

PUBLIC HEALTH

Rest May Be Harmful

Doctor reports that hard work can be good for a person while rest can be damaging, affecting the circulation, muscles and kidneys adversely.

➤ **WORK, EVEN** hard work, is good for a person while rest may be damaging.

This idea, bound to be unpopular in some quarters, comes from Dr. W. Melville Arnott, professor of medicine in the University of Birmingham, England.

Work got its bad name, he states, because it includes, or has included in the past, an element of exploitation. Toiling for 70 or 80 hours a week in the "dark satanic mills" of the last century was harmful, he agrees.

However, he says, when a claim is made that to work for more than 40 hours per week in a modern factory or shop is unhealthy, no one is really expected to believe that it is the work itself that hurts.

"Such a claim," Dr. Arnott says, "is merely a move in the complex adjustment of remuneration, the setting of the dividing line between normal and overtime rates."

None of the known effects of work, he states, can harm healthy tissues. On the contrary, all the effects are good in the sense that they develop and extend the range of adaptation of physiological mechanisms.

Rest, on the other hand, can produce profound and damaging changes. Blood circu-

lation, blood vessels and kidneys show these effects. Muscles lose their tone, ligaments stretch and joints get out of position from long rest in bed. Appetite fails and constipation is common, showing the effects of bed rest on the digestive system. Even the skin may show damage, with bed sores developing at pressure points.

Doctors are getting away from the idea that sick people must stay in bed except during the acute stage of the sickness, Dr. Arnott points out in *Lancet* (June 19).

However, Dr. Arnott still thinks rest is being overdone and says about work, "We should all agree that work, even hard work, which involves no avoidable hazard, does not interfere with sleep or nutrition, which is remunerated sufficiently to remove any sense of exploitation, and which allows of enough recreation to counteract tedium, is harmless."

"Indeed, it is beneficial."

Dr. Arnott's complete report on the abuse of rest and the good features of work was made to the Royal Society of Medicine in London.

Science News Letter, August 7, 1954

MEDICINE

Why People Smoke

➤ **WHY PEOPLE** smoke will be investigated under the research program being financed by the Tobacco Industry Research Committee, its scientific director, Dr. Clarence Cook Little, has announced.

The body chemistry, glandular and nervous systems of smokers, and the characteristics of smokers and non-smokers are the things Dr. Little sees coming under investigation to help answer the question as to why people smoke.

Probably the primary research that the tobacco industry will push will go into the physical and chemical composition of tobacco and accompanying products.

American Cancer Society and other cancer authorities, who believe cigarette smoking is a cause of lung cancer, have already suggested that something in the kind of tobacco now grown for cigarettes or in its treatment may be responsible. This was suggested during June when the cancer society's big report on smoking and lung cancer and other deaths was released (see SNL, July 3, p. 6), and again at the Sixth International Cancer Congress in Sao Paulo, Brazil.

Although scientists have already shown that cigarette smoke condensate will cause

cancer when put on the skin of laboratory animals, the tobacco industry intends to sponsor more research along this general line.

"We want to learn what changes, if any, take place in the different animal and human tissues when subjected under varying conditions to tobacco derivatives, smoke itself, as well as other potential irritants, such as air pollutants," Dr. Little said.

Science News Letter, August 7, 1954

TECHNOLOGY

Special Equipment For Underwater Salvage

See Front Cover

➤ A **NAVY** diver uses a special underwater cutting torch to work his way through a ship resting at the ocean's bottom in the photograph shown on the cover of this week's *SCIENCE NEWS LETTER*.

From World War II to the present time, deep sea divers and underwater salvage personnel have recovered millions of dollars worth of valuable military equipment.

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● RADIO

Saturday, August 14, 1954, 3:15-3:30 p.m. EDT
"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Dr. Frank Fremont-Smith, medical director, Josiah Macy Jr. Foundation, will discuss "World Mental Health."

PLANT PATHOLOGY

Atomic Radiation Checks Fungus Disease of Plants

➤ **RADIATION** HAS successfully checked a fungus-caused plant disease in experiments that may uncover new peacetime uses for the atom.

Resistance to Fusarium wilt, a common plant disease in the New England area, has been increased 50% in plants exposed to small amounts of ionizing radiation.

In the future, it may be possible to irradiate whole farm crops to protect them against wilt diseases, for which no good controls are now known. Small plants could be treated simply and inexpensively.

The resistance has been produced without changing the plants genetically. Previous experiments had developed disease protection in plants only by development of mutations.

The experiments are being conducted by Dr. Paul Waggoner, plant pathologist at the Connecticut Agricultural Experiment Station, New Haven, under contract with the Atomic Energy Commission.

One of Dr. Waggoner's problems was that of controlling the disease without killing the plant. High dosages that gave plants almost complete immunity to disease also stunted plant growth seriously. Some radiation doses, instead of making the plants resistant, made them highly susceptible to diseases.

The best results were obtained by a low radiation dose, which had a negligible stunting effect, and by delaying the disease introduction several days.

Science News Letter, August 7, 1954

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