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Culture that followed is half-Fauresmith and half-Sangoan—i.e. its affinities with the Uganda counterpart are as marked as they are with the South African expression of what appears to be the same cultural horizon. In these cultures the basic Levallois technique is the same in all three territories, but the principal tool-types vary from the pick in Uganda, to the pick and hand-axe in the Congo and the hand-axe and cleaver in the Union. The Kalinian of the Congo is followed by mid-palaeolithic industries that include Stillbay elements integrally associated with an identically developed Levallois technique, but the principal tool-types differ so markedly that an independent set of terms is required to describe the cultural horizons they and their successors represent. Dr Cabu's well-documented collections show that there is no culture such as the Tumbian as hitherto understood. Both the Abbé Breuil and the Director have submitted their views on Dr Cabu's collections to the Royal Society of South Africa for publication in the Transactions of the Society. These, it is hoped, will appear in due course.

THE BRITISH MUSEUM

Mr Grimes' reference to the administration of the British Museum, in his article on 'Museums and the Future' (ANTIQUITY, March 1944, p. 46), shows a misapprehension of the facts which it is desirable to remove. It is true that the Board of Trustees includes high officers of Church and State, and representatives of the families of the donors of certain important collections; but it also includes fifteen elected members, chosen on account of their interest in and knowledge of the matters with which the Museum has to deal. Further (and still more important) the actual administration is delegated to a Standing Committee, composed mainly of the elected Trustees, together with a few of the *ex-officio* Trustees who have taken an active interest in the affairs of the Museum. The result is that the Museum has a governing body fully capable of controlling the Director, while sufficiently versed in the conduct of affairs not to want to interfere in minor details; and the fact that it has an independent governing body composed of persons of weight and experience gives it an authority which it would not have if it were controlled by a Government department. There was a striking example of the value of this independence during the last war, when the War Cabinet decided to hand over the Museum to the Air Ministry. A Cabinet Minister would not have been able to resist the decision of his colleagues; but the Trustees were able to appeal to the public, and so obtain a reversal of the decision. The present system is very far from being 'indefensible'; indeed it gives the Museum the best governing body of any institution with which I am acquainted. It should not be rashly subverted without a knowledge of the facts and of its actual working.

FREDERIC KENYON.

EGYPTIAN BRONZE-MAKING AGAIN.

In ANTIQUITY, xvii, pp. 96-8 I published an Egyptian picture showing the manufacture of bronze by the advanced method of mixing and *melting* together the ready-made metals of copper and tin. This is a great improvement on the mere *smelting* of a mixture of the two ores, whether a chance one provided by nature or even a purposeful one made in the workshop. It was also shown that this step forward had already been taken by some time during the 200 years between 1580 and 1370 B.C.

It is now possible to limit the date somewhat more closely, for another scene showing this technique is to be found in the tomb of Rekhmirê, also at Thebes, and this was painted about 1450 B.C. Therefore the period during which the art of mixing and

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fusing together the two metals had been discovered must now be shortened by at least 80 years, for the method was already in use by this date. In fact it was probably in use by 1500 B.C., for a still earlier tomb-painting shows the same furnace as the other two and the casters pouring molten metal into a mould as in Rekhmirê. But, though the metal would undoubtedly have been bronze, there is unfortunately nothing to indicate it, nor yet the method by which it had been made (1). We are never likely to limit still more closely the period within which this advance in the Levantine technique had been made, for there are hardly any paintings of the eighteenth dynasty earlier than this.

Rekhmirê's scene is one of casting a pair of doors for the temple of Amûn at Thebes (2). Such doors are of bronze, and the scene shows the necessary ingots being brought to the furnace. First comes a man carrying one which its shape with hollow sides shows to be of copper (3). Behind him come two men carrying baskets of small cakes of something. These must be ingots of tin seeing that they accompany the copper ingot in a bronze casting scene.

