

MAN ADVISED TO WEAR MUCH LESS CLOTHING

British Physiologist Approves of Modern Woman's Dress—Suggests Garments That Will Permit the Ultra-Violet Rays of the Sunlight to Reach the Body.

LEONARD HILL, physiologist of the British National Institute of Medical Research, was recently reported by cable as advising men to abandon their conventional heavy dress and to adopt clothing of such weight as women wear. The New York Times asked him to deal with the subject at length.

By LEONARD HILL.

THE prime use of clothing is to keep the body warm, and a second use is to protect it from injury. But there are three other uses which often rank highest in the minds of citizens, namely: to enhance beauty, to denote rank and allow

fully upon this instinctive desire, and an enormous part of human endeavor now goes toward satisfying it. Think of the difference it would make to humanity if the world would spend on homes and cities, parks, gardens and education all that is now diverted to the making of clothing—not for the purpose of keeping warm, but for decoration in the hope of attracting the opposite sex, or for mere "swank."

The Summer fashions for women aim to expose neck and arms. Short skirts and artificial silk stockings are so worn as to exhibit not only the feet and ankles but all below the knee. The hair is cut short to intensify the exposure of the neck. All this is good from the point of view of health. As a hygienist I hope the fashion of long hair, long skirts and close collars will never again come in; and I doubt if it will, for women once freed will not give up easily their present approximation to the best form of clothing—that form used for sport. Their desire to be as free as men and their increasing addition to and success in games will prevent this.

Why Dress Should Be Light.

It should be said that the nature of the fibre of clothing is of no importance compared with the weaving texture. It is not the fibre but the confinement of air within the clothes—a very bad conductor for heat—which keeps us warm.

Wool has the advantage of holding more air when wet and is therefore warmer than wet cotton, which clings. Artificial silk is more permeable to ultra-violet rays than real silk, and while open-mesh white materials let through the largest amount of air, any thin garment such as an artificial silk stocking or "zephyr" cuts out at least half of the ultra-violet rays. Two or three layers of ordinary clothing will cut out all rays.

In houses lighted through glass, with an atmosphere smoke-polluted and darkened by winter clouds and rain, the citizen whose clothes cover all the body but the face and hands gets almost no ultra-violet radiation. This radiation, no less than cod-liver oil, can keep off rickets and tuberculosis. Hence children become rickety in winter and recover in the summer. To keep warm we need to confine air with wind-proof garments. To keep cool we should open them so that the wind blows through. It is the movement of the air, not its temperature, that is most important to us in cool weather. In hot weather stagnant, humid air prevents the cooling of the body by evaporation of sweat, so fans help greatly.

The clothing should as a rule be the lightest that can be worn without causing the wearer to become blue or to shiver with cold. While the body is kept warm for the proper working of the internal organs, the lower parts of the limbs, and the neck and face should be exposed so that the skin may be adequately stimulated by the ultra-violet rays of the sunlight. These rays provoke reactions in the myriads of living cells which line the epidermis beneath the outermost horny layer of the skin. Their reactions are necessary for health and the clean healing of wounds, and protect against disease—tuberculosis, rickets, skin diseases and chronic infections in general.

The clothing should not be so heavy as to reduce the heat production of the body to a low level when one is resting indoors, nor so heavy as to cause stagnation of body heat loss and consequent disinclination to exercise when out of doors. The heat production of the body or "fire of life" is kept up by the need to keep the body warm. On this need depends good appetite, proper utilization of food, a clean, healthy alimentary canal, deep breathing, vigorous circulation, hard muscles and mental fitness. It is only the old and feeble who require very warm clothing—those whose "fire of life" cannot be fanned up by vigorous exercise and exposure.

Babies as Hardy as Piggings.

Babies and children are often greatly overclothed, and the natural vigor of their bodies is weakened thereby. A child's heat-regulating mechanism is strained by overclothing; its body heat production is lowered and its natural activity and joy of life reduced. Alimentary disturbances are set up by stagnation of body heat-loss no less than by overfeeding. Through overclothing the body and overheating rooms, children are put in danger of catching those very complaints from which their foolish parents seek to protect them. It has been shown that in the Washington schools there are, on the average, no less than six times as many hours lost from absences due to "colds" in schools ventilated by forced air as in a school ventilated with open windows!

A great safeguard to the health of the children of the poor is the necessity they are under of playing in the streets and in open places. The children of the rich often miss this hardening influence; ever pampered and coddled, they become weaklings and neurotics. Babies born healthy are able to stand exposure just as well as the naked little pigging nestling among its fellows and its mother.

Children well fed and brought up from infancy in the open air, with sun baths taken nude each possible day, both in winter and summer, with long sleeps out of doors, with light clothing and plenty of tumbling exercises—these children grow up virile, firm in muscle and bone, and strong in nervous health and energy. The splendid figures of Apollo and Venus sculptured by the Athenian artists were representations of the citizens who exercised themselves nude in public games, in the sun and the open air. The young Germans of today, by forming clubs for the taking of similar exercises in the forests and open spaces, will perhaps develop the bodily perfection and perfect health of the wild animal.

