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# HEALTH AND HYGIENE



NOVEMBER  
1936

FIFTEEN  
CENTS

Serutan: Nature Upside Down

HYPNOTISM EXPLAINED

OVERCOMING INFLUENZA

NEW TEETH FOR OLD

Poisoning in the Rubber Mills

One-hundred Doctors write for this magazine!



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## Purely Personal

THE BIOGRAPHICAL sketch of Mme. Curie in this issue made us think once again of the hundreds of men and women who spend their lives in the laboratories uncovering secrets, piecing together discoveries, that we might live a little longer and safer. These people go for the most part unheralded and unrewarded. Nor can they have the satisfaction of knowing that their hard work will make a dying baby smile again because millions of parents cannot buy what they have given copiously and freely. Paul De Kruif has told that bitter story in his heart-breaking *Why Keep Them Alive?* We shall try to continue it from time to time. Perhaps these pieces will arouse enough anger to make the heritage from the laboratories available to everyone.

ANOTHER fighter for a full, rich life was Dr. Frankwood E. Williams. His brilliance was directed towards straightening people out by straightening out the cockeyed world they live in. His sudden death makes the march toward a better America more difficult. We wish we could distribute without charge a million copies of his book *Russia, Youth and the Present Day World*. The best we can do now is offer it free to anyone who sends in eight new subscriptions. (Because of Dr. Williams' death, the publication of his speech with the others given at the Marx-Freud Symposium is temporarily delayed.)

WE WANT more letters from members of unions, social and fraternal groups, telling us how we can interest members of their organizations in becoming regular readers. These letters will help us greatly in making plans for a special subscription offer to be announced very soon. Another new feature to be sponsored by our doctors is a syndicated health column for labor newspapers. Editors please write for particulars.

GREETINGS to the scintillating new quarterly, *Science and Society*. The first issue bespeaks a lively future. No one should miss it.

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Editors: EDWARD ADAMS and JOHN STUART

## HEALTH and HYGIENE

Magazine of the People's Health Education League

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# Editorial:

## In Tribute to Dr. Frankwood E. Williams

### Loss to Working Class

WHEN Dr. Frankwood E. Williams died late in September, the working class lost a warm, devoted ally. The loss was still greater to professional workers to whom he was an invaluable teacher and guide.

Dr. Williams' activities at the time of his death were characteristic of the man. He was returning on the steamship *Georgic* after a tour he had conducted in the Soviet Union for a group of social workers, teachers and doctors. Profoundly impressed with the significance of the Soviet Union for the people of this country, he had gone there for a third time, studying, examining, evaluating, helping young professional workers understand the meaning of the new society, helping them to understand their role in the social struggles of our country.

Dr. Williams did not arrive at his political convictions through the struggle for a living wage. He never experienced the stretch out, the speed up, and the picket line, nor the doctor's problem of meeting the rent and the next payment on his office equipment. No economic pressure pushed him leftward. At the top of his profession, financially secure, with an international reputation founded on lasting work in the field of mental hygiene, a great professional honesty compelled him to join with those who are working for a better society.

Born in Cardington, Ohio, on May 18, 1883, a physician's son, he studied medicine at the University of Michigan. From the start he was interested in men and women, in how they got along, in their problems and nervous disorders. His first position was that of resident physician in a state hospital for the insane in Michigan. During his year there he exhibited that amazing understanding of people which ordinarily only comes to even gifted people after years of study.

At the end of a year he got the important position of first assistant physician at the Boston Psychopathic Hospital. During his two years there his interest kept turning steadily to the prevention of mental illness, to mental hygiene.

In 1915, three years after he graduated from medical school, he was made the medical director of the Massachusetts Society for Mental Hygiene. Two years later he became the associate medical director of the National Committee for Mental Hygiene, and after five years he became the medical director, the key post in the United States. He kept this position until he resigned at the close of 1931. He was one of the founders of the magazine *Mental Hygiene* and remained its editor from the first issue in 1917 to 1932.

### His Contributions to Mental Hygiene

WHAT is mental hygiene, how can nervousness, mental disorders and related difficulties be prevented? What was the work Dr. Williams was trying to do?

The National Committee for Mental Hygiene has a varied program. It fosters research in the causes of mental illness, it encourages the better training of specialists in psychiatry, it aids in the dissemination of psychiatric information among doctors in general practice. Approaching the problem from the side of the public, it encourages people to seek psychiatric guidance early in the illness before symptoms are well established.

Under Dr. Williams' guidance increasing attention was paid to adolescence where these troubles first begin, and to childhood where their seeds were first implanted. After years of effort and public education, child guidance clinics were set up in the larger cities.

Gradually stress was removed from the more serious mental diseases that required treatment in a state hospital to such problems as marital difficulties, stealing and truancy in adolescents, the habit training of children. In the meantime psychoanalysis was developing, deepening psychiatric insight, throwing new light on previously obscure problems. Psychoanalysis was giving invaluable information on how character and personality developed, and was placing increasing stress on the significance of the formative years.

After much effort Dr. Williams witnessed the formation of a child guidance clinic in many large cities. He helped put out large numbers of pamphlets and booklets. But the problem of mental hygiene loomed practically as large as ever. For the few that were treated thousands of new cases kept arising. The need for psychiatrists was many times greater than their availability. In addition the more basic work in psychoanalysis cast doubt on the helpfulness of such advice as "don't worry," "keep smiling," "know thyself," "face the facts." In 1932, in an article in the *Psychoanalytic Quarterly*, Dr. Williams asked, "Perhaps a mental hygiene is not possible at the present time. If this is the case, then it would be well to admit it, for that in itself would be a beginning."

The next decisive step came following a trip to the Soviet Union. As Dr. Williams explained in his book *Russia, Youth and the Present Day World*, "I have never been a radical—I came away from my second visit deeply thoughtful."

It is impossible to adequately summarize here what Dr. Williams learned from his study of the Soviet Union. The essence was that for mental hygiene to be effective it was necessary for life itself to be organized in such a way that the problem of nervousness was not fostered, but was kept to a minimum in the first place. The Soviet Union approached this problem in two ways. Life was so organized in terms of security for its citizens so that worry over employment, food, education, illness, marriage, rearing of children, and the future security of a family was to a great extent eliminated. This meant that even potentially nervous people could retain their balance because the stresses that threw them over were much less frequent. More fundamentally life was so organized that children were less likely to develop the tendencies to nervousness and unstable personalities. The problem of sex which causes so much difficulty in our society was treated as a simple, human problem, uncomplicated by false codes of morality and hypocritical, confusing standards. This meant "the accomplishment on a mass scale of what can only be accomplished in America by a long and expensive process of psychoanalysis, individual by individual. It means the taking of neuroticism out of sex, the reducing of the sex interest to the biological and legitimate psychological need of the individual. It means making

sex a constructive element, a satisfying, vitalizing power rather than a tormentative and destructive agent."

### Realized Necessity of Social Reorganization

DR. Williams discovered that the basic problem was one of exploitation. It was not human nature that was responsible for the problems which confront us, in the economic field, or in its reflection in the field of mental hygiene, it was exploitation of the many by the few. "Freed from exploitation, man's spirit is freed. . . . Does this require a change in human nature? No, it utilizes human nature in all its aspects. It violates only that view of 'human nature' that insists that it is human nature to exploit others, that only through permission to exploit can individual initiative be attained—which is a burlesque of human nature in that it calls 'natural' a condition that men have artificially created."

Dr. Williams then realized the necessity of allying himself with the working class if these goals were to be achieved. He urged such alliance among other members of the professional group. He said:

"The professional individual, being the kind of person he is, has nothing in common . . . with those who live upon profits or upon the exploitation of the labor of other individuals. The professional, by what he is and the manner of his thinking and working has spiritual kinship only to workers and the professional individual should identify himself with the workers with whom he has this kinship."

There were no reservations in Dr. Williams' alliance with the working class. He accepted willingly the many calls for lectures from working class organizations. He aided in the fight in behalf of political prisoners arrested in the struggle for better conditions. He worked in the Inter-Professional Association for the organization of professional groups.

To the doctors and editors of *HEALTH and HYGIENE* his death is a deep personal loss. It was in his home, with his guidance, that this magazine was founded. He aided in the formulation of its policies and principles. He contributed to its pages. To him we turned for help when difficult problems arose. We will continue to fight for and maintain the ideals and allegiances which were his deepest concern.

# Serutan: Nature Upside Down

Behind a screen of pseudo-scientific hokum, Victor H. Lindlahr promotes a product for constipation that under a different name was condemned by the government's Food and Drug Administration.

THIS is not an article on constipation, which has been adequately discussed in past issues of HEALTH AND HYGIENE. However, a critical analysis of the merits of *Serutan* and its advertising is not possible without a brief review of the subject. The most reliable medical opinion indicates that constipation is not a single disease, which can be cured or prevented by any one form of treatment. Many people who believe they are constipated are mistaken. Some perfectly healthy individuals have two bowel movements a day; others, equally healthy, have one movement every two or three days. In the great majority of cases, no attempt should be made to bring about a bowel movement with the aid of drugs. Constipation is best prevented by a normal, balanced diet, including stewed fruits (especially prunes), regularity in bowel evacuation, exercise, and drinking at least a quart of water each day.

When an auto breaks down, we do not ask a hod-carrier or a street-cleaner to find and repair the trouble. We seek a trained mechanic. If we are wise, we make at least a partial inquiry into his qualifications. Similarly, with a medical condition like constipation, it would seem natural and wise to consult a physician, not merely a man who has a pleasing radio voice, a glib tongue, and the shrewdness and resources so requisite to "good" advertising.

*Serutan* is widely advertised by Victor H. Lindlahr over the air, in newspapers and magazines, by booklets and leaflets. What are his qualifications to speak with authority? We have been quite unable to discover any. That

he is not a physician is unimportant. But nowhere do we find any evidence of training in physiology, in X-ray work, in scientific investigation. The Bureau of Investigation of the American Medical Association, whose work deals with quacks, frauds, and freak treatments, has investigated *Serutan* and says, cautiously enough, "the principal booster of *Serutan*" (Lindlahr) "is not an authority on any scientific subject."

Perhaps this attack on Lindlahr is due to professional jealousy? This is not entirely impossible, even though it would be strange indeed to find that all honest medical opinion opposed to Lindlahr's methods is wrong and that he is right.

Lindlahr makes a great point of the hazards resulting from permitting a day to pass without a thorough evacuation. He paints a graphic and awe-inspiring picture of "internal uncleanness," comparing the intestines to a garbage dump. This delicate touch is followed by a list of chemical substances which he says begin to form unless the intestines are emptied each day. In two short paragraphs he names nine such substances, whose names should bring a shudder of horror to every well-bred person. Having thus stirred the reader, he proceeds to attribute to these chemicals the development of hardening of the arteries, degeneration of the liver, high blood pressure, various kidney diseases, inflammation of the blood vessels, and so forth.

Suffice it to say that these substances are formed in the intestines of every normal person, and that no one—least of all a patent medicine salesman—has ever demonstrated the

connection between them and the diseases enumerated.

The object of the tirade, of course, is to frighten the reader into taking some preparation which will insure the elimination of the "poisons."

But we need not condemn Lindlahr simply because reliable medical opinion does so. If we examine his writings and listen to his talks, and if we investigate his *Serutan*, we will find that he is selling a product which he himself condemns and attacks when sold by others; a product, furthermore, which is practically identical with a laxative condemned by a government agency.

WHAT is *Serutan*? In a booklet entitled "The Truth About Constipation," which unfortunately does not tell the truth about constipation or anything else, *Serutan* is described as "a concentration of vital food elements." This is mumbo-jumbo. Water is "a vital food element." So is table salt or iron, or dozens of other substances. When Lindlahr tells us that *Serutan* contains "vital food elements" he tells us nothing. We must, therefore, look elsewhere for information.

One good place to look is in the records of the Department of Agriculture at Washington, D. C. A notice of judgment (number 23001) dealt with a product known as *Lax-Aid* which the Food and Drug Administration condemned because of fraud and misbranding. We quote part of this notice which stated that *Lax-Aid* was "a drug and a medicine; it would not be harmless, since it was capable of irritating the gastro-intestinal lining and producing impaction (blocking of the intestines—Editors)." There was such a mountain of testimony proving that this product was potentially dangerous, the advertising so full of downright lies, and the pseudo-scientific hokum so preposterous, that the Healthaids Company, manufacturers of the product, did not contest the case. Why bother appearing in court and drawing unfavorable publicity? How much simpler to quietly drop the old name *Lax-Aid*, rewrite the advertising matter with minor alterations, and start business anew. And that is exactly what the Healthaids Company did.

