of fungi, or as with an infinitely great sum of figures employed in computations amounting to trillions and quadrillions, all to be canceled save a result expressible in units. And what interesting corollaries might be drawn from such a doctrine, as to the farther independent existence of the selves after the combinations to which they are attached have been dispersed!

Certainly I do not wish to be understood as advocating this second point of view. The experiences of scientific investigation do not convert one to that thoroughgoing pragmatism which holds that satisfaction to our instincts is ground for holding a proposition to be verifiable. But I take it that the function of a scientific exposition is to follow wherever the argument leads, and when the road forks, with no signboard to tell us positively which fork to follow, it must chronicle that fact, and investigate so far as it can the regions into which each fork leads, leaving the question of choice to each person as a person. When the man of science leaves the solid ground and takes to his aeroplane, such a rule is doubtless difficult, for all roads become dim, but it still remains the ideal.

Gentlemen of the society, whether you have followed me in any other respect or not, you will admit the truth of my introductory promise that I would give you a rest from things practical and that I would not try to lead you to any conclusion. Looking at some of the elementary facts of genetics in relation to ourselves, we saw that each of us has been in unbroken material existence for countless ages, during which time we have taken part in the upbuilding of many a brute and many a man and many a woman. After speculating a bit as to the marks which these experiences may have left on our characters, we turned our eyes to the future. We found that each of us is but a knot in a continuous web of strands that have, in other combinations, built up many persons, and will, in still new combinations, build up many others. Thus, as we have before taken part in the development of brute and of man, we may hope later to take part in the development of superman. Finally we looked at the relation of some data of genetics to the problems of personal identity and the self. Here the straight path of science, when followed simply and unsuspectingly, showed us nature cutting off budding human personalities by the billion, where she brings one to fruition. Whether this ingenuous and unforeseeing pursuit of the scientific path as marked out by the objective data is the only proper method for the establishment of belief on such a point or whether we are justified in turning off at a certain juncture, because this takes us where, for other reasons, we would prefer to go, is a question which leads into broader fields than the experimental science of genetics.

H. S. Jennings

SCIENTIFIC NOTES AND NEWS

The American Association for the Advancement of Science and the national scientific societies affiliated with it are opening at Washington the tenth convocation week meeting as this issue of Science is sent to press. There are published above the presidential addresses of Professor Michelson before the American Association and of Professor Jennings before the American Society of Naturalists. These will be followed by other addresses and by the proceedings of the meetings.

Dr. K. Von Goebel, professor of botany at Munich, Dr. Aurel Voss, professor of mathematics at Munich, and Dr. Ewald Hering, professor of physiology at Leipzig, have been elected knights of the Bavarian Maximilian order for art and science.

PROFESSOR W. C. BRÖGGER (Christiania), Professor T. Curtius (Berlin), Professor P. A. Guye (Geneva) and Professor H. Rubens (Berlin) have been elected honorary members of the Royal Institution.

PROFESSOR WALDEYER, of Berlin, has been elected president of the International Committee of the forthcoming International Congress of Medicine, in the room of the late Dr. Pavy.

PROFESSOR JOHN F. HAYFORD, director of the College of Engineering, Northwestern University, has been appointed by the chief justice of the United States a member of a commission of engineers to obtain the data necessary to settle the boundary between Costa Rica and Panama.

The Academy of Sports of France has awarded its gold medal to Admiral Peary for the "admirable lesson of physical energy and moral courage that you have given to the entire world in the midst of fatigues, sufferings and difficulties, the conquest of the North Pole." The resolution was moved by Dr. Charcot.

A $1,000 industrial fellowship has been given the College of Agriculture of the University of Wisconsin for the purpose of studying pea diseases with a view to their prevention. R. E. Vaughn, a graduate of the University of Vermont in the class of 1907, has been appointed to the fellowship for the present academic year.

MR. D. T. GRISWOLD, of College Station, Texas, has accepted a position to do extension work in agriculture for the Agricultural College of Porto Rico. He will sail for Porto Rico soon.

PROFESSOR NEWSTEAD has returned from the expedition to Central Africa, on which he had been sent by the Liverpool School of Tropical Medicine in connection with the commission on sleeping sickness, which the government is sending out under Colonel Sir David Bruce.

