

logue, p. 65 (Fig. 2), the stone ball hanging loosely from the handle in a bag of buckskin. The Moquis of this same region use the boomerang; two of these (Fig. 3) are in the Smithsonian

Institution. I am not sure that it returns to the hand of the thrower.

On page 91 of Col. Fox's Catalogue he says: "In California

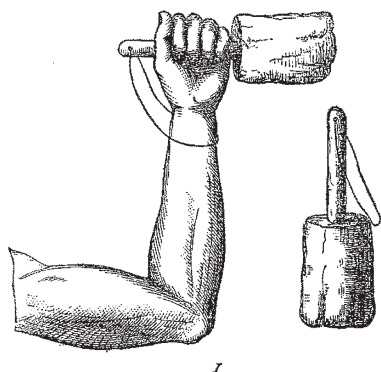


Fig. 1.—Pai-Ute War Club, for thrusting by a backhanded blow into the face of an enemy. Made from the wood of the Mezquite bean.



Fig. 2.—Pai-Ute War Club. Fig. 3.—Moquis Boomerang. Fig. 4.—Numa Reed Arrow, with hard wood foreshaft. Fig. 5.—Klamath River Pointed Arrow; soft wood shaft, hard wood foreshaft. Fig. 6.—Klamath River Arrow, without point; soft wood shaft, hard wood foreshaft sharpened.

and the greater part of the North American Continent the arrows are constructed either in a single piece or with a bone foreshaft; but in no case have I come across a foreshaft of hard wood." Among the Numas of the Great Basin, reed arrows with hard wood foreshaft are very common (Fig. 4). In Northern

California two kinds of arrows have hard wood foreshaft, those with and those without stone points (Figs. 5 and 6). The stripes on the feather end are rancheria marks, and the foreshaft is moveable.

OTIS T. MASON

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Primroses and Cowslips

MR. FORDHAM (NATURE, vol. xii. p. 87) is quite right in conjecturing that it may be without foundation he has thought that primroses are not found in districts in which cowslips are common, and *vice versa*. In the north-east of Staffordshire, for miles round Denstone College, early in the spring, nearly all the hedges and many of the fields are covered with primroses. Later on cowslips abound; I might add that oxlips are also far from being rare.

I have watched closely, but have never found a trace of any destruction of the flower by birds. This, perhaps, may be accounted for by the fact that this being a pasture country, the sparrow, finding no grain, is a *rara avis* about here. I have noticed in Lord Bagot's wood, some twelve miles from here, where sparrows as well as many other birds are found in great numbers, that the primroses nearly always present a very ragged appearance.

D. EDWARDS

Denstone College, Uttoxeter

I COULD name half a dozen spots to the north of London (Mill Hill) where cowslips and primroses have abounded together in the same meadow, to my own knowledge, for the past twenty years. For at least five years I can say that neither the primroses nor cowslips were attacked by birds, though the crocuses were cut up by them more or less every season in the same locality.

R. A. N.

THE VISITATIONS OF GREENWICH AND EDINBURGH OBSERVATORIES

WE have before us the Annual Reports of the Astronomers Royal for England and Scotland, to their respective Boards of Visitors. The Report of Sir G. B. Airy consists mainly of the usual statements under the various heads of the state of the buildings and instruments, the constitution of the staff, and the amount of work done. In all these respects the Observatory seems to be in a satisfactory condition. One important change in the staff during the past year has been the resignation of

Mr. Glaisher, who has for so many years been connected with the Observatory, and which has rendered necessary a readjustment of the duties of the various observers.

Under the head of "Chronometers, Time-signals," &c., the Astronomer Royal refers to the supplemental mechanism which he himself has introduced into some chronometers in order to correct the perceptible defect of thermal compensation which occurs in nearly every case, even in the best chronometers. "There is," he states, "great difficulty in correcting the residual fault, not only because an inconceivably small movement of the weight on the balance-curve is required, but also because it endangers the equilibrium of the balance. To remedy this I have introduced small supplementary weights carried by means of a supplementary bar (rotating with stiff friction in the balance-staff), at whose ends are very light springs carrying the supplementary weights, and constantly pressing them to the interior of the balance-curve. When the supplementary bar is so turned that the supplementary weights are near the end of the balance-curve, the compensation is large; when they are near the root of the balance-curve, it is small. The movement from one state to the other is so simple that probably an assistant of the Observatory will be able to manage it, and it does not interfere with equilibrium. This arrangement has received the approval of some able chronometer-makers, and may perhaps with advantage be adopted generally."

The various time-signals and clocks connected with the Observatory have been worked with praiseworthy regularity and accuracy; the Westminster clock has been so well regulated, under check of automatic report to the Observatory, that in 83 per cent. of the days of the year its error is below one second. Proposals have been made for galvanic determination of the longitude of the Dublin Observatory, and the operation is delayed only for convenience in the arrangements to be made at Dublin. With the aid of a grant from the Treasury three computers are now steadily at work on the Astronomer Royal's New Lunar Theory.

The most novel and interesting part of Sir George Airy's Report is his concluding "General Remarks," in which