PYRITES DEPOSITS OF MISSOURI by OLIVER R. GRAWE has recently been issued as volume 30 of the *Missouri Geological Survey and Water Resources*. This report of 482 pages describes the location, history, geologic conditions and production of 91 mines and prospects. Spectrographic analyses of the pyrites and its oxidation products have shown the presence of 23 elements, most of which are present in amounts less than 0.05%. The report also includes *x*-ray analyses, studies of polished sections and a description of 36 minerals that have been reported as occurring in the pyrites and iron ore bearing sink structures of the northern Ozark plateau.

REPORT OF INVESTIGATIONS NO. 50 OF THE SOUTH DAKOTA GEOLOGICAL SURVEY embraces a "PRELIMINARY REPORT ON THE MINERALOGY OF SOME PEGMATITES NEAR CUSTER" by D. Jerome Fisher. The main object is to suggest an economical plan for the recovery of the valuable minerals in the pegmatites of the area. This report covers the history, geology, detailed mineralogy and paragenesis of five pegmatites designated by the following Lodes: Buster, Earl, Custer Mountain, Old Mike and Ross. Descriptions of the geology of three of the pegmatites of the Custer District appear in Report of Investigations No. 44 of the South Dakota Geological Survey.

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, May 5, 1945

Dr. W. Hersey Thomas presided, with 59 present. Dr. Hugh E. McKinstry of the Foreign Economic Administration addressed the society on "Collecting minerals for the war." Sources of mica, beryl, iceland-spar, vanadium and tungsten were described.

Meeting of June 7, 1945

Dr. Thomas was in the chair, with 54 present. Dr. William J. Kirkpatrick addressed the members on "Growth of Crystals." The historical introduction to the growth of euhedral crystals included Robert Boyle's (1669) observation that the rate of growth influences crystal habit, Romé Delisle's (1783) observation that sodium chloride crystallizes in octahedra from urine, and Le Blanc's (1808) observation that alum is octahedral when grown in weak alkali solutions. Beudant (1818) published a paper of 100 pages on the causes that determine the variations of crystalline forms.

Some factors that influence crystal habit are *p*H of a solution, presence of cosolutes, colloids or dispersing agents, rate of growth, temperature, pressure, and degree of agitation. A law of crystal growth may be stated: "If all of the faces grow at the same rate, the faces will disappear in the order of their distance from the center, $d=1/\sqrt{h^2+k^2+l^2}$, where h, k, and l are the Miller indices.

Sodium chloride usually crystallizes in cubes; the presence of urea and other alkalies in the solution cause it to crystallize in striated octahedra, although no record could be found of anyone having obtained good reflections on the goniometer from octahedral faces.

Some practical applications of crystal habit control were given: the dodecahedral face is the most effective plane in nickel for catalyzing hydrogenation reactions. Because they dissolve at a predetermined rate, many commercial chemicals such as photographer's hypo and sodium chromate are supplied in uniform equidimensional crystals. The habit of cupric chloride is influenced by the presence of certain tissue extracts: a fact made use of in pathology.

J. S. FRANKENFIELD, *Secretary.*