

and economic loss in the South, were reported by Prof. Asa C. Chandler, of the Rice Institute, Houston, Texas.

Prof. Chandler believes that the starvation process may play "an important but hitherto largely unrecognized part" in resistance to bacteria-caused ailments as well as to many worm-caused sicknesses like hookworm disease.

Resistance to bacteria-caused ailments has till now been considered chiefly on the basis of the appearance of antitoxins or antibodies in response to presence in the body of germs that produce toxins or antigens.

Actual resistance to infection, however, is by no means parallel with production of antibodies in the body, Prof. Chandler pointed out. Other forces are presumably at work, of which the starvation process may be the most important. Studies of worm parasites, particularly those of the intestine, show how actual resistance to infection can develop independently of the circulating antibodies.

Prof. Chandler discovered this starvation factor in disease resistance through studies of the way rats develop immunity to an intestinal worm called *Nippostrongylus*, which is distantly related to hookworms.

Science News Letter, November 26, 1938

BIOLOGY

Centenary of Cell Theory Celebrated This Year

BIOLOGISTS the world over have been observing, during the current year, one of the most important anniversaries in the whole history of science: the centenary of the cell theory.

It is difficult nowadays, when everybody, layman as well as biologist, takes cells for granted (even though he may never have squinted through a microscope) to realize that only three generations ago the idea of the importance of these little living bricks of which all living things are built was as new as the sunrise.

Yet so it is. To be sure, cells had been seen before. Early in the seventeenth century, as soon as the first crude microscopes became available, observers saw these objects, either as cavities in the tissues of larger organisms, or singly as "animalcules". But though seen, they were not rightly interpreted.

It was not until 1838 that the right eyes and the right minds were applied to the cellular problem. First came Matthias Jacob Schleiden, son of a Hamburg physician, who at the age of 34



This Christmas Gift Coupon Saves You MONEY, Time, and Work

THOSE of your friends who would like to read SCIENCE NEWS LETTER, would enjoy getting a year's subscription from you as a Christmas Gift.

If you give *two* or more such subscriptions, they cost you \$3.50 each (a saving of \$1.50 per subscription)—or you can give *one* gift subscription, and *renew your own* subscription for a year, paying only \$3.50 per subscription.

Not only will it save you money to use the coupon, but think of the *time* and *work* you get rid of. No tramping in and out of department stores, gift stores, any kind of stores, during the jostling Christmas buying days. *Let the postman* do the walking. He is *paid* for it!

Fill out the coupon below and send it to SCIENCE NEWS LETTER. Solve at least one or two of your Christmas Gift problems that way. You can pay later, in January.

Mail This Coupon to SCIENCE NEWS LETTER, 2101 Constitution Ave., Washington, D. C.

Please send Science News Letter for one year to:

Name _____

Address _____

City and State _____

AND

Name _____

Address _____

City and State _____

Also **RENEW my own subscription at these rates.**

AND, send bill for above order to me in January.

My Name _____

Address _____

City and State _____

Special Christmas Gift Subscription Rates

ONE SUBSCRIPTION, 1 year	\$5
TWO SUBSCRIPTIONS, 1 year	\$7
ADDITIONAL YEARLY SUBSCRIPTIONS, each	\$3.50

No extra postage to anywhere in the world



brilliantly interpreted these minute subdivisions of the plants he studied as the ultimate organized living units. He described with considerable accuracy the course of cell division, and regarded it, correctly, as the essential basis of multiplication and growth.

General application of Schleiden's theory to both plants and animals was made by another German, the zoologist Theodor Schwann, much of whose career was spent in the Belgian universities of Louvain and Liège. He found nucleated cells in the tissues of some of his animals, especially in embryonic tissues, and established the general applicability of the cell theory to all growth and development.

Erik Nordenskiöld declares, in his *History of Biology*: "It is thanks to this theory that the present age has been able to work out its conception of life-phenomena as a connected whole; without Schwann, Darwinism would hardly have been victorious."

