

substances that have been shown to be followed by visible histological changes. Caffeine and adrenalin were used and the hearts from such animals again showed very striking decreases in the creatine content.

Further studies on the isolated beating heart of the rabbit corroborated the fact that creatine is lost as the isolated heart fails. These hearts, beating outside of the body, nourished by a special solution, showed uniformly low creatine values that were strikingly low when some of the small heart vessels to the heart wall were obstructed. The addition of various amino-acids to the solution was tried in the hope of finding a precursor of creatine that would make up for its loss, or spare what creatine was present in the isolated heart. Alanine alone of all the amino-acids seemed definitely to act as a sparer, while glycine, or glycocoll, which has been used in other human muscle disorders, was next best preserver of creatine. These same amino-acids have been used in patients with heart failure with only

slightly encouraging results. The administration of glycocoll has not been found to have done anything more than decrease the sense of bodily weakness in patients with heart failure. Forced oxygenation by mass action accomplished by placing the patient in an atmosphere rich in oxygen has often saved life. Glucose and insulin were of no avail experimentally while they have often seemingly benefited patients in heart failure.

Acidosis, or increased acid in the nourishing solution, a state that results from oxygen deficiency particularly with the overproduction of lactic acid, was shown to increase the loss of creatine from heart muscle cells and thus weaken the organ.

The use of digitalis in the experimental animals seemed to conserve the creatine of the heart. Digitalis, which has long been thought to increase the tone of the failing human heart, now has chemical evidence in favor of its direct action on the heart muscle action.

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● RADIO

September 1, 2:15 p.m., E.S.T.
**SCIENCE IN HARVARD'S TERCEN-
 TENARY**—Watson Davis, Director of
 Science Service.

September 8, 2:15 p.m., E.S.T.
ONE THOUSAND USES FOR WOOD
 —G. W. Trayer of the U. S. Forest
 Service.

In the Science Service series of radio pro-
 grams over the Columbia Broadcasting
 System.

more than fifty degrees of longitude, just north of the Equator, from Sumatra on the west to New Guinea on the east. Their very names are romantic poetry: Java, Celebes, Ceram, Flores, Timor, the Sundas, the Moluccas—lands that Sindbad knew.

Their fauna is no less provocative to the imagination: orang-utan, gibbon, simiang, tiger, leopard, panther, Malay bear, Sumatra elephant, rhinoceroses with one horn and with two. Here are the famed dragon-lizards of Komodo, the giant pythons, terrible in tales but harmless in fact, the formidable-looking but highly edible iguanas. Here, too, is the narrow Wallace strait, separating Lombok from Bali, famous in evolutionary science long before cameramen and tourists discovered the comeliness of the native women.

Over all this vast faunal realm, like a modern but still anxious Noah, watches the government of the Netherlands Indies. Emulating the example set first when Yellowstone National Park was established by the United States, and brilliantly seconded by such governments as Belgium and Britain in Africa, the careful Dutch have set aside special reserves for orang-utans in Sumatra, and for the almost extinct scaly rhinoceros at the very western tip of Java.

Elsewhere, regulations of hunting and trapping have been promulgated, and repealed on occasion in favor of more practicable ones where it has been found necessary. Research is showing that some animals can get along on less protection than they now have, but that others need more. Some species have already begun to show the effects of scientific intervention on their behalf, but others are still retreating before the onslaughts of hunters, and even more before the felling of the forests by plantation corporations. It is heartening, however, to know that action is being vigorously and actively conducted on this sector of the world-wide battle for the conservation and restoration of wildlife.

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ZOOLOGY

Attempt to Save Orang, Python and Dragon-Lizard

TRAVELOGUERS, regaling us with tales of "bringing 'em back alive," have somehow left us with a pretty general impression that the Malayan region is still a brimming reservoir of wildlife, with orang-utans, tigers, water buffalo, and pythons ready to pop out at you at every turn of the jungle trail.

Such, however, seems not to be the case at all. Southeastern Asia, and especially the Netherlands Indies, are giving anxious conservation problems to the European powers charged with administrative responsibility. Desirable

laws and their workability, game refuges and their suitability, and most of all field research looking toward more intelligent handling of existing and future problems, are illuminatingly discussed in a bulletin of the Netherlands Commission for International Nature Protection, which has been translated into English as a special publication of the American Committee for International Wild Life Protection.

The tropic East Indian islands that constitute the chief jewels of the Netherlands imperial crown stretch through

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