

## Archaeological Mine in South Africa

*Archaeology*

South Africa's unlimited wealth in prehistoric relics is an asset of great value, worthy to be ranked with its famous wealth in gold and diamonds, Henry Balfour, of Oxford, told the British Association for the Advancement of Science at its session at Johannesburg.

The quantity of prehistoric material deposited in the vast African area south of Zambesi is probably due to the successive waves of immigrants who arrived in early times from the north, he pointed out. South Africa was a cul de sac, which arrested any further southward dispersal; so here they stayed. Contacts and clashes between groups tended to result not only in fusion but also in confusion, and to bring about complex hybrid conditions which local archaeologists must now struggle to unravel.

Failure of scientists to study the Bushmen of South Africa before they dwindled and before their striking culture traits became obscured was deplored by the speaker, who said that these Africans were literally

### Possible to Tune Bells

*Physics*

A church bell made from the finest bell metal may give forth a harsh, unpleasing sound, due to the fact that it is out of tune with itself. The stroke of a single bell sounds to us like one note, and until very recently even the most expert bell makers have not realized that the sound is really made up of five separate notes. The five notes must be in tune with one another in order that the bell may give forth a harmonious sound. What we then hear is a combination of what is known as the strike note, the nominal, which is an octave above the strike note, the hum, which is an octave below, and the third and fifth.

This recent discovery regarding the harmonics of bells has made possible the new art of bell tuning, a revival of what for two centuries was considered a lost art. The large bells are inverted on a huge turntable and revolve while the metal is pared away from the inside until it is correctly shaped to produce the harmonious tones.

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Some of the wells drilled in rock salt deposits in China in order to pump up the brine are as deep as 3,000 feet.

Stone Age men who survived into modern times and who might have made clear many of the obscure points as to the life of the prehistoric Old Stone Age.

The functions of the old implements used by Stone Age men in Europe have been diagnosed as far as possible, and the stone objects are known as axes, scrapers, graters, and by other terms that indicate their presumed uses. But this is largely guesswork, Mr. Balfour said. Had the living users of identical types of tools been closely studied we might know more certainly the uses and details of manufacture employed in prehistoric times.

Paintings left on the rocks by Bushmen artists could perhaps have been observed in the making and their true meaning understood if science had been sooner alert to the significance of this art. As it is, experts can only pore over the grotesque paintings of men and animals and attempt to interpret the art ideas of primitive man.

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## Rocks Tell Story of Plant Evolution

*Paleontology*

Botanists in attendance at the meetings of the British Association for the Advancement of Science were taken on a botanizing excursion further back into time than they have journeyed in space to reach South Africa. Prof. A. C. Seward of Oxford University, one of the world's foremost authorities on fossil plants, led them on a journey through the weird forests that once thrived in the southern hemisphere, in his address on "Botanical Records of the Rocks."

After the lush days of the Coal Age, millions of years ago, there came a time of meager opportunity and pinched living for plants of the northern hemisphere, during the age known to geologists as the Permian. At the same time there existed to the south a vast continent, connecting what are now separate land masses of Africa, Australia and South America; this is now called "Gondwanaland." On this continent, separated from the northern lands by a broad sea, a new and progressive world of plants evolved, some of whose descendants later migrated northward and settled in the northern hemisphere.

It was not exactly a paradise for vegetable existence that these plants found in Gondwanaland, however.

## Drugs No Help for Flowers

*Botany*

Don't put your cut flowers in a bath of aspirin or other chemicals in an effort to prolong their life. Experiments conducted at the Boyce Thompson Institute for Plant Research showed that none of 50 different chemicals, used in the hope of increasing the life of cut flowers, was noticeably effective. Potassium permanganate did prevent decay of the stems of phlox and asters but it did not make the floral parts last any longer. Other chemicals in some cases actually caused injury to the flowers.

Low temperatures were a great help in keeping roses, carnations, and coreopsis, but the cold did not greatly benefit either cosmos or dahlias. Humidity is also an important factor in keeping cut flowers. Carnations kept two to three times as long in an atmosphere which was nearly saturated with moisture.

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The impossibility of dividing by zero was first proved by the mathematician Martin Ohm, in 1828.

Professor Seward pointed out to his audience that there are many evidences that in this remote time, millions of years before the period we usually call the Great Ice Age, there was another Ice Age, during which glaciers crept northward from the austral borders of the land, and then gradually retreated, followed as they went by the pioneers of the plant world.

In closing, Professor Seward disagreed with the widely accepted idea that the presence of warm and temperate-climate plant fossils in arctic regions necessarily indicated a very great difference in climate between ancient times and the present. A rearrangement of land masses, permitting ocean currents to flow where they are now barred and preventing the year-by-year accumulation of snow that turns to ice, could very well permit a much more temperate-climate type of vegetation in high latitudes without violent changes in the climate itself.

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Barns are popularly painted red because oxide of iron paint, which is cheap and durable can be obtained in red color only.