Much has been written and published about this natural bridge, since the appearance, a century ago, of a description of it in the 'Travels of the Marquis de Chastellux in North America in 1780–82;' but there appears to be a lack of a complete description of the bridge and its surroundings, which is readily available, and which would prove of special value to the topographer and the geologist.

HEREDITARY INTELLECT AND THE GEOGRAPHICAL DISTRIBUTION OF TALENTS.

There is hardly any subject more fascinating to men of intellectual pursuits than that of biography. Within the last few years we may almost assert that the foundations have been laid for a science of comparative biography which promises to be not only interesting as a branch of inquiry, but of practical importance to all who are engaged in the education of youth and the advancement of science. The writings of Galton, Ribot, James, and others, have shed a great deal of light upon the influences which tend to produce intellectual distinction; and, if investigations of this kind are far from being so comprehensive or so exact as would be desirable, they are, to say the least, suggestive and stimulating. To books of this class belongs the treatise which is named above. The volume is worthy of a much more extended and critical review than we can now give; but, having received an early copy of it, we bring it at once to the attention of our readers.

Eleven years ago Alphonse de Candolle, the celebrated botanist, who succeeded to the chair of his renowned father in the Academy at Geneva, and to the place of a foreign member of the French institute made vacant by the death of Agassiz, published a history of the modern sciences and of scientific men during the last two centuries. The work has long been out of print. Its venerable author, more than seventy-eight years old, has now issued a revised edition of this work, enlarged by more than a hundred pages of new material. Some portions of the original edition (particularly a defence of Darwin's theory of natural selection, which seemed to the author no longer called for) have been omitted, and in place thereof some new researches in respect to heredity in the human species have been introduced. By what he calls his new method, the author endeavors to distinguish in the facts of birth those which come from heredity, and those which are for the first time manifested in a family, and which may be considered as individual variations. These characteristics, and those developed after birth by exterior influences, determine the adaptation of the individual to the circumstances in which he is found; that is, to his environment.

De Candolle has now carried his inquiry beyond the ranks of those who are commonly called scientific men, — the students of mathematical and natural sciences, — and has made a study of those who are devoted to moral and social sciences.

It is not generally known how well he is fitted for both these lines of investigation. His career has been that of a botanist, but he began life by the study of law; twice he has been a member of constitutional conventions, and repeatedly of legislative bodies. We need say no more to assure the reader that this new edition of his history is fresh, suggestive, and instructive. If all its reasonings are not accepted, the student of comparative psychology must be grateful for the light which it sheds upon one of the most difficult, interesting, and important inquiries which can be made in respect to the intellect of man.

His new method, as he terms it, is this, — to select, without any preconceived notions, a certain number of individuals whose personal characteristics can be ascertained, and those of their parents and grandparents. The characteristics to be noticed are these: 1°, exterior physique; 2°, internal organs, so far as they can be judged without autopsy; 3°, instincts or native disposition; and, 4°, intellectual faculties. Having collected the facts, the influence of heredity can be approximately ascertained. The author first thought of studying the family of some sovereign, — Louis XIV., Frederick the Great, or some one else of whose ancestry there are abundant records; but he finally determined to study his own family. Being seventy-eight years old, he playfully says that he knows himself quite well. Of his parents and grandparents, all of whom lived to be more than sixty years old, he has a good recollection, supplemented by letters, memoirs, and portraits. He then noted in his subject 'A' sixty-four characteristics, of which he found sixty-three in one or both his parents. He extended his observation to thirty other individuals belonging to sixteen families; and in the entire group of thirty-one persons he was able to enumerate 1,032 characteristics of which he was able to state their presence or

Histoire des sciences et des savants depuis deux siècles. Par Alphonse de Candolle. Deuxième édition, considérablement augmentée. Genève-Bale, *Georg*, 1885. 594 p. 8°.

absence among the parents of the individual studied. The results of this inquiry are tabulated. To illustrate what he means by characteristics, the author cites three famous men whose lives are well known, and mentions their dominant traits, — Louis XVI. (fifteen characteristics), Napoléon Bonaparte (thirty-seven characteristics), and Charles Darwin (twenty-nine characteristics). All this part of his essay is full of interest.

His conclusions are these : —

1. Heredity is a general law which admits but few exceptions.

2. The interruption of heredity through one or more generations (atavism) is rare, perhaps five or ten times in a hundred.

3. The more remarkable a person is for good or ill, the more numerous and pronounced are his characteristics.

4. Women show fewer distinctive characteristics than men.

5. All groups of characteristics are more likely to be transmitted by fathers than by mothers.

6. It is difficult to determine whether characteristics which have been acquired by education and other external circumstances are transmitted by heredity.

7. The most marked characteristics in an individual are generally those received from both parents, especially those received both from parents and other progenitors.

The main portion of the volume, in the second as in the first edition, is a study of what might be called the origin and distribution of scientific men during the last two centuries. The author's views are based upon the selection of foreign members by three great academies, — in London, 1750–1869 ; Paris, 1666–1883 ; and Berlin, 1750–1869. As a rule, these associations bestow the honor of foreign membership, from time to time, upon men of all countries, and of all departments of study, who have exerted most influence upon the progress of science by their publications. Such elections may be regarded as indications of impartial judgment respecting merit ; and, although there may be errors or prejudices, he believes that the aggregate lists include the names of those most worthy to be honored for their scientific investigations. From the facts thus collected he points out the proportion of mathematicians and naturalists at different epochs ; the increasing devotion to a single subject ; the rarity of feminine contributions to the progress of science ; the social classes from which *savants* come ; special influences which affect the number, the studies, and the successes of scientific men ; national distribution of scientific leaders. Many valuable comments follow on the outlook of modern science, and the favorable and unfavorable influences which are at work. Toward the close of the volume, there is given an investigation (which was only approached in the first edition) respecting the academic recognition of men devoted to the moral and social sciences.

"The secret workings of nature which bring it to pass that an Aeschylus, a Lionardo, a Faraday, a Kant, or a Spinoza is born upon the earth, are as obscure now as they were a thousand years ago." These are the words with which Pollok introduces his life of Spinoza, and they have occurred to us after a perusal of the book we have described. The origin of genius or of talent is as fascinating an inquiry as the origin of species. But there is something in the intellectual or spiritual nature of man which eludes analysis, and hides itself from the most penetrating researches of the psychologist and the physiologist. Nevertheless, a volume so full of learning, so sparkling with bright ideas, so controlled by scientific habits, is a thought-inspiring book, for which every one must be grateful, even if it serves only as an introduction to an unexplored continent.

DR. HACK TUKE ON HYPNOTISM.

DR. HACK TUKE can hardly be said to have written a book on sleep-walking and hypnotism : it is a collection of papers which are full of repetition, and which are written in a style that is decidedly undress. But hypnotism is at present such an interesting subject, that any exact information about it is very welcome. The author's main object is to point out the resemblance between natural and induced somnambulism, which latter term he uses as another name for hypnotism, and to call attention especially to the former mode of aberrant mental action as an important aid to the study of mind. His own article on natural somnambulism, based on answers to a circular sent out six years ago, contains little that was not known before ; but his examination into the mental condition of the hypnotic subject is of greater interest. He finds that consciousness may persist, or that it may pass rapidly or slowly into complete unconsciousness ; the manifestations are not dependent upon its presence or absence. One subject, Mr. North,

Sleep-walking and hypnotism. By D. HACK TUKE, M.D., LL.D. London, *Churchill*, 1884. 6 + 119 p. 8°.