In 1936, a Department of Agriculture report on *Serutan* read in part as follows: "Information in our files indicates that only a slight

change has been made in the formula of the preparation since it was known as *Lax-Aid*, and that this change would not materially alter its pharmacological action (Italics ours—Editors)."

If we are to believe the government report (which is confirmed by the American Medical Association) *Serutan* is essentially the same as *Lax-Aid*, will do as much harm as that preparation, and the claims for both are equally fraudulent. If *Lax-Aid* was potentially dangerous (and the company did not even contest the charge) *Serutan* is equally so. If the benefits to be derived from the use of *Lax-Aid* were questionable, then the same question exists in relation to *Serutan*. Repeatedly we find Lindlahr uttering ominous warnings against taking drugs; but the government says *Lax-Aid* (or *Serutan*) is a drug. Repeatedly he thunders and fulminates against the use of irritants, but the government condemned *Lax-Aid* (or *Serutan*) as an irritant.

Choking the thirty-six pages of "The Truth About Constipation" is an assortment of misinformation, deception and fraud bearing a remarkable resemblance to those same "intestinal poisons and waste-products" of which he writes with such fervor and imagination. Though Lindlahr has coined a new word "constipatees" we search in vain for a new idea or an honest contribution to the problem. Nor should you be deceived by his monthly "health" magazine. Scattered through its pages are his crack-pot notions of health presented in such a way as to lead one to turn to *Serutan* and use it daily.

Lindlahr's entire thesis is that one must use "natural methods." He hammers away on this theme with a persistence worthy of a better cause. Repeatedly he deprecates the use of drugs of any kind or the reliance on "unnatural methods." He conjures up visions of the horrible fate awaiting those who use drugs to relieve true or fancied constipation. Yet we find him selling a drug, and advising its daily use. How can these two facts be reconciled? It should be also noted that nowhere does one find the slightest indication of the ingredients of *Serutan*.

It is wise to remember what we have stated over and over again: that the first function of business is to sell something for profit and not to render a service, and that in the patent-medicine business particularly no holds are barred, no rules apply, and anything goes.

# New Teeth for Old

Well made dentures skillfully placed in the mouth can easily take the place of natural teeth no longer serviceable or diseased. Dentures may also be an asset to one's facial appearance.

UNLIKE other animals civilized mankind is capable of outliving its teeth by many years. Americans show an increasing tendency to live longer but, concurrently, we seem to be losing our teeth earlier. Dentists are facing an increasing demand for their restorative services. It will be useful, therefore, to discuss some of the doubts and confusions that becloud such matters as the stability, the materials, the appearance and the advantages of false teeth.

Dentists prefer the more descriptive term "artificial dentures" to false teeth or plates. Dentists classify their appliances as *full dentures* when they replace all the teeth, and as *partial dentures* when the patient retains some useful teeth in the dental arch. *Bridgework* is a type of restoration which replaces fewer lost teeth than partial dentures and may be *fixed*, cemented to the permanent teeth, or *removable*.

While a full complement of natural teeth numbers thirty-two members, dentists rarely use more than twenty-eight in a set of dentures. As regards their retention in the mouth most patients are aware that "suction" is an important factor, but almost none knows even approximately how or why. Suction is simple to explain and understand, but not always simple to achieve, since not all mouths are so formed as to allow the dentist equal opportunity to employ it. We have all seen rubber cups adhere firmly to a smooth surface such as a window pane. As children, we have made pop-bottles adhere to our lips by exhausting a little of the air. The soft tissue of the lips adapts itself accurately to the rim of the bottle and forms an airtight seal. Dentures must possess a similar airtight "peripheral seal" but,

unfortunately, not against tissue as yielding and adaptable as the lips but against a structure very irregular in form and compressibility. Precise impression technique and good judgment make for a good fit and the wearer can establish suction by swallowing the air between the denture and the tissues to form a partial vacuum. Atmospheric pressure does the rest.

This mode of retention is utilized wherever possible, but it is far more effective with upper than with lower dentures. Because of its horseshoe shape (to accommodate the tongue) the lower denture has a much smaller area over which suction can be effective. Besides, the ever-active tongue is a potent force in shifting and upsetting the lower denture. This accounts also for the limited success of the so-called roofless upper denture, which forfeits much of the potentially available suction for the sake of an illusory advantage as regards taste sensation.

The saliva is another factor of considerable importance in retaining full dentures in position. Two smooth pieces of plate glass will adhere strongly if their surfaces are wet, and dentures similarly cleave to the gums provided that the dentist has achieved a similarly precise fit.

ANOTHER source of considerable misunderstanding is the subject of the materials employed in forming the denture base into which the teeth are fastened. Vulcanite, or hard rubber, is still the most widely used, the cheapest and in many respects, the most satisfactory denture base. Metal bases (gold, platinum, stainless steel, and so forth) have the advantages of thinness, strength, clean-

ness, and better conduction of heat or cold. But even these require some intermediate material to afford attachment for the teeth and to supply the appearance of gum tissue where necessary. Since the advent of the synthetic resins, many have been drafted into use as denture materials because of the close imitation of gum tissue which they may provide. For the patient of modest means, vulcanite is by far the most economical denture material, and when properly made is generally satisfactory.

The artificial teeth themselves are made from baked porcelain, and are available in most generous variety as regards colors, forms, and sizes. But to the modern dentist, the teeth as supplied by the manufacturer are but raw material. Much can be done in the way of staining, grinding and artistic arrangement to impart individuality and naturalness.

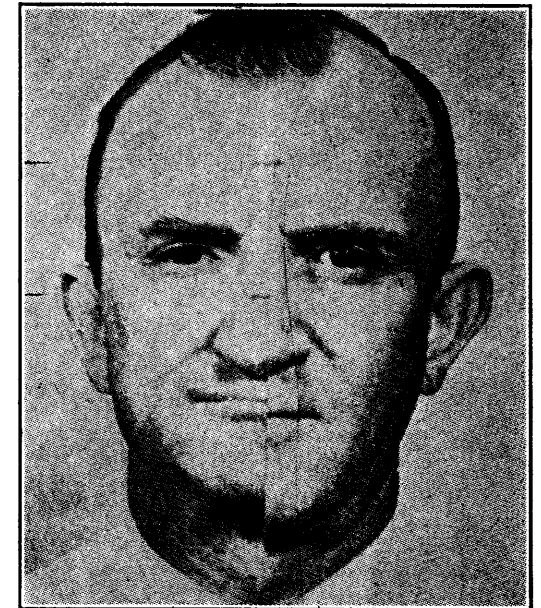
Having selected appropriate teeth, the dentist does not have complete liberty in arranging even the incisors, or front teeth. Frequently limitations are imposed by malformation such as excessively prominent bony ridges which cause an unsightly displacement or protrusion of the lip, no matter how the teeth are arranged. This condition can be recognized and corrected surgically at the time the teeth are extracted, or thereafter. But often patients object to operations, however simple. In other cases, an abnormally short upper lip causes undue display of what should be gum tissue, but is not. However, this may be corrected by using the new synthetic resins previously mentioned.

Because the appearance of teeth and of dentures can be judged only when they are in position in the mouth, they are first displayed to the patient when mounted upon a trial-plate formed chiefly of pink wax. This is tried in the mouth and tested for appearance and phonetics—for even slight misplacement of the front teeth may force a patient to lisp or whistle his sibilants. At this time, the patient should express his criticisms as regards what dentists refer to as "esthetics." The dentist is perfectly willing to have the patient bring along wife or husband or any other relatives or friends whose opinion may be of interest to him.

POSSESSORS of a few remaining front teeth in the lower jaw will often hesitate at the suggestion to replace the absent cheek

teeth "because they don't show anyway." They want only an upper denture for window dressing, not realizing that the lack of lower molars affords them a degree of efficiency about equal to that of a pair of shears with one blade broken off short.

Sooner or later, most patients inquire rather apprehensively whether full upper dentures will not impair the sense of taste. The answer is "No." Reference to any text of physiology will dispel the notion that the roof of the mouth (palate) has anything at all to do with taste, however sensitive it may be. Dentures



Nichol's Prosthetic Dentistry

## HOW DENTURES IMPROVE FACIAL EXPRESSION

do not interfere with the sensory function of either the tongue or the nose, and thus taste is not affected in any way.

Equipping the toothless individual with new teeth is a task which must be shared by the dentist and the patient alike. The dentist undertakes to accommodate the dentures to the jaws and tissues to the best of his ability, whereupon the patient must take up the burden of accommodating his gums, tongue, cheeks, lips, and palate to the unaccustomed contacts, pressures, and confinements of foreign bodies. The process of growing used to new dentures, of "breaking them in" is a period of trial for the patient, and often for the dentist. The mental attitude of the wearer is important. Those who are vain about their appearance and painfully conscious of being toothless, are

usually most persistent in their efforts to learn to wear and use their dentures. Willingness to cooperate is of tremendous help.

As with golf, or dancing, or diving, there are some whose negative attitude and perhaps innate lack of muscular coordination makes the acquisition of muscle skills a matter of great difficulty, especially in later years. Such persons may become collectors of one set of dentures after another if they can afford such luxury. At the other extreme are the Spartan citizens who successfully wear the most incredible misfits—dentures which either because of unskilled construction, or loss of original adaptation due to breakage or tissue changes, possess no adhesion, no suction, no balance. Dentists have seen patients whose palates looked like raw beef, and heard with astonishment that they felt no discomfort and could chew anything. Of course, such complacent negligence invites dire consequences—rapid and destructive shrinkage of underlying bone and the danger of cancer.

Even the most excellent dentures feel strange at first. The presence of foreign bodies in the mouth stimulates copious secretion of saliva which is annoying even if temporary. The hard base-plates press upon and bruise the tender gums; often slight knobs or ridges of the jaw bone itself begin to stab into the gums from within as soon as biting pressure is applied. The tongue, become accustomed to exclusive tenancy of the mouth, finds itself suddenly "bound in" by flinty and obstructive newcomers. Family and friends, and the wearer himself, have grown to accept the previously sagging cheeks and puckered lips as the features appropriate to his age and character. Though the dentures may restore merely those contours that were lost with the natural teeth, the improvement in appearance makes one look almost a stranger, disquieting familiar and unfamiliar like a cousin from Australia. Too often one's family fails to recognize the situation as calling for tact and restraint. A cork leg is conceded to be no object of mirth, but somehow new artificial teeth have come to be regarded as irresistibly funny, a challenge to the wisecracker. Having learned with difficulty to speak clearly without teeth, the wearer must learn again to speak with them; a slip now and then is inevitable and painfully embarrassing if greeted by heartless laughter and mimicry.

**T**HIS brings us to the subject of "permanent" dentures. Dentists will make permanent dentures for the patient who presents a permanent mouth. The form and consistency of the bone and gums which support the plates are susceptible to the same influences which cause disease and finally loss of the teeth. How long any denture will remain well-fitting and useful, is something that no one can foresee with certainty. Competent authorities hold that patients should return regularly for inspection and adjustment of dentures, and should be content if maximum usefulness endures for five years. Of course we have all heard of persons who wore their plates for a score of years or longer, but that is rather an index to the wearer's ability to "take it" than competent evidence that they still fit even tolerably well by any modern standard.

New dentures are delivered to the patient with a plea that he follow some simple instructions, usually that the teeth be persistently worn until the next visit—a matter of a day or two—and that no attempts be made to use them at meals until after one or more adjustments. Thereupon the average patient goes home and takes a large bite out of an apple and weeps tears of disappointment when his dentures bite him instead.

Lest one be left with the impression that the subject of false teeth is a tale of unmitigated woe, let us review briefly the credit side of the ledger which thus far we have ignored. The natural teeth which dentures supplant are commonly both unsightly and unhealthy. Their mechanical functions are performed indifferently, or not at all. Even where expense is not a factor, the impulse to retain them is compounded chiefly of habit and of fear of the dentist. Dentures, by contrast, are an asset to one's appearance, incomparably cleaner, satisfactorily efficient in most cases, and entirely comfortable and tractable, when once they are broken to harness.

