lianum, a museum devoted to the history of the discovery of the laws of heredity by Gregor Mendel. My host, Jiří Farský, introduced me to the head of the Mendelianum, Vítězslav Orel. The museum dispelled a misconception I had shared with many people concerning the history of Mendel's discovery. Orel showed me the displays and explained to me the history of the discovery. When I finished, I felt very excited by the implications I find in this history for our efforts to develop the SSC.

My misconception was that Mendel was an isolated genius who worked out the laws of heredity in isolation in a monastery in Moravia. On the contrary, Orel has shown that this work was the result of a line of scientific progress going back more than 50 years before Mendel. Breeding work on both sheep and fruit had been actively pursued in Moravia since before 1820. The basic problem of inheritance was posed by C. F. Napp, who was the abbot of the Augustinian monastery in Brno. He recruited Mendel to the monastery, provided him with training, including sending him to study physics in Vienna with Christian Doppler, and provided him with the resources to carry out the research. This culminated with publication of his decisive work in 1866. That the world did not know more of this for the next 40 years can likely be traced to the further development of Mendel's career. Whereas he had a good start at presenting his work in scientific meetings in Moravia, this effort was somewhat cut short by his elevation as abbot of the monastery in 1868. The duties of that office in a time of turmoil cut short his efforts to communicate his scientific results.

I found it exciting that this central discovery of biology was a culmination of a series of steps taken with due deliberation in 19th-century Moravia. The building of a scientific culture in the Augustinian monastery of Old Brno was undertaken against clerical opposition and with substantial investment of resources. Without in any way discounting the genius of Mendel, it is important to recognize that the basic formulation of the problem was laid out by his predecessors. To lay out a program of investigation for a coming generation and to commit the necessary investment of financial, political and intellectual resources is not untried. Great science has flowed from such efforts in the past.

BRUCE C. BROWN
Fermi National Accelerator Laboratory
Batavia, Illinois
1/88

Clearing Up Soap Film History

Pierre-Gilles de Gennes showed his usual deft touch in condensing so much of the history of soap films into a short Reference Frame (July 1987, page 7). We should add to his list of pioneering contributions the heroic studies of minimum-area surfaces undertaken by the blind Belgian physicist Joseph Antoine Ferdinand Plateau (1801–83) using soap films formed on wire frames corresponding to a wide variety of boundary conditions. The use of this type of simulation has since expanded into a variety of other areas. Lawrence Bragg and W. M. Lomer used bubble rafts to study many of the features of dislocations and grain growth in crystals.[1] More recently, black soap films have even been used as the beam splitter in neutron optical interferometry experiments.[2]

References

1. W. L. Bragg, W. M. Lomer, Proc. R. Soc. London, Ser. A **196**, 171 (1949).
2. R. R. Highfield *et al.*, J. Colloid Interface Sci. **97**, 367 (1984).

JOHN HAYTER
Oak Ridge National Laboratory
Oak Ridge, Tennessee
8/87

Michelson's Middle Moniker

Loyd Swenson's article "Michelson and Measurement" (May 1987, page 24) is so good that it is worth correcting, or commenting on, a very minor point. I quote: "After President Lincoln's assassination Albert assumed the middle name of Abraham." This is indeed the story as told (to the best of her knowledge) by Albert Michelson's daughter Dorothy Michelson Livingston in her biography of her father, *The Master of Light* (Scribner's, New York, 1973).

Let me explain a point that may not be known outside the circle of students of Jewish social history. It had always been the custom of Jews to give both a Hebrew (biblical) name and a "gentile" name fitting their respective country of exile. (Even in Judea, in Hellenistic and Roman times, there would be a Greek name in addition to the Jewish one.) The only exceptions are the First Temple era and modern Israel, plus the period in Europe in which the Jews were segregated and did not form a part of the "regular" society. With the emancipations in Europe after 1789 and 1848, the custom of two names

continued on page 130

continued from page 15

was immediately renewed, with one constraint: The first letter of the "environmental" name was the same as that of the Hebrew name. Often the Hebrew name would not be officially registered and would be used only at social–religious ceremonies (daily prayers, but also circumcisions, weddings and funerals—which included most nonobservant as well as observant Jews). Having the same initial was very practical and simplified many documents.

Ashkenazic Jews name their children after the grandparents. On page 12 of *The Master of Light,* we read that Michelson's maternal grandfather was Abraham Przylubski, and Michelson must have been named after him. Indeed, the environmental name "Albert" was chosen to fit with "Abraham." This coupling was very popular at the time, thanks to the "romance" of Queen Victoria and Prince Albert. In R. W. Clark's monumental biography *Einstein—The Life and Times* (Thomas Y. Crowell, New York, 1971), we find that Albert Einstein's paternal grandfather was Abraham Einstein. Both Einstein and Michelson were named Albert because their grandfathers were named Abraham! In Michelson's case, Lincoln's assassination may have caused the family to have Albert assume the name Abraham openly, in the non-Jewish environment, without fear of its sounding too "ethnic."

YUVAL NE'EMAN
Tel Aviv University
Tel Aviv, Israel

10/87

The Multifaceted Mr. Morley

The Michelson–Morley Centennial issue (May 1987) was very well done with respect to the significance of the famous ether drift experiment and the life and accomplishments of Albert A. Michelson, who is well known to most physicists, but gave short shrift to his colleague Edward Williams Morley. Aside from brief mention of Morley in Albert E. Moyer's fine article on Michelson during the time of the experiment, there was no treatment of Morley and his amazing achievements. The average physicist knows that Morley was Michelson's collaborator and he may know that Morley was a chemist at Western Reserve University. Beyond these facts his mind is blank. He is probably unaware of Morley's eminence in chemistry, his prowess in physics and many interesting facts about his life.

This oversight by PHYSICS TODAY was partially atoned for by the captivating presentation at the Bozeman, Montana, meeting of the AAPT of a paper entitled "The Michelson–Who? Experiment" given by Daniel D. Skwire, an Ohio high-school senior, who was introduced by his coauthor, AAPT member Lawrence J. Badar. A paper on Morley by these two authors has since appeared in *The Physics Teacher* (December 1987). Authored by H. R. Williams, a chemist at Western Reserve University, the definitive biography is *Edward Williams Morley* (Easton, Pa., 1957). Having read this work about a year ago, I find several outstanding facets of Morley's life worth mentioning to other physicists. A classic example of the professional folly of a man's "following in his father's footsteps," Morley by education became an ordained minister in the Congregational Church, though his natural bent was toward science. Self-educated in science, he could repair, design and build mechanical devices and give fascinating demonstration lectures in chemistry and physics, but the preaching of sermons was his short suit.

Educated at home by his father, the Reverend Sardis Morley (as were his two brothers, who were also required to become ministers, and his sister), he had no formal schooling until he entered Williams College, where placement examinations put him in the sophomore class and from which he graduated three years later as class valedictorian.

Unable to find a pastorate upon graduation from Andover Theological Seminary, where his only poor grade was in homiletics (sermon preaching), he turned to teaching science at South Berkshire Institute, in Massachusetts. There he had to teach everything then current: chemistry, physics, botany, earth science and so on. The necessity of covering this broad spectrum resulted in the feverish self-education that marked his whole career and led him to a pinnacle of eminence in analytical chemistry.

After briefly occupying a church pulpit in Ohio, he was appointed to the chair of chemistry at Western Reserve College, before it moved to Cleveland and became a university. One of the hiring terms was that he conduct daily chapel service, and a small chapel was built into his science building.

Though president of the American Chemical Society around 1900, Morley had formally had only introductory chemistry at Williams, and had done no graduate work. With an