transfer of Correns' activities in 1938 to Göttingen, one of the major European scientific centers, further stimulated the output of ideas and students. A histogram of doctoral theses completed under Correns' supervision shows this accelerated trend, marred by a deep cut as darkness and war descended again on Europe. The reputation and fame of the Correns school rapidly brought a resurgence of German and international scholarship to the Institute in Göttingen after the paralysis in the 40's; recovery was this time accelerated by Marshall Aid, which proved to be an economically more efficient scheme than Haber's dream.

In addition to a large number of scientific papers from his own hand, more than 60 doctoral theses were inspired by Correns' guidance and insight. He formally retired in 1962, and thereby somewhat changed his style of expression, but needless to say he has, as Emeritus, vigorously continued to pursue his career.

Correns' inspiration and influence has not been limited to the close circle of students and collaborators, but has been felt widely. The monumental and pacesetting work *The Origin of Rocks* by the trinational triumvirate Barth-Correns- Eskola was typical of the international spirit. I add as a personal note that in my own doctoral research work, that I was privileged to carry out during the next great event in ocean exploration, the Swedish Deep Sea Expedition 1947–1948 and its sequels, there is nobody that I can point to more directly as a source of inspiration and advice than Carl Correns.

It is therefore with great personal pleasure that I present you the innovator, teacher, and inspirer of three generations, Professor Carl Wilhelm Correns.

American Mineralogist, Volume 62, pages 604–605, 1977

Acceptance of the Roebling Medal of the Mineralogical Society of America for 1976

CARL W. CORRENS

Richard Zsigmondy 9
34 Göttingen, West Germany

Mr. President, dear Gustaf Arrhenius, dear Fellows and Members of the Mineralogical Society of America:

I am deeply conscious of the great honour you bestow on me by this award of the Roebling Medal.

Like many of you I began to sample minerals already as a schoolboy. In Leipzig I was fortunate to have a teacher in chemistry at high school, Hugo Lück, who was a mineralogist, a student of Friedrich Rinne. When I came to the university I did not find in my courses the mineralogy I had dreamed of, so I turned to geology and was promoted to Dr. phil. in 1920 with a thesis in sedimentology.

At Christmas time 1920 I got the book of Paul Niggli (Roebling Medalist, 1947) *Lehrbuch der Mineralogie.* This book impressed me deeply, also the book of Boeke-Eitel *Grundlagen der physikalisch-chemischen Petrographie.* I participated from 1922 in the mineralogical seminars of Professor Arrien Johnsen at Berlin in addition to my work at the Prussian Survey. At the same time I worked in the afternoon and the evening at Fritz Haber's Kaiser-Wilhelm-

Institut für physikalische Chemie in the department of colloid chemistry with Herbert Freundlich. In my paper about the work there on adsorption experiments with very dilute solutions of copper and lead I wrote that I used pure kaolin from Zettlitz because I didn't know what clays were. This paper was an examination thesis at the Prussian Survey. A then very famous agricultural chemist at the Survey found the paper insufficient because "the author does not even know what clays are, clays are mixtures of kaolinite and zeolitic minerals in equal parts." This was in 1924. Fortunately, the president of the survey, Paul Krusch, talked to Freundlich, and I passed the examination. At this time Arrien Johnsen asked me to become a privatdozent at the University of Berlin.

By Fritz Haber I was proposed to participate in the "Meteor" deep-sea expedition in the southern Atlantic Ocean. During the expedition I got the call from the University of Rostock. There I began to study the sediments of the Atlantic Ocean. Now I tried to answer the question what clays are. We first tried optical methods, but soon I found it better to use X-rays. To spare the precious deep-sea samples, we worked first with German brick clays. My first publication on clays dates from 1933. In January 1933 my excellent coworker Gunter Nagelschmidt emigrated to England. He published his work in 1934 in *Zeitschrift für Kristallographie.*

Also the mineral content of soils, especially of the clays, was studied in Rostock, *e.g.* by von Engelhardt. In experiments we studied the decomposition of feldspar, leucite, olivine, mica, tremolite, and also the influence of pressure on crystal growth and solution.

So my work began with the study of the mineralogy of the products on the surface of the earth, with soils and young sediments and with weathering experiments. Later on, older sediments were also studied, and sandstones and graywackes. The aim was to improve the mineralogy of sediments, to approximate the knowledge of sediments to the state the mineralogy of eruptive and metamorphic rocks had already reached. But the mineralogy of sediments is far more difficult to study than that of the other rocks. If you have, for example, feldspars or pyroxenes in eruptive rocks, you can assume that there is only one kind or perhaps two kinds in the rock, whereas in sedimentary rocks you will find a great diversity of such minerals. In 1952 at the International Geological Congress in Algeria, some friends working on metamorphic rocks asked me: how can you study such stupid things like sediments? My answer was: I would like to study metamorphic rocks too, but at first I would like to know what material is metamorphosed.

In 1939 I moved from Rostock to Göttingen, just before World War II. In wartime and post-wartime when experimental work was impossible, I wrote a textbook, *Introduction to Mineralogy,* trying to incorporate crystallography and petrology to provide the fundamentals for a genetic consideration of crystals and rocks.

After World War II, I lost some of the interest in clays, because now so many people studied this field. I found it necessary to continue the work of V. M. Goldschmidt. So we began in Göttingen to study the geochemistry of the halogens, of sulfur, nitrogen, and of carbon, besides Cr, Zr, Zn, Pb. Already in the "Meteor" samples we had studied the behavior of Ca, Fe, Mn, Ti, P, and organic substances.

I should not forget to mention how much I owe to my friends in the U.S.A. The first time when I came to the U.S.A. was in 1954 when my friend Gustaf Arrhenius invited me to La Jolla for three happy months. I learned then the importance of stable isotope studies, and I succeeded afterwards to establish an isotope laboratory in Göttingen. Happy times I had 1963/64 as guest professor at Rice University in Houston and 1965 at the University of Washington in Seattle. I was lucky I could work all my life on my hobby and very fortunate to have found so many coworkers who helped me with the problems.

It is very gratifying that you have found merit in my work. Thank you very much.