

## BIOPHYSICS

**Geiger Counter Diagnoses Missed Thyroid Disease**

➤ A SUPER-SENSITIVE Geiger counter known as the beta scintillation counter has been used by Los Angeles doctors in diagnosing hard-to-find thyroid diseases in more than 100 patients.

Dr. Thomas F. Barrett, clinical professor of medicine at U.C.L.A. and chief of professional services at the Veterans Administration General Medical and Surgical Hospital, reports this method picks up many thyroid conditions missed by other diagnostic means.

The machine, developed by Dr. Benedict Cassin of the U.C.L.A. Atomic Energy Project in 1949, has been used for the past four months.

A patient is given a small dose of radioactive iodine, about one to two microcuries. This very safe dose is about one-half to one-fourth the amount of radiation a person gets during a normal chest X-ray.

Since the thyroid acts as a scavenger for the iodine, a "scintogram" of the gland can be taken by recording the radiation given off by the iodine in the gland. For instance, if cancer is present, it will record as a white spot on the scintogram.

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## PSYCHOLOGY

**No Marriage Success If Overly Self-Conscious**

➤ FOR A successful marriage, don't be "overly self-conscious."

As used by Dr. James F. T. Bugental, assistant professor of psychology at the University of California at Los Angeles, "overly self-conscious" doesn't mean being embarrassed, but means "overly concerned with his or her self." If not checked, he holds, this tendency produces a chain reaction which can lead straight to the divorce court.

"This self-concern creates anxiety which blinds one marriage partner to the other's needs," he says. "In turn, neglect of the other causes the neglecter to be condemned, increasing the anxiety and tension. Something finally has to yield and the divorce court is usually the answer.

"However, each partner should genuinely feel comfortable with himself so that he doesn't find it necessary to constantly boost his own ego at the expense of marriage."

But, if the spouse is "marriage-conscious," marriage will generally be a success, Dr. Bugental finds.

"The 'marriage-conscious' partner welcomes criticisms and evaluations, and will not become hurt by constructive criticism. This starts a chain reaction in the other direction, with happiness increasing as his respect grows."

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**Don't Shoot**

➤ SHOOTING AT owls and hawks is a good deal like shooting at night watchmen and policemen—except that the owls and hawks cannot shoot back.

All they can do is die if hit, or leave the neighborhood if they escape our lead, thereby giving free entry to our valuables to thieves whose activities are normally held in check by their presence.

True, one or two species of hawks steal chickens occasionally. True, also, owls are hated by other birds, which "gang up" on them whenever they find one by daylight in an exposed place. But to condemn the great majority of harmless and useful hawks for raids which they never commit, and to make common cause with bluejays and wrens against stray owls for their rather rare nest robberies, is simply an

## MEDICINE

**Fat Men Cold-Insulated**

➤ FAT MEN are better insulated against winter's cold than heavy muscled men. This has long been suspected but now scientists have for the first time measurements showing it to be true.

The measurements were made by Drs. H. Stafford Hatfield and L. G. C. Pugh of the Medical Research Council Laboratories at Holly Hill near London.

They made their measurements on pieces of human fat and human muscle obtained from hospital post mortem examinations. The insulating quality of fat has heretofore been measured only on beef tissue.

The human tissue pieces used by Drs. Hatfield and Pugh were about one-third of an inch thick and about two by two inches in area. The pieces were put between two thin glass plates. In the center of one side was a heat flow disk with a thermo junction connected in opposition to a similar junction on the other side of the specimen of muscle or fat.

ignorant neglect of our own biological interests.

Predators, killers, owls and hawks undoubtedly are. But the prey they kill consists overwhelmingly of small rodents and other creatures that we human beings commonly label as vermin. Owls without exception, and hawks with only two or three exceptions, are our allies, not our enemies. They deserve our gratitude, not our gunfire.

Owls especially are valuable as flying mousetraps. They are active when the rodents are most likely to be abroad. Although, contrary to a widespread notion, they cannot see in the dark, they have little trouble doing highly effective hunting in the dim twilight of late evening and pre-dawn, or in the light shed by even a sliver of a moon.

They are noiseless fliers, so that the rodent quarry has no warning of his impending doom until the sharp talons close on him.

Beginning now, and lasting until spring, is the time when the pressure of owl and hawk hunting on the rodent populations is most effective, from the human point of view. Food supplies are shortest in the woods and fields, so that hunger drives many wild species to raids on our grain and other stores, to gnawing on the bark of young orchard trees, and to many other destructive practices. At the same time, their numbers are at the lowest ebb of the year, for breeding is nil with most species.

Every potential mouse parent taken out now means one family fewer among our undesired dependents next year. Owls should therefore be left unmolested in their volunteer role of rodent control agents.

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Two such assemblies, one with fat and the other with muscle, were put in an incubator with a woven wire resistance heating mat sandwiched between them. A current of heat was made to flow through the two specimens. The flow was at right angles to their planes in the center, where it was measured by the disk, while the difference of temperature between the two sides of the specimens was measured by couples. The thermal conductivity was determined by multiplying the heat flow by the thickness of the specimen and dividing by the temperature difference.

Muscle turned out to be more than twice as good at conducting heat, showing fat to be over twice as good at insulating as muscle. The actual ratios, for five samples, ranged from 1.08 to 2.6 The thermo electric heat flow disk was devised by Dr. Hatfield. Details are reported in NATURE.

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