

1920–1929

AAA Presidents



1920-1921
C. F. W. McLure



1921-1924
Clarence M. Jackson



1924-1926
Florence R. Sabin



1926-1928
George L. Streeter



1928-1930
Charles R. Stockard

1920

A unified cerebellar terminology

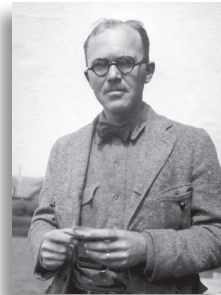


Olaf Larsell reading

Olaf Larsell begins studies that eventually result in a unified cerebellar terminology. In his three volume set, titled *The Comparative Anatomy and Histology of the Cerebellum*, he develops the definitive clarification and standard terminology for the lobes and lobules of the cerebellum.

Bradley M. Patten

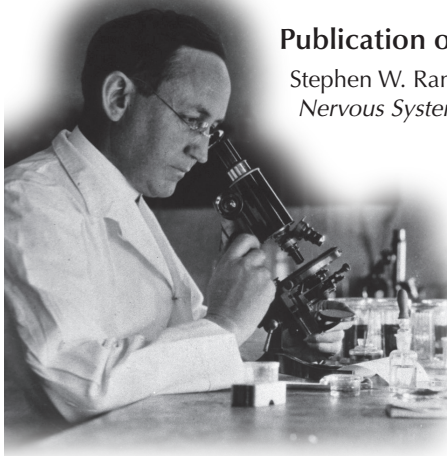
Bradley M. Patten publishes *The Early Embryology of the Chick*. Patten says, "If (the book) helps the student to grasp the structure of the embryos, and the sequence and significance of the processes he encounters in his work on the chick, and thereby conserves the time of the instructor for interpretation of the broader principles of embryology it will have served the purpose for which it was written."



Bradley M. Patten

Publication of *The Anatomy of the Nervous System*

Stephen W. Ranson releases the first edition of his text, *The Anatomy of the Nervous System*, which introduces innovative approaches to education.



Stephen W. Ranson

"For the birth of something new, there has to be a happening. Newton saw an apple fall; James Watt watched a kettle boil; Roentgen fogged some photographic plates. And these people knew enough to translate ordinary happenings into something new..."

—Sir Alexander Fleming, Lecture at Harvard University

1921

Marion Hines

Marion Hines publishes *The Embryonic Cerebral Hemisphere in Man*. Hines is widely known for her studies of the brain's control of movement. Her observations help explain the nature of muscle paralysis and the stiffness associated with strokes in the cerebral cortex.



Marion Hines

1923

Discovery of Insulin



Frederick Banting, J. J. R. Macleod, Charles Best, and James Collip of the University of Toronto publish work detailing the preparation of purified insulin extract suitable for human use. Banting has two important insights that contribute to the discovery of insulin. First, he hypothesizes that isolating the islets of Langerhans might produce a key substance. Second, drawing on his farm background, he reasons that fetal cow pancreas will produce insulin. This insight allows for an unlimited supply of insulin to be obtained for laboratory work and purification.

In 1923 the Nobel Prize committee credits the practical extraction of insulin to the team at the University of Toronto and awards the Nobel Prize to Frederick Banting and J.J.R. Macleod. Banting, insulted that his assistant and right hand Charles Best is not mentioned, shares his prize with him, and Macleod immediately shares his with James Collip. The patent for insulin is sold to the University of Toronto for one half-dollar.

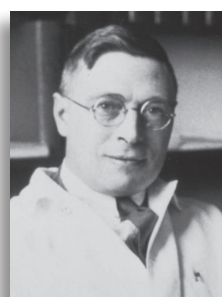
The primary structure of insulin is determined by British molecular biologist Frederick Sanger, who is awarded the 1958 Nobel Prize in Chemistry. It is the first protein to have its sequence determined.



