

Does Tobacco Injure the Human Body?

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Irving Fisher (see note on page 447)

TO assess values the economist must inquire not only as to what people buy, but as to what they should buy for their own best good—that is, what they would buy if they were more enlightened. There is a vast difference in the value to society of capital spent in dark-roomed tenements, unclean dairies, adulterated food, gilded saloons, bucket shops, and obscene literature, and capital invested in purifying the water supply, safeguarding milk against infection, cleaning streets, building sewers, and building schools and hospitals. . . . Fortunately, we now have sufficient information to determine the effect of tobacco on the human body.

A recent study by Dr. Albert H. Burr, on the relation of longevity to sex, is reported by him as indicating that the tobacco habit is "one of the very significant reasons why fewer men than women attain old age." The New England Life Insurance Co. published in 1911 the following data from 180,000 policyholders, covering 60 years: Where the maximum of expected deaths was 100, of tobacco abstainers only 59 died; of rare users only 71 died; of temperate users only 84 died, and of moderate users 93 died. Excessive users were not accepted by the company.

M. Abel Gy, of Paris, who made a special and very extensive research, found that tobacco gives rise to a series of functional disturbances in different organs, especially the heart. A survey of the evidence that tobacco affects the heart was made by Dr. J. H. Kellogg, superintendent of the Battle Creek Sanitarium, and the results reported in a book, entitled "Tobaccoism." All of the important

experiments were reviewed by him. He found that every authority agrees that tobacco is a heart poison. Sir William Osler cited the cases of three friends of his, apparently strong, healthy men, all of whom died suddenly, and it would seem from the effects of tobacco on the nerves of the heart.

A great authority on blood pressure, the late Dr. Janeway, of Johns-Hopkins Hospital, stated: "Tobacco has a powerful action on the circulation. Nicotine, in less than overwhelming dose, produces an immense augmentation of blood pressure in animals." Robert Lee Bates, of the Psychological Laboratory of Johns-Hopkins University, summarizes as follows the results of an investigation: "The effects on healthy adult reactors, of smoking a cigar or three cigarettes, are to produce a rise in blood pressure, and in heart rate."

Dr. Eugene L. Fisk, medical director of the Life Extension Institute, says, "My observation is that tobacco is likely to cause depression of the circulation and disturb the nervous mechanism of the heart and circulation. The following differences were shown in a group of excessive tobacco users as compared with the general group of policyholders: There were 10 per cent more cases of advanced and serious organic affections, 6 per cent more cases showing arterial changes, 15 per cent more cases showing over-rapid pulse, 15 per cent more cases showing caries of the teeth, 13 per cent more showing recession of the gums, and 27 per cent more showing pyorrhoea. These unfavorable mouth conditions are very commonly noted among tobacco users, and are a matter of general observation."

The effects of tobacco upon the nervous system were investigated by L. Pierce Clark, M.D., visiting neurologist to the Randall's Island Hospitals and Schools. "Tobacco is primarily a cardio-vascular poison," he concludes. "Its chronic effect on the nervous system, as yet so inaccurately studied, appeared to induce toxic congestion of the brain, spinal cord and peripheral nerves, inducing finally in the latter a mild degenerative neuritis."

Precision of muscular motions, as demonstrated by drawing a line between two closely parallel lines or lunging at a target with a fencing foil, was shown by the Berry experiment to be definitely decreased after each smoking of a single cigar. It was also found that there was an average decrease of 12 per cent in accuracy of pitching a baseball after smoking one cigar, and a loss of 14.5 per cent after smoking two cigars.

Connie Mack, the famous baseball hero, made it a rule not to sign up baseball men who smoked. Clark Griffiths, as manager of the Washington Nationals, said that "any player who insists on smoking cigars is through." The fact that most conscientious athletes do not smoke when "in training" shows that they realize that tobacco is injurious. They little realize, however, how great and lasting the injury is.

Professor Pack, of the University of Utah, found that tobacco-using athletes were decidedly inferior to abstainers. Smokers were only half as successful as non-smokers in athletic honors, according to the studies made by Professor E. L. Clarke at Clark College. Muscular power begins to diminish 5 to 10 minutes after beginning of smoking, according to a study made by Professor W. P. Lombard, professor of physiology, of the University of Michigan. In an hour, when the cigar was burned, muscular power had fallen to about 25 per cent of its initial value. The total work of the time of depression,

compared with a similar normal period, was 24.2 compared with 44.8.

Nose, throat and ear affections are promoted by smoking, according to the claims of a number of clinicians.

Acid dyspepsia is common to habitual smokers. In some cases there is a destruction of the capacity to feel hunger. Anemia is often found among excessive smokers, apparently due to the disastrous results of the tobacco poison upon the digestive system.

The truth is, tobacco lowers the whole tone of the body and decreases its vital power and resistance. This is well shown by the fact that, in surgical emergencies, patients accustomed to smoking have been observed to suffer a great handicap in their chances for recovery. This is doubtless because the poisons of tobacco tax the vital resistance and require the expenditure of power by the liver, kidneys and other organs to neutralize and eliminate the poison.

Tobacco is injurious to the human body. It injures the heart, it disturbs the blood pressure, it poisons the nerves, it hurts the eyes, it lessens resistance to tuberculosis and other diseases, its use sometimes induces cancer, it reduces muscular power and accuracy, it impairs working efficiency, earning power and athletic power, it stunts the growth of the young, it probably shortens life, it probably reduces fertility.

In short, tobacco acts as a narcotic poison, like opium and like alcohol, though usually in a less degree.

No question seems to exist as to the harmful effects of the "excessive" use of tobacco. Habitual smokers will generally admit this fact. Because of individual variations, the line separating "excessive" from "moderate" is an elusive boundary, and there is always a tendency toward increasing the use; "moderate" use seldom stays moderate. From every indication, it behooves the man who wishes to keep physically fit to omit tobacco from his daily schedule.