

## Fire-Fighters Men of Nerve

### Training Develops Quick Obedience and Steady Heads

Anyone who has watched the members of a fire brigade at work at a fire must have admired the coolness with which the most dangerous and difficult operations are performed.

There are nearly two thousand men in the London (England) Fire Brigade, and every man possesses nerves of steel. Their training—and their livelihood—depend on that.

The headquarters of the Fire Brigade in Southwark Bridge Road provide the training-ground, and in the four months that the training lasts, every recruit is not only taught all the technical points, but also, on a carefully prepared schedule, submitted to a series of what might be called "nerve tests."

Failure to pass these tests involves rejection.

Perhaps the most striking from the layman's point of view is the use of the jumping sheet—a stout canvas sheet circular in shape, and some ten feet in diameter, into which a person in danger may jump when no fire-escape is immediately available.

"Quick March" into Space

Since it is extremely difficult for the ordinary individual, even under stress of danger, to leap into space, the fireman, more often than not, is compelled to take the imperilled person in his arms and to jump with him to safety.

It is not strictly accurate to speak of "jumping" into the sheet. Jumping is forbidden. It involves the risk of springing too far and so missing the sheet. To obviate that risk the recruit is taught to "step" off from a window ledge with the precision of a soldier who receives the order "Quick march."

A window ledge twenty-five feet above the ground is used for the test. The sheet is held stretched tightly by ten or a dozen men on the ground below, and the recruit to step up his position at "attention" on the window sill.

At a given signal the last feet above, smartly forward, with the feet pointed, there is a pause, and then the recruit is hurled downwards to be caught safely in the sheet.

It looks easy, as man after man goes through the test, but if you stand on that window ledge and look down, the twenty-five feet seem to stretch to extraordinary proportions, the ten-foot sheet appears to have shrunk alarmingly.

That test must be carried out not once but scores of times during the training, until it becomes almost like second nature. The recruits are, for the most part, ex-Servicemen whose earlier training, in the Navy and Army, has accustomed them to instant and implicit obedience, but occasionally a man finds it almost impossible to step off the ledge.

The instructors are infinitely patient. The reluctant one is encouraged by words—sometimes even with a gentle push from behind at the crucial moment—because it is realized that, once the "jump" has been successfully accomplished, more than half its terrors will disappear.

If, in spite of all encouragement, the man fails to carry out the test satisfactorily, his training is finished—he will never be a fireman.

The more prosaic parts of the training are imparted in the early stages of the course. The "fireman's lift," by which an injured or unconscious person may be easily and quickly lifted on the rescuer's shoulder, is simplicity itself when carried out according to instructions; the use of the chemical extinguisher for petrol and other special types of fire is a mere matter of routine; scarcely more difficult, though much more unpleasant, is the training in wearing smoke helmets.

First-aid to persons overcome by smoke including experience of artificial respiration and the use of the pump, are acquired rapidly by the would-be fireman; and the training also includes instruction in the use of oxy-acetylene cutting plant, so that, when necessary, steel girders or similar obstacles may be removed when they interfere with the work of the brigade.

Hook-ladders play an important part in rescue work, and the recruit must familiarize himself with the procedure and learn to work at top speed.

The ladders are about twelve feet in length, and they are built of light but strong wood, with a steel hook projecting at right angles for about a foot from the top rung. The hook is thrust over a window ledge or other projection so that the ladder is held securely. The fireman then climbs to the ledge and hauls the ladder up after him to repeat the process a floor higher.

Drill At Its Dizziest

Sometimes the ladders are used in pairs, one being left in position until the second one is placed.

At first this training is carried out on a building that has been specially prepared, with timber baulks clamped to the window sills so that the hook may obtain a firm hold. Later on the recruit is expected to work in conditions that he would find in actual fire-fighting.

In the yard at headquarters there is a stone tower, nearly ninety feet high. It is used for instruction in rescue work and even to watch men using these dinky ladders at such a height above the ground, where one slip must inevitably have fatal results, is enough to make even the most level head turn dizzy. That same tower is used for practising rescue by lines.

Finally there is the turntable ladder, a master that, fully extended, stretches up 104 feet into the sky. It is mounted on a fast motor truck, and the drill is carried out at top speed.