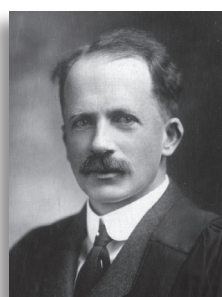
F. G. Banting



Charles H. Best



J. B. Collip



J. J. R. Macleod

"No one has ever had an idea in a dress suit."

—Frederick G. Banting

1924

Florence Rena Sabin

Florence Rena Sabin is elected the first female president of the AAA. Sabin is a medical scientist with a passion for spelunking. She is a pioneer for women in science: the first woman to hold a full professorship at Johns Hopkins School of Medicine, the first woman elected to the National Academy of Sciences, and the first woman to head a department at the Rockefeller Institute for Medical Research. In her retirement years, Sabin pursues a second career as a public health activist in Colorado, and in 1951 she receives a Lasker Award for this work.



Florence Rena Sabin

"I hope my studies may be an encouragement to other women, especially to young women, to devote their lives to the larger interests of the mind. It matters little whether men or women have the more brains; all we women need to do to exert our proper influence is just to use all the brains we have."

—Florence Sabin speaking at Hobart and William Smith College, after receiving the Elizabeth Blackwell Award.

AAA adopts resolution to investigate the status of anatomy

From the 1924 Proceedings of the American Association of Anatomists: "A Motion to investigate the Status of Anatomy. The status of anatomy, its relations to premedical education and training, and to the preclinical and clinical subjects of the medical college has become a problem of serious importance to us."

1926

Dermatoglyphics

Harold Cummins coins the term *dermatoglyphics* in 1926 to describe the scientific study of the palmer and plantar ridges of the hands and feet. He publishes numerous studies in the field, including a 1929 paper that remains one of the most widely referenced papers on dermatoglyphic methodology to date. He dedicates his 1943 book, *Finger Prints, Palms and Soles*, to dermatoglyphics pioneer Harris Hawthorne Wilder. The now-famous book will become a bible in the field of dermatoglyphics. Cummins also serves as an expert consultant in numerous legal cases, including the Charlie Chaplin paternity case, the Oakes murder in Nassau, and the shooting of John Dillinger.



Harold Cummins

1927

W. M. Copenhaver

W. M. Copenhaver publishes the landmark paper "*Results of Heteroplastic Transplantations of the Heart Rudiment in Amblystoma Embryos.*"

1928

Discovery of Penicillin

The discovery of penicillin is attributed to Scottish scientist and Nobel laureate Alexander Fleming. In 1928, Fleming mistakenly leaves open a Petri dish containing *Staphylococcus* plate culture. It becomes contaminated by a blue-green mold, which forms a visible growth. Fleming notices a halo of inhibited bacterial growth surrounding the mold and concludes that the mold released a substance that repressed growth and induced lysis in the bacteria. He grows a pure culture and discovers it is a *Penicillium* mold, now known to be *Penicillium notatum*. This serendipitous observation begins the modern era of antibiotic discovery.



Penicillin incubator

Edward Allen Boyden

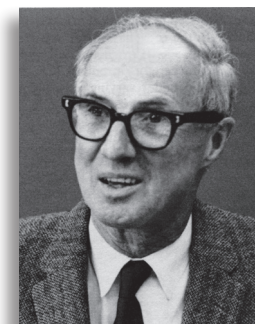
Edward Allen Boyden becomes managing editor of *The Anatomical Record*. During his career, Boyden produces groundbreaking work on the gall bladder, the common bile duct, and the lung.

The concept of neurosecretion

Berta and Ernst Scharer establish the concept of neurosecretion in 1928 and publish their first monograph on the subject in 1937. Prior to this, scientists believe that cells either secreted hormones (which made them endocrine cells and thus part of the endocrine system) or conducted electrical impulses (in which case they were nerve cells and thus part of the nervous system). It is now known that neurosecretion is commonplace in both vertebrates and invertebrates.



Berta V. Scharer



Ernst Scharer



Johns Hopkins School of Medicine, Class of 1900. Florence Sabin is in second row far left side.