The most conscientious dentist finds that the field of denture work is a challenge to his best skill and judgment. He employs a modern impression technique, selects and arranges the teeth with care and good taste, and employs a reliable technician to attend to mechanical details. It will be seen that service of this character cannot be rendered by mail order, despite the most glowing promises in the advertisements in the farm and poultry journals.

# Overcoming Influenza

The differences between a cold, grippe and influenza are based at present on the relative severity of the symptoms. Rest in bed is the most important measure in preventing complications.

**B**Y the time this issue of HEALTH AND HYGIENE appears, about one out of every ten persons will have suffered a severe cold, grippe or influenza. During the coming winter months about three out of ten persons will have these perennial ailments. The more fortunate of us will be visited by a physician. In one instance the diagnosis will be a severe cold. In another it will be the grippe. In a third it will be the "flu." The public may be pardoned if it exhibits a good deal of confusion about the application of these diagnostic labels. The truth is that laymen are only a little more confused than the medical profession about the distinction between the severe cold, the grippe, and influenza.

The chief reason for the confusion is that the exact cause of each of these respiratory ailments has not yet been discovered. It has only been in the past few years that experimental work by medical investigators seemed to point to the precise cause. The evidence at present suggests that a filterable virus is responsible. This virus is an extremely small germ, so minute that it cannot be seen with the aid of the most powerful microscope. Extensive studies of the grippe and flu have also recently yielded evidence that a virus is the cause. It is not yet known whether the virus is the same or related to the virus of the common cold. When all these studies have been checked and re-checked by other medical workers in different hospitals and countries, we will have gone a long way towards overcoming these dangerous and stubborn enemies. With the discovery and isolation of a bacterial agent, physicians will be able to determine with precision whether these ailments are distinct from each other or whether they merely represent different stages

of the same disease. We will probably also be able to produce more effective methods of prevention and treatment than are now available.

At present the distinction is based on the severity of symptoms. The severe cold is known by its catarrhal symptoms, that is, sneezing, congestion and stuffiness of the nose, watery nasal discharge followed by thick discharge. When fever, headache and pains in the limbs accompany the catarrhal symptoms, you have the grippe. The highest level of discomfort and misery is achieved by an attack of influenza. To the symptoms of grippe are added extreme exhaustion both physical and mental. You just lie on your back, to weak to turn around and reach for a glass of water. If your imagination can be exercised at all you think that Germany and its Hitler horrors is a bed of roses compared with your suffering. There may or may not be catarrhal symptoms. The disease may strike suddenly with high fever and an occasional chill. A less common form of influenza is known as *intestinal influenza* and the symptoms suggest an attack of acute appendicitis. Because of difficulties in diagnosis careful observation by a physician, preferably in a hospital, is necessary.

The severest instances of influenza are, as a rule, found only in epidemics. The disease is then very serious and the death rate high. Many of us remember the last severe flu epidemic of 1918. This had world-wide proportions. It was a modern pestilence sweeping through all the lands, killing tens of thousands and leaving in its wake millions suffering from serious complications. Such a world-wide epidemic is called a pandemic. Modern medicine knows of three such pandemics—the first in



1830, the second in 1889, and the last in 1918. Between pandemics, local epidemics occur in different countries or communities. The disease during these epidemics is not so severe. Besides the pandemic and epidemic varieties of flu, there are cases which occur every year and in every season but especially in winter months. This type, known as endemic flu, is usually the least severe of all. It is identical with what is called the ordinary grippe. As a matter of fact the designation "grippe" is superfluous. It has only long usage to recommend it. The French contributed the term in the eighteenth century apparently unable or unwilling to pronounce the word "influenza" coined by an English physician. It would be well to discard the term grippe entirely and simply employ the word influenza.

**T**HE most important thing you want to know is how to prevent colds and the flu and how to be rid of them as soon as possible. Last year in the November issue of *HEALTH AND HYGIENE*, the common cold was discussed in detail. It was pointed out that since the cause of the common cold was not known, no effective measures of prevention could be given. The best treatment that could be recommended was the homely advice "rest in bed for a day or two." Unfortunately, no more can be said at present. There are as yet no means of prevention, and rest in bed is still the best way to shorten a cold and prevent complications.

Until recent years, the common cold was considered a simple disease which because of its mildness could be conveniently disregarded. More thorough studies have shown that a direct relationship exists between colds and such serious maladies as lobar and broncho-pneumonia. It is now understood that the common cold may also cause serious relapses of chronic illnesses such as rheumatic heart disease, asthma, and diabetes. Colds are also frequently accompanied by infections of the sinuses which may become chronic. Chronic sinusitis in turn may become an important contributory cause of such conditions as chronic arthritis and neuritis. Furthermore, colds lower resistance of the body to invasion by germs of other diseases such as scarlet fever and meningitis. These facts show that a common cold while not distressing in itself may have an important influence in the evolution of many acute and chronic diseases.

It is for this reason that the advice "plenty of rest" must be taken seriously.

Just as with the common cold, there is no effective method for preventing influenza. Since the disease is apparently caused by a germ which is coughed, expectorated, or sneezed into the air, infection could be prevented by avoiding exposure. In large communities this is practically impossible. An effective preventive measure will have to await the discovery of the germ and the preparation of a vaccine from it. In the meantime it should be understood that influenza is an infectious disease and that anyone suffering with it should be isolated from other members of the family, especially children and adults with chronic ailments. During an attack of influenza, rest in bed is absolutely imperative. It is a safeguard against complications and may mean the difference between life and death.

The complications of influenza are numerous and serious. The most common complication is extension of the infection to the sinuses. The susceptibility to this complication may be reduced by refraining from blowing the nose hard. Don't snuff ephedrine or antiseptic jellies. The many nasal antiseptics on the market are either without value or harmful. Ephedrine solution will give some relief from the stuffiness and congestion of the nose. The ephedrine should not be combined with oils or antiseptics as these tend to irritate the already inflamed mucous membrane of the nose. The best thing is a one per cent watery solution of ephedrine, two or three drops of which are dropped into the nose on each side, with the head extended well back, and repeated every hour or two.

If infection of the sinuses has occurred there will be headache, or pain over the cheek bones, the nose bridge or just above the eyes. Hot compresses or a hot water bag over the painful area will give a good deal of relief. For some people ice-cold compresses will give more comfort. If aspirin can be tolerated, two tablets every three to four hours will help check the sinus pain and also somewhat relieve the general "achy" sensations. During the acute stage of sinusitis drainage operations are forbidden. If a chronic infection remains after the attack of flu has subsided, it should be treated by a nose and throat specialist, otherwise it may later become a source of ill health or a focus of infection.

In some cases infection of the ears may be an important complication, especially in children. The first symptom is earache. Dry heat from a baking lamp or hot water bottle will give relief. If necessary, a physician will incise the ear drum and thus permit drainage of pus. Irrigation of the ears or use of ear drops are condemned as useless or harmful. Only under a physician's specific directions should they be used.

**I**NFECTION of the larynx and wind pipe frequently accompany an attack of flu. The symptoms are hoarseness, pain on swallowing, and a dry cough. A glass of tea or milk, as hot as can be tolerated, and taken as frequently as possible (every hour at least), is the best means of relieving the pain and hoarseness. The voice must not be used and smoking should be stopped. Steam inhalations taken every hour or two for five to ten minute periods will give comfort. About three glasses of water are heated to boiling in a kettle with a spout. When the steam begins to rise, keep a low fire under the kettle. Add a teaspoonful of simple or compound tincture of benzoin to the water. Place one end of a large towel over the head and the other end hanging over the kettle and inhale the steam directly into the throat through the open mouth. Cold compresses to the throat are also helpful. A mustard plaster to the chest every three to four hours will ease the cough and raw feeling in the chest. Coughing can also be diminished by drinking plenty of water or fruit juices—a glass every hour if possible.

If these were the only complications of flu, the disease would not be so serious. Unfortunately, however, other and more dangerous

complications can occur, such as lobar and broncho-pneumonia, empyema, heart disease and meningitis. Influenza must therefore be treated with vigilance. This means rest in bed throughout the period of fever and for three or four days thereafter. It also means care by a physician, for only he can detect the complications and treat them effectively. The duration of convalescence will always depend on the severity of the illness and the number and severity of complications. Work should be resumed only after physical and mental vigor have returned.

There is another aspect of colds and influenza which demands immediate attention. Millions are afflicted by one or the other every year. The economic loss has been estimated to run into hundreds of millions of dollars annually. The problem of colds and influenza is one of exceptional gravity, yet it has been attacked in desultory fashion. The fault for this lag in medical progress is not to be attributed to scientists or their methods. The personnel is at hand for discovering the secret of these centuries-old ailments. It is true that progress is being made but only in painfully slow steps. The cold and influenza are public health problems of great magnitude and they require equally great plans and methods for their solution. A broad, well-planned scope of attack by physicians and investigators working cooperatively and supplied with adequate resources by Federal and State governments are prime necessities. So long as our best medical investigators are hamstrung by reliance on the dwindling donations of private foundations, institutions and individuals, they will not be able to make the rapid progress which the urgency of the problem demands.

## Build a Home Health Encyclopedia

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# Marie Curie: Woman of Science

Radium's discovery by Mme. Curie has brought inestimable benefits to cancer sufferers and opened new avenues of medical treatment.

By JULIAN CARTMAN

PARIS, in 1892. A young Polish girl lives and works in a small garret on the sixth floor of an old house. For her living she cleans furnaces and washes bottles in the laboratories of the Sorbonne. She pursues her studies at the university with passionate single-mindedness of purpose. For four years she lives almost completely alone. At times she spends as little as ten cents a day for food. When she can afford coal for her small stove, she carries the bag on her shoulder up the six flights. On winter nights when she has no coal she lies shivering in bed, a book in her icy fingers.

In later years, still engrossed by her desire for knowledge, Marie Sklodowska again ate plain bread and coffee. The food and her labor were shared with Pierre Curie. Both were caught in the fascinating web of their studied in radioactivity. The work of these two, husband and wife, resulted in the discovery of radium, the founding of a new system of thought in modern science, and the granting of untold benefits to humanity in many fields, especially medicine.

Thousands of cases of certain forms of cancer have been cured by the use of radium. This remarkable agent does its work by emanating penetrating rays which destroy cancer tissue almost painlessly and with little injurious effect on normal tissue.

The principle behind the use of radium for cancer is very simple. The normal cells of the human body are mature, grown-up, and specialized, that is, they are adapted for their functions as nerve cells, skin cells, and so on. Cancer cells are unspecialized and elementary; the more malignant, or fast-growing, the cancer is, the more primitive are the cells which constitute it. The doctors experimenting with radio-therapy (curing by radiations) discov-

ered that the rays which radium gives off destroy cells in accordance with how well developed they are. The rays wipe out primitive unspecialized cells; mature, normal cells they leave practically unharmed. Many kinds of cancer, all those in which the cells are not highly developed, can be entirely cured or definitely checked with radium. Of course, the position of the cancer in or on the body is also a factor. External cancers, on the neck, or leg, or face, can easily be treated by a radium pack, applied for a few hours. Certain internal cancers, such as in the cervix (or "vestibule") of the uterus, can be treated with radium "seeds,"—tiny pellets—equipped with strings so that they can be drawn from the body after a sufficient time. In other internal cancers, in the stomach, for example, radium is useless. The curative agent in the packs and seeds are rarely radium itself; that is too expensive. It is cheaper to use radium "emanations," the product which pure radium gives off.

Beginning with the Curie Institute in Paris and the Curie-Sklodowska Institute in Warsaw, founded by Mme. Curie herself, centers of study and application of the science of radio-therapy were established in most of the world centers, including New York's Memorial Hospital, Baltimore's Johns Hopkins and the Curie Institute in the Soviet Union.

THE young Polish girl alone in Paris who was to achieve all this, as well as winning two Nobel awards and world acclaim, was shy and fair, with the strong, sharp features and broad forehead of her Slavic ancestry. Her intense nature was impelled by two loves, that of science and of her native Poland. Bound with

these was a fierce love of liberty, a hatred of the czarist oppressors of her people, an "independent character," as Einstein called her, "standing up for justice and for progress in politics and in social matters."