THE chief speaker at the public exercises of Johns Hopkins Commemoration Day, on February 22, will be Dr. S. Weir Mitchell, of Philadelphia. His subject will be "George Washington."

PROFESSOR J. MCKEEN CATTELL, of Columbia University, addressed the Huxley Society of the Johns Hopkins University on December 20, his subject being "Some Problems of University Administration."

PROFESSOR CHARLES W. BROWN, of Brown University, lectured on November 25 before the Yale Geological Club on "The Human Aspects of the Jamaica (1907) Earthquake," showing how geological investigations should decide upon the location and mode of construction of buildings, and how by the cooperation of geologists and structural engineers the damage from earthquakes in most seismic regions could be almost eliminated. Professor M. L. Fernald, of the Gray Herbarium, Harvard University, lectured before the club on December 7 on "The Distribution of the Coastal Plain and Maritime Plants in North America." The great dominance of the plants of the New Jersey coastal plain in the Newfoundland flora was pointed out and its important geologic significance was emphasized. The inland distribution of maritime plants into the Mississippi valley and over the western part of the continent was also discussed. On December 8, Professor Fernald gave a lecture to the Yale Chapter of the Society of Sigma Xi on "Botanical Evidences bearing on the Exploration of the Norsemen," in which it was shown that the accounts which have been assumed by historians to show their exploration along the eastern coast of the United States did not reach in fact south of the St. Lawrence estuary.

AT a representative meeting of former students and friends of the late Professor P. G. Tait, at the University of Edinburgh, it was decided to undertake to establish an additional memorial to him in the form of an endowment of a Tait chair of mathematical physics at the University of Edinburgh.

IT is proposed to erect a statue of Joseph Priestley, at Birstall, near which he was born in 1733.

MISS SUSAN MARIA HALLOWELL, professor emeritus of botany in Wellesley College, where

she had taught since the establishment of the institution in 1875, until her retirement in 1902, has died at the age of seventy-six years.

Mr. Arthur Cottam, who, while engaged in the service of the British government, carried forward valuable work as an amateur astronomer, died on November 23, aged seventy-five years.

Dr. Giorgio Spezia, professor of mineralogy at Turin, died on November 10 at the age of sixty-nine years.

Nature states that the premises of the Institute of Chemistry, the lease of which will expire shortly, and can not be renewed, have become inadequate for the increasing activities of the institute. To carry on the work, the council of the institute requires new buildings, which should include more commodious meeting rooms, library, laboratories, examination rooms, and offices. It is proposed to begin the preparation of plans next year, and it is estimated that the necessary building and fittings will cost about 15,000 *l.* An appeal has been made to fellows and associates of the institute, which has already resulted in the receipt of contributions and promises amounting to more than 8,000 *l.*

A bill (H. R. 14,120) has been introduced in the House of Representatives by Congressman J. Hampton Moore, which calls for an appropriation of $80,000 to enable the Secretary of Agriculture, in cooperation with the various state authorities, to take necessary measures for checking the chestnut tree blight. Of this amount, $20,000 is to be immediately available, and $10,000 is to be spent in studying the relations of insects to the disease. A bill carrying essentially the same provisions (S. 3,557) has been introduced in the Senate by Senator Penrose.

Representatives of the Imperial Health Office, of the medical faculties and a number of journalists met on December 20 at the Ministry of the Interior at Berlin and organized a committee with the object of promoting German participation in the fifteenth International Congress on Hygiene and Demography to be held at Washington in September, 1912.

