

THE INSTITUTE FOR ADVANCED STUDY

Minutes of a meeting of the professors of the School of Mathematics with
Dr. Aydelotte June 2, 1945

Present: Dr. Aydelotte and Profs. Einstein, Morse, von Neumann, Veblen, Weyl
and Alexander, Secretary.

Meeting called to discuss to what extent the Institute should become
involved in questions involving Experimental Physics.

Von Neumann: In all probability, Fermi and Oppenheimer will soon be
leaving full-time war work. Doubtful whether they will return to former uni-
versity posts. Oppenheimer reported not happy in Berkeley and considering
offer from Harvard, and according to Rabi also offer from Columbia. Fermi is
still attached to Columbia but very seriously considering offer from Chicago.

Aydelotte: Smyth thinks U.S. Government will continue to support ex-
perimental work generously. Should work be done in U.S. Government laborator-
ies or at picked universities? Aydelotte and Smyth suggest Government labora-
tories, with scientists from universities working on leave of absence.

Einstein: Fears that emphasis on such projects will further ideas of
"preventive" wars.

Morse: Doubts whether scientists will ever be able to run such proj-
ects.

Aydelotte: Points out that Government will probably insist on some
"classification" for such projects.

How secret will they be?

Von Neumann: Government may subsidize some experimental and theoretical
work in physics on a straight scientific basis. It might maintain regional lab-
oratories, each serving a group of universities.

Veblen calls attention to expenses for engineering which will put much
work beyond means of private universities, hence the necessity for regional lab-
oratories. In view of these laboratories, the Institute could afford to go in
for physics on a grander scale than previously contemplated. In future, private
funds may be insufficient to provide for scientific research. Congress may vote
large appropriations and leave detailed allocation of funds to universities in
hands of scientific committee.

Von Neumann: In future, Government may play the role of the great
foundations. May see the need of independent research in addition to strictly
military projects.

Einstein: Insists on importance of independence and emphasizes dangers of secret war work.

Von Neumann and Morse: If we had a man like Fermi on our faculty we would stand a better chance of getting a share of appropriations.

Morse: How far will Princeton University gamble on a joint project to get Fermi?

Von Neumann: Smyth says Physics Department approves offering laboratories and that approval of Dodds is expected.

Einstein: This means that the Institute would pay the salary and that the University would get the man. Precedent might develop into a common practice on part of University.

Veblen: Many University supporters might complain that the University was providing the equipment for the benefit of a man belonging essentially to the Institute.

Von Neumann: Impossible for Princeton to match the salary ceilings of Chicago, Columbia, etc. If we make arrangement with University we should impose condition that Fermi do research work only.

Morse: The Government is inclined to let contracts to establish institutions that have organization and equipment, rather than to start entirely new undertakings. Fermi question should be considered from the general point of view, taking all possible eventualities into consideration (i.e. whether or not we get Government funds).

Veblen: Situation analogous to that when we set up Mathematics group at Institute, building on group already at University. At the University we now have a nucleus consisting of Wigner and Wheeler. By building around these men we might try to obtain leadership in this area.

Aydelotte: Are we on the verge of great new discoveries in physics, or is it merely a question of engineering applications?

Weyl: It is never possible to guarantee such a thing in advance, but further progress in atomic physics certainly requires great apparatus which is best obtained in the manner discussed.

Einstein: Agrees with Weyl that such a procedure will probably lead to important scientific progress. He considers it desirable. However, we must keep in mind not to spend our energy on engineering applications.

Veblen: Mount Wilson is a great engineering establishment, yet it serves the purposes of pure scientists such as Russell, etc.

Aydelotte: We don't know what prospects are for the future. At present most Government projects seem to be of a purely engineering character.

Morse: Our first consideration should be to get good men, but good men are liable to gravitate to points where funds are available. On the other hand, it would be dangerous to engage on a program that would make us dependent on continuing Government support.

Veblen: There is a good chance Trustees would be interested in plan. They may even get too much interested, to the detriment of other things.

Von Neumann raises question of automatic computation machines. There may be opportunity for us to take on directing role.

Veblen: Fluid mechanics. There is a proposal to have a panel on this subject, no doubt with military support. Work has been done for Army in this field by Bleakney and Harvey at Princeton. Problems of mathematical interest are involved.

James W. Alexander
Secretary