

## NOTES FROM THE LIBRARY

### DE RE METALLICA

On March 6, 1940, while Mr. and Mrs. Herbert Hoover were guests of President and Mrs. Clothier, they autographed for the Library a copy of their translation of the 1556 edition of *De Re Metallica*, by Georgius Agricola, the first great work ever written on mining and metallurgy. The inscription, signed by both translators, and reduced below, reads:

With  
The great respect of  
Herbert Hoover  
and Lou Henry Hoover

The original *De Re Metallica* was written by a German physician born at Glauchau in Saxony on March 24, 1490. His name was Georg Bauer, but following a custom of literary men of his time he Latinized his name to Georgius Agricola. After his early education at the University of Leipsic, he taught Greek and Latin and in 1522 was appointed lecturer at Leipsic. While teaching he published a Latin grammar in 1520, and later he wrote on religious, historical, and political topics. In 1524 he went to Italy, and there he studied philosophy, medicine, and the natural sciences for three years. In 1527 Agricola was chosen town physician of Joachimstal, Bohemia, a booming mining camp at that day. He gave his spare time to the study of mineralogy, geology, and mining, and wrote on these subjects.

Agricola's first work in relation to mining was *Bermannus sive De Re Metallica*. It was first published by Froben in Basel in 1530, and the Library is fortunate enough to own a copy of this edition. Probably named for Lorenz Berman, an author on mining, the book is a sort of catechism on mineralogy, mining terms, and mining lore. Possibly in recognition of this book, in 1530 Prince Maurice of Saxony appointed Agricola historiographer with an annual allowance, and he removed to Chemnitz, Saxony, an active center of the mining and smelting industry in Germany. His second book, *De Mensuris et Ponderis*, the first edition of which is also in the Library, bound in with the *Bermannus*, was published at Paris in 1533. Five other works on mining followed before the publication of

*De Re Metallica* in 1556. Unfortunately, Agricola died on November 21, 1555, and did not live to see its publication.

In addition to the Hoover translation of *De Re Metallica*, the Library owns the third Latin edition, published at Basel in 1621 by Ludovicus Rex (his German name was Ludwig König). In the same year, this printer published the third German edition, for which he used the same cuts, and this work is also in the Rutgers Library.

There are twelve books in the original work. Mr. and Mrs. Hoover have added their preface, an introduction, and three appendices. Regarding the difficulties of translation, the authors state: "In using Latin the author availed himself of a medium which had ceased to expand a thousand years before his subject had in many particulars come into being; in consequence he was in difficulties with a large number of ideas for which there were no corresponding words in the vocabulary at his command and instead of adopting into the text his native German terms, he coined several hundred Latin expressions to answer his needs. It is upon this rock that most former attempts at translation have been wrecked."

No better justification for an English translation of *De Re Metallica* can be given than that of Mr. and Mrs. Hoover, who make clear in their preface the historic importance of the book to modern readers:

"We need make no apologies for *De Re Metallica*. During one hundred and eighty years, it was not superseded as the text book and guide to miners and metallurgists for until Schluter's great work on Metallurgy in 1738 it had no equal. That it passed through some ten editions in three languages at a period when printing of such a volume was no ordinary

undertaking is in itself sufficient evidence of the importance in which it was held, and is a record that no other volume has equalled since.

"The translators do not present *De Re Metallica* as a work of practical value. The methods and processes have long since been superseded; yet surely such a milestone on the road of development of one of the two most basic of human industrial activities is more worthy of preservation than the thousands of volumes devoted to records of human destruction.

"To those interested in the history of their own profession, we need make no apologies except for the long delay in publication. For this we put forward the necessity of active endeavour in many directions: as this book could be but a labour of love, it has had to find moments for its execution in night hours, weekends, and holidays, in all extending over a period of about five years. If the work serves to strengthen the traditions of one of the most important and least recognized of the world's professions, we shall be amply repaid."

ALBERT O. HAYES.

#### CENTENARY OF SOIL SCIENCE

THIS YEAR marks the centenary of the publication of the first Report on the Geology of the State of New Jersey, under the title *Description of the Geology of the State of New Jersey, Being a Final Report*, by Henry D. Rogers, State Geologist, and Professor of Geology and Mineralogy at the University of Pennsylvania.

The year of publication of this "final report" was a memorable one in the history of agriculture, not only in this country but in the world at large. It marked the beginning of a new period, a period of transition from empirical prac-

tices to a scientific basis of our knowledge of the soil and its management. The brilliant investigations of the plant physiologists such as Senebier and de Saussure, and of agricultural chemists, such as Sir Humphry Davy, resulted in three revolutionary contributions: Boussingault, in France, laid the foundation of modern agricultural science; Liebig, in Germany, summarized the results of previous workers and announced the new laws of crop nutrition; finally, Lawes, in England, began his crop experiments, to be followed within three years, by the foundation of the Rothamsted Experimental Station, the oldest in the world.

