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Live Longer and Happier

(Continued from p. 55)

thousands of workers, if someone slipped a pair of handcuffs on one hand of each of two workers to tie them together. Since such tying up of large molecules into pairs and even larger groups or aggregates occurs in every cell, it explains the fact that no human tissue is free completely from the effects of aging.

Some soil bacteria, the chemist believes, must be able to break down the cross-linked aggregates. Otherwise, the earth would be covered with fossil proteins that now occur only as rarities.

The importance of this unproved cross-linkage theory lies in the mechanism of the science of aging itself, the cause of progressive resistance loss, which, more than any single disease, results in death.

Research on the nature of the genetic material deoxyribonucleic acid, or DNA, is another approach to understanding the science of aging.

The inherited characteristics at birth and the genetic changes that occur during a lifetime are believed to be determined by DNA, which may also be capable of determining a person's rate of decline and aging characteristics.

NIH Research

The gerontology branch of the National Heart Institute includes researchers trained in zoology, biochemistry, embryology, physiology, biophysics, medicine, nutrition and psychology. With qualified technicians, this staff investigates all aspects of the science of aging, beginning with basic biologic processes and continuing through the effects of aging on the total performance capacity of the individual.

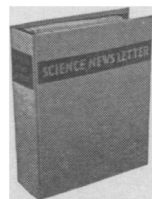
A current study of about 400 men between the ages of 24 and 99 years shows no evidence for sudden breakdowns in performance capacity at a certain age. Age changes accumulate slowly over the entire life-span. Disability is not necessarily associated with aging. Although the amount of blood pumped by the heart grows less, it is adequate for normal purposes.

If older persons have the necessary elements in their diets they can form new tissue and replace calcium in their bones. Reduction in muscular strength is partly due to disuse. Muscles that are exercised daily show little change with age.

The slowing of mental processes and behavior in the aging can now be measured by an apparatus called the psychomet, designed and constructed at the National Institute of Mental Health, Bethesda, Md.

The Federal Aviation Agency has used

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the psychomet in aging studies on 160 civil air pilots and air traffic controllers, with surprising findings on the appearance of aging trends in relatively young and healthy men. But the older individuals show general slowing of psychomotor performance.

As the tested persons press keys in response to various simple and complex stimuli shown on a panel of ten lights, the psychomet scientifically measures the speed of reaction in a broad range of tasks.

Prediction of length of life and physical disease may be possible as a result of further studies.

The nerves of the aging degenerate to a certain extent, but as a whole they appear to remain intact if there is no actual disease affecting them.

There are approximately 20 million nerve cells in the brain, and changes do take place in a number of them, but the brain does not appear to undergo any atrophy. Some cases of a beautifully preserved brain have been found at a very advanced old age.

Emotional disturbance and minor mental illness in the elderly need not progress to the status of treatment in a mental hospital. The family physician soon differentiates between the patients who need treatment for physical ailments and those chronic complainers who need an interest outside themselves.

Regardless of retirement at 65, the aging person who has accepted work and work substitutes in the form of constructive activity has a scientific basis for normal living.

• Science News Letter, 83:55 January 26, 1963

PUBLIC SAFETY

Home Accident Check List Shows Danger for Aged

► ACCIDENTS occur at home, and now a check list has been issued that itemizes 69 danger points exclusive of the family car. Thirty-one of them are aimed directly at those over 65 years of age.

Beginning with the general household, attention is directed to causes of accidents, some of which killed 13,600 older persons last year.

Here are a few of the important directions for safety in kitchen and laundry, basement, bathroom, yard and porch:

Hang clotheslines above head height.

Install along each stairway strong bannisters or railings high enough to prevent a person from toppling over them.

Provide good and continual lighting.

See that corners on cabinets are rounded or protected.

Wipe up spilled grease immediately.

See that aprons are plain—no loose ties, fancy pockets or trailing sashes.

Use wheeled carts for transporting dishes, laundry and trash.

Use short or close-fitting sleeves when cooking.

Avoid heavy lifting.

Use non-slip rubber mats in the bath tub and shower.

Keep hazardous tools and firearms locked.

Copies may be ordered from the National Society for Crippled Children and Adults, 2023 Ogden Avenue, Chicago 12, Ill.

• Science News Letter, 83:62 January 26, 1963