As a child Marie Sklodowska played with test tubes. Her father, a professor of physics and mathematics in Warsaw, gave her the best scientific and general education possible for a Pole under the Russia rule. The rest she achieved by lonely, determined study. In those days the children in school dared not whisper of the national hope for liberty, hum a patriotic song, or even speak in their native language, for fear of reprisals against themselves and their families. This oppressive atmosphere did not destroy the spirit of the young student. When, after leaving school at the age of sixteen, she was compelled to accept a position as governess to several girls in a country family, she organized a class in the nearby village for the children who could not go to the Russian schools. For this initiative and courage she might have been sent to Siberia. She took even greater risks after returning to live with her father

in Warsaw. Believing with other young patriots and students that education was the first step toward freedom for her people, she helped form a tiny, secret evening school, where each teacher was able to "work at his own instruction and to provide means of instruction for workmen and peasants." It was the danger in which this activity placed her which was one reason for Marie Sklodowska's leaving Warsaw, at the age of twenty-four, to go to Paris.

The great breadth of science filled her exile. The entrance into her life of Pierre Curie, a young physicist also studying at the Sorbonne, only carried forward her incessant drive toward one goal. To marry him she gave up with a sigh all hope of returning to live in Poland, but she accepted his glowing picture of a life entirely devoted to science. Their union was one of mind, heart and energies such as rarely occurs. Pierre and Marie Curie were alike even in their great love for the outdoors. With a gift of money intended for her trousseau Marie bought not clothes, but bicycles. On these the young couple spent their honeymoon.

MME. CURIE IN HER PARIS LABORATORY WITH HER DAUGHTER IRENE





WHILE these two were establishing their home on the small income of a college instructor and working in their laboratories at night, another scientist in the same university was making an interesting discovery. One day Henri Becquerel placed in a drawer a photographic plate wrapped in black paper. By chance he placed a small quantity of a certain mineral salt called uranium in the same drawer. Some weeks later, when it occurred to him to develop the plate, he found that it was fogged, as though it had been exposed to light. What kind of invisible "light" was this, the rays of which, emanating from the mineral uranium, could pass through black paper? Becquerel called in the Curies, as expert analysts, to help him find out.

The Curies now found themselves drawn into a search which was to keep them passionately engrossed for years, and was to form the great work of their lives. These rays, which they named "radioactive," they discovered were thrown off by several minerals. Beyond doubt there was a new element within the minerals giving out this tremendous energy. Surely, since it was so strong, there must be a good deal of the stuff in the mineral pitchblende, for example. Yet after months of boiling and pounding and treating and crushing tons and tons of pitchblende ore and after careful experiments, dividing, testing, subdividing, they succeeded in extracting "a thimbleful of white salt." This was radium. In all the task took four years. Said Mme. Curie: "One year would probably have been enough for the same purpose, if reasonable means had been at my disposal."

These two great scientists in twentieth century Paris did their work in an abandoned warehouse. The glass roof, sagging and patched, did not even keep the rain out. The heat was suffocating in summer, and the bitter cold of winter, creeping along the asphalt floor, was not much lessened by the cast-iron stove. A few old wooden tables, furnaces and gas burners were all their equipment. They had to drag their great pots into the yard for those operations which produced irritating gases; even then the gas often filled the shed. There the young wife and mother did minute and delicate analyses, harassed by her poor tools, which did not even keep out floating dust; or she made a hasty and inadequate lunch, so that important operations might not be interrupted;

or she spent a whole day stirring a boiling mass of metal with a heavy iron rod almost as large as herself. And at night, when they had given up work for the day, the husband and wife came back into the darkness of their crude laboratory to look with proud delight at the racks of bottles and test-tubes, feebly glowing with the cold fire of radium.

THE CURIES were devoted to the ideal of pure science, and fought to keep that ideal clear above the muck of a profit society. They refused to take out patents on their discoveries, and their modesty was so great that they thought it a disaster when the light of publicity and world-wide acclaim broke in on their quiet lives. Pierre Curie refused the Legion of Honor, suggesting with a wry smile that he could make better use of a laboratory. They accepted gifts of money and prizes only as a means to more scientific research.

These two loved humanity and thought too highly of its welfare to remain entirely aloof. Mme. Curie was completely delighted at the value the medical profession found in the results of her discovery, and eagerly supported the development of radio-therapy. She hated oppression and war; in 1914 she found that pure science could not remain aloof from the terrible mangling and slaughter going on at the battlefield. She closed her Radium Institute and took herself and her students, including her daughter Irene, into the task of supplying the needs of the armies for X-ray and other radiological apparatus. By this work and often with her own hands, for both she and her daughter worked at the front, she saved the lives of thousands of soldiers who would have otherwise been sacrificed in the mad slaughter. After the horror of the war was finished she worked for world peace encouraging every peace movement and serving as vice-chairman of a League of Nations commission. She advocated woman suffrage and other social measures in France. Her daughter, Irene Curie-Joliot, herself a great scientist and Nobel prize-winner, is an ardent supporter of the People's Front.

Said Mme. Curie: "A society well organized ought to assure to these (scientific) workers the means for efficient labor, in a life from which material care is excluded so that this life may be freely devoted to the service of scientific research."

# Consumer Briefs

As a regular feature, this department will give information on foods, drugs and cosmetics which make false advertising claims, or are dangerous, defective or adulterated, or which sell for a price entirely disproportionate to the actual cost of the product. NJ (notice of judgment) plus the file number indicates that the information is derived from the Federal Food and Drug Administration; FTC, from the Federal Trade Commission; PR plus date, from a release of a federal agency.

## "Lydia Pinkham's"

LYDIA PINKHAM, rest her soul, was again condemned as a fraud by the government in three judgments. The lady's *Tablets* contain nothing which can effect any of the remarkable claims made for them. Some hundreds of packages were destroyed by the government, and the company forced to pay the costs of the three hearings. The company was brazen enough to deny the charges of false claims, misbranding, and so forth. But the evidence of fraud was so overwhelming that verdicts of guilt were promptly handed down. (NJ 25062)

\* \* \*

## Black List

THE following products have been charged with using false and misleading advertising. In some instances the company has agreed to cease making false claims:

*Dr. Edwards Olive Tablets*, supposedly good for constipation. (FTC, PR 2917)

*Kleenex* handkerchiefs will not prevent "self-infection" or do some of the other remarkable things claimed for them. (FTC, PR 1747)

*Macy's Skin Food* will not "feed the skin" any more than it will wind the clock or put the cat out at night. Macy's agreed to stop making a number of Munchausen claims for the stuff. Where was the widely ballyhooed Macy's "Bureau of Standards?" (FTC, PR 1755)

*Doan's Pills* are reputed by the company to be good for the kidneys—whatever that may mean. The advertising claims are largely fiction. (FTC, PR 2711)

*Stillman's Freckle Cream, Pimple Remover, and Complexion Cream* make a mess of false claims. (FTC, PR 01449)

\* \* \*

## "Thermalaid"

THE Electro Thermal Company of Ohio, has been ordered by the Federal Trade Commission to discontinue false and exaggerated representations in connection with the sale of *Thermalaid*, an electrical device offered for prostatic and other ailments. The company is prohibited from claiming that the use of the device is a positive cure for any ailment; that its use constitutes a competent treatment or cure for prostatitis and hypertrophy, and the users of the device may expect immediate relief from backache, pains, worry and debilities due to prostatic trouble. (FTC 2243)

\* \* \*

## "Leyden's Hair Tonic"

F. J. SPECKERT, selling *Leyden's Hair Tonic*, is just another fraud to the Federal Trade Commission. Neither this nor any other "hair tonic" will impart nourishment to the hair roots, restore natural hair color, remove dandruff completely, stimulate the growth of hair, and so forth. Speckert has agreed to stop making these and other claims, including false statements regarding the harmlessness of the stuff. (FTC 1711)

\* \* \*

## Shoes

THE Federal Trade Commission recently held a hearing and charged *Dr. A. Posner's Shoes* with making false claims in its advertising. (FTC PR 2380)

# POISONING IN THE RUBBER MILLS

DANGEROUS CHEMICALS USED IN THIS INDUSTRY ARE A GREAT MENACE TO THE LIVES OF ITS WORKERS

**T**HE Borgias had nothing on the rubber barons.

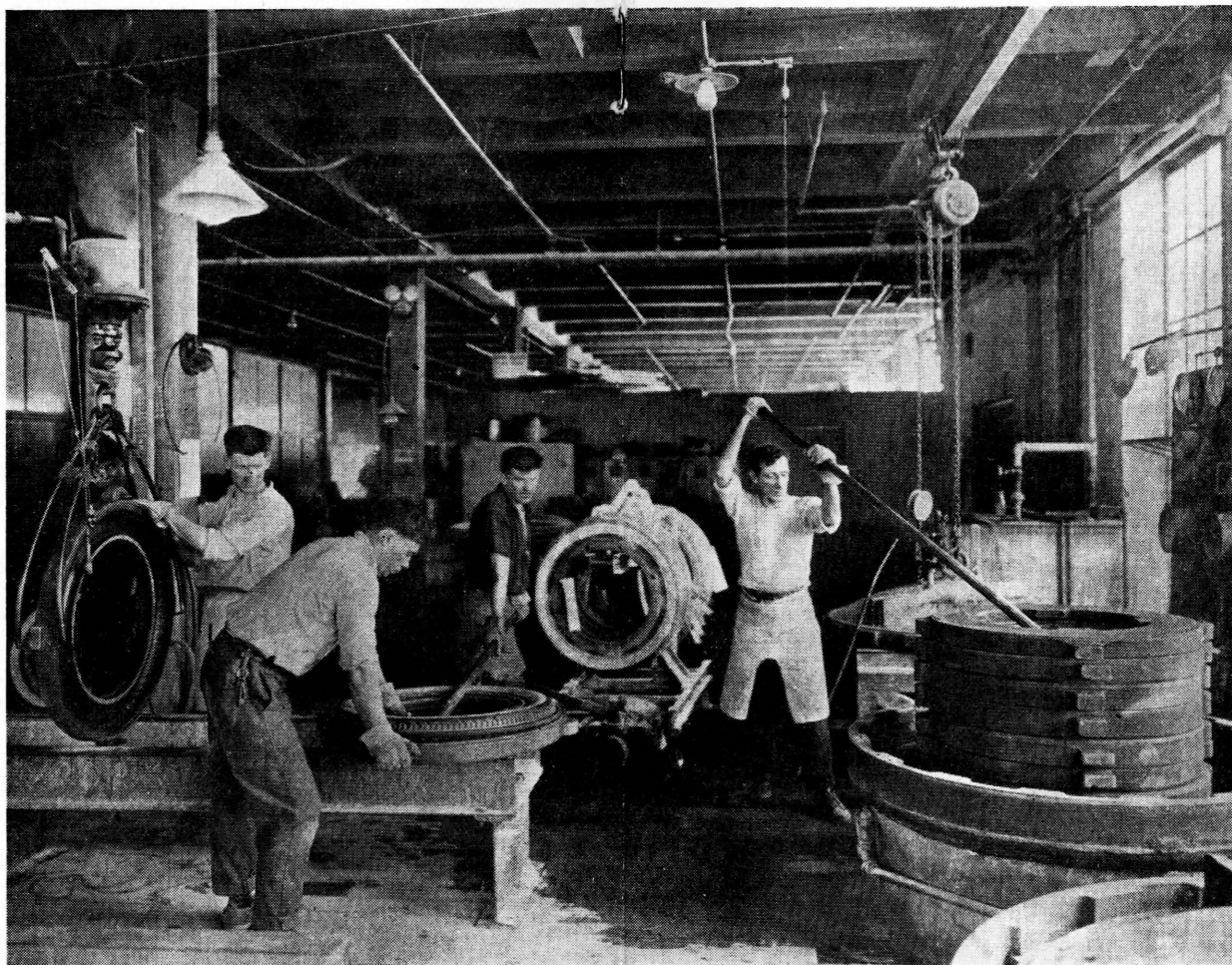
In the vulcanization branch of the rubber industry alone, fifty-seven chemicals are used which are a threat to human life, according to *India Rubber World*.

