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Department of
Medical Genetics

May 10, 1957

Dean John Z. Bowers
University of Wisconsin
School of Medicine

Dear Dean Bowers:

On behalf of the Department of Medical Genetics, I request your consideration of the appointment of Dr. KIMBALL C. ATWOOD to the rank of Associate Professor of Medical Genetics.

Although, in Assistant Professor Morten, the Department can already boast of a strong showing in Human Genetics, it is I think generally understood that our entire program within the Medical School would be greatly fortified by having a staff member who was professionally qualified in medicine. Unfortunately, M.D.'s whose credentials also include solid training and experience in basic genetic research are vanishingly rare -- it will, of course, be one of the important aims of our department to train such students to staff parallel programs throughout the country. On both counts, Dr. Atwood is eminently, even uniquely, qualified for the appointment recommended hereby.

While Dr. Atwood's research has been oriented to radiation biology, this is due more to the circumstances which have kept him at the Oak Ridge National Laboratory, than to a restriction of his interests in this particular area. He has frequently told me, over the years, of his interest in academic medicine from the particular viewpoint of genetics, and I have no doubt whatever that his research program will be greatly broadened by his coming to this department. On the other hand, he has made such a valuable scientific contribution with his recent radiobiological studies that he should by no means be discouraged from pursuing them further, as his own judgment dictates, to their logical conclusion. These contributions have included an extremely skillful methodology for the detection and characterization of genetic lethals in *Neurospora heterokaryons*, which can lead to an ascertaining of the various modalities of radiation damage to the cell in a way not approachable with any other material. He finds that while most cell-lethality must be a consequence of damage to nuclear targets, the usually proposed modality of lethal mutation accounts for only a small part of the effect. There is a second type of injury, not well understood, which influences the ability of the whole nucleus to survive and function.

Dr. Atwood's studies have also carried him to a remarkably precise analysis of the dynamics of nuclear interaction in multinucleate or heterokaryotic hyphal segments in *Neurospora*. Finally, he has recently started a novel

study of somatic mutation in man, that is the occurrence of A- and B-types of erythrocytes in AB individuals. These studies promise an unreported facile approach to the transfer of fundamental approaches to human material.

Dr. Atwood's influence at Oak Ridge goes far beyond the impact of his own research. It is fair to suggest that his influence has had much to do with the fundamental orientations of the program in Biology at the ORNL which could all too easily fall into the traps of short-range programming. I am not in a position to give a detailed judgment of his abilities as a clinician. However, I have been in close intellectual contact with him for fifteen years, and I have never doubted that he had one of the keenest scientific minds in the country. I know too that his interest in medicine is anything but perfunctory, so that the opportunity here should reflect his own career interests to a remarkable degree.

That is the basis on which we can hope to attract him here. I am sure that the proposals about to be presented would be quickly matched by any of a number of other schools; his name has been actively discussed in connection with several of the openings that had been presented to my own consideration. I have no doubt myself that his abilities and reputation would be consistent with the rank of Professor, but there is no compelling reason why this point cannot be deferred for a year or two.

I therefore propose Dr. Atwood's appointment as Associate Professor of Medical Genetics, effective January 1, 1958 or within a few months thereafter. I recommend a salary of \$9,000 for an academic-year appointment, in view of his own vehement wishes in this respect. The appointment should carry an understanding that he is free to accept remuneration for work he may wish to do at the Marine Biological Laboratory for 3 summer months, to do which he would doubtless make applications for research grants through that laboratory. There should also be an understanding that his rank and conditions of employment will be reviewed after two years.

He would be housed, in due course, in the Department's laboratories in the new Research Wing. Meantime, I am certain that suitable temporary facilities can be arranged either in the Biochemistry or Bacteriology buildings, where there are temporary vacancies. Failing all else, we could squeeze together in Genetics Building facilities, but this would cause some disruption, tolerable only because it would be for a specified, limited time.

I have also laid before the Department of Genetics the question of whether they would wish to join in this appointment on either a courtesy or a half-time basis. The matter is under review now. To the best of my

knowledge
none of my colleagues there would take the least exception to my own appreciation of Dr. Atwood's qualifications. However, the Genetics Department is uncertain as to its own resources with which to back such an appointment, and also as to details of the formal relationships which should pertain between the two departments. These questions should be resolved without great delay, but it may be inadvisable to postpone preliminary review of the proposed appointment in the medical school.

Yours sincerely,

Joshua Lederberg
Professor of Medical Genetics

P.S. I am enclosing a number of copies of a Curriculum Vitae and a partial bibliographic list. More copies are readily available.

Kimball C. Atwood

b. New York, N.Y. May 15, 1921. A.B. Columbia College 1942. M.D. New York University 1946. Intern (surgery), Bellevue Hospital 1946-47. Research associate in zoology, Columbia University, 1947-1950. Visiting assistant professor of microbiology, Columbia, 1950-51. Sr. Biologist, Oak Ridge Natl. Lab. 1951----

Some of his principal publications are:

- 1941 Hinton, T. and KCA. Terminal adhesions of salivary gland chromosomes in *Drosophila*. *Proc. Nat. Acad. Sci.* 27:491-496.
- 1951 KCA, L.K. Schneider and F.J. Ryan. Periodic selection in *E. coli*. *Proc. Nat. Acad. Sci.* 37:146-155.
- ib. Selective mechanisms in bacteria. *Cold Spring Harbor Symp. Quant. Biol.* 16:345-355.
- 1949 KCA and A. Norman. On the interpretation of multi-hit survival curves. *Proc. Nat. Acad. Sci.* 35:696-709.
- 1953 KCA and F. Mukai. Indispensable gene functions in *Neurospora*. *Proc. Nat. Acad. Sci.* 39:1027-1035.
- 1955 KCA and T.H. Pittenger. The efficiency of nuclear mixing during heterokaryon formation in *Neurospora crassa*. *Am. J. Bot.* 42:496-500.
- 1956 Pittenger, T.H. and KCA. Stability of nuclear proportions during growth of *Neurospora* heterokaryons. *Genetics* 41:227-241.

Some of Atwood's best and most complex work, on the detection and homologous-capping of lethals, and on the role of the nucleus as the principal target of radiation damage in *Neurospora*, has not yet been published in detail.

His current work is on the mechanism of radiation damage to cellular constituents (primarily nuclear) in *Neurospora*, *Drosophila* and mice.

He has also initiated a study of somatic mutation during erythropoiesis in man, and has obtained preliminary evidence for the occurrence of mutant AO and BO red cells in AB individuals.