

how to go through the final stage of development without selling stock, or selling rights to the whole process for a sum not commensurate with its importance and real worth. Potentially they are like

a man sitting on a treasure chest but without a hatchet to break the lock. It looks, however, as if the box might burst of its own potentialities.

*Science News Letter, June 15, 1940*

PHYSIOLOGY

# Negro's Ability to Stand High Temperatures Important

## Harvard Fatigue Laboratory Studies Reveal That Negro Can Better Stand Hot, Humid Weather

**N**ATIONAL defense plans might well call for Negro tank troops and Negro submarine crews in view of studies reported by Prof. D. B. Dill, Sid Robinson, F. G. Hall and J. W. Wilson of Harvard's Fatigue Laboratory, at the joint meeting of the American Association of Industrial Physicians and Surgeons and the American Industrial Hygiene Association.

The popular idea that the Negro can stand working in hot, humid weather better than the white man has apparently been proved by Prof. Dill's studies. The immediate practical application of his findings, Prof. Dill suggests, is in connection with national defense plans.

"The prospects are that many hundreds of thousands of American citizens will take their places in a defense army within the next few months. These men will have to do hard physical work; however highly warfare may have become mechanized, it continues to require the expenditure of physical energy at high levels for long periods and frequently at high temperatures. A large fraction of our armed forces is stationed in the tropics or sub-tropics, another large fraction experiences hot humid heat in the summer, and another and increasingly large fraction must become adapted to the uncomfortable and at times very hot interiors of tanks or submarines.

"War and sport are to some extent dependent phenomena, unpleasant as the implications may be . . . The most heroic war of modern times was waged by a nation of athletes—the Finns. The records of the Germans, French, English, Japanese, and Chinese in the last Olympic Games show a high correlation with their performances in the present wars. The fact that the United States won the track and field championship in the last Olympic Games should therefore be a source of some comfort to us in the present world situation."

Without the points scored by the Negroes in the last Olympic Games the United States could not have won, Prof. Dill stated.

Proof and explanation of the Negro's superior ability to do physical work, whether in industry, sports or war, at high temperatures was obtained from studies of Negro and white sharecroppers in Mississippi.

Crucial experiment was a two-hour walk on a treadmill in which each man covered seven miles and climbed about 3,000 feet at a temperature of 87 degrees Fahrenheit and a humidity of about 80%. During this test, the Negroes lost less salt and water from their bodies in sweat than the whites, did not get quite as hot as the whites as shown by body temperature readings, and in consequence did not come as near exhaustion as measured by the heart rate.

Under conditions such as this experiment, when the heart rate reaches 180 beats per minute, Prof. Dill explained, not come as near exhaustion.

At the end of the two hours, the mean value for heart rate for 20 Negro sharecroppers was 152, while for the seven white sharecroppers it was 173.

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### Strident Songsters

**B**ILLIONS of 17-year cicadas, longest-lived of all insects, are emerging from the earth over the greater part of the country between the Mississippi and the Atlantic coast, to fill the warm air with their shrillings throughout the month of June. They have lived underground for 17 years, sucking juices from tree roots. Those emerging now will mate, produce their eggs and die, and the tiny grubs that hatch from the eggs later in the summer will dig into the earth to repeat the same strange, hidden life cycle.

Heaviest outbreaks this season are occurring in the Tennessee and upper Ohio valleys, with outlying groups ranging from northern Illinois to Cape Cod, and south along the Appalachians into the northern counties of Georgia. This year's crop of 13-year cicadas, Southern cousins of the 17-year species, will be exceedingly scanty, past records indicate.

There are 17 broods of the 17-year cicada, and 13 broods of the 13-year kinbug, so that every year there are some

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