A rubber worker's surroundings on the job are a good deal like those of a chemist with the vital difference that the chemist is familiar with the danger in the materials with which he works. The average rubber worker, through no fault of his own, is not. As a matter of fact the nature of these poisonous chemicals is for the most part kept secret from him. And it is this secrecy, practiced by employers for trade reasons, that has so handicapped medical investigators attempting to study poisoning in the rubber industry.

The history of rubber, from the time of its use by the Amazon Indians to the Akron of sit-down strikes, is one of consistent exploitation, brutality and greed. During the nineteenth century the only source of rubber was the Amazon forest in Brazil where the Para rubber trees grew wild. In 1876, an English botanist, Henry Wickham (later knighted), smuggled 70,000 seeds out of Brazil and planted them at Kew Gardens, London. The seedlings were later transplanted in Ceylon, the Malay Peninsula, and the East Indies, marking the beginning of "plantation" rubber and the termination, for economic reasons, of Brazil's wild rubber trade.

Since America is the world's largest consumer of manufactured rubber goods, Harvey Firestone and Henry Ford have attempted to break the British and Dutch stranglehold on the world's supply of raw rubber. Ford bribed the Brazilian government into releasing 5,000,000 acres of its choicest rubber areas, while Firestone practically bought up the entire country of Liberia on the west coast of Africa.

It would require another article to describe



TAKING TIRES IN MOLDS FROM THE VULCANIZER

Ewing Galloway

the enslavement of Negroes, Malays, and other colonial peoples by the European and American rubber monopolists. The article would be a story of disease, floggings, famine and forced labor. Here we shall concern ourselves, however, with the health conditions under which 100,000 American rubber workers do their jobs, especially in those factories in the Akron district where 70 per cent of the world's manufactured rubber goods is produced.

is assuming even greater importance in recent years is the production of synthetic rubber. The search for a process whereby a rubber-like product could be synthesized from chemicals alone was particularly stimulated during the World War when the raw rubber markets were closed to all but the nations which controlled them. In America the Dupont corporation has been particularly active in this field and has produced synthetic rubber under the name of Duprene which, as yet, has not been made to pay for itself commercially.

The transformation of raw rubber into the finished product, a tire or a rubber heel, consists of a long series of chemical treatments the purpose of which is to convert the sticky, soft, natural product into a firm, elastic, and durable one. This is accomplished by vulcanization which, simply stated, is a process whereby the rubber is heated in the presence of any one of a host of poisonous chemicals, depending on the character of the rubber desired. It is in vulcanization and in most of the conditioning processes which follow it that the rubber worker is exposed to the many deadly poisonous chemicals which make his job among the most dangerous in industry.

The number of poisonous chemicals and the symptoms of poisoning which they cause could not begin to be recorded here, but a few of the major poisons encountered on the job will give an idea as to the hazards to workers' health.

*Benzol* is a poison which is used in some department of every rubber factory particularly in rubber cement and rubber tires. Twenty-six cases of benzol poisoning were recorded in 1929 in Ohio alone. Poisoning by benzol is extremely serious and often fatal, as readers of the May, 1935, issue of *HEALTH AND HYGIENE* will recall. That benzol poisoning is even more common than is reported is confirmed by a recent survey made by the Ohio Department of Health. This survey revealed



that of 31 girls occupied in filling cans with rubber cement, 27 were suffering from benzol poisoning.

Benzol poisoning particularly attacks the blood-forming organs so that anemia and an increased tendency toward bleeding are among the most prominent symptoms. Thus these girls noticed that their skin bruised very easily, leaving large black and blue marks. Later bleeding from the gums, nose and genital organs appeared. The report does not state the number of fatalities, but knowledge of similar cases in the past informs one that the survivors could not have been many.

Dr. Alice Hamilton, foremost American authority on industrial diseases, records an interesting incident of a similar epidemic of benzol poisoning in her book *Industrial Poisons*. We quote:

"A strange story, possible only in Czarist Russia, was told by Dworetzky in the spring of 1914. It deals with an epidemic of mysterious illness in the factory population of St. Petersburg, beginning in a large rubber works and extending to chocolate and tobacco factories. It was the cause of widespread excitement, strikes, lockouts, riots, a heated controversy between two schools of doctors, interpellations in the Duma, and ended in the complete suppression of all discussion and inquiry by the chief of police. The starting point was the rubber glove department of a great rubber factory where hundreds of women were employed in cementing gloves. The solvent for the cement had recently been changed from an ill-smelling, colored fluid to a colorless one with a pleasanter odor; and following this change an acute illness developed among these women, consisting of headaches, dizziness, excitement, in many cases fainting or epileptoid convulsions and involving in four days' time, no less than 231 of them. Physicians were divided between those who maintained that there was a toxic substance in the cement, and those who held that it was pure hysteria, the latter group being led by von Bechterew. Color was lent to the hysteria theory by the enormous excitement which the discussion had aroused in the working population who believed there was a conspiracy among the employers to poison them, and by an outbreak of similar symptoms among the women in the tobacco and the chocolate factories. The real nature of the trouble could not be known; for before any investigation could be made, the manufacturers declared a lockout until the workers would promise to be quiet, and the police forbade

any inquiry into the nature of the trouble or any discussion of the occurrences, maintaining that it was all the work of agitators and revolutionists.

"While in Moscow in October, 1924, I made inquiries about the above occurrence and was told that similar trouble had developed among the women employed in rubber factories in Riga and in Moscow at about the same time as in St. Petersburg. All these factories were using a solvent from Baku which was supposed to be petroleum naphtha. After the excitement had died down, a quiet investigation was permitted and the fact established that the toxic substance was benzene (benzol)."

**P**REVENTION of benzol poisoning is a simple matter if proper safeguards are provided to eliminate the inhalation of the poisonous fumes. Thus, tanks or other receptacles which contained benzol must be aired for at least six days, the airing to be followed by the introduction of boiling water. If the tank has remained empty for some time, it must be filled with water and emptied before anyone goes into it. Entering a tank and working inside must be done only by men wearing a helmet or mask which is connected by a rubber pipe to fresh air, or provided with a breathing apparatus which will allow the man to breathe normal air or a mixture of oxygen and air. Every man who enters a tank must wear a safety belt with a rope attached and the other end of the rope must be held by a man outside. An oxygen flask with face mask and proper connections must always be available. After emptying, washing, and steaming out the tank, a cage of white mice should be lowered into it and if the mice are overcome by the vapors the process of flooding and steaming should be repeated until the mice can occupy the tank without showing any effect.

Where exposure to benzol occurs in a closed room, adequate ventilation must be installed to eliminate the ever present danger of poisoning from the fumes.

These facts and many more about the prevention of benzol poisoning have been known for years. Yet poisoning continues in Akron; the rubber barons choose to remain oblivious to them.

A much more common type of poisoning among rubber workers is known as "rubber itch." In 1929, 2,818 cases of this type of poisoning were reported in Ohio. Of these 608

were caused by one chemical alone, *Hex*.

On many jobs, the skin of the worker, particularly that of the arms and hands, comes in contact with numerous chemicals whose irritating qualities produce marked inflammation and itching of the skin. The skin becomes red, cracked, blistered, raw, and inflamed and this condition persists as long as the worker remains in contact with the poison. Although this illness is not fatal, it disables the worker completely and he loses his only means of livelihood.

This illness is compensable but the employers and the insurance companies do all in their power to avoid paying.

The problem of workers' skin rash in industry is a complex one and cannot be dealt with here. It need only be pointed out that whenever a search is forced upon the employer because of an epidemic of skin rash, it is always found that a harmless chemical could almost always be substituted for the poisonous one causing the rash.

**A**NOTHER common poison encountered in rubber is lead. In the churning, mixing and compounding rooms, the air is so thick with the poisonous lead dust that the workers' overalls are often covered with it. In many instances the workers are kept ignorant of the nature of the chemical with the result that no effort is made to keep the lead dust from spreading. Dr. Hamilton found many plants where such conditions prevailed, with consequent widespread poisoning of the workers.

Another chemical poison which was formerly used much more widely is anilin. This poison also affects the blood, resulting in a deep blue discoloration of the lips and skin as well as other symptoms such as weakness, dizziness, vomiting and breathlessness. The blue-tinged skin was so characteristic and widespread at one time that workers so afflicted were given the name of the "blue boys" by the people of Akron.

Other poisons less frequently met, such as carbon disulphide and naphtha, cause profound nervous symptoms, sometimes ending in insanity. It is recorded that in one shop where this poison was indiscriminately used the men would become so violent at the end of the work day that the windows had to be walled in to prevent suicide attempts by the poisoned workers.

Silicosis, that dreaded disease which has come into the public eye recently, is also encountered. Soapstone is used in cleaning the molds and since very few precautions are observed for keeping the dust down, the disease occurs with regularity among the workers employed in this type of work.

This short list of poisons does not begin to scratch the surface of the health hazards rubber workers are exposed to. In May, 1932, *The Monthly Labor Review*, published statistics on accidents in the tire and tube industry. For the year 1931, 1,749 accidents caused 161,334 days lost from work. Sixteen of the accidents were fatal. These figures concern only one branch of the rubber industry.

Add to this the speed-up, the heat, the steamy atmosphere, the wet floors, the dusts and fumes, and you begin to get a faint picture of the industrial life of a rubber worker.

Authorities on industrial medicine all agree that every health hazard described above is preventible. A program which would include investigation by physicians and chemists into every chemical used in the rubber industry as well as an investigation of problems of ventilation, general sanitation and the physical conditions of the plant and its machinery, would in a short time wipe out this menace.

One can understand the sit-down strike of the Akron rubber workers. They are, in fact, fighting for their very lives.

In the past two years the rubber workers have built a strong progressive union, the United Rubber Workers of America, who, with the aid and inspiration of the C.I.O. are rapidly organizing what was until now a non-unionized basic industry. The trade unions are generally beginning to realize the importance of improving the health conditions of the worker on the job. They are learning, too, that without independent political action, the drive to force federal supervision and through it, employer supervision, the problem will not be tackled adequately. Only a Farmer-Labor Party representing the working people can bring pressure to bear for the enactment of a real and thorough-going program for the prevention of industrial diseases. The modern Borgias can be curbed.

# Should Tonsils Come Out?

Because diseased tonsils are a lodging place for bacteria, the tonsils are frequently a source from which other body organs are infected. Listed in this article are the indications for their removal.

THE tonsils are two almond shaped masses of soft tissue situated in the sides of the throat immediately behind and above the back of the tongue. Each tonsil has from eight to twenty canals, designated as crypts, which extend into the substance of the tonsil. It is these crypts which seem to be the source of the greatest amount of trouble, as they often become filled with food, waste products and various disease-producing bacteria. The bacteria penetrate into the tonsillar tissue through these canals, infecting the tonsil locally. From the tonsils an infection may spread to various organs of the body.

There is no longer any doubt that the tonsils are sources of local as well as general infection. Practically all workers who have made a study of this subject, agree that various bacterial organisms and their poisons or toxins gain entrance through the tonsils and can reach joints, the heart, lungs, the kidneys, and other organs. In other words, the tonsils serve as a focus of infection, that is, a place where favorable conditions are afforded for the entrance into the blood stream of bacteria and their toxic products and then to other organs. As a focus of infection, the tonsils have definitely established themselves as an important factor in a large number of diseases. The following is a list of the more important diseases which have a possible causal relationship to chronic infection of tonsils: Ulcers of the stomach, rheumatic heart disease, inflammation of the kidney, bronchitis, infectious asthma, rheumatic conditions of joints and muscles, neuritis, ear infections, and also some eye diseases. Infected tonsils may remain a local infection, that is, the infection is confined to the tonsils only, but, frequently, even when

symptoms are absent, the toxins may enter the blood intermittently or continuously and be carried to various organs.

Questions as to the function of the tonsils, and when that function ceases, or becomes altered by disease so as to justify their removal, cannot be fully answered. We know from clinical experience that when the tonsils show a tendency to become the seat of repeated inflammations, the individual's health may be conserved by their removal. When a disease known to be due to a focus of infection is present, and no other focus, such as bad teeth or sinuses, is found, the tonsils may be suspected as the offender. This is especially so when upon examination, it is found that the tonsils contain pus, or that they are inflamed. Under these conditions the tonsils should be removed.

