

Island in place of its Alameda base from the time the fair opens. The twice-a-week clipper departures to New Zealand and the Philippines, a schedule expected to be in operation by that time, will provide the most prominent part of the Pan-American Airways exhibit.

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PSYCHOLOGY

Dogs Show Wide Differences In Problem-Solving Abilities

DOGS DISPLAY marked individual differences in "I.Q.," no less than their two-legged lords and masters, Dr. E. G. Sarris of the Institute for Environmental Research in Hamburg, Germany, has found. Tested by their abilities to solve problems connected with the getting of a coveted piece of meat, their mental abilities ranged all the way from very bright to plain, doggone dumb.

Dr. Sarris started with eight dogs of assorted sexes, breeds, and ages. At first he gave them an easy problem, of getting the meat when they were separated from it by a serpentine fence constituting a simple maze. All the dogs could solve that one, though some of them made hard work of it while the cleverer individuals went through it very quickly.

Then he increased the difficulties, imposing such brain-puzzlers as getting the meat out from under a can loaded on top with bricks, hauling it over a wall on the end of a string, moving small carts and boxes that would enable them to reach it when it was hung too high for direct approach, etc.

At each step-up in difficulty, some of the animals found the problem too hard and gave it up. Finally, Dr. Sarris was working with his two brightest dogs, a male named Argos and a female named Niki. They could think their way through all the problems he posed them. Of course, Dr. Sarris was careful to devise situations in terms of dog mentality, rather than of human minds.

The Hamburg zoologist believes that practical uses of some importance can be derived from his study. His results, he holds, cast considerable doubt on the universally accepted idea that certain breeds of dog are best for particular working purposes, like herding or hunting. Of far greater importance, he believes, is a dog-by-dog examination for individual differences in learning capacity, based on individual variations in temperament and intelligence.

The climbing fern can climb about three feet.

PHARMACY

Medicine-Making, Research Now March Side By Side

Dedication of Two New Laboratories for Squibb and Abbott Gives Promise of New Aid in Fight on Disease

A NEW trend in the world of drugs, destined to aid man's search for health is signalized by the dedication, within a few days of each other, of new medical research laboratories of two large drug manufacturing firms.

On Oct. 7 the Abbott Laboratories celebrated their fiftieth anniversary by opening a new research laboratory building at North Chicago, Ill. On Oct. 11, E. R. Squibb and Son dedicated the new laboratory building of the Squibb Institute for Medical Research at New Brunswick, N. J.

Medicine-makers such as these are no longer confining themselves solely to the manufacture of drugs. In addition they are undertaking important programs of research on medical matters. Large groups of scientists—doctors, physiologists, chemists and bacteriologists as well as pharmacologists—are delving into problems of disease, seeking causes as well as possible cures. Even on the strictly medicine-making side, the idea is not just to make a new remedy, but to find better and better medicines and even, perhaps, to find ways of preventing illness.

Asks for Freedom

GIVE the scientists on your staff freedom to solve the riddles of science, regardless of possible practical applications, and provide for cooperation between practising physicians and laboratory investigators.

This sums up the advice given by leading scientists, including two Nobel Prize winners, to the new Squibb Institute for Medical Research.

Such advice is likely to be followed, it appears from the statement of Dr. John F. Anderson, vice-president of E. R. Squibb and Sons, the pharmaceutical manufacturing firm which has founded the Institute.

"Problems for investigation," he said, "will be chosen by those working in the Institute because of their working in the tific interest, just as is the practice in universities or other institutions of re-

search. Squibb has realized that it is such unimpeded research which has given to the world a large part of the fundamental discoveries which have so favorably affected modern life."

Every day, in thousands of hospitals the world over, blood is examined for anemia or for malaria germs or for many other conditions by methods developed by the German scientist, Paul Ehrlich. Ehrlich, however, did not sit down at his laboratory bench and decide to find a stain or dye that would show anemic blood cells clearly under the microscope. As Dr. Abraham Flexner, director of the Institute of Higher Studies of Princeton University, recalled at the dedication, Ehrlich's highly practical contributions resulted because at medical school he was allowed to "fool around" with dyes and microscopes, just to satisfy his own curiosity.

When and if the results of research in pure science have practical possibilities, the laboratory scientists must turn to clinical investigators, the physicians who do their research at the bedside.

"For the cure and prevention of disease and the relief of pain the final test is on man himself," Dr. George R. Minot, professor of medicine, Harvard University, and discoverer of the liver cure for pernicious anemia, said. A clinical investigative unit needs to be a part of or associated with an institute for medical research. "I am delighted to learn that clinical facilities with a small ward for the observation of patients in connection with various problems being studied by the research staff are being planned."

Dr. Minot's studies of anemia, for which he shared a Nobel Prize award, resulted from such a combination of clinical or bedside and laboratory research.

