

testimony from Ivan V. Obreimov that alleged that Houtermans had recruited him for spy work in 1929. Because this was before Houtermans met Schimpf—his own purported recruiter—Houtermans had to come up with the second version of his testimony. In that testimony he named W. K. Westfall, a German physicist who was a professor at the Technische Hochschule in Charlottenburg, as his recruiter.

Obreimov, Rosenkevitch, Fomin and Shubnikov were all colleagues of Houtermans at the Kharkov Physico-Technical Institute. All were arrested in 1937, and only Obreimov was freed, in 1941. Heil was a German scientist working in Leningrad.

Khriplovich mentions Houtermans's return to Kharkov at the end of October 1941, when the city was occupied by the Nazis. Documents from the Alsos mission¹ reveal that Houtermans did his best to prevent his Kharkov colleagues (as well as the institute's scientific equipment) from being deported to Germany. So I join in Khriplovich's estimation of Houtermans as not only a brilliant scientist but a noble man. I have written a more detailed reaction,² in Russian, to Khriplovich's work as published in Russian.³

I would like to thank Academician Zhores Alferov; the Houtermans materials from the KGB archives were found and made available to me for study as a result of an inquiry he made as deputy of the Supreme Soviet. I also would like to thank Brigitte Brown for her kind assistance in preparing this letter.

References

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What a pleasure it was to read the article on Fritz Houtermans by Iosif B. Khriplovich. (Incidentally, Houtermans did have a middle initial: G.) Perhaps it was true that "something had gone from his life" in the postwar years, but I can testify that he was still a very stimulating fellow in the latter half of the 1950s. Although there are better people than I to relate his contributions to geophysics, something more ought to be said about his science in the post-World War II period.

Houtermans became quite famous in geophysics for his development of various conventions and terms in the

mathematical treatment of lead isotopes in nature. In his two major contributions,^{1,2} made while he was again at Göttingen, he developed the "isochron equation" (which he actually called "isochrone"): $(\beta - \beta_0)/(\alpha - \alpha_0) = (1/137.8)[\exp(\lambda'T) - \exp(\lambda't)]/[\exp(\lambda T) - \exp(\lambda t)]$, where β is the $^{207}\text{Pb}/^{204}\text{Pb}$ ratio at time T , β_0 is $^{207}\text{Pb}/^{204}\text{Pb}$ at time t , α is $^{206}\text{Pb}/^{204}\text{Pb}$ at time T , α_0 is $^{206}\text{Pb}/^{204}\text{Pb}$ at time t , $1/137.8$ is the $^{235}\text{U}/^{238}\text{U}$ ratio at the present time, λ' is the decay constant for ^{235}U , and λ is the decay constant for ^{238}U . Some others had worked on the treatment also, and the isochron equation became variably known as the Houtermans-Holmes, Holmes-Houtermans and Gerling-Houtermans-Holmes equation, Arthur Holmes being a famous British geologist and E. K. Gerling a famous Russian geochemist. Use of these names has pretty much disappeared from geophysics research papers, although they appear in texts; however, Houtermans's designation of $^{238}\text{U}/^{204}\text{Pb}$ as μ and $^{232}\text{Th}/^{238}\text{U}$ as κ and his use of the word "isochron" for the locus of points for equal ages with variable values of the ratio of radiogenic parent to stable daughter isotopes are all still commonly in use. His way of plotting lead isotope data as α versus β has endured (although the actual isotope ratios are usually written out now). His plotting of α versus γ ($^{208}\text{Pb}/^{204}\text{Pb}$) is also the most common way to plot those lead isotope ratios. He also designated the use of J-type (or Joplin-type) lead for model lead isotope ages younger than the known age and B-type (or Bleiberg-type) lead for model lead ages older than the known age, both of which terms still find some use today.

Houtermans did indeed breathe life into the physics department at the University of Bern, and it became the major force in isotope geophysics outside of North America during the 1950s and into the 1960s. After a rather controversial paper³ by Houtermans that ended up doing little harm, isotope geochemistry became increasingly geological. Physicists increasingly went into space physics, but Houtermans's name was still to appear with those of his colleagues at Bern on a number of papers dealing with the Earth.

Houtermans spent some time at Caltech while I was a graduate student in geology there in the latter half of the 1950s. I had the pleasure of being at various symposia that he attended and also a few dinner parties with him at the home of Gerald Wasserburg. It would be nice to think that I was invited because I was such a promising graduate student;

however, my pretty fiancée (later my first wife) was probably more important. She was Latvian and was fluent in Latvian, of course, but also *Hochdeutsch*; she spoke some Russian as well. Houtermans said that he had been in Latvia and spoke some Latvian, which my wife said was in quite an accent. She also thought his German and Russian had quite an accent. Naturally, he spoke English with a strong accent too. A French scientist later told me Houtermans spoke many languages, all with a strong accent, so that it was impossible to tell where he grew up.

His storytelling was remarkable. He had an underbite that somehow added character, and he spoke, lips barely moving, with a slightly conspiratorial air. Many of the stories were didactic. I vividly recall one where a scientist put a flea on a table and put his forefinger in front of the flea. He told the flea to "Yump," and the flea jumped over his finger. Then he started to pull off legs, and upon the command of "Yump," the flea continued to jump over his finger, but with increasing difficulty. When no legs were left, the flea stayed put, whereupon the scientist concluded that when a flea loses all its legs, it becomes deaf! This story has stayed with me and given me caution in interpretation ever since.

References

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7/92

Correction

January, page 18—Jay Marx was the director of the Advanced Light Source at Lawrence Berkeley Laboratory until 1 October 1992, a few months before its commissioning. Marx is still at Lawrence Berkeley, where he is the project director for STAR, one of the two large detectors being built for the Relativistic Heavy Ion Collider at Brookhaven National Laboratory. Also, it was Yeun-Chung Liu, current director of the Synchrotron Radiation Research Center in Hsinchu, Taiwan, who reported that researchers have been conducting some synchrotron radiation experiments on three vacuum-ultraviolet beam lines there since October 1993. The beam current of 303 mA at the SRRC was reached in September 1993. ■