

The asphalt deposits as a whole have evidently formed from the slow accumulation of bituminous material around tar springs. Springs of this kind, such as are in existence at the present time in this region and elsewhere, generally send out a great deal of water with the bituminous material, the tar accumulating on the floor and around the margins of ponds of water. After a time the tar accumulates in such a quantity that it may of itself form a large pool. With evaporation of the more volatile materials the bitumen gradually hardens, but in warm weather the surface is always soft and sticky, and when the mass has accumulated to a sufficient extent it may flow and spread for a considerable distance.

In all stages of the accumulation of asphalt the gummy surface presented to the atmosphere acts as a trap for unwary animals. Where pools of water are present, water birds of all kinds are caught in the soft tar about the margins of the ponds. When once the wing feathers are smeared over the birds are helpless, and in attempting to wade out to dry land they are hopelessly mired. Land birds and mammals in smaller numbers are caught in attempting to reach the water, while insects and other tiny creatures are snared. . . .

The fauna of the asphalt beds of Los Angeles so far as most of the types of animals are concerned, corresponds very well with what is found in the tar deposits at the present day. Of the birds a large percentage are water forms, and of the larger herbivorous mammals nearly all are young animals, like the colts and calves caught in recent times. The large number of car-

nivora present also corresponds with what is noticed around recent asphalt pools, where unwary cats and dogs are only too frequently lost in attempting to reach struggling birds or small mammals that have previously been caught in the tar.

There seems, then, to be every reason to believe that the Los Angeles asphalt deposit with its great freight of bones has been formed in a past geological period, much as the deposits are being made about tar springs at the present day. The peculiar ducks and pelicans and condors, the young camels, bison, horses, and deer, with the mammoth and the ground-sloth, have sunk in the pitch, and in their struggles have enticed the wolves, bears and the sabre-tooth cats. Sometimes a single struggling animal may have attracted several wolves or tigers, and around its body a combat was carried on which ended in both the victor and the vanquished being swallowed in the tar. In other cases the presence of several puppies or kittens together with an adult of middle age leads one to suspect that a young litter has broken loose to fling itself upon some mired bird or mammal and has been trapped together with the mother which came to their aid.

The accumulation of the asphalt beds has probably gone on slowly for a long period. Sometimes it ceased entirely. At times conditions were such that few if any animals were trapped. At other periods a great variety of creatures was caught in such numbers that their bones were matted together in thick beds, which we now recognize as strata in an ancient geological formation.

Science News Letter, December 13, 1930



THE ONLY KING PENGUIN

Ever hatched in captivity chipped its shell a while ago in the great Carl Hagenbeck private zoo at Stellingen, Germany. Since the above photograph was made the chick has become an orphan; its father died and its mother deserted it. Devoted keepers keep it fed with fish, and it has grown to almost adult size.

tures by the action of aluminum chloride on tetra-hydro naphthalene—a commercial coal tar product used in the dye industry.

It was this condensation product which has recently been found to give the blue fluorescence. A search is now being made for other compounds of known constitution which show the same property. This has been successful in that several compounds related to benzantracene have been shown to give a similar spectrum and also to be cancer-producing. Benzantracene is built up of four benzene rings cemented together. It is believed that substances in coal tar which predispose to cancer are similar in nature.

While not all cancer-producing substances show this spectrum and while some which do show the spectrum do not cause cancers, the new test is likely to be of assistance in uncovering the origin of cancers which develop spontaneously.

Science News Letter, December 13, 1930

Experiments at the Bureau of Standards indicate that actors or talking movies must "speak louder" in a theater in the winter time, because the quality of winter clothing worn by the audience absorbs more sound than summer clothing.

MEDICINE

Cancer-Causing Substances Flash Own Danger Signal

A PECULIAR blue-violet fluorescence may provide a test for cancer-producing compounds.

This new weapon in the investigation of artificial cancers is due to Dr. W. V. Mayneord and I. Hieger, two scientists at the Cancer Hospital Research Institute in London. They find that when substances known to cause cancer in mice, are illuminated with a beam of ultraviolet light a blue spectrum appears.

The existence of such substances

was first discovered because the employees in the shale oil and coal-tar industries were found to be particularly susceptible to the disease. Later it appeared that cancer may be produced artificially by prolonged contact with many tar-like liquids obtained by heating common substances—for instance, skin muscle and hair—to the temperature at which iron begins to glow dull-red. The workers of this laboratory have recently shown that a similarly harmful substance may be obtained at low tempera-