

Choctaw ball game, which is of some interest in its bearing on the attitude of those affected by magic towards the magical activities with which they are in contact. Writers on magic and witchcraft, whether occurring among primitive peoples or surviving in civilised communities, frequently distinguish between 'white' and 'black' magic, the former being beneficial to the individual or the community, the latter entirely malevolent. The distinction is purely empirical. The character of the magical act, whether 'good' or 'bad', depends on its relation to the individual or the community. In all instances the principle is identical; and in many the same act may appear as both 'good' and 'bad' according to the point of view. Thus in the example recorded by Miss Densmore, she was informed by an old Choctaw medicine man that in the ball game the opponents made use of magic which rendered the ball invisible or diverted it in its flight. It was, therefore, the duty of the medicine man to chant a song while the game was in progress, which countered the magic of their opponents by keeping the ball visible and guiding it straight. The magic of the opponents in this statement was obviously regarded as 'evil'; but what was the opponents' view of the prophylactic?

#### German Chemical Abstracts

*Chemisches Zentralblatt*, the German counterpart of *British Chemical Abstracts*, has recently published the concluding volume of its collective index for 1925-1929. The occasion is of interest, since it records a successful attempt to place the indexing of highly technical chemical literature on a more systematic basis, and so to distribute the 'signposts' in the index as to make their signs and directions more easily visible. By increasing the number of catchwords, material which is technically related can be the more readily assembled, an arrangement which is of particular value in fields forming the boundaries of the chemical domain. Among the difficulties incidental to the new plan is the change in the exact significance of words which attends increase in our knowledge. The chemistry of vitamins, for example, has in the period indexed advanced to a degree which has in many cases rendered necessary a new comparison of entries in the annual indexes with the original literature. As an example of his treatment of an extensive subject the editor, Dr. Maximilian Pflücke, directs attention to the arrangement of material under the general heading "Iron". Entries are here divided into five principal sections: historical, occurrence, ores, pure iron, and technical iron. The last two sections are each divided into five subdivisions, and the latter are again appropriately subdivided, so that (excluding numerous clearly differentiated entries under "iron compounds"), there are nearly forty major headings, with a very large number of indented minor headings. Similar treatment has been accorded to entries under "blood", "urine", "essential oils", "enzymes", "fats", etc. A convenient provision is the insertion of cross-references to pages in the formula index. The editor envisages a more extensive application of his system of indexing in future volumes.

#### Mechanics of Leonardo da Vinci

NEARLY 150 pages of vol. 19 of the *Atti della Società Reale de Napoli* are devoted to a valuable and interesting memoir by Prof. R. Marcolongo of the University of Naples on the mechanics of Leonardo da Vinci, which may be considered a sequel to his memoir on the geometro-mechanical research of Leonardo published in 1929. The publication by the Royal Commission Vinciana of the Codex Arundel of the British Museum, the Codex Forster of the Victoria and Albert Museum and of some defective pages of the Codex L. da Vinci of the Turin Library allow the author to correct errors of recent British and German publications dealing with the work of Leonardo da Vinci. He deals first with statics, describes the state of the subject in medieval times and shows what sources of information were available at the end of the fifteenth century. Then follow chapters on Leonardo's writings on the lever and balance, the idea of moments, the composition of forces, equilibrium on inclined planes, centres of gravity, pulleys, resistance of materials and the arch. Under dynamics, he begins by describing Greek and medieval sources and then deals with Leonardo's contributions under the headings force, impact, weight, laws of motion, motion on inclined planes, projectiles, and impact.

#### Cotton Crop in 1931-32

THE Administrative Council of the Empire Cotton Growing Corporation has issued its report for the year 1931-32. After summarising the principal activities of the Corporation, the special problems encountered and the progress made in eighteen cotton-growing countries of the Empire are described. From the crop table, which shows the outputs for the last eleven years from these countries (India excepted), it is evident that the total yield for the year under review was the highest so far recorded, a remarkable fact in view of the prevailing economic depression. The explanation lies in the exceptionally heavy yield obtained in the Sudan and in the area under cotton in Uganda having been extended to help compensate the growers for the low market prices. A further encouraging fact is that the world's consumption of cotton from the new fields during this year was also the highest yet obtained. As regards research work, the production of types of cotton resistant to leaf curl and the jassid pest respectively deserve special mention. The former has already greatly improved the prospects of the growers in the Sudan, while the latter is proving highly successful in many areas, including Nyasaland and parts of Tanganyika.

#### Scenes from the East Indies

PROF. V. VAN STRAELEN, director of the Royal Museum of Natural History, Brussels, has published a general account of the journey undertaken by their Royal Highnesses, Prince and Princess Leopold of Belgium, in the Dutch East Indies, on which he accompanied them. (*Memoires du Musée Royal d'Histoire Naturelle de Belgique*, Hors Série, 1933.)