A correspondent wrote to tell me that he left England in search of warmth—he never could keep warm, although thickly clad. He had gone to Australia and, having read some writing of mine,

began sun bathing there. When working on a banana plantation he worked nude. "I am sitting here perfectly naked," he wrote, "in a cold, draughty house, on a bare wooden chair. On the very same spot this time last year I could not sit without a cushion on the chair, an extra-thick pair of woolen trousers, a thick flannel shirt, a woolen sweater, and heavy overcoat—and even then I'd have to go to bed for warmth."

*** I now go driving in thin trousers, a thin cotton singlet, unbuttoned, my chest all bare. On some days I work naked in a cold, bitter wind and driving light showers."

In the treatment of consumptives, it has been a mistake to expose them clothed to the sun in hot sun boxes or glass houses. Window glass eliminates the beneficial ultra-violet rays. Heat is the worst thing for febrile patients; these require to be treated out of doors on cool verandas. All cases of fever and wounds do far better out of doors than in hospitals. Hospitals should be of the bungalow type with open-air verandas and outside courts on which the beds can be run when weather permits. It is necessary for tubercular patients to avoid hot sun and to expose their bodies to skylight, or to early morning sun and cool winds. The skylight on bright days gives more ultra-violet rays than the direct sun. White part of all the visible rays of the sun penetrate to the blood just beneath the skin, the red rays go deeper—to the muscles, joints, &c. Thus the visible rays differ in effect from the dark heat rays of radiators in air-heated houses; such rays are absorbed by, and warm chiefly, the superficial layer of the skin and give a close feeling.

There is no method of exhilaration better than to recline nude on a long chair in the cold air on an Alpine roof deep with snow, and turn now one and now another part of the body to the sun.

"Sport Collar" Prescribed.

I want to see men follow the current women's fashion of dressing lightly and airily—they should go back to the graceful open "sport" collar worn in England at the time of the poets Shelley and Byron. Those collars allowed exposure of the neck to air and sun and afforded free ventilation for the clothes—for the opening at the neck is the ventilating shaft to them.

Airable ventilation is needed to carry away body heat and moisture, prevent the stagnation of air within the clothes and the setting up of an atmosphere in contact with the skin equal to that of a hot, moist tropical climate and no less enervating. The "foot-ballers," a soft shirt with open collar, knickers open at the knee, and socks, is an ideal costume. It can be amplified with short pants and a coat in colder weather. Exposure below the knee, exposure of the face, neck and forearm would satisfy the need for ultra-violet radiation. Young men in England are discarding hats, and the lower classes are already taking to the soft collar flung wide open at the neck, and very handsome it makes some of them look.

Of recent years enormous advances have been made in hygiene; the death rate from almost all diseases has been lowered, and that of infants and young children halved. Such has been the effect of sanitation, education and welfare work. Nevertheless the respiratory catarrhal diseases and cancer have remained unrelieved, and while the expectation of life of infants has been increased by twelve years, that of men in late middle age in England remains almost unaltered and is scarcely better than fifty years ago. It is the children who live longer than hitherto in England, not the late middle-aged.

The cry has arisen what we are to do with our grandfathers and grandmothers. But the real cry should be: What are we to do with our children? The strain of life in cities tells upon the middle-aged, and it is now chiefly by inculcating personal habits of health that matters can be improved.

Need Cool Air for Breathing.

By avoiding the overheating of houses and factories, by preventing smoke pollution of the air, by improving the vitamin content of the diet, by establishing opportunities for games and gardening, and by setting up habits of water bathing, sun bathing and daily exercises in the open air, much can be assured to the health of the future.

All this must come from the demands of the citizens, for health cannot be induced by legislation. One of the first things the citizen should do is to cease to produce stagnation of body heat by overwarm, draughtless houses and too much clothing. The cold winter air in the United States of America is, when heated up, excessively dry, and the drying power increases the evaporative loss from and the cooling of the skin. Hence the much higher temperature of American than of English houses. An authority in England has recently shown that, given a source of radiant heat such as an open gas fire or walls a few degrees warmer than the air, a room is most comfortable and stimulating for mental work at a temperature of 57 degrees. Such a temperature in a rental apartment would be an occasion for an action at law in New York. Let the air be moistened a little after warming and it will be found that a much lower temperature will be comfortable.

It is most important that air breathed should be cool. This is because the warming and saturation of the inspired air which occurs in the lungs at body temperature entails the passage through the respiratory membrane of far more blood, lymph, mucus and secretion, the water of which is evaporated, than when warm moist air is breathed.

Vigorous exercise increases the breathing five or even ten times over the resting value and thus very greatly enhances the passage of blood and fluid through the respiratory membrane. It is by these means that the membrane is kept clean and healthy and free from catarrhal infection. Sedentary lives in hot houses, overclothing, and want of sun baths, games and open-air exercise, are accountable for catarrhal diseases.

"swank," and to conceal bodily defects.

Thomas Carlyle pointed out that, if clothes were taken away, rank would go with them, the body of the decrepit millionaire or the elderly senator would appear contemptible beside that of an athletic policeman, and that of the aged princess ridiculous beside that of the buxom young shepherd girl. The chief and the priest, or medicine man, in all the races and at all times, have made themselves respected by clothes and ornaments.

For most women the prime function of clothes is to increase attractiveness and excite admiration and envy, and fashions succeed one another in the effort to attract them. The clothes merchants play art-