

role in the nerve malady than is commonly believed. As common neurasthenic symptoms of too little thiamin, he cited poor appetite, fatigue, insomnia, and often with them irritability, nausea, depression, constipation, headache, back-

ache, "gas" and palpitation of the heart.

Patients with paralysis agitans treated with still another part of the B vitamin, known as pyridoxin, have shown definite improvement, he reported.

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PSYCHOLOGY—PHYSIOLOGY

## Air Raid Noise Not Likely To Harm Nervous System Cells

By DR. CLIFFORD T. MORGAN  
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*This authoritative article was prepared especially for Science Service. Dr. Morgan has been studying intensively the possible effects on the nervous system of loud noises like those of explosions or the screaming bombs which have dropped on London. He recently reported to the American Psychological Association experiments in which rats were driven into epileptic seizures by the blast of a compressed air whistle set at such a high pitch that it was inaudible except for the whishing noise of the air.*

IT IS unlikely that any real damage is done to the nervous system by prolonged auditory stimulation such as that to which the Londoner is exposed.

We get damage in the brain of rats only when the sound stimulation has resulted in an epileptic seizure, but this is probably due to the rupture of blood vessels in the seizure.

Such seizures seem to be peculiar to the rat and certain other infrahuman animals.

Aside from such seizures, high pitched sounds or sudden loud noises of guns produce in normal animals violent emotional responses which look like terror and which soon become associated with almost any noise so that animals which are exposed for a long time to such

sounds become extremely jumpy and may be greatly disturbed emotionally by the slightest sound.

I should expect that a good number of Londoners will be affected in this way just as were soldiers in trenches during the last war. The Germans probably got the idea of the screaming bombs from the war neuroses of this sort which were numerous in the last war.

The effect may be greatly enhanced where there are additional conditions making for terror, and it may be reduced when a satisfactory adjustment has been made to non-auditory factors in a situation.

There is evidence to support this statement in rat experiments. The jumpiness produced by sound lasts for a considerable time in some cases. It quickly disappears in other animals, especially if they are given good treatment. Such more or less permanent effects of sound exposures are without doubt associated with functional changes in the nervous system but it is extremely doubtful that any material damage is done to nerve cells.

Prolonged very intense sounds may damage the ear but I do not know whether in the case of the Londoner the sound is intense and continuous enough to do this to a significant extent.

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PSYCHOLOGY—PHYSIOLOGY

## Endurance of Loss of Sleep Tribute to Londoners' Stamina

LONDONERS could not endure the interference with sleep brought by nightly air raids and still go on with their work if they did not have splendid physical stamina and mental stability.

This is the opinion of Dr. W. A. Bousfield, of the University of Connecticut,

a psychologist who has for years been studying the effects of loss of sleep and poor sleep on morale.

"Interference with sleep suffered by Londoners in districts subject to nightly bombing must inevitably produce a chronic condition of sleep hunger with

an attendant depression of mood," he said.

Experiments by Dr. Bousfield have revealed that not only quantity of sleep but also quality, regularity and continuousness are related closely to the individual's sense of well being. Interference with any one of these is sufficient to alter mood noticeably and to induce feelings of tension.

"The Londoner," he said, "allowed only short naps in an air raid shelter, loses out on all factors conducive to the full benefits of sleep.

"It requires greater effort for him to concentrate, and muscular exertion becomes more difficult.

"Only by virtue of strong motivation and emotional zeal is it possible to maintain the increased effort necessary to counteract this loss in efficiency. Many individuals respond to such a state with a compensatory hilarity, thus making the difficult situation easier to tolerate.

"That the British have been able to endure prolonged interference with their sleep is a high tribute to their physical stamina and their inherent stability."

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PALEONTOLOGY

## Nearly Complete Fossil Of Uintatherium Found

PRIZE fossil find of the season, a nearly complete skeleton of the elephant-sized six-horned beast known as Uintatherium, that dominated the primitive forests about 30 million years ago, has been dug up in southern Wyoming by Dr. Charles L. Gazin, Smithsonian Institution paleontologist.

Bones of this strange giant mammal are common enough, but a skeleton with only a few parts missing is one of the greatest of scientific rarities. Dr. Gazin's find lacks only one hind leg, part of a foreleg, and the neck vertebrae. The yard-long skull is in exceptionally good condition, although the lower jaw is considerably crushed. There is also a second skull, including one of the beast's saber-like down-pointed tusks about a foot long.

"We were fortunate in the location of our specimen," Dr. Gazin informed Science Service. "It was in the side of a steep hill only about a quarter of a mile from a road. We ran a truck from the road up a dry creek bed right to the foot of the hill, and dragged the bones down to it on canvas. As finally boxed up and shipped to Washington, the bones filled four 500-pound cases."