

lines of attack, so that there is room left within the scheme of physical law for undetermined behavior.

Part of the mystery of atomic physics, points out Sir Arthur, is that man himself unwittingly hides facts. Of this he says:

"The physicist might be likened to a scientific Procrustes, whose anthropological studies of the stature of travelers reveal the dimensions of the bed in which he has compelled them to sleep. Yet I do not think that we take unwarrantable liberties with the universe in our Procrustean treatment of it.

If experience is a subject-object relation, the subject is entitled to—nay, he cannot divest himself of—his half-share. It can scarcely be a coincidence that Heisenberg's uncertainty principle has defined the half-way line with mathematical exactitude, distributing a coordinate to one side and a momentum to the other side with perfect impartiality. And so we may look forward with undiminished enthusiasm to learning in the coming years what lies hidden in the atomic nucleus—even though we suspect that it is hidden there by ourselves."

Science News Letter, January 23, 1937

PHYSICS

New Property of Matter Is Believed Discovered

In One of World's Rarest Minerals, Hackmanite, Evanescent Streaks May Be Revived by Radiation

WHAT may be an entirely new property of matter has been discovered in one of the world's rarest minerals known as "Hackmanite." Found originally in the rugged fiords of Greenland in the early years of the last century and later in the old crater of Italy's volcano Vesuvius, Hackmanite has long been a treasured collector's piece for scientific museums, for its rarity alone. Now a clear variation of the deep blue, lapis lazuli-like mineral may take on the added merit of research value.

Samuel G. Gordon, associate curator of minerals in the Academy of Natural Sciences, Philadelphia, explained the rare mineral and its new found property to Science Service.

The American mineralogist O. Ivan Lee of Jersey City, N. J., has made the strange discovery that a quickly passing red-violet colored streaking of the surface of Hackmanite can be revived at will by radiating the mineral with ultraviolet rays, explained Mr. Gordon.

For many years, continued Mr. Gordon, mineralogists have known that when a clear variety of Hackmanite was fractured, characteristic and beautiful bright red-violet splashes of color appeared on the clean surface. Then, on exposure to ordinary light, they passed away.

Radiation with ultraviolet light, Mr. Lee has found, brings back this lost

property at will and as many times as one wanted to perform the experiment.

The first thing which one might think of to explain this strange revival of a color-death would be fluorescence, pointed out Mr. Gordon. But the phenomenon is not fluorescence, at least in the ordinary sense of the term, he added.

The fluorescence of Hackmanite, that is, its brief temporary glowing following exposure to light, is a characteristic salmon pink that cannot possibly be confused with the bright red-violet shade of the revived colors.

Neither is the happening one of phosphorescence, since this property of Hackmanite yields a beautiful blue color.

What really is the true explanation of the effect is thus unknown at present, but at this stage of scientific research when supposedly the external properties of matter, at least, are well known, the discovery takes on added interest. Mr. Lee calls the phenomenon reversible photosensitivity.

Over and above the scientific story of the discovery is the almost fantastic adventure yarn concerning the original discovery of Hackmanite.

Hackmanite was discovered in 1806-08 by an Austrian scientist who later was knighted by Great Britain and finally became professor of mineralogy at the University of Dublin.

The mineral specimens, first found in Greenland, themselves had a topsyturvy trip until they finally reached their destination.

Charles Giesecke, the Austrian scientist, went on one of the early Danish expeditions to Greenland. He collected specimens of many minerals and shipped them back by a Danish boat, and stayed behind for another six months or a year. But it was seven years before a boat returned to Greenland to pick him up!

In the meantime the mineral specimens on the Danish boat, including what later became known as Hackmanite, were captured by a French privateersman, for the Napoleonic wars were in full swing.

Then, in turn, the French vessel was captured by a British frigate and each time the barrels of minerals were transferred. The barrels were imposing looking and one may reasonably suppose that first the French and then the English thought they had a commercially valuable cargo seizure.

At any rate the Giesecke specimens were finally landed in Scotland at the port of Leeds and eventually found their ways into the hands of mineralogists in Dublin who studied and classified them.

Giesecke, Mr. Gordon told Science Service, earned his education by selling mineral specimens in his native Austria. In addition he is said to have composed several operas.

Besides the Greenland and Vesuvius regions where Hackmanite is found, varieties of it have also been located on the Kola Peninsula in Arctic Russia and just recently in the province of Ontario, Canada, near Bancroft.

The Academy of Natural Sciences Museum has now under shipment from Canada a specimen of this strange, rare mineral.

Science News Letter, January 23, 1937

POPULATION

Thousands Migrate From the Great Plains

MORE than 27,000 people from the drought-stricken Great Plains areas migrated voluntarily to California during 1936, reports John C. Page, Acting Commissioner of the U.S. Bureau of Reclamation. In addition 2,329 families entered the state of Washington, 1,930 families the state of Oregon and 4,500 families the state of Idaho, hoping to settle permanently.

Science News Letter, January 23, 1937