gent and comprehensive treatment of what I like to call the language of science. Especially does this seem desirable in the general dictionary, as distinguished from the many technical glossaries accessible to—and often understood only by—trained specialists. In my personal files, as well as in the master files in the Funk and Wagnalls reference department, are hundreds of cards dealing with this field of knowledge alone. The material, indeed, is so rich, and it accumulates so rapidly, that I have been encouraged to compile a sort of annual glossary of new (or relatively new) scientific and technical terms, the first modest instalment of which appeared in the 1943 edition of the *New International Year Book*.

I hope that some of your readers with a flair for the terminology and nomenclature of the sciences may feel prompted to comment on the points raised in this letter, possibly even contributing such new terms as they consider important for the proper understanding of new developments in their own fields. It is true, as Faraday sensibly remarked, "that names are one thing and science another"—but was it not Faraday who gave us *electrolyte, anode, cathode, electrode, ion?* And, despite Mr. McDonald's plea for *radionics*, how large is the language-debt of science to Johnstone Stoney's fertile neologism, *electron!*

HAROLD WARD

NEW YORK, N. Y.

NATIONAL LEARNED SOCIETY GROUPS

IN my article "National Learned Society Groups" (SCIENCE, May 7), by some slip of the pen, I inadvertently mentioned the Geological Survey, intending to cite one of the Government Bureaus specifically mentioned before a House Committee by Secretary of the Interior Ickes. Actually the Survey is one of the few departments requiring of its staff, I am now told, a written statement of freedom from any paid connection with private corporate interests. I have been assured that this measure is strictly enforced, requiring rigid devotion in scientific matters connected with geology to the national interest. If all scientific departments of the nation and of the separate states, together with all colleges, universities and technical schools had this freedom from any private corporate connection my proposals would be superfluous.

Permit me to say that I have had scores of letters of approval and a score of interviews with supporters of my propositions; these include men in practically all the larger Eastern institutions as well as many in state universities, government bureaus and even from the far-off Oriental Institute of Oriental Studies in the Hebrew University of Jerusalem.

There have been four letters in opposition. I note that none of the objectors mention whether they have such paid connections with corporations.

LOUIS C. KARPINSKI

SCIENTIFIC BOOKS

SAMUEL F. B. MORSE

The American Leonardo. A Life of Samuel F. B. Morse. By CARLTON MABEE. 32 and 380 pp. New York: Alfred A. Knopf. 1943.

FROM the brilliant introduction by Professor Allan Nevins to the final of the 380 pages by the author the reviewer found this to be a highly interesting and informative book. The 1875 "official" biography by Prime (nearly 800 pages) is very largely filled with long letters by or to Morse and with copies of documents bearing on the story of the telegraph. But in this book the author has seized upon the salient points of many letters and documents even more than were known to Prime and, with occasional quotations, has painted a portrait rich in color, accurate in detail. Every important statement concerning Morse is documented; that is, a reference to the original source is given so that the reader may, if he wishes, verify its accuracy. These references (40 pages at the back of the book) number about 740, but one reference may contain a list of several sources so that the total number of documents to which the reader may refer runs into the thousands. However, there is unity, continuity, alluring appeal and literary excellence in the body of the book.

This is more than a biography of Morse; it is a story of his time. For here we get glimpses of many of the prominent men with whom Morse had contact: His father, the Reverend Dr. Jedediah Morse, the stern, just Congregational minister, the author of the first American geography, a founder of the American Board of Foreign Missions, projector of the Andover Seminary; the foremost painters Stuart, Copley, West, Trumbull; the foremost scientists Silliman, Day, James Freeman Dana, Oersted, Ohm, Henry, Wheatstone, Arago, Ampere; the writers, Coleridge, Bryant, Cooper; the inventors, Whitney, Fulton, Daguerre, Steinheil; the statesmen, President Monroe, many members of Congress, Lafayette. We follow Morse as a struggling painter with a great ambition to paint historical scenes but compelled by poverty to paint portraits, at times, 14 hours a day. In the book there are sixteen excellent reproductions