The truck dashes into the yard at headquarters and, almost before it has stopped, the mechanism is set in motion, and the ladder that has been lying in a horizontal position rears up almost vertically. Immediately a fireman runs up the steps until he is

perched on a small platform near the top. Then a second lever is pulled, the telescopic sections shoot skywards at an alarming rate, and in a matter of seconds the fireman is in position, with the nozzle of a hose ready, to direct a stream of water.

## Control of Motion-Pictures In European Countries

Most European countries have some sort of film institute whose function it is to study the influence of the moving picture upon national life and to encourage the production and exhibition of better pictures.

As the Manchester Guardian points out: "Germany has an institute, whose object it is to improve the taste of the nation by a selection of the best films produced at home and abroad."

"France has a permanent commission under her Ministry of Fine Arts which considers the whole of the national interests involved in cinema, and particularly the conservation of national customs and traditions."

"In Italy a government department produces films illustrating the greatness and destiny of the country."

"In the Far East the Japanese Government keeps a wary eye on the assault of the Western film on Japanese youth, and compiles a national film library showing the history, traditions and social life of her people; while Russia, supreme in the art of her cinema, has bent it wholly to propagandist purposes for the Soviet State."

Taking the cue from her neighbors, Great Britain is now to have a similar institute. It is proposed, we read, that 5 per cent. of the profits derived from Sunday movie exhibitions, which usually have been devoted to charity, be set aside for the formation of a National Film Institute through the Privy Council Office. This institute, it is planned, will be closely associated with the moving-picture trade but be independent of it. Among its tasks will be the spread of the film as a means of education, the improvement of its use as a means of entertainment, the wise use of it to show at home and abroad the best in British civilization, and the preservation of it as an aid to history.

## Slenderizing Model

By HELEN WILLIAMS.

Illustrated Dressmaking Lesson Furnished With Every Pattern

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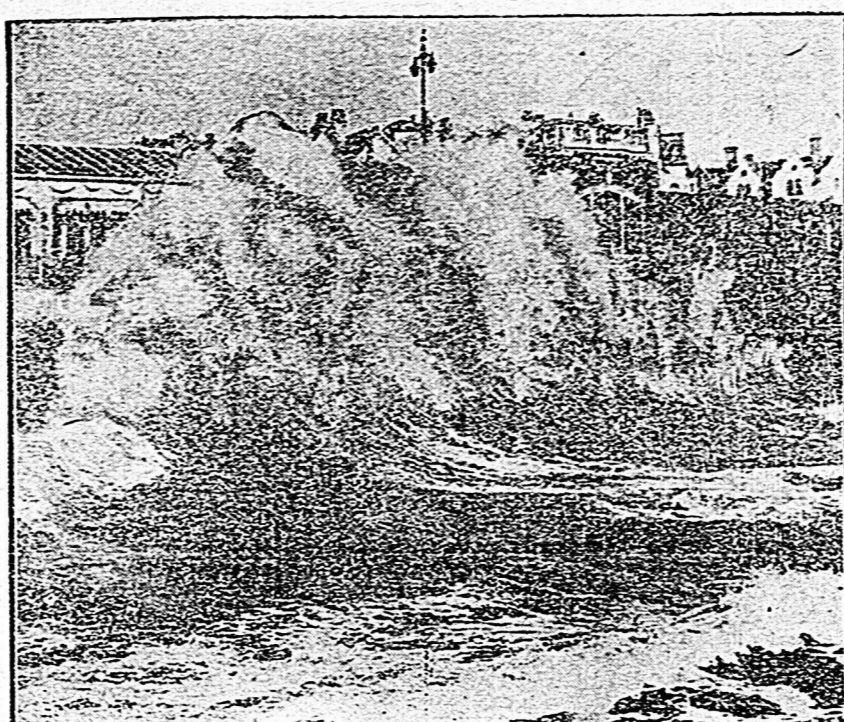
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## First Gales of Season Sweep English Coast



The holidayers have departed and the residents of Clacton, England, are now settling down for the winter. A bit risky to walk along the prom when the waves act this way.

## Contagious Diseases Studied in New York

### Rockefeller Research Studies Controlled Epidemics in Mice of Laboratory Rabbits Also Are Used

By G. Edward Pendray in The N.Y. Herald Tribune.