The Medical Record states that the American Association for the Conservation of Vision is inaugurating a wide-spread campaign of public education to call the attention of people to the care and preservation of their eyesight. The association has recently moved to new offices at 105 East Twenty-second street, New York City. A recent election of officers leaves the personnel as follows: *President,* Dr. F. Park Lewis; *Vice-President,* E. L. Elliott; *Acting Secretary,* Douglas C. McMurtrie; *Acting Treasurer,* T. Commerford Martin. Dr. Hiram Woods, of Baltimore, is on the board of managers and Dr. G. E. de Schweinitz, of Philadelphia, is director of the Department of Diseases and Defects of the Eye. Among the publications of the association are its *Bulletin* and *Monograph Series,* the first of a popular and the latter of a technical nature. The first issue of the *Bulletin* is entitled "Conserving Vision," compiled by Douglas C. McMurtrie and edited by G. E. de Schweinitz, M.D., F. Park Lewis, M.D., Louis Bell, Ph.D., and E. Leavenworth Elliott. The first issue of the *Monograph Series,* edited by Douglas C. McMurtrie, is entitled "Ophthalmia Neonatorum in Ten Massachusetts Cities" by Henry Copley Greene. The association has now in press additional booklets of a popular nature.

The state school fund of Wisconsin will soon be distributed to the various school districts of the state. The per capita apportionment for persons of school age is $2.783, as compared with $2.423 last year. It is a surprising fact that there are 6,236 fewer persons of school age reported for the year ending June 30, 1911, than for the year ending June 30, 1910. The loss in the number of persons of school age is pretty well distributed over the state. Excluding cities under city superintendents, only 24 of the 71 counties show a gain. The increase ranges from 614 for Clark County to 3 for Langdale County. Of the 68 cities under city superintendents 38 show a gain in school population, the largest gain, 767, being in Milwaukee.

A correspondent calls attention to the fact that *Nature* says: "It is proposed to establish

a post of demonstrator in medical etymology in connection with the Quick Laboratory. The appointment will be made by the Quick professor of biology." He suggests that the Slow professor of philology may some day appoint a demonstrator of oriental entomology.

CARNEGIE UNIVERSITY, at Wilmington, Del., states in its announcement that it is "the oldest and most celebrated institution of learning of its kind in the United States of America" and that "by virtue of the powers invested in the university by the government of the state of Delaware" it confers numerous degrees, including M.A., Ph.D., Sc.D., M.D., LL.D., etc. A member of the staff of the *Journal* of the American Medical Association wrote that he was unable to take the regular course, but would pass the examination if the university would send him the examination papers. Among the questions and the answers submitted were the following:

Question—What is histology?

Answer—Histology is the study of the history of the anatomy and physiology of the body.

Question—What is embryology?

Answer—Embryology is the study of the newborn baby and how to care for it.

Question—Describe the portal circulation.

Answer—The portal circulation is the circulation of the chyle and chyme which is found in the stomach when the food is being digested. It then goes into the blood to build up the body.

Question—Describe the fornix.

Answer—The fornix is that part of the throat at the back of the tonsils which is affected in catarrh. An adjustment of the vertebra of the neck will often help it.

Question—How would you replace a dislocated lower jaw?

Answer—The jaw should be pulled forward or pushed back, as the case may be, and the joint massaged and adjusted.

Question—Give pathology, etiology, symptoms and treatment for malaria.

Answer—Malaria is found in the south and in swampy places. The patient should be given massage to make the bowels move and the spine should be adjusted to improve the circulation. It is also better to have the patient move from a malarial place to where it is dry.

The action of the "University" was given in a letter which begins:

We herewith have the pleasure to inform you that you have passed your examination very satisfactorily, and that the Carnegie University has conferred on you the degree of Doctor of Mechano-Therapy. The diploma will be forwarded to you on receipt of post-office money order of $50.

A COURSE of sixteen lectures on economic agriculture is offered at Columbia University, beginning with an introductory lecture on Wednesday, November 22, 1911, at 4:30 P.M., and continuing on successive Wednesdays (except from December 20 to January 3 inclusive). These lectures, while dealing with the scientific aspects of the subjects announced in the course, will be divested as much as possible of technicalities. The program is as follows:

November 22—"How a City Man can Succeed in Farming," Professor O. S. Morgan, Columbia University.

November 29—"Agricultural Possibilities about New York City," Mr. George T. Powell.

December 6—"Soil Bacteria—their Importance and How to Control them Advantageously," Director Jacob T. Lipman, New Jersey Agricultural Experiment Station.

December 13—"Practical Problems in Developing the Dairy Herd," Professor Henry Wing, Cornell University.

January 10—"Corn Growing in the East," Director Thomas F. Hunt, Pennsylvania State College of Agriculture.

