Locke, in western Texas, the Yerkes Observatory has within the past two months started operations, photoelectrically, with a twelve-inch refractor, awaiting the arrival of the new mounting next summer and of the completed mirror perhaps before the end of the next calendar year. The big piers have already been erected on Mount Locke. During the annealing of the McDonald eighty-inch mirror disk last spring, a slight crack developed at the edge. The Corning Glass Company heated the mirror again, so that residual strains as well as the crack would melt away. Happily, the weight of the reliquefied glass spread out against the hot mould—stretched it, with the result that when again the mirror was cooled they found an eighty-two-inch disk, and not an eighty-inch.

(12) Perhaps the most startling of the high lights remains to be mentioned, and it comes from a high altitude, namely the Jungfraujoch in Switzerland. Three Swiss scientists, Meyer, Schein, and Stoll, have succeeded this past summer, for the first time in history so far as I know, in detecting and measuring the passage through our atmosphere of sunlight in the far ultra-violet, λ 2000 to λ 2400, about 800 angstroms further out into the short waves than has ever been reached heretofore. The work was cleverly conceived through a knowledge of the character of the ozone layer that shelters the earth from the extreme ultra-violet light. The instrument used in the high Alps is a photon counter—not an ordinary photographic plate. The radiation that is now found to get through our atmosphere is relatively very weak, because the oxygen of the earth's atmosphere blocks most of it out—blocks it completely at λ 1800. The three Swiss scientists have opened new possibilities for high-altitude observations of the radiation from sun and stars. Aluminized mirrors have extended our front from λ 3400, approximately, to λ 2900, and now, jumping over the impenetrable ozone absorption bands of our atmosphere, we have another interval of the spectrum and another important contact with sidereal radiation, which is our chief source of knowledge of the outside universe.

OBITUARY

THE WIDOW OF CHARLES S. PEIRCE

A BRIEF notice in the *New York Times* records the passing of Mrs. Charles S. Peirce. Her age is not stated; she must have been about eighty. Her later years were a pathetic epilogue to the tragedy of the truly great man to whose lot, with touching loyalty, she joined her own. For it is a tragedy that one who ranks in the elect galaxy of master minds should have found so estranged, so nearly excluded a place in the academic fold.

The tribute to Peirce's distinction is evidenced in the reprinting of a sheaf of his more general essays nearly a half century after they were written. Professor Morris R. Cohen brought them together under the engaging title, "Chance, Love and Logic" (1923). Below the author's name are the words, "The Founder of Pragmatism." Harvard University is publishing his philosophical and scientific works in several volumes. His contemporaries placed him "in the forefront of the great seminal minds of recent times."

Two years ago I paid a visit of respect to the widow of Charles S. Peirce, to whom I had been indebted, as were so many others, for guidance and stimulation in the logic of scientific discipline. Few remain of those who had personal contact with him in the Johns Hopkins days—his only and brief academic tenure. Mrs. Peirce lived in a spacious house on a roadside within the town of Milford, Pennsylvania. The house had been built by Mr. Peirce when he was still profitably occupied. It was ambitious in size, the top floor never completed. There, Mrs. Peirce explained after we had mounted by a disused stairway, it was planned to hold scientific conferences and house the guests who were to come to sit at the feet of the master.

I stepped carefully on treacherous floors; the sides of the building had long been open to the weather; it was all a lumber heap of unfulfilled ambitions. The entire house was shadowed in memories. Mrs. Peirce gazed at it with the pride in a life she had shared.

There were books everywhere and scientific instruments and the collections of European travel, now all covered with newspapers to keep off the dust. The furniture in the drawing-room, much of which Mrs. Peirce had brought from France, gave it the air of a deserted salon. What had been the dining room was partitioned off by a screen. In that smaller space was a bed and an iron stove, on which she prepared her frugal meals and received her only source of heat. Even in early September, the rooms were chilly. Mrs. Peirce, who had sprung from the French nobility, still retained in the midst of these ruins the dignity and distinction of an assured station in life. Her only companion was a French poodle, obediently performing his tricks when politely addressed in French; the rest, solitude and memories.