Dr. Russell M. Wilder of the Mayo Foundation cited the Thorndike Memorial Laboratory of the Boston City Hospital, of which Dr. Minot is director, and the Rockefeller Hospital in New York as desirable examples of institutions where such combined research can be carried on with life-saving results.

Cooperation of science and industry, which goes back to Louis Pasteur's saving of the French silk industry in 1865-1871 and includes the founding by industrial organizations of many scientific research laboratories, enters "the highest level" so far attained with the opening of the Squibb Institute for Medical Research, another Nobel Prize winner, Prof. August Krogh of the University of Copenhagen, declared. Prof. Krogh described a number of European research institutions supported by industrial concerns.

Future of Medicine Bright

THE importance of commercial research laboratories in making results of medical discoveries available throughout the nation was stressed by Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, at the dedication ceremonies of the Abbott Laboratories' new research building.

Dr. Fishbein also predicted a bright future for medicine in spite of wars, depressions, "new social experimentation," and the efforts of "the new forces that would seize the leadership" now held by the medical profession in the conflict with disease.

Engineers Are Captains

IF YOU want your son to be a captain of industry, send him to an engineering college.

An engineering college graduate is 30 times more likely to be an officer in American industry than is a graduate of a non-technical college and 44 times more likely than is a non-college man. These statistics were quoted by Dr. Karl T. Compton, president of Massachusetts Institute of Technology.

The supply of suitably trained young men to be officers of industry in the future is likely to run out, however, unless industry can cooperate with the colleges in keeping some of the abler older men at their posts on the faculties of colleges. Plans for such cooperation already in effect in some colleges were described by Dr. Compton. Sometimes an industry helps by special grants to enable a teacher to remain at his collegiate post without too great financial sacrifice. Sometimes the industry helps by providing for vacation time employment of students or, even better, by providing for a year at apprentice training. The industry benefits by this arrangement as well as the student.

People's Fight For Life

A "PEOPLE's fight for life" is beginning all over the world, Surgeon General Thomas Parran of the U. S. Public Health Service declared.

"The world movement toward beauty of form and expression seems to have leveled out," he said. "The world movement for freedom is alive only in isolated nations. But I believe that today we see the first faint stirrings of a world movement for health—a people's fight for life, for freedom from disease, for an equal opportunity to be born well and to live well."

Science has shown the way to this fight and scientists must continue to lead it, Dr. Parran said. He called for more research—"persistent, continuous, relentless"—to advance the fight against disease and cautioned against any inclination to rest on past glory in the record of diseases already conquered. The search must be not only for new knowledge but for ways of applying this knowledge to the needs of the people.

Providing Quality Drugs

THE IMPORTANCE of the analyst in pharmaceutical research is due to the part he plays in developing standards for drugs, Dr. George Denton Beal pointed out. Dr. Beal is assistant director of the Mellon Institute of Industrial Research and member of the committee of revision of the U. S. Pharmacopoeia, which sets the official standard for drugs in this country.

The steps in making a medicine were outlined by Dr. Beal as follows:

The research chemist evolves a new compound. The pharmacologist discovers its effects on the body. The physician ascertains its worth in treatment of sickness. The pharmacist devises the best method of giving it.

"But it remains for the analyst," Dr. Beal said, "to develop the tests which establish its identity, the absence of objectionable foreign materials, and the strength of the product, as well as to determine its concentration in medicinal preparations."

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Speaking of a boy's appetite, Cornell University home economists say that a growing boy who goes in for sports may safely take in over 4,000 calories in his food a day, which is probably twice as much as his mother needs, and even a good deal more than his father eats.



NEW RESEARCH HOME

Here important investigations will be conducted into the effects of medicine on health and disease. This is the new research building of the Abbott Laboratories.

MEDICINE

Sulfanilamide Used For Fourth Venereal Disease

SULFANILAMIDE, new and widely used chemical remedy for a number of serious ailments, speeds recovery from lymphogranuloma inguinale, sometimes called the fourth venereal disease. The usefulness of the chemical in this serious but little talked-of condition was found by two U. S. Army doctors.

Sulfanilamide treatment of this disease was initiated at Fort Benning, Ga., by Colonel Guy L. Qualls, Medical Corps, U. S. Army, in the belief that the chemical would prove as effective for lymphogranuloma inguinale in humans as it had in the treatment of choriomeningitis in mice, both being virus-caused diseases.

Encouraging results of this treatment were reported before the clinical staff at the station hospital there by Lieutenant Gladen R. Hamilton, Medical Corps, U. S. Army.

The first two cases which had been under ordinary methods of treatment in the hospital for 51 and 49 days respectively were returned to duty within a few days. To date 35 cases have been treated there. The duration of the disease and the disability therefrom has been reduced from months to days. A detailed report will be made to the medical profession in a forthcoming issue of *The Military Surgeon*.

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