In order to give a clear picture of the status of our knowledge of geology and of soil science, at the time when Rogers began his survey, it is sufficient to dwell upon two books, which preceded his work and which appeared to be among the most significant of the period: 1. William Maclure—*Observations on the Geology of the United States of America, with Some Remarks on the Effect Produced on the Nature and Fertility of Soils by the Decomposition of the Different Classes of Rocks; and an Application to the Fertility of Every State in the Union, in Reference to the Accompanying Geological Map*, Philadelphia, 1817. 2. Charles Lyell. *Elements of Geology*. Philadelphia. 1839.

Maclure began his book with the following significant words: "All inquiry into the nature and properties of rocks, or the relative situations they occupy on the surface of the earth, has been much neglected. It is only since a few years that it has been thought worth the attention of either the learned or unlearned; and even now, a great proportion of both, treat such investigations with contempt as beneath their notice." He continued: "Why

mankind should have so long neglected to acquire knowledge so useful to the progress of civilization—why the substances over which he has been daily stumbling, and without whose aid he could not exercise any one art or profession, should be the last to occupy his attention—is one of those problems, perhaps only to be solved by an analysis of the nature and origin of the power of the few, over the many."

Lyell wrote in a similar vein: "All are aware that the solid parts of the earth consist of distinct substances, such as clay, chalk, sand, limestone, coal, slate, granite, and the like; but previously to observation it is commonly imagined that all these had remained from the first in the state in which we now see them—that they were created in their present form, and in their present position. Geologists have come to a different conclusion. They have discovered proofs that the external parts of the earth were not all produced in the beginning of things, in the state in which we now behold them, nor in an instant of time. On the contrary, they have acquired their actual configuration and condition gradually, under a great variety of circumstances, and at successive periods, during each of which distinct races of living beings have flourished on the land and in the waters, the remains of these creatures still lying buried in the crust of the earth."

And so, when by an act of the legislature, Dr. Rogers was appointed, on April 24, 1835, to make a geological and mineralogic survey of the State of New Jersey the world was ready to listen to what he might report. The purpose of the survey was "to bring to light the native mineral productions of the State, in a manner to make the examination as serviceable as possible to the interests of its agriculture

and other branches of industry." Particular attention was to be paid to the deposits of marl, limestone and "other mineral substances useful as agents for fertilizing the land, the numerous ores, sands, clays, building materials and substances of value in the arts." The first part of the Report was published in 1836, by Desilver, Thomas & Co. of Philadelphia, and the Final Report in 1840, by C. Sherman & Co. of the same city.

The concluding sentence of the first report emphasizes the humble approach made to this important science, which was immediately recognized to be of great significance in agriculture and in natural science: "I consider the examination which I have made as no more than a general review of its [the State of New Jersey's] mineral resources, so that if it shall be found that the facts and views made known through this report, are even in a small degree friendly in their influence upon the agriculture and domestic arts of the State, it is to be regarded as but an earnest of far greater benefits to flow from a detailed geological survey more systematically followed up."

The work of Rogers coming at that time was the beginning of a new period, a period when geology gave rise to a new science, the science of the soil; the latter branching off later into several new subjects, namely, soil chemistry and soil physics, soil fertility, soil microbiology, and finally soil conservation. In the growth of the mother of these new sciences, soil science and its offsprings, Rutgers has contributed in many ways, both by original research and by the publication of numerous books, journals, scientific papers, and practical bulletins and circulars.

SELMAN A. WAKSMAN.

#### DEED OF HENDRICK RUTGERS

A DOCUMENT of the Rutgers family, whose annals are naturally of especial interest to Rutgers University, has come into the possession of the Library by a gift of Mr. John Wyckoff Mettler, of the Class of 1899, trustee. It is a deed of land, dated June 19, 1772, boldly and elaborately written on parchment, 20½ by 13 inches. Hendrick Rutgers and his wife Catharine, of New York City, "moved by the natural Love and Affection" which they have and bear toward their "Daughter Elizabeth, wife to Gerard De Peyster of the said city, merchant, . . . and also for and in consideration of the sum of five shillings lawful money of New York," acknowledge their gift to her of "All those four Certain Lotts, pieces or parcels of ground Scituate, Lying and being part and parcell of that part of the Farm of the said Hendrick Rutgers which is Laid out into Lotts. . . ." The boundaries are described, Lombard Street and George Street appearing in the description, and the usual multiplied legal phrases used, confirming the conveyance. Each of the two signatures has fully intact the seal and ribbon attached.