January 17—"The Farmer as a Plant Breeder," Hon. W. N. Hays, assistant secretary of agriculture.

January 24—"Problems in Feeding the Dairy Herd," Professor E. S. Savage, Cornell University.

January 31—"Poultry Raising," Dr. Raymond Pearl, State Agricultural Experiment Station, Orono, Maine.

February 7—"Soil Drainage Problems and Practises in New York State," Professor E. O. Fippin, Cornell University.

February 14—"Fundamental Problems in Maintaining Soil Fertility," Dr. O. Schreiner, Bureau of Soils.

February 21—"Truck Farming and its Prob-

lems near Great Cities,'' Professor R. L. Watts, Pennsylvania State College of Agriculture.

February 28—''Peach Orchards,'' Professor M. A. Blake, New Jersey Agricultural Experiment Station.

March 6—''Planting an Orchard,'' Dr. U. P. Hendrick, Agricultural Experiment Station, Geneva, N. Y.

March 13—''Orchard Management—with special reference to Fertilization and Spraying,'' Dr. J. P. Stewart, Pennsylvania State College.

March 20—''Problems in Eastern Farming.'' Lecturer announced later.

March 27—''Practical Considerations in Farm Management,'' Dr. W. J. Spillman, Bureau of Plant Industry.

The following lectures on zoological subjects will be given at Trinity College during the course of this year.

December 15—Raymond C. Osburn, acting director of the New York Aquarium and associate professor of zoology, Columbia: Fishes.

January—Frederic S. Lee, director of the department of physiology, College of Physicians and Surgeons, New York: Some Aspects of Muscle Action.

February—George H. Parker, professor of zoology, Harvard: Some Phases of the Nervous System.

March—Professor Henry A. Perkins, Trinity: The Brownian Movement of Ultramicroscopic Particles.

May—Dr. David Dwight Whitney, of Wesleyan: Some Problems in Sex.

April—Irving A. Field, United States Bureau of Fisheries: Utilization of hitherto unused Fishes as Food.

The faculty of Medicine of Harvard University offers a course of free public lectures, to be given at the Medical School, Longwood Avenue, Boston, on Sunday afternoons, beginning January 7, and ending May 5, 1912. The lectures will begin at four o'clock and the doors will be closed at five minutes past the hour.

January 7—Dr. F. C. Shattuck: Catching Cold, etc.

January 14—Dr. John Lovett Morse: Feeding of Infants.

January 21—Dr. Myles Standish: The Care of the Eyes.

January 28—Dr. S. B. Wolbach: A Medical Expedition to West Africa.

February 4—Dr. Abner Post: Syphilitic Heredity.

February 11—Dr. E. E. Southard: The Mental Life in the Light of Modern Efforts to Map the Brain.

February 18—Dr. Charles S. Minot: The Human Face.

February 25—Dr. Joel E. Goldthwait: The Effect of Posture upon the General Efficiency of the Human Being.

March 3—Dr. C. P. Putnam: The Care and Training of Children.

March 10—Dr. Maurice H. Richardson: Conservation, not Destruction, the Chief Object of Surgical Endeavor.

March 17—Dr. Charles J. White: Possibilities of Infection of the Skin in Public Places.

March 24—Dr. E. H. Bradford: Some Causes of Backache.

March 31—Dr. George Burgess Magrath: The Massachusetts System of Medico-legal Inquiry.

April 7—Dr. Charles M. Green: Certain Topics in the Hygiene of Women. (To women only.)

April 14—Dr. E. H. Nichols: The Sexual Instinct—Its Abuse and Control. (To men only.)

April 21—Dr. John Bapst Blake: Fractures, Sprains and Minor Injuries: Diagnosis and Treatment. (Illustrated by lantern slides.)

April 28—Dr. George T. Tuttle: Some Forms of Mental Disease and the Methods now employed in their Treatment.

May 5—Dr. C. J. Blake: The Prevention of Unnecessary Noise.