Science News Letter, November 26, 1938

DENTISTRY

Caries Cure May be Found In Mouths Free From Decay

LIVES there the man or woman who has no decayed teeth and never has had any? If so, he or she should come forward and volunteer for tests which may lead to the finding of a cure or preventive of that wide-spread ailment, dental caries.

This idea was put forward by Dr. John A. Marshall of the University of California College of Dentistry at the meeting of the Southern California Dental Association.

Persons immune to caries, Dr. Marshall said, have something the rest of us lack. Study of such persons might lead to more rapid progress in the search for causes, cure and prevention of tooth decay.

Science News Letter, November 26, 1938

Books

SCIENCE NEWS LETTER will obtain for you any American book or magazine in print. Send check or money order to cover regular retail price (\$5 if price is unknown, change to be remitted) and we will pay postage in the United States. When publications are free, send 10c for handling.

Address Book Department
SCIENCE NEWS LETTER
2101 Constitution Ave. Washington, D. C.

GENERAL SCIENCE

Antivivisection Defeat Will Encourage Scientific Work

California passed its intelligence test on health and medicine by defeating by 60,000 votes the so-called humane pound referendum proposition No. 2, one of the 25 proposed laws put before the people on Election Day. This was the bill which threatened to throttle the efforts of Cali-

fornia scientists to find ways of preventing or curing such ailments as cancer, infantile paralysis, high blood pressure, leukemia and heart disease. It was attacked by leading scientists as a disguised anti-vivisection measure. (See SNL, Nov. 5.)

By ELLIOTT C. CUTLER, M. D.

Moseley Professor of Surgery Harvard Medical School; Chairman, A. M. A. Committee for Protection of Medical Research.

THE defeat of the so-called humane pound initiative measure in California will encourage all scientific bodies, defenders of biological research, and doctors everywhere to continue their investigations for the betterment of the health of the American people.

The defeat on this bill is a clear indication that the public as a whole be-

lieves in defending the frontiers of knowledge and in training doctors in technical methods in surgery through the use of animals.

It is to be hoped that the recent defeat to the misguided sentimentalists in their attempt to embarrass and hinder medical research will lead people to appreciate that the promise of future improvements in public health matters and the discoveries which will better their welfare will largely depend upon the freedom with which scientists may conduct investigations.

Science News Letter, November 26, 1938

MEDICINE

Vienna Medical Faculty Has Lost Half Its Assistants

HALF the assistant professors and instructors on the medical faculty of the University of Vienna at the time Austria was seized by Nazi Germany have lost their positions, it is reported in a survey published by the technical journal, *Science* (Nov. 11)

With a liberal sprinkling of great names whose disappearance from what was once a medical faculty renowned for the ability of its members, the list includes a considerable number of "Aryans" as well as Jews.

Prof. Egon Ranzi, director of the university's surgical clinic, has been forced to relinquish the directorship of the clinic and has been retired on a pension because he had been a supporter of Schuschnigg, according to the journal, which quotes the Berlin correspondent of the *Journal of the American Medical Association*.

Prof. Leopold Arzt and Wilhelm Kerl, both "Aryans" and both ranking dermatologists, have met the same fate

and for the same reasons. Prof. Ernest P. Pick, pharmacologist, was forced to retire because he is a Jew. Dr. Arnold Durig, a physiologist, has been retired for reasons unknown. Prof. Otto Lowei, of Graz, Nobel Laureate, has been stripped of his post and was in custody until a short time ago. Psychiatrist Otto Kinders has been dismissed, probably on racial grounds. Sigmund Freud is in London; Hans Hoff, in the United States. Prof. Otto Marburg, noted neurologist, and Erwin Stransky have both lost their posts.

Others who have lost positions are: G. Hitzemberger, radiologist; David Scherf, cardiologist; Julius Bauer, endocrinologist; Karl Glaessner; Otto Porges and Walter Zweig. Prof. Ismar Boas, who had made Vienna his refuge from Germany, committed suicide by taking an overdose of barbitol.

The list of those dismissed includes Moriz Oppenheim, dermatologist; Gottwald Schwarz, roentgenologist; Josef