In the Rockefeller Institute for Medical Research, hundreds of small, vivacious animals are now engaged in revealing the secrets of epidemics. Under controlled conditions that as nearly as possible reproduce their natural circumstances, mice of many different strains and colors are making it possible for scientists to learn something of an age-old problem—how to prevent and control diseases that spread in epidemic fashion.

NAURE OF EPIDEMICS.

As might have been expected, the investigators at the Rockefeller Institute, who explained their work for the Herald Tribune, are learning that microbes on the loose in communities of normal animals do not behave in quite the same manner as cultures raised and handled under highly artificial conditions.

The research program at the Institute is being carried on under the direction of Dr. Leslie T. Webster. So far, nine intestinal and respiratory diseases of mice, rabbits and chickens have been analyzed by Dr. Webster and his associates. These diseases, among which are mouse typhoid, rabbit pneumonia and chicken cholera, behave in a manner not unlike the human illnesses of the same name. They were chosen because of the special light they may be able to throw upon the behavior of their human counterparts.

One discovery disclosed by these studies is that epidemics may be started in two different ways. One method is to introduce the bacillus directly into a community of susceptible but previously uninfected animals. The other is to add susceptible individuals to a community in which the disease already is present in a quiescent state. Adding fresh individuals under such conditions is like putting dry kindling on an old fire. The epidemic blazes up and passes over the community in virulent waves.

Another finding is that when an epidemic sweeps through a community the course of the outbreak is determined by the resistance of the population and not, as formerly supposed, by changes in the virulence of the microbe as it passes from person to person.

DEMONS CAUSE OF EPIDEMICS? It was believed in the Middle Ages

that epidemics were caused by a demon that hibernated in the underworld. Upon occasion this creature would burst out of its dungeon and fight its way into a city, where, emaciated and ravenous, it fell upon the inhabitants, first feeding upon the defenseless infant, then upon the aged, weak and infirm, and finally, growing in strength, upon able-bodied adults.

When the germ theory of disease was elaborated in the '90s, scientists came to regard the demon story as merely a fantastic explanation of the observed course of epidemics, which usually start mildly, with one or two cases, and gain momentum as they grow. Similarly enough, the scientists of the '30s did not discard the fundamental concept of the old fable. They merely translated it into the new language.

Thus, instead of the demon, scientists talked of the microbe. The microbes, they assumed, began his epidemic course as a relatively mild creature, but he grew in virulence as he passed from victim to victim, until at length, even the most resistant could not withstand his attack, and whole communities were overwhelmed.

This conception—that microbes increase in virulence when passed from individual to individual, and that the increased virulence gives rise to epidemics—is one which experimental epidemiology has modified, at least so far as it applies to animal communities. Dr. Webster reports that differences were certainly found in virulence in various strains of microbes, but the killing power of any one strain remains essentially the same throughout an epidemic. What changes is the resistance of the community. If this finding among animals proves to be the same among humans it is really a piece of good news, for, if epidemics are essentially provoked by lowered resistance on the part of the population, we can find out what leads to such changes in resistance, and take steps to keep the barriers up.

This is the phase of the question upon which the Rockefeller Institute scientists are now working. One of the most important factors—perhaps a fundamental one—has already been found. It is inheritance. In a given mouse community, for instance, it has been found that many will die of disease, but a few will survive. The offspring of these survivors, if exposed to the disease, will be found more resistant than unselected mice of the same age.

In fact, families of especially resistant, and others of especially susceptible mice have been carried on for generations at the Rockefeller Institute. Tests show that the characteristic of resistance to disease is completely transmissible from parents to

young. Moreover, resistance to one disease appears to be accompanied by resistance to others, and even to poisons, such as mercury bichloride. Strains of mice which are susceptible to one disease, on the other hand, are susceptible to others, and readily fall victim to poisoning.

If this is equally true in man it explains why people long exposed to disease appear to become more or less immune to it. The susceptible families are killed out, and the families with natural resistance fill up the ranks.

Hereditarily, however, is not the only factor in resistance. Other causes—and these are the ones that produce fluctuations from season to season, and perhaps even from week to week—include diet, weather and various other environmental conditions.

PROPER DIET NECESSARY.