THE two most common diseases of the tonsils are acute and chronic tonsillitis. Acute tonsillitis is frequently the immediate result of catching cold. Bacteria invade the tonsillar tissue, producing toxins which gain their way into the circulation of the blood stream causing general symptoms such as fever, headache, and pains in the joints. Acute tonsillitis is most common in children and young adults, although it may occur at any age. The individual gets suddenly sick, starting with a mild chill, followed by high fever. This is associated with a sore throat causing painful swallowing. There may also be reflex pain in the ears. These symptoms last from three to four days, the fever and the sore throat rapidly subside, but the victim is left in a weakened state. Occasionally acute tonsillitis may produce com-

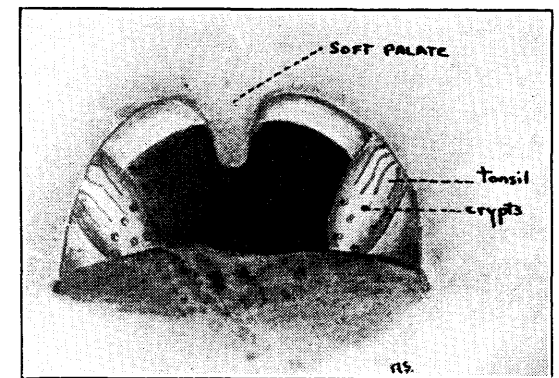
plications such as rheumatism, kidney infection, or heart disease. The treatment of acute tonsillitis consists of rest in bed throughout the duration of the fever and for one or two days afterwards. Local applications of 20 per cent argyrol to the tonsils and adjacent areas may help check the inflammation. This should be done only by a physician since unskilled hands can aggravate the inflammation. An ice collar around the neck or cold compresses will give considerable comfort. The collar or compresses should be kept on for twenty minutes with half-hour rest intervals. Milk and tea taken as hot as possible is one of the best ways of easing the pain. A glass of either of these may be sipped as frequently as possible. Alternating every hour with milk or tea is a helpful method. The milk should be skimmed. In the intervals between hot drinks, water and fruit juices should be taken in liberal quantities. The more fluids the patient drinks the more rapidly will the infection be overcome. A half teaspoonful of bicarbonate of soda may be added to each glass of water or fruit juice. If the patient can tolerate aspirin, a tablet may be given every two to three hours for the pain or fever.

Permanent attacks of acute tonsillitis are indications for removal of the tonsils in order to prevent future attacks. However, one should wait at least four to six weeks following an attack of acute tonsillitis before he subjects himself to an operation.

Chronic tonsillitis is in the vast majority of cases due to previous acute inflammations of the tonsils. The symptoms are usually not severe in character. There may be a sensation of a foreign body lodged in the tonsil, or neuralgic pains sometimes shooting toward the ear, a slight huskiness of the voice, or fits of coughing. Upon examination it is found that the tonsils may be enlarged and contain pus and cheesy material. These chronic infections are frequently the cause of such conditions as rheumatism, nephritis (kidney disease), heart disease, anemia, enlarged glands in the neck, chronic coughs and colds. The treatment of chronic tonsillitis is surgical. The infected pus-contained tonsils must be removed to prevent the above mentioned complications.

TO sum up the various indications for removal of tonsils, the following conditions may be enumerated:

1. Recurrent attacks of acute tonsillitis.
2. Cases of discharging ears in children which have lasted six weeks or longer. In such cases it is equally important to remove the adenoids as well as tonsils.
3. When an acute attack of tonsillitis is followed by such complications as rheumatism or heart trouble.
4. Tonsils which on examination reveal pus or cheesy material, accompanied by a recurrent foul odor of the breath.
5. General infections suspected of being due to infection of the tonsils.
6. Enlarged tonsils causing an obstruction of breathing.



Alice Solomon

7. Tuberculosis infections may begin in the tonsils, and when such infection is proven, the tonsils should be removed.
8. Frequent colds and sore throats may be relieved in some instances by the removal of the tonsils.
9. Unexplained fevers, especially in children, may come from an obscure tonsil infection.

It is now recognized that the method known as *enucleation* is the most complete and satisfactory method of removing diseased tonsils. The patient is anesthetized and the tonsils are cut out. In skilled hands the operation is simple and not attended by serious complications. In the vast majority of cases this operation is the method of choice. In rare instances the removal of tonsils by *electro-coagulation* is indicated. In electro-coagulation the tonsils are cautiously burned out by an electric needle. The procedure takes several weeks and the removal is not as complete as by the enucleation method.



# Hypnotism Explained

This phenomenon is often associated with magic and hocus-pocus. As this article shows, there is nothing mysterious about it. Hypnotism is used by psychiatrists in treating certain nervous disorders.

THE ideas about hypnotism entertained by the average layman vary from only moderately inaccurate conceptions to the most fantastic beliefs in the apparently supernatural powers which can be exercised by the hypnotist over his subject. Can a person be hypnotized against his will? Can a person be made to commit a crime under hypnotic influence? Can a woman be seduced when hypnotized? Numerous examples from popular fiction strengthen the belief in the uncanny power of the hypnotist. For example, in Du Maurier's book *Trilby*, the sinister Svengali made a great singer out of a young woman who was tone deaf, and apparently made her his mistress into the bargain. As a word hypnotism has crept into our ordinary speech to mean more or less the same thing. One individual (the hypnotist) makes another temporarily powerless—powerless to do anything except what the hypnotist demands—and the hypnotist forces him to do what he wants even though it may be against the subject's interest. Thus Hitler has his followers hypnotized; or Joe Louis has hypnotized his opponent before he has stepped into the ring. It is also used frequently in connection with falling in love. Thus young women are hypnotized by the spell of a popular actor.

From earliest times different forms of hypnotism have been known, although only in the last hundred years by that name. Scientific interest in the subject began with Mesmer in the last half of the eighteenth century. Although Mesmer himself seems to have been more or less a charlatan, his theories about "animal magnetism," as the phenomenon was called at that time, attracted crowds of patients who sought his help. Mesmer's activities in Paris aroused so much controversy that a Royal Commission was appointed (on which Benjamin Franklin served) to investigate the matter. This was the first time that the subject had been placed under scientific scrutiny and it is remarkable how accurate were the Commission's

observations and conclusions considering how little was then known about psychology.

Mesmer believed a fluid existed everywhere, in space and in living bodies, which transmitted magnetic influences. He thought that through the medium of this fluid the moon, sun and planets influenced the individual, particularly his health. And also in the same way Mesmer thought one individual could influence another. In "magnetizing" a patient for therapeutic purposes, Mesmer first employed metal magnets, but later he found this unnecessary and used other means among which were different gestures such as stroking with the hands, and "magnetizing" with the eye. The treatment was usually carried out with groups of patients, and the effects were most noticeable in women. During the treatment the patient became confused and felt different sensations, some painful and many pleasurable. These worked up to a pitch and finally ended in a convulsive attack followed by sleep from which the subject awoke greatly refreshed.

The Royal Commission found no evidence of the so-called "magnetic fluid", and every evidence that the sensations experienced during the treatment and the results obtained were the effect of suggestions working on the imagination of the patient. In addition, the Commission concluded from its observations that some sort of sexual feeling, of which the patient was not usually conscious, was aroused, and that this was probably responsible for the pleasure which many found when "magnetized." The Commission recommended that the practice be prohibited.

Although officials discouraged it, interest in "magnetism" persisted and intermittent reports about it were made before learned societies as well as in the popular press. Itinerant "magnetizers" toured Europe giving popular demonstrations and making all kinds of unfounded claims. The first really scientific experiments were performed in the 1840's by

James Braid, an English surgeon. Following this the subject began to be more carefully investigated and in subsequent years the work of Liebhault and Bernheim, and many others, led up to the extensive investigations of Charcot at the famous Salpetriere in Paris in the 1880's. It was here, as a young physician, that Freud studied. Freud's first psychoanalytic theories, which he developed later, form the basis for our understanding of the mechanism of hypnotism.

**HYPNOSIS** (from the Greek word *hypnos* meaning sleep) is a special kind of sleep, induced by the hypnotist, in which the subject retains partial consciousness. There are various ways of inducing hypnosis, all of them essentially the same. The attention of the patient is concentrated on one object—perhaps a light or a piece of shiny metal—or is merely told to look directly into the eyes of the hypnotist, or to close his eyes. Then instructions in a monotonous tone are repeated over and over until the patient falls asleep or partially asleep; that is, the hypnotist says, "You feel very sleepy . . . very, very sleepy . . . you are becoming more and more sleepy . . . you can hardly keep your eyes open. . . ." This is said over and over again. After varying lengths of time the patient may become hypnotized. Generally in the first session only a light hypnosis can be obtained, and it may take as long as thirty minutes to an hour to obtain this. But subsequent hypnoses usually occur more quickly.

In the hypnotic state the subject will often answer questions, obey commands unquestioningly, and awake without recollection of what he has done or said during the time he was asleep. It is also often possible to give the subject instructions to be carried out after he has awakened, or several hours or even days later. The subject may or may not have any conscious knowledge of the command in the interval between awakening and its execution; and even at the time he performs the act he may remark, "I don't know why I am doing this, I just feel as if I have to."

During the hypnotic sleep the sense of pain may often be abolished by suggestion, and the subject, when pricked with a pin, will not display the reaction he ordinarily would. Painful operations have been performed while a patient was under hypnosis without the patient showing any sign of pain at the time or reporting any afterwards.

From this brief description one would think that the possibilities of employing hypnosis for the treatment of disorders would be very great. It would also seem that the power of the hypnotist over his subject was nearly unlimited, and that in the hands of an unscrupulous person it might be a very dangerous thing. This is not the case, however. In the first place, the subject must be willing to be hypnotized. In the second place, the subject's surrender of all critical faculties and subjection to the hypnotist are only partial, and if the subject is ordered to do something that he really does not want to do, he refuses to do it, whether this be a command to action or the answering of a question.

As far as the treatment of a nervous illness is concerned, a great deal may be accomplished temporarily by this method. If the illness is very severe the results are usually disappointing. In certain cases hypnosis is of considerable value when employed by a skilled psychiatrist, and often offers a short cut to improvement that otherwise can only be obtained by a much longer and more laborious treatment which many could not afford although the results would be more lasting.

In certain types of nervous disorder, particularly the kind known as conversion hysteria, very dramatic and startling results can be produced by hypnosis. In conversion hysteria the patient suffers from an apparent physical disability such as blindness, deafness, paralysis of an arm or leg. In a case of hysterical lameness, the muscles and nerves of the legs are perfectly healthy yet the patient cannot walk. This disability is psychological in origin. Often people in contact with the patient will say that he can walk if he wants to. This is not correct. As a famous clinician once said, "The patient says he cannot, the nurse says he will not. The trouble is he cannot will." Consciously the patient wants to walk. The mental conflicts which result in his inability to walk lie in his unconscious and are unknown to him. Most often the patient and his friends believe the lameness is of organic or physical origin. Such lameness or paralysis or blindness or deafness can often be dramatically ended by even a single hypnosis. While in the hypnotic state the patient is told he can walk. When he awakes he walks.

Such "cures" are usually less remarkable than they seem. The patient still retains the mental conflicts which brought about the disability. He still retains the hysterical personality.

Relapse into the same symptoms or the development of new substitute symptoms are common. The same type of dramatic cure of hysterical disabilities often occur at places such as the shrine at Lourdes, where hysterical patients showing lameness throw away their crutches after prayer.

This does not mean that hypnosis is without value in such conditions. The doctor who practices it follows it up with treatment directed toward the cause of the conflicts.

Recently in the Soviet Union hypnosis has been used in controlling pain during childbirth. A new method has been devised whereby many women can be hypnotized at one time. Considerable success has been reported but many more reports will have to appear before it can be definitely evaluated.

There is one condition, hysterical amnesia or forgetting, in which hypnosis is often of great value. A person will forget who he is, where he lives, whether he is married, and so on. Often he will wander around for days while his relatives search frantically for him. In such cases it becomes very important to determine his identity quickly. It is known that forgetting of this hysterical type is only conscious forgetting and that the patient still retains unconscious memory of all the things he has apparently forgotten. The problem is to bring some of the unconscious memories to the surface. Hypnosis is one of the methods which may bring about this result.

