research involved. For instance, since the close of World War II the Memorial Division of the Armed Forces has had to identify the remains of thousands of soldiers. Yet the military authorities made no plans to profit from this unusual research opportunity. It was largely in spite of military inertia that one physical anthropologist succeeded in improving the formulae for estimating stature from long bones. Now the Memorial Division has wisely substituted these new formulae based on hundreds of American soldiers for those used heretofore, based on 100 elderly French cadavers measured in 1880.

Additional research is needed, especially to improve the estimation of age after skeletal maturation. Present information on this subject comes from the population dregs of large cities which reach the dissecting rooms. These unfortunate individuals have not always given their ages correctly; nor have they led healthy lives. Well-identified skeletons of healthy Americans from the middle period of life are seldom obtainable. This fact emphasizes the unique opportunity afforded by the military reburial program.

It is one thing to estimate age at death, and quite another to verify the age of a living person. The latter problem is coming to the attention of physical anthropologists more and more in connection with immigration and social security operations, and due to the loss of birth records. Lessons learned on the skeleton and brought to bear on the living through roentgenograms can yield satisfactory age determinations. Further research should permit improvement.

Regardless of how far such research is carried, physical anthropology will never reach the state of an exact science. Because humans are naturally variable, physically and developmentally, a certain error of prediction from bones is inescapable. The practical experience that physical anthropologists get in handling skeletal material helps to keep down this error, but right now they can use more information, and that can best be had through well-conceived research.

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