When I had inquired my way to the house, I gathered, from the gestures of the villagers, that this slight, foreign lady was considered harmless but a

strangely queer person. I learned later that during the previous winter the milkman had found her almost frozen body near the pump in the garden—her only source of water, for the plumbing in the house had long since fallen into decay; she had slipped on the ice, with no one within call to assist her. The only reply to my knock had been the sharp bark of the poodle. Presently a figure came along the roadway in a black gown of other years, with a bonnet held on with ribbons and a black lace parasol held aloft. Mrs. Peirce's greetings were cordial, her accent and manner Gallic. I had not seen her since the heyday, forty-odd years before, although we had had occasional correspondence regarding arrangements for the publication of her husband's manuscripts.

She took up the thread of the tale as though the milestones of years were but conventions. She recited the details of Mr. Peirce's Lowell lectures in Boston, which must have taken place soon after her marriage. Most of all she wanted to meet William and Alice James. A seat was reserved for her in the brilliant audience that had assembled to hear her brilliant husband. She was delighted to find that her neighbor was Mrs. James. The friendship between the two women continued long after William James and Charles Peirce had ended their labors. She told of her reception by the Eliots and of the kindness of Cambridge to her, a foreigner who knew little English.

She spoke of the illnesses of her husband; how, when the doctors had given him up, she alone, with her frail hands, had nursed him back to life. She took me to the porch which she had glassed in so that her patient could enjoy the sunny shelter. She told of his persistence in getting back to his writing, even when strength failed; she told of the tragic night when he had breathed his last. It was all as of yesterday; and so were the stories of her letters to and from her family, who could not follow the interests of her distinguished American husband. She told of her insistence that he sell her jewels, when all means had failed. It was a tale of unalloyed pride, and no self-pity; just a reminiscent joy that this privilege of sharing so great a life had been hers. And as she spoke, vividly yet with patrician restraint, I pictured a stately provincial château, where she had spent her maiden years, looking forward to the sheltered fate of gentlewomen in a richly traditioned land, and contrasted it with the deserted, memory-haunted house in a rural district of Pennsylvania. From eighteen to eighty much can happen.

It seems proper that a tribute be offered to a life of singular loyalty. I doubt whether, despite the penury, the solitude, the hardships, she would have left the scene of yesteryears where all her memories were clustered. Her husband's philosophic world was closed to her; her interests were in the gentler amenities of the fine arts of living. It was all devotion to one whom his friends, who came to be hers, regarded as of the elect. That picture of a gracious old lady in a desolate house remains with me. Her privations she accepted; she lived and passed away in the environment of her memories, in the distinction of her devotion.

It is true that much of Peirce's writings are caviare to the public, and James, who found his pragmatism in Peirce's philosophy, could speak of his "flashes of brilliant light relieved against Cimerian darkness"; yet Peirce could, when he would, command the charm of lucidity and the appeal of style. He concludes his essay on "The Fixation of Belief" in these words, expressing his devotion to the methods of science:

> The genius of a man's logical method should be loved and reverenced as his bride, whom he has chosen from all the world. He need not condemn the others; on the contrary, he may honor them deeply, and in doing so he only honors her the more. But she is the one that he has chosen, and he knows that he was right in making that choice. And having made it, he will work and fight for her, and will not complain that there are blows to take, hoping that there may be as many and as hard to give, and will strive to be the worthy knight and champion of her from the blaze of whose splendors he draws his inspiration and courage.

His widow's devotion to his memory had the same quality.

JOSEPH JASTROW

RECENT DEATHS

DR. JAMES MARK BALDWIN, formerly professor of psychology at Princeton University and the Johns Hopkins University, who since 1912 has lived at Paris, died on November 8 at the age of seventy-three years.

DR. LEWIS LINN MCARTHUR, senior surgeon at St. Luke's Hospital, formerly president of the American Surgical Association, died on November 5. He was seventy-six years old.

ELMER H. WILLMARTH, associate professor of general engineering at Iowa State College, died on October 28.

HELEN A. BISHOP, professor of home management in Iowa State College, died on November 3.