Diet seems to be extremely important, according to Dr. Webster. Two mouse diets have been used at the Rockefeller Institute. One is an adequate diet, giving plenty of the proper substances for promoting growth and reproduction. The other is a special diet, including an excess of the various vitamins and other essentials.

The experiments so far have shown that mice fed on the just-adequate diet are less resistant to disease than those having an abundance of all food factors. Moreover, seasonal fluctuations in resistance are pronounced in the mice getting the poorer diet, while in the other group seasonal variations in susceptibility are almost non-existent.

Precisely what food substance contributes most of resistance to disease has not yet been determined. This is one of the special lines of research which the methods of experimental epidemiology have opened up.

Thus it may be that what started as an investigation of epidemics will turn out to be a valuable contribution to the conquest of all disease. If it accomplishes nothing else, experimental epidemiology has already demonstrated that public health agencies and social welfare groups are on the right track in urging proper diet and better living conditions as a sure way of protecting the entire community against disease.

Kindness

If I can stop one heart from breaking,  
I shall not live in vain;  
If I can ease one life the aching,  
Or cool one pain,  
Or help one fainting robin  
Unto his nest again,  
I shall not live in vain.

—Emily Dickinson.

If you are so unhappy as to have a foolish friend, be yourself wise.

## Berlin Blind Folk Take Up Athletics

### Club of Sightless Men and Women Holds Its First Public Contest

Berlin.—Blind men and women walking through the streets with and without guiding dogs are not unusual in Germany, where thousands of blind war veterans, assisted by public institutions, have set their minds on becoming independent once more. But when the Berlin Athletic Club for the Blind recently held its first public contests, the large crowd of curious spectators attracted by the event was surprised not only to see blind men and women sprinting, putting the shot, jumping and doing handspins, but to see them do all this a great deal better than the majority of the spectators themselves could have done it.

The care of the blind and the methods of teaching them to become independent have made great strides since the war. The idea of training them physically through athletics is the latest development. Paul Rosenbaum, a quiet and benevolent blind brush maker in the Municipal Institute for the Blind, conceived the idea that with large libraries for the blind on hand—the world's largest is here in Berlin—all that the sightless folk lacked was physical training. Aside from the fact that blind persons have little opportunity for walks and physical exercise, he felt that athletic training would teach them better than anything else to control their bodies despite the lack of sight.

Trainer Can See

With several blind friends he founded the Athletic Club for the Blind. Thirty men and thirty women are members and they meet twice a week, at night, after their days work, in a large hall in the northern part of Berlin. They have a trainer who is the only person among them who can see.

The public contests were a great day for these blind athletes and they had looked forward to it without some fear lest they might fail to impress the spectators or possibly be ridiculed. But the onlookers did not laugh. The trainer George Breitkopf, who explained that a 100-meter dash required infinite courage and concentration on the part of a blind person was surprised at the performance of his pupils.

They sprinted two and two with nothing to guide them except the yells and cheers of friends and the trainer, who indicated the direction of their feet before starting. Two young men tied for the 100-meter world championship for the blind, in slightly more than 15 seconds.

The best shotput was 25 feet; the best high jump was 5 feet. The champion in the wide-jump contest went over 16 feet. For the wide jump the contestants were permitted to jump off where they liked and the spot was marked in order to measure the distance.

After this initial success, the trainer plans to take pupils over long distances of 1,500 and 2,000 meters. He will then train them for cross-country runs. The women will be taught folk dances, which Herr Breitkopf hopes to show when they have their next public meet.

"More Light"

By Abraham Flexner

Over a hundred years have passed away since Faraday, at the Royal Institution in London, began to play with electricity. He had absolutely no idea that his investigations would have any practical consequences or any theoretical consequences beyond the satisfaction of his curiosity, and yet everything that we do today with electricity is more or less closely dependent upon the unfettered investigations which Faraday was fortunately in a position to make.

It is as true today as it was when Goethe closed his eyes in death that what the world needs is "more light"—more light to illuminate what is obscure, more light to enable us to reorganize our intellectual and social and political lives. No one is wise enough to tell the source from which illumination will come, but an experience of the race will not in the future be different from what it has been in the past, and an Institute which enables men of superior wisdom and capacity to indulge their curiosity and to promote understanding will in due course produce consequences of which neither they nor we now dream.

