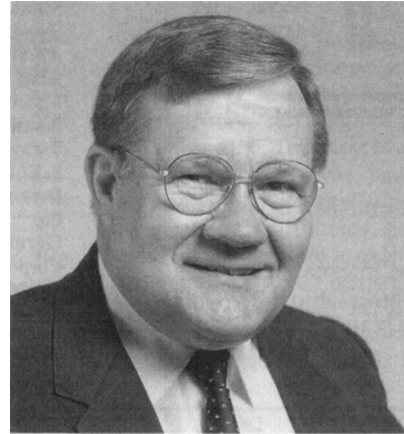


This editorial is in memory of a materials scientist. This person specialized in a specific area of materials engineering that many people, especially at the turn of the last century, called chemistry.

I am trying to build an element of suspense for you, the reader, for the sole purpose of illustrating the wide amount of overlap between the fields of technical/science endeavors we used to identify as the separate fields of metallurgy and chemistry. These fields, although distinctive in some aspects, have many areas of overlap. This feature was recognized some years ago by ASM international when it became the "Materials Information Society."



The scientist is Fritz Haber, best known for developing, in collaboration with Carl Bosch, the high pressure process for making ammonia. Chemistry books give extensive coverage to this accomplishment because ammonia (NH₃) is the starting ingredient for the commercial, large scale production of a host of materials, such as fertilizers, solvents, and, yes, explosives. For his ammonia synthesis, he received the 1918 Nobel Prize in 1919 after WWI.

Less attention is paid to the metallurgical aspects of the process. Pressure vessel steels were needed because the process took place at approximately 700 C and 100 atmospheres (100 MPa).

Some of the details come to light in a recent book, *Fritz Haber, Chemiker, Nobelpreisträger, Deutscher, Jude*, (*Fritz Haber: Chemist, Nobel Prize Winner, German, Jew*) by Dietrich Stolzenberg, 1994, Wehnein, VCH Verlag (669 pages plus introduction) ISBN 3 527 29206 3 (in German).

For those who are not fluent in German, an excellent review of this large, detailed book can be found in *Interdisciplinary Science Reviews*, 20(2), June 1995, p 88-91, published by the Institute of Materials in London. This review is written by Professor Emeritus Edgar Heilbronner, Herrliberg, Switzerland. The review is worth reading in order to get an appreciation for Haber's contributions in crystal dynamics (Born-Haber cycle), his thoughts about extracting gold from sea water, and his thoughts about making poison gases.

He died on January 29, 1934 in Basel, Switzerland, on the last stop of his flight away from his native Germany—a Germany that was under the control of the Nazi regime at that time.

I have devoted this space to Fritz Haber with the hope that many of you will read the story of his life and reflect on your own lives.

Please read Professor Heilbronner's essay; it has some elements of joy and some of pathos.

Next time, an article on a metallurgist's metallurgist.



John R. Ogren