Hendrick Rutgers, son of Harman (2nd), descended from Rutger Jacobse of Fort Orange, 1636, was the father of Henry Rutgers for whom the University is named. He was born February 20, 1712. He married Catharine, daughter of Johannes de Peyster, at one time mayor of New York, the ceremony, he says, "by my uncle, the Rev. Peter Vas, preacher at Kingston in Esopus." They had eight children, three named Harman of whom two died in infancy and the third was killed in the Battle of Long Island, Hen-

drick or Henry, and four daughters. The daughters all married into leading families of the city: de Peyster, Bedlow, Bancker, McRea. His father, Harman (2nd), was one of the jury at the now celebrated trial of Zenger, accused of libel and acquitted by the jury in a basic upholding of the freedom of the press, a decision called by Gouverneur Morris "the germ of American freedom." At the time of the Revolution and the occupation of the city by the British, leaving the city as did so many of its citizens, he went to Albany. He died there in 1779, "a member of the Dutch Reformed Church and a gentleman of very large estate in this city [New York]."

The farm land owned by Hendrick Rutgers was largely an inheritance from his father. It was, as indicated above, on the lower east side of Manhattan Island. He built his house on a site now the block bounded by Monroe, Cherry, Jefferson and Clinton Streets. When he divided a part of the farm into building lots, shown on a map of 1755, he gave the defined streets names drawn from his family: Catherine; Bancker, then Bedlow, now Madison; Harman, now East Broadway; Henry; Rutgers, now Oak. Two streets were named after the royal house, George, referred to in the deed, and Charlotte; they are now Market and Pike Streets. The present Rutgers Place is so named on a map of 1775.

A large part of the land owned by Hendrick Rutgers at his death was left to his son Henry. In turn Henry, who never married, left a large part of the land owned by him at his death to his great-nephew William B. Crosby whose guardian he was and who was virtually adopted by him.

W. H. S. DEMAREST.

#### THE BUCKET

On Wednesday, June 3, 1818, a poem called *The Bucket* was published in the *Republican Chronicle* of New York City. The author gave his name as "SELIM," but he soon revealed his true identity as Samuel Woodworth (1784-1842), the editor of the *Chronicle*. Though *The Bucket* was immediately reprinted all over the United States, for many years no copy of the *Republican Chronicle* in which the poem first appeared was known to exist. A few years ago, however, the Library found and bought an almost complete file of this exceedingly rare newspaper.

A comparison of the original text with that which is reprinted in one of the modern anthologies reveals a number of alterations in spelling, punctuation, and, in a few instances, of words. In one case the meaning has been radically changed. In the third and fourth lines of the third stanza the author wrote of the bucket: "Not a full blushing goblet could tempt me to leave it, / Though fill'd with the nectar that Jupiter sips." In the modern reprint the fourth line has been altered to read: "The brightest that beauty or revelry sips." The classical allusion—reminiscent of Ben Jonson—has gone, and has been replaced by a less picturesque phrase. This is a good example of the way texts are treated as they pass from anthology to anthology without reference to the author's original.

Woodworth was a poet of some note in his day, the editor of half a dozen periodicals, the author of one novel and of several plays. Nowadays he is remembered for little besides his authorship of "The old oaken bucket," as his poem is popularly called.

R. K.

*For the Republican Chronicle.*

THE BUCKET.

How dear to this heart are the scenes of my childhood,  
When fond recollection recalls them to view—  
The orchard, the meadow, the deep-tangled wild-wood,  
And ev'ry lov'd spot which my infancy knew ;  
The wide-spreading pond, and the mill which stood by it,  
The bridge, and the rock where the cataract fell,  
The cot of my father, the dairy-house nigh it,  
And e'en the rude bucket which hung in the well,  
The old oaken bucket—the iron-bound bucket—  
The moss-coveres' bucket, which hung in the well.

2

That moss-covered vessel I hail as a treasure,  
For often, at noon, when return'd from the field,  
I found it the source of an exquisite pleasure ;  
The purest and sweetest that nature can yield.  
How ardent I seized it, with hands that were glowing,  
And quick to the white-pebbled bottom it fell,  
Then soon, with the emblem of truth overflowing,  
And dripping with coolness, it rose from the well.  
The old oaken bucket—the iron-bound bucket,  
The moss-covered bucket arose from the well.

3

How sweet from the green mossy brim to receive it,  
As pois'd on the curb, it inclined to my lips ;  
Not a full blushing goblet could tempt me to leave it,  
Though fill'd with the nectár that Jupiter sips.  
And now, far remov'd from the lov'd situation,  
The tear of regret will intrusively swell,  
As fancy reverts to my father's plantation,  
And sighs for the bucket which hangs in his well.  
The old oaken bucket—the iron-bound bucket—  
The moss-covered bucket, which hangs in his well.

SELIM.