The home universities committee of the Congress of the Universities of the British Empire, consisting of the vice-chancellors of the universities of the United Kingdom and other representatives, have prepared the program of subjects for discussion at the congress in July, 1912. The meetings of the congress will be held on July 2, 3, 4 and 5, on four mornings and two afternoons. There will be, in addition, a business meeting. The subjects for discussion fall under two heads, and are as follows:

I. Universities in their relation to one another:

1. Conditions of entrance to universities and the possibility of equivalence and mutual recognition of entrance tests to degree courses.

2. Interchange of university teachers; conditions of interchange.

3. Interuniversity arrangements for post-graduate and research students.

4. Question of division of work and specialization among universities.

5. The establishment of a central university bureau; its constitution and functions.

II. Universities in their constitutional aspects and in their relation to teachers, graduates and students:

1. The relation of universities to technical and professional education and to education for the public services.

2. Provision of courses of study and examinations for other than degree students, including university extension and tutorial class work, and specialized courses both of a general and technical character for students engaged in professional, commercial and industrial pursuits.

3. The representation of teachers and graduates on the governing body of a university.

4. Action of universities in relation to the after-careers of their students.

5. The position of women in universities.

6. The problem of universities in the East in regard to their influence on character and moral ideals.

7. Residential facilities, including colleges and hostels.

THE "Quarterly Return of Marriages, Births and Deaths," published by the authority of the registrar-general and abstracted in the London *Times*, shows a remarkable decline in the "natural increase" in population in England and Wales by excess of births over deaths. During the three months there were only 81,645 more births than deaths as compared with 123,300, 124,054 and 123,022 in the third quarter of 1908, 1909 and 1910, respectively. The births registered in the third quarter of 1911 numbered 222,601 and were in the proportion of 24.4 annually per 1,000 of the population, which is 2.9 per 1,000 below the mean birth-rate in the ten preceding third quarters, and it is the lowest birth-rate recorded in any third quarter since the establishment of civil registration. In registration counties with populations exceeding 100,000, the lowest birth-rates during the quarter were 18.4 in Sussex, 20.0 in Northamptonshire, 20.1 in Berkshire, 20.2 in Devon, Somerset and Carnarvonshire. The highest rates were 26.7 in Northumberland, 26.8 in Carmarthenshire, 27.3 in Nottinghamshire, 27.7 in Staffordshire, 29.9 in Monmouthshire, 30.9 in Durham and 31.7 in Glamorganshire. In the 77 great towns the birth-rate averaged 25.5 per 1,000, ranging from 15.8 in Bournemouth, 16.0 in Hastings, 17.9 in Hornsey, 18.3 in Halifax, 18.5 in Huddersfield and 18.6 in Bradford, to 30.1 in Bootle, 31.3 in Stoke-on-Trent, 32.7 in Merthyr Tydfil, 34.7 in St. Helens and 35.3 in Rhondda. In the 136 smaller towns the mean birth-rate was 23.6 per 1,000, and in the remainder of England and Wales, excluding the 213 chief towns, it was also 23.6. The deaths registered in England and Wales last quarter numbered 140,956, and were in the proportion of 15.5 annually per 1,000 persons living; this rate is 1.7 per 1,000 above the mean rate in the ten preceding third quarters. In registration counties with populations exceeding 100,000, the death-rates ranged from 11.4 in Wiltshire, 11.7 in Somerset, 11.8 in Berkshire and Hertfordshire, 11.9 in Shropshire and 12.1 in Buckinghamshire, to 16.7 in the West Riding of Yorkshire, 17.5 in Glamorganshire, 17.6 in the East Riding of Yorkshire, 18.0 in Staffordshire, 18.5 in Lancashire and 18.6 in Durham. The population of the United Kingdom in the middle of 1911 is estimated at 45,311,078 persons; that of England and Wales at 36,168,750, that of Scotland at 4,766,860 and that of Ireland at 4,375,468. These estimates are based upon the numbers enumerated at the censuses of 1901 and 1911. In the United Kingdom 277,655 births and 173,105 deaths were registered in the three months ended September 30, 1911. The natural increase of population was, therefore, 104,550. The official vital statistics of France for the first six months of 1911 give a total of 385,999 birth and 404,278 deaths, being an excess of deaths of 18,279.

UNIVERSITY AND EDUCATIONAL NEWS

AT a meeting of the lumbermen of the North Idaho Forestry Association held in