SO FAR we have described what can be observed about hypnosis from the outside, so to speak, and this does not explain how it is that such a remarkable phenomenon can occur. To do this we must look into the psychological needs and mechanisms of the individual and to explain some of the things that have been discovered by psychoanalysis.

When a baby is born he is in a state of complete dependence on those individuals immediately about him. This means at first only the mother, but soon the father also, and then much later brothers, sisters, and so on. We may also say that the object of the baby's affections, in fact all of his feelings toward persons (except himself) are these same individuals. In the beginning all his needs are satisfied with only the slightest effort on his part. But the older he grows the more effort he has to make by himself. He does not accept without struggle the

situation of his growing more and more independent and of being thrown more and more on his own resources. And we may say that at any stage in his development he will always look back to a period that he left behind with a feeling of longing and regret. He will never experience again such complete security and such boundless love as was his when he was a baby. And in a way he never recovers from the longing for it. In the adult the greater part of this longing is unconscious and it is conscious only in terms such as, "Oh, to be a child again," or "Childhood is the happiest time of life."

Psychoanalysis has shown, however, that the desire for love and security of which the child was once conscious are actually still present to a greater or lesser degree in the unconscious of the adult. It is clear that these desires can never be literally satisfied, so the individual represses them.

In addition to being the source of love and security, the parent is also the child's authority for what is and what is not true; he learns about the realities of his environment from his parents; and he learns also what to do and what not to do from the same source. Sometimes we think we obey our parents because of fear. But a little reflection will show that an even stronger motive is love and the desire to please the loved person. Finally, to the child the parent is a kind of magician who can move objects that to the child are immovable, who can transport him through the air like the giant with seven league boots, who can abolish fear with a word, and pain with a kiss.

Now let us apply this to the situation in hypnosis. If the subject is willing to be hypnotized, he usually has a strong conscious motive for this, that is, he hopes to be helped in overcoming his difficulties or illness. If he is ill he not only wants help, but he is actually more dependent on others than when he is well. In other words, he is actually to some degree in the position of a child. The hypnotist, then, is usually a person who can be readily identified with a parent, he is a person with authority who does not hesitate to exercise it, and he promises help which is what the sick person and the child both want. The help to be given is a kind of magic help that is not given in a plodding, practical, often uncertain way, but rather works through a mere word or a gesture.

Finally, the patient is asked to concentrate

his attention on something which means to exclude, as far as possible, everything else from his consciousness; in other words, the only thing he is to pay attention to is what the hypnotist tells him. The hypnotist thereby becomes the sole object of his attention, just as the parent was the sole object of his attention and affection when he was a baby. Thus we have a situation which reproduces very faithfully the actual situation in childhood.

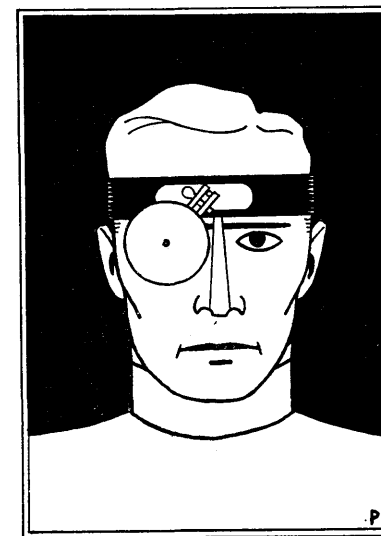
It is not really the situation in childhood, however; the hypnotist actually does not have the power over the subject which the parent had over the infant. The subject wants him to have the power and is willing to grant it to him as far as he is able with the understanding that it is to be used for a definite purpose, namely, to influence him in his own welfare. As soon as this understanding is violated, if the hypnotist orders the patient to do something which he feels is harmful to himself, the basic condition which makes hypnosis is destroyed, and the patient either wakes or does not obey the command. Consequently, a person cannot be made to commit a crime, a woman cannot be seduced, and so forth. Of course, if the subject is already anxious to commit the crime and is not deterred by moral scruples, or if the woman really wants to be seduced, the outcome might be different.

There is not a single known case of a crime being committed by a person influenced by hypnosis. These matters are discussed in considerable detail by Schilder and Kauder in their book on hypnosis. They end the discussion about seduction with the following: "We do not believe that the use of hypnosis is a simpler way than seduction without the use of hypnosis, and we cannot consider hypnosis as anything more than a particularly non-effective technical auxiliary in seduction."

IF good results can be obtained by hypnosis why isn't it used more frequently? This question has been partially answered earlier.

But there are other reasons some of which are sound and others not. Hypnotism has been a stock-in-trade of sideshow artists and travelling charlatans, and a plaything of amateur psychologists. Naturally, regardless of its intrinsic merits, this odor is bound to be attached to hypnotism, and this makes the medical profession as a whole skeptical and distrustful. Then the popular notion also associates it with magic, spiritualism, and the like, and the man of science, therefore, will have nothing to do with it.

Finally, hypnosis is possible only because of the emotional immaturity of the subject. Of course, no one is fully mature emotionally, no one has entirely given up his infantile strivings. But the greater the degree to which this has been done, then the greater is one's ability to deal with the facts of life which cannot be handled by magic but only by hard work. Hypnotism encourages the infantile belief in magic, takes advantage of emotional immaturity, and so in a way may prolong the very situation which was responsible for the situation in the first place. This is, of course, no objection to its use in any individual case, particularly when psychoanalysis, often the treatment of choice, is impossible for reasons of



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time, money, emergency, and so forth. Psychoanalysis is the opposite of hypnosis in that it encourages emotional maturity and so, when successful, accomplishes a radical cure. On the other hand, hypnosis, skillfully employed, may be of great value, and it is possible to discourage the infantile attitudes and even to use it with other methods at the same time to develop emotional maturity.

It is important to stress that there is nothing magical, nothing supernatural about hypnosis. It is only a special form of the use of suggestion by one person to another. It is based on known psychological phenomena. It has a definite but very limited value in the hands of the psychiatrist. Its use by unqualified persons outside the medical profession should be discouraged.



# Cosmetic Problems

## Are There Safe Cosmetics?

For the many readers who have been asking questions regarding the care of the skin and hair, HEALTH and HYGIENE'S skin specialist will discuss such problems every month. All questions must be signed and accompanied by a self-addressed, stamped envelope.

THE American Medical Association and Consumers Union examine many cosmetics to determine their value and whether they contain dangerous chemicals. The results of such investigations do not, however, determine the safety of these cosmetics. And it is necessary to define the term "safe" in this field. Those cosmetics are safe which contain no dangerous ingredients. Here, however, the difficulty begins. There is no question that products containing mercury, lead, silver or pyrogallol are essentially dangerous. Such chemicals are, it is true, used by physicians, but they should only be used under such expert supervision. The indiscriminate and unsupervised use by laymen of preparations containing such chemicals is positively foolhardy. The consumer demands safety not only from essentially harmful chemicals but also safety from any irritation of the skin. The presence of orris root or rice powder in a rouge may be dangerous for women with sensitive skins. Yet orris root and rice powder are not essentially harmful agents and still they can cause great distress in some persons. Shall such cosmetics be called safe or dangerous? Perhaps it would be best to state that rouges containing such substances—orris root and rice powder—are safe for most people and harmful for some. Suppose orris root and rice powder are removed from the rouge. Is the rouge then safe? For practical purposes we may say yes, but it must always be remembered that such individuals may be sensitive to the other rouge ingredients.

From this point of view it becomes obvious that the search for safety may never end. Much work remains to be done in this field. Inasmuch as cosmetics will be continued to be used, the comparatively safe products should

be studied with the view to determining which cause harmful effects in the smallest percentage of cases and which cause apparently no harmful effects. At the present time there is no source of such information and we hesitate to offer positive advice on the safety of any particular cosmetic without several qualifications.

IN the book *Skin Deep* it is pointed out that among lipsticks, *Tangee*, *Phantom Red*, *Outdoor Girl*, *Angelus Rouge Incarnat*, *Ybry*, and *Tattoo Natural*, are free of metals and other undesirable substances with the exception of aniline dye. It may now be readily seen that this does not mean that they are safe for all. Some women's lips may be irritated by the aniline dye and some by the other ingredients such as the waxes or fats. It is also pointed out that among rouges, *Carrot*, *Coty's*, *Houbigants'*, *Kissproof*, *Max Factor's*, *Outdoor Girl*, *Pompeian Bloom*, *Three Flowers*, and *Ybry* are entirely free of orris root, rice powder, barium and lead. All of these with the exception of *Houbigants'* were found to contain coal-tar dyes. The same comment made about lipstick is true here, too. These rouges are relatively safe.

The absolutely safe cosmetics are yet to be determined and may never be found. Investigations of the relatively safe cosmetics are needed. For the present, the best that can be offered is information as to whether any particular brand contains known harmful or irritating ingredients. To those who find it necessary to use preparations that contain possibly dangerous chemicals, it is suggested that at least a skin test, with a sample of the material, be made by a physician to determine how harmful or safe the cosmetic is.

# Our Doctors Advise:

The doctors of the People's Health Education League, including specialists in almost every field of medicine, will answer readers' questions on health and personal hygiene. No letter will receive attention unless it is signed and accompanied by an addressed, stamped envelope.

## Enemas

Detroit, Mich.

DEAR DOCTORS:

I have many confused ideas on how to give an enema. Some people tell me that the water should be hot, others say that it should be lukewarm. Also, do you put anything in the water?—V. L.

Answer—Rectal injections, or enemas, may be large or small. The enema is small if the amount of water is a pint or less; large, if greater than this. The fluid used consists of warm water (never hot water, which may burn the delicate rectal lining, and never cold, which may cause shock). Various substances are commonly used in taking an enema, many of them are irritating and therefore harmful. One of the commonest in this harmful group is the enema containing soap suds, which may prove too irritating. For this reason it is best not to use it at all. The simplest and best enema consists of plain warm water, or warm water to which has been added a teaspoonful of sodium bicarbonate to the pint.

In administering the enema certain points should be borne in mind. After the enema has been prepared, the rubber should first be freely lubricated with ordinary vaseline and inserted for a distance of an inch or two. Before inserting the tube, always allow some of the liquid to flow through the tip so as to expel all the air in the tubing, and to test the temperature of the water. The bag should be elevated no more than two or two and one-half feet above the level of the anus (bowel opening). In children, instead of a hard-rubber nozzle, soft-rubber tubing should be used to avoid irritation of the parts, and the tubing should be part of a small hand enema (bulb syringe) which is easily manipulated.

As to the use of enemas: Many people fall into the habit of using enemas, as well as cathartics and laxatives, in order to obtain their usual bowel movement. This is a harmful habit and interferes with the normal bowel movement which we should all attempt to secure. In general it should be said that enemas should be employed only under the following circumstances:

1. When constipation occurs for several days in the course of normal bowel movements; the

enema here is employed only on occasion, never as a substitute for the regular bowel movements. If the constipation is habitual, it is well to consult with a physician to see what can be done to obtain regular evacuation.

2. There are certain occasions when enemas should be given only on the advice of a physician. When appendicitis is suspected, do not give an enema.

3. During the course of an ordinary intestinal upset (as after eating some disagreeable or spoiled food, and so forth). Here the enema will clear out the fecal contents and promote elimination of the irritating foods.

Many serious conditions involving the abdominal organs which usually require operation often begin with pain in the abdomen, cramps, nausea, vomiting and constipation. The usual impulse of most people in such cases is to take a physic. Nothing could be worse, since the drastic action of the purge may make the condition much more acute or cause real danger; and may interfere with diagnosis. The first thing to do in such a case is to get the opinion of a physician.

\* \* \*

## How Tuberculosis Spreads

Nashville, Tenn.

DEAR DOCTORS:

Can a person get tuberculosis by breathing the air or sitting around in public places where people spit on the ground? Must there be direct contact with a person suffering from tuberculosis in order to catch the disease? At what age is it easier for a child to acquire the disease? Should a person with positive sputum, knowing he has the disease, use the same dishes as the rest of the family? Is tuberculosis hereditary, and at what age does it begin to show itself? What can be done to prevent the germ from spreading in a child, if born of tubercular parents?—I. D.

