

## ANTHROPOLOGY

Hrdlicka's Studies Upset  
Idea of Human Body

**N**EW, fundamental light regarding the human body, upsetting old, accepted ideas, was announced by Dr. Ales Hrdlicka of the Smithsonian Institution in an address before the Anthropological Society of Washington.

Latest researches reveal that every feature of the body, however tiny, has a range of variation of size, weight, or make-up which is normal. That is, instead of there being a single normal size for a bone or nerve or cell there is a broad avenue of sizes which includes the normal. The very molecules of the body may be found to vary within the limitations of what is normal.

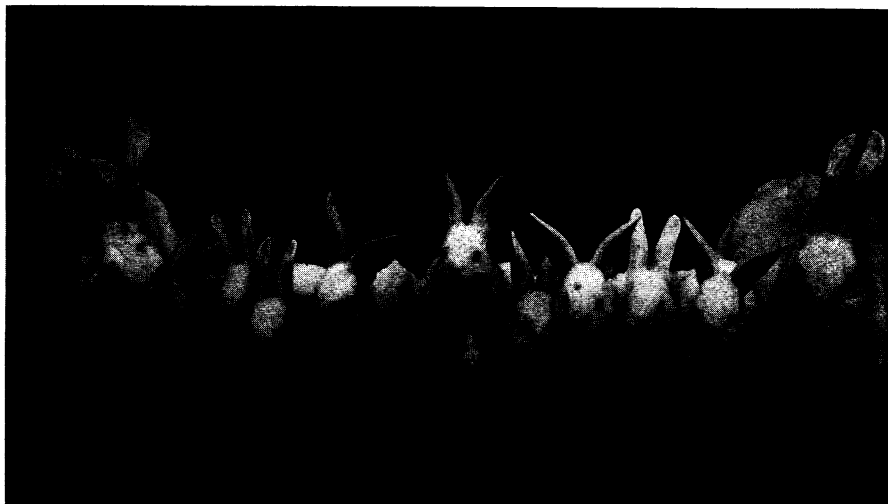
From studies so far made along this line, Dr. Hrdlicka has found that the ranges of what is normal are the same for living races all over the world. "This is deeply significant," he explained. "It shows that living men are all of one species. It shows that our fundamental characters are deeply fixed, not merely recent acquisitions, but older than the modern races."

This new field of anthropology will require study for many years, even generations, Dr. Hrdlicka said. The possibilities have been discovered now because for the first time in anthropological history material in sufficient quantities is available for study. Where, in the past, anthropologists examined a few dozen bones to decide a point, they now study not dozens or hundreds but thousands.

Another striking and important discovery, made possible by exceptional collections in the Smithsonian Institution, is that every character of man has its own complete and unceasing life history.

"It has always been considered that human characteristics become fixed and finished when adulthood is reached," Dr. Hrdlicka stated. "In these new collections we have sufficient juvenile material of all stages of growth and also fairly sufficient material showing different ages of the adult, into senility. All of this is now showing that every feature—teeth, hair, bones—changes without cessation from the beginning of life, before birth, to the oldest age. Every feature has its definite life curve or life cycle. The change may be slower and less marked in some features than in others, but it never ceases."

*Science News Letter, March 31, 1934*



**NINEFOLD EASTER GREETINGS** Photo by Cornelia Clarke

*Rabbits, especially white rabbits, have become such an inseparable part of the modern symbolism of Eastertide that most of us have forgotten that their connection with the feast is ancient—older indeed than the feast itself as a Christian observance. For rabbits, along with eggs, chicks, flowers and other springtime fertility-symbols, go far back into the world's primeval twilight, not only earlier than Easter, but earlier than the Jewish Passover, which was the tragic occasion of the first Easter.*

## CHEMISTRY

Plant Swallows Sea, Digests  
Bromine From Its Waters

**C**HESTERTON, in his "Ballad of the White Horse," makes allusion to the towering imagination in the ancient Irish bardic poetry:

"Tales where a man can swallow the  
sea  
"That might swallow the Seraphim."

Such a sea-swallowing stunt is at least partly realized, if not by a man then at least by one of man's works, in a new bromine-producing plant established by the Dow Chemical Company at Wilmington, N. C., and described before the meeting of the American Chemical Society by Willard H. Dow and LeRoy C. Stewart.

For this plant daily pumps through itself a literal river of salt sea water, drawing it from the ocean and discharging it again into the Cape Fear River. More than a third of a billion pounds of water—175,000 tons, or enough to float all the heavy-gun cruisers in the U. S. Navy—is sucked in daily by its monster pumps, and comes tumbling out of its discharge gates. What happens to it on the way through explains why this sober industrial chemical company has done such an apparently fantastic thing.

For the sea water is made to yield

10,000 pounds of bromine every day, by dumping into it half that quantity of the cheaper element chlorine. The chlorine has a more powerful attraction for the elements that are united with the bromine in the sea water, forces a chemical divorce, and leaves the bromine free to come out of solution, when it is captured, condensed and prepared for market. Before chlorine is added, the sea water is made slightly acid with sulfuric acid.

Bromine is a brown substance, which hovers between gaseous and solid states at ordinary temperatures. All of the bromine from sea water is now used in making tetraethyl lead for "ethyl gas" antiknock motor fuel. Bromine is also used in photography, in medicine and antiseptics and in many other ways. Although it is present in sea water in such thin dilution that 175,000 tons of the water will yield only five tons of the chemical, the new process of extraction is so simple as to make the plant profitable, though it works what amounts to the lowest-grade "ore" in the world, with the exception of ores such as pitchblende that yields radium, and South African blue clay containing diamonds.

*Science News Letter, March 31, 1934*