Gems from Life's Scrap-book

Books

"A true book is an inspiration."—Alex. Everett.

"Good books are true friends."—Bacon.

"Books—lighthouses erected in the great sea of life."—Whipple.

"Books are the over-burning lamps of accumulated wisdom."—G. W. Curtis.

"Let us digest them; otherwise they enter our memory, but not our minds."—Seneca.

"This Book of books is also the gift of gifts."—Mary Baker Eddy.

"If a book come from the heart it will continue to reach other hearts; all art and authorcraft are of small amount to that."—Carlyle.

"Books like friends, should be few and well chosen."—Fuller.

Remember—Andrew Carnegie gave a fortune that books might be available to all.

These Things are Strong

These things are strong, when other strong things fail:  
The urge that quickens grass; the deep still tides  
Of ocean; and, beneath a sweeping gale,  
The slender reed that bows, and still abides;  
The granite peaks of silence; and the tie  
That binds the heart of woman, ages-long,  
To petal-softness and a first frail cry  
Making her mother. These are the things most strong.

The strength of ships goes down before a storm.  
The strength of athletes meets the dust at last;  
But when familiar strong things crumble, warm  
Your confidence with light of these: hold fast

To these and sing; for these things, and a song  
That rises from discouragement, are strong.

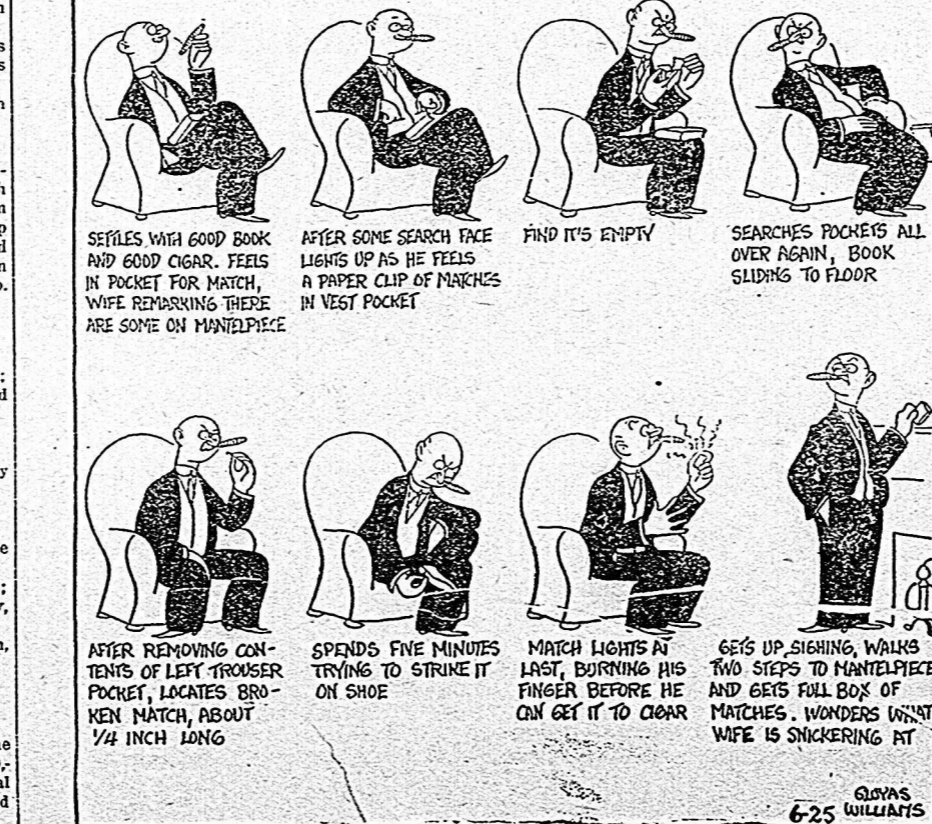
—Helen Frantz-Bower, in Embryo.

Return to Primitive Farm Tools

Declaring that modern methods are too expensive, progressive farmers in the Eifel district of Prussia have returned to cutting corn with a sickle, threshing it with a flail and hauling it to market by ox team.

## SNAPSHOTS OF A MAN GETTING A MATCH

By GLUYAS WILLIAMS



GLUYAS WILLIAMS 6-25