The inscription over the men carrying the ingots makes use of the expression 'Asiatic copper' which was discussed, and shown to mean 'bronze' on p. 96 of the earlier article in *ANTIQUITY*. It says 'Bringing Asiatic copper which his Majesty carried off in victory from the hill country of Syria, in order to cast a pair of doors for the shrine of Amûn in Karnak, the pavement of which is overlaid with gold in the likeness of the horizon of heaven, by the Governor of Thebes and Vizier [Rekhmirê]'.

In view of what was said in the article mentioned as to the probability of bronze having come to Egypt originally from Byblos (Gebeil) on the Syrian coast, it is interesting to note that the copper and tin ingots which are about to be made into bronze are called 'Asiatic copper', and that they were 'carried off in victory from the hill-country of Syria'.

Though the evidence comes from Egypt, it is not to be supposed that the forward step was taken there. No doubt it was taken at Byblos (Gebeil) where the natural mixture of ores occurred. There man had the chance of getting to know the tin ore, then mixing it with the copper ore, and so producing a bronze though of an uncertain percentage of tin. Having come to know the second ore, the local metallurgists were able to experiment with it, smelt it, and finally win the metal therefrom. This could then be used with ready-made copper in whatever proportion might be desired. This would enable the manufacture of bronze to be kept under control, whereas until such time it had been a more or less uncertain affair of chance. 'That time' was evidently the sixteenth century B.C., or something between that and 2350 B.C., by which time the ability to smelt tin had been acquired on the north of the Mediterranean, as has been shown in another communication (pp. 57-64). It begins to look as if the metallurgists of Byblos had not acquired the art of smelting their tin for themselves, but had learned it from the north. In view of what is said in the article about the early mining of tin in Greece (p. 59) it would be interesting to know whether the metallurgists of Byblos had followed up their rivers, the Feidar and Ibrahim, to the source whence the tin ore

¹ N: de G. Davies, *The Tomb of Puyemrê at Thebes*, I, pls. xxiii, xxv, and p. 73. Puyemrê lived under Queen Hatshepsut and into the opening years of Tethmosy III's reign (cf. pp. 21, 25), so that his scene would have been painted not later than 1500 B.C.

² The whole scene, including the casting operation and the fusing of the metals in the furnace, is being published by the present writer in *Man*. It has often been published before, notably by P. E. Newberry, *The Life of Rekhmara*, pl. xviii.

³ For the evidence for this see Wainwright in *ANTIQUITY*, xvii, p. 97, note 7, or in the article in a forthcoming number of *Man*.

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was derived (4). In such a way they could easily have been led on from washing for the ore to mining it. It is to be hoped that the district, Kesrwan, will be searched for signs of early mining, which would probably consist of trenches left by the quarrying away of outcrops. If such trenches should be found, it is also to be hoped that they would contain relics by which to date them.

G. A. WAINWRIGHT.

EUROPEAN ARCHAEOLOGY

It is felt by many archaeologists that a Conference on European Archaeology during the summer would be welcome. Many distinguished foreign archaeologists are at present in this country, and their presence makes it possible to arrange a meeting at which a general picture could be presented of the position and needs of archaeological research in Europe. An informal committee met to consider the matter, and unanimously agreed that such a Conference would be useful. The aim would be to deal with general problems which affect large regions, and not with those of particular countries, since problems of archaeology are not confined by national frontiers. Stress would be laid on the subjects in which there is the need for collaboration between archaeologists of different countries, subjects for instance in which general progress is held up since it has not attracted attention recently in a particular country. From this general survey would emerge incidentally the needs of individual countries, particularly those created by war conditions.

The Institute of Archaeology has therefore been asked to organise an informal and unofficial Conference on the Problems and Prospects of European Archaeology to be held on Saturday, 19 August, at 2.30 p.m., and on Sunday, 20 August, at 11 a.m. The Conference will be open to all interested in the subject. The admission fee will be 6s for the whole course, or 2s 6d for the Saturday Sessions and 4s for the Sunday Sessions. The Programme of the Conference will be issued in due course. Those interested are asked to notify the Secretary, Institute of Archaeology, Inner Circle, Regent's Park, N.W. 1, that they will like to receive the programme. Applications to attend the Conference may then be made.

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⁴ Wainwright in *The Journal of Egyptian Archaeology*, xx, pp. 29–32.