

August 29, 1962

MEMORANDUM

TO: Professor Lederberg

FROM: E.C. Levinthal

Professor R. Castaing of the University of Paris, at the recent International Symposium on X-ray Optics and X-ray Microanalysis described briefly an instrument which, I believe, demonstrates the feasibility of the application we are considering of a mass spectrometer. His instrument has a beam of protons or argon which illuminates the sample. The surface molecules of the sample which are ejected are imaged on a target. The electrons ejected from this target in turn form an image on a fluorescent screen which can be observed or photographed. The adjustment of the mass spectrometer determines the mass number of the molecules whose surface distribution on a sample is imaged. I believe he said he had achieved or expects to achieve 300 angstrom units resolution for aluminum. The few slides he showed seemed to show about this resolution.

*Castaing*