Answer—Pulmonary tuberculosis is usually caught by being in fairly close contact with some one with the disease who has a positive sputum (sputum containing tubercle bacilli, the germs of the disease). When a person coughs or sneezes, without covering his mouth and nose, or even speaks forcefully, he sprays the surroundings in-

cluding nearby people and objects, with fine droplets which may or may not be noticeable. If the person has a positive sputum, the droplets are also positive and so the infection is passed on. If a person with positive sputum spits on the ground, the sputum is of no special danger while it is moist. But when it dries, it tends to crumble to dust and is then blown about in the air, contaminating everybody and everything with which it comes in contact. This is not a very frequent method of infection, but the danger does exist where people have a lowered resistance.

As to eating utensils, it should be obvious that here there is a very intimate contact between the utensils and the sputum. With a positive sputum, one cannot be certain that in washing the dishes, knives, forks, and so forth, all the tubercle bacilli have been removed or killed. So the tuberculous patient should have his own eating utensils and also his own handkerchiefs, towels, bed linen, and these should all be sterilized.

Children may be infected at any age. It is true that statistics show a higher proportion of tuberculosis among children under five, particularly those under two, and again among adolescents and young adults. We need not enter into the possible reasons for this, but the figures do not mean that individuals outside these ages are necessarily more immune than those within these ages. A person may catch tuberculosis at any age and precautions must never be relaxed.

Tuberculosis is not hereditary. The reason it frequently occurs in families is that contact is closer among members of families than with outsiders. This is especially true where social conditions compel overcrowding in homes. That is one reason why tuberculosis is often spoken of as a poor man's disease. Just one member of the family has to become infected and he will quickly pass on the disease to others. To protect a child born of tuberculous parents, the child must be separated from his parents as soon as possible and he must be brought up away from them. There are methods by which it is claimed that the child can be immunized against tuberculosis, but they have not yet been proved to the satisfaction of all physicians.

\* \* \*

### Cold Vaccines

Cleveland, Ohio

DEAR DOCTORS:

I am very susceptible to colds. I dread the winters for this reason. My family doctor has advised me to take injections as a precaution against catching colds this winter. However, others have told me that this would be a waste of money, and would not help me one bit. What do you advise?—H. E.

*Answer*—Cold vaccines have not been proven of definite value in the prevention of colds. Most

people are not helped. Others get some protection and only a few are completely relieved. It may be worth while going through the expense of vaccination with the hope that you may be one of these few.

It is possible that your frequent colds are due to disease of the nose and throat, particularly sinusitis. Recurrent attacks of sinusitis may masquerade as frequent colds.

It is also possible that your attacks are due to sensitivity to low temperature just as hay fever sufferers are sensitive to pollen. You may be able to get rid of this sensitivity by taking a shower or bath twice daily. The bath should begin with warm water and be gradually changed to cold water, ending with the coldest water. This should be followed by a vigorous rub-down with a turkish towel.

Your susceptibility to colds is not unusual. Since the exact cause of "colds" is not known, there is no sure cure.

\* \* \*

### Sleep-Walking

Bessemer, Ala.

DEAR DOCTORS:

I would like your advice about my eleven-year-old daughter who walks in her sleep. How is this condition caused and how can it be cured?—A. R.

*Answer*—Sleep-walking is a form of hysteria and is most frequently seen in children. It is very similar to that condition which is called dual personality, in which the person lives and acts in two different ways at different times. It is the result of an unconscious desire to get away from some unpleasant situation. The patient cannot do it gracefully while conscious, so she achieves her end by these other means. There may be something in the girl's environment which is disagreeable, or something which she wants but can't have. Her sleep-walking (somniaambulism) is her unconscious attempt either to get away from the disagreeable situation, or, if it is something she wants, it is then an attempt to get attention in this direction.

At any rate, she should be examined and analyzed by a psychiatrist to discover the exact cause of the difficulty. It is not usually dangerous, although people occasionally hurt themselves seriously while sleep-walking. It may disappear spontaneously, but it may be replaced by another neurosis in a different form. Therefore, it would be wise to have the girl examined by a trained psychiatrist in order to avoid a possible more severe neurosis in the future.

\* \* \*

### Vincent's Infection (Trench Mouth)

Grand Rapids, Mich.

DEAR DOCTORS:

I would like to know something about trench mouth. I have suffered with it for the past three weeks. My gums are swollen and they frequently

bleed. Is this disease contagious?—F. E.

*Answer*—Vincent's Infection does not always take on an acute form. It is quite prevalent in a chronic stage when only slight pain and bleeding is present and very little, if any, swelling. In more advanced conditions, the points of gum between the teeth are destroyed, leaving a blunt, flat surface with a space between the teeth where the pointed gum was originally.

As the more severe acute cases are approached, then the body as a whole is affected, as well as the mouth. The patient has a fever of a low grade, loss of appetite, headache, difficulty in swallowing, because the throat is painful, nausea and perhaps marked drooling.

But we do know the disease is catching. A patient who has the disease, can give it to another who may have kissed him or her or used his dishes. People with unclean mouths, ill-fitting crowns and fittings and who may be debilitated from any cause, are more susceptible.

The treatment for the milder cases of Vincent's Infection is the use by the patient at home of one level (not heaping) teaspoon of sodium perborate in a glass of warm water. The mouth is rinsed every hour for a few days. The tooth brush is not used until most of the symptoms have subsided. The old toothbrush is to be discarded; otherwise, the patient may be re-infected. Avoid spicy foods and smoking. The accumulation of tartar on the teeth should be removed by a dentist only after the disease is well under control. If there is a marked improvement after the first forty-eight hours with the use of the sodium perborate, then the patient may rinse every two or three hours for a week. Then continue three times a day for about six months. (This is very important.)

In the more severe cases, the patient should rinse the mouth every half hour for two or three days and then diminish gradually. If there is fever, weakness and other symptoms, the patient should be placed in bed. Vincent's Infection in its acute form is a very serious and dangerous disease.

The use of neoarsphenamin (salvarsan) by the dentist is extremely valuable, provided it is properly applied. This does not mean that trench mouth has anything to do with syphilis.

The patient's dishes should be boiled and other careful hygienic precautions maintained. The disease hangs on a long time, but can be completely cleared up with persistent treatment.

\* \* \*

### Plastic and Orthopedic Surgery

Chicago, Ill.

DEAR DOCTORS:

How does orthopedic differ from plastic surgery, and in what cases are each used?—C. J.

*Answer*—Orthopedic surgery, in the main, deals

with diseases and deformities of the long bones and trunk. We may say that it has as its aim the maintenance of the normal functions of the trunk and limbs as well as the correction of deviations from the normal. The treatment of fractures of the bones, diseases of the joints of the bones, especially of the vertebral column, would come in the field of orthopedic surgery.

Plastic surgery deals with the corrections of deformities affecting any part of the body. In general, plastic surgery may be divided into reconstructive and into cosmetic. Under cosmetic would fall such cases as pendulous breasts, large unshapely noses, projecting ears, wrinkles, and so forth. Under plastic surgery would also fall those cases dealing with deformities or loss of tissue resulting from disease or accident. Deformities due to severe burns with contractures, hare lips, cleft palates, contractures of fingers, and many other such conditions may be considered as belonging to the sphere of reconstructive surgery.

\* \* \*

### Sciatica

Chisholm, Minn.

DEAR DOCTORS:

My trouble is that I get a pain on the right part of my spine in the small of my back. The pain starts there and travels down to my legs like an electric shock. My doctor told me it is sciatica. What treatment do you suggest?—R. T.

*Answer*—You are suffering from what is commonly called sciatica. This is a condition characterized by pain along the course of the sciatic nerve, which goes from the lower back down along the back of the thigh to the leg.

*Sciatic neuralgia*, which is the correct term, is always the result of an irritation to this nerve from some adjacent diseased structure. It is imperative, therefore, to discover whether you are not suffering from: Arthritis of the lower spine or abnormal curvature at this region; enlargement or disease of the prostate gland; inflammation of the muscles of the back or thigh; diseased tonsils, teeth or sinuses which, by feeding germs into the body, have caused inflammation in and about the sciatic nerve; arthritis of the hip joint.

There may be other causes, but the above are the most important. A great deal of patience on the part of the sufferer, and expertness on the part of the physician, may be required to discover the cause and the correct treatment for this condition. We suggest that you put yourself in the hands of an orthopedic surgeon. Any of the larger hospital clinics have such men attached to the staff.

\* \* \*

### War on Cockroaches

Spokane, Wash.

DEAR DOCTORS:

Can you tell us how to rid our house of cock-



roaches? An exterminator visits us once a month; the stuff he uses does not kill the roaches—in fact, they seem to thrive on it.—E. K.

*Answer*—Since the roach lives and breeds in cracks and crevices, usually near supplies of water, the older or more poorly built the house one lives in, the greater the number of roaches and the more difficult they are to destroy.

There are three kinds of roaches: 1. blattella germanica (croton bug), the smallest and most common; 2. blatta orientalis; 3. periplaneta americana, the largest. They carry both on their bodies and in their intestines various germs, such as those of cholera, dysentery, tuberculosis, ordinary skin pus, and pass them on without destroying the germs. The female roach lays eggs in pods or little shells which are deposited anywhere. The young stay near the nest. The roaches, especially the larger ones, are found together in large groups and do not breed quickly. It is highly important to know where they breed and where they are, so that efforts at exterminating them will be successful.

Roaches come out of their nests at evening or when it is dark. The use of a flashlight, which does not disturb them in their movements, is probably the best way of finding them. The nesting places are found by watching the young insects going in and out of certain cracks. All visible roaches should be killed with a spray made up of kerosene (4 parts), carbon tetrachloride (6 parts), with 2 teaspoonfuls of oil of wintergreen added to each quart of the mixture. The spray is fireproof, does not stain and evaporates without leaving a trace. It can be sprayed without danger except on food. The spray adheres to the roaches' skin and penetrates their breathing pores. The roaches should be immediately swept up and burned.

Cracks should be dusted with a mixture of sodium fluoride and flour (equal parts). While borax kills roaches in seven days and commercial insect powders containing pyrethrum in two days, this powder mixture kills cockroaches in four to twelve hours. The roach walks in the powder which clings to his legs; he passes his legs through his mouth to clean them and quickly absorbs a fatal dose. Powder also gets into the breathing pores. The roach gets sick and returns to the nest to die. The powder is effective because it remains for weeks where it has been deposited. It should be noted that the mixture is *poisonous* for humans and should be kept where it cannot be confused with articles of food. Sodium fluoride is kept in cans like salt.

Food poisoned with phosphorus paste (phosphorus was used formerly for matches and is now forbidden because it is a poison) should not be used because there is a fire hazard.

Recent experiments show the cockroaches are lured by certain odors, particularly those of the

essential oils of banana, sweet orange, apple and pineapple. A gelatine mixture with one such oil is highly recommended by many workers in this field. Six grams of gelatine (to lend consistency) is dissolved in 200 cubic centimeters of warm diluted beef broth (for food purposes). To this is added a half gram of mercuric chloride (as a preservative; sodium fluoride can be substituted) and one drop of the essential oil. This can probably best be made up by a local druggist. When hard the jelly is cut into small cubes which are preserved in a tin box. Use an old, discarded knife to mix and to cut the mixture. The cubes, which kill roaches in two to four hours, are placed on pieces of paper or in half-opened match-boxes near the nesting places, but should be removed in the morning to be replaced at night.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF MARCH 3, 1933, OF HEALTH AND HYGIENE, published monthly at New York, N. Y., for October 1, 1936. State of New York.

County of New York, ss.  
Before me, a Notary Public in and for the State and County aforesaid, personally appeared Edward Adams and John Stuart, who, having been duly sworn according to law, did depose and say that they are the editors of HEALTH AND HYGIENE and that the following is, to the best of their knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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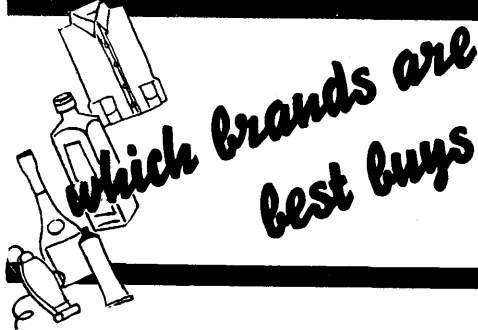
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