of paintings by Morse, chiefly portraits. They help to confirm the view, which many artists hold, that Morse was one of the foremost portrait painters of his time, comparing not unfavorably with Gilbert Stuart. We see Morse as a public-spirited citizen, a leader in the Nativist movement, a forlorn hope candidate for the mayoralty of New York. We note his fight against the O'Connel Guards, a military order of the Irish in New York, a forerunner of the German American Bund. We see him greeting the invention of the daguerreotype with great enthusiasm. He "saw in the image of a spider's head, no bigger than a pin, a minuteness of organization which he believed had not hitherto been known to exist. The discovery would open a new field of research, he predicted, with results as startling as when the microscope first came into use." He was one of the first American photographers. Then comes the great story of the beginning of the telegraph, and the Atlantic cable, the ridicule heaped by members of Congress on the idea of communicating intelligence through considerable distances by means of electric signals ("Senator Smith studied Morse's face for signs of insanity"), the successful experiment and the world's extravagant acclaim.

The author is critical in his appraisal of Morse as a scientist, but he gives a few quotations of the findings of scientific bodies. These make it clear that though Morse was not the sole inventor of the telegraph, he was the inventor of the Morse *method* of telegraphing—the method that has survived, with slight modifications, through these hundred years.

The reviewer has one mildly adverse criticism. It is in regard to the title. "Why drag in Velasquez?"—in this case, Leonardo? True, Morse called attention to the fact that artists may have abilities along various lines. He named Leonardo as a conspicuous example. Prime also names Leonardo as a scientist-artist, similar to Morse. But though there are points of similarity there are also great differences. Think of the origin of the two men. Think of Morse, the New England Puritan, the lifelong uncompromising foe of low standards in human conduct—then compare him with Leonardo. The author must share the view that there is an important difference, for there is probably more than mirth in his statement concerning Morse's friend and teacher, "Allston (a Southerner) was a Godfearing man, even compared with New Englanders." So where does Leonardo stand?

The book brilliantly bears out Professor Nevin's statement, "The life of Samuel F. B. Morse . . . is fascinating partly because of the versatility of his undertakings, partly because of the rich interest of his mind and character."

GORDON FERRIE HULL

ALASKA DIARY

Alaska Diary, 1926–1931. By ALEŠ HRDLIČKA. The Jaques Cattell Press, Lancaster, Pa. xv + 414 pp., with 232 illustrations. 1943. $5.00.

WERE it not for gas rationing and military priorities this book would precipitate a traffic jam on the Alaska highway. Dr. Hrdlička is careful to point out that there are other spots in the world for greater adventure, yet his clear style paints an intriguing picture of Alaska as offering the challenge of a frontier. The book is a diary of his archeological expeditions to Alaska, Yukon, Kuskokwim River and Nushagak, but it tells far more than the mere recovery of stone tools and human bones. It tells much of the living people of Alaska; it tells of the weather, of food, of transportation; it tells of opportunities, of hardships; and always it tells of Alaska, our far northwest border-country. Dr. Hrdlička went on these expeditions not as an "adventurer" or "explorer," but as a trained observer seeking to learn more of natural laws, especially as related to man and his prehistory. The volume is not an epic with pretense to literary grandeur; it is the day-by-day record of a simple unassuming man who looked, listened and stopped to learn.

On the expeditions Dr. Hrdlička collected nearly 4,000 crania and skeletons and measured many living. From the study of these data he concluded that "the entire littoral region of northwestern Alaska north of the Yukon, the habitable islands of the Bering Sea and the lower portions of the three large rivers appear to have always been occupied by the Eskimo." No trace of any other type of man has been found here. The upper reaches of the Yukon, the Kuskokwim and Nushagak were always sparsely occupied by Indians.

The Eskimos are not homogeneous, probably traceable to "a number of strains" in Asia. Three subtypes are recognized among the Indians: (1) the Yukon, Tananá and upper Kuskokwim; (2) Shageluk-Slough; (3) the Chugatchi to the south of the Nushagak. There are no distinct lines of demarcation between Eskimo and Indian types, although extremes in each are readily distinguishable, one from the other.

Dr. Hrdlička concludes that no mass migration came over from Asia. Rather, "the Asiatics came in dribbles," along the coast and a bit inward at river mouths. As to the time element, he concludes that "it could not be called very ancient, not reaching perhaps beyond the earlier parts of our era."

The publishers are to be congratulated upon their technical skill. The book is printed upon excellent paper and the illustrations, mostly photographs by the author, often taken under adverse lighting condi-