

HARVARD COLLEGE OBSERVATORY
CAMBRIDGE 38, MASSACHUSETTS

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2/10/51

September 17, 1951

Dr. George C. McVittie
Queen Mary College
Mile End Road
London E 1, England

Dear Dr. McVittie:

Your letter of September 9 has been received and I note with interest the progress of the negotiations with the University of Illinois.

My list of the twenty brightest galaxies is being published within a month or so in The American Scientist in a general paper on a survey of the Inner Metagalaxy. In that list I include the apparent magnitudes, types, and positions, but I have hesitated to give absolute magnitudes of the objects which are measured with so much difficulty. I shall think over the suggestion, however.

I shall enclose an excerpt from one of my letters to Dean Henning Larsen of the University of Illinois. He had written to me, asking for general suggestions, primarily on the issue of closing down the department of astronomy and letting someone in mathematics do astronomy on a part-time basis. You will see from the enclosure that in a polite way I tried to point out that they were on the wrong track. In some other letters and especially in personal conversations I emphasized the point that ^{what} they should have is not a suspension of astronomical interest but a tremendous enlargement. I have tried to argue with them that there should be at least three men in a department even if there is no expensive telescopic equipment. Their big computing machine, their distinguished departments of physics and chemistry and engineering, and the strong competition of the first-class universities of the Middle West, and their other assets make it seem advisable to take astronomy and astrophysics seriously.

Dean Larsen tells me that my letter was reproduced and sent around the University quite a bit, for it awakened sympathetic interest and considerable understanding. It seems to me, therefore, that your going to Illinois is the first step in something that may go further. I should like to have you look into the possibility that Dr. Herget and his asteroidal computing enterprises might be transferred to Illinois. He gets very poor support from the extremely poor (financially) university in Cincinnati. But if not the highly competent Herget, possibly someone else, like Ivan King, who has a deep interest and experience in the application of computing machinery to astronomical and astrophysical problems.

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King is working this next year with Baker (big salary for a kid) and puts in his first several weeks at the Harvard Computational Laboratory. Later there will be a considerable installation of IBM machinery in the basement of Building C for Baker's calculations in astronomical and other optics, and King will be one of his staff of three or four fairly competent people.

But back to Illinois. I need not emphasize that there are other coordinating opportunities, if the Illinois program and budget can stand expansion. The borders of geochemistry, geophysics, meteorology, microwave theory and exploration -- all are of astronomical interest, and should be of interest to such a great institution as the University of Illinois.

Before your first year is over I shall probably see you somewhere and we may be talking about these matters. A newcomer, a stranger from abroad, does well to go rather slowly in expensive or ambitious recommendations -- but there is no reason that he should not take himself seriously so that the University is continuously aware of his usefulness and needs.

Best of wishes,

Sincerely yours,

Harlow Shapley

W

Copy:

October 6, 1950

gc m v
Dean Henning Larsen
College of Liberal Arts and Sciences
University of Illinois
Urbana, Illinois

Dear Dean Larsen:

It would be something of a shock to the American astronomical world if the Department of Astronomy, and the Professorship of Astronomy, at the University of Illinois were withdrawn at this time. It is common knowledge that the University of Illinois has perhaps the most stupendous budget for research and instruction in the country. Its physics is famous, and its chemistry is probably unequalled in any American institution. In view of this eminence in neighboring fields, and in mathematics, and in view of the strong emphasis given to astronomy in comparable State universities, -- Indiana, Ohio, Michigan, Wisconsin -- it seems to me and to my colleagues that the present opportunity should be taken to expand the astronomical department.

Ohio State University, with an affiliation with little Ohio Wesleyan, has six astronomers, all of national standing. Michigan has one of the great observatories and astronomical departments of the world, with probably half a dozen full professors (or associate professors on permanent appointment). Indiana has four astronomers, with three of them very active in American astronomy. The University of Wisconsin took away your very successful lone-wolf worker, Dr. Joel Stebbins, many years ago and he with colleagues have essentially created the new field of photoelectric astronomy. At present there are three men (full time) on the astronomical staff at Madison.

To be sure, the Universities of Missouri, Iowa, and Minnesota have one-man departments (plus assistants); Kansas, two.

An effective astronomical department does not now necessitate expensive instrumentation. Dr. Baker has done some good work steadily, associated with our Dr. Bok in recent years, at essentially no expense. Without large telescopes, without a mountain station somewhere, there are calculational jobs that could involve the grant calculators, or at least involve effective computing bureaus, such as Dr. Herget and his associates have at the University of Cincinnati. There is much to be done in the new field of microwave astronomy, which ties in with electrical engineering, and electronics generally. The field of theoretical astrophysics ties in with atomic physics very closely. We find in this university and elsewhere that there is much in the astronomical field that helps other departments -- geology, mathematics, meteorology, theoretical physics. Recent participants in our work here at the Harvard Observatory in this past year are, for example, Harold Urey, the chemist of Chicago; Harold Jeffreys, famous geophysicist of Cambridge, England; Harrison Brown, physicist of Chicago; George C. McVittie, mathematician (relativity) of London; Frank Kerr, microwave physicist of Australia; etc. This merely indicates the mutual usefulness of these physical sciences. Perhaps it points up the advisability, in a great university of many strong scientific departments, of looking to the appointment of an astrophysicist, a micro-wave specialist, as well as an astronomer.

At a recent meeting of the American Astronomical Society we proposed that the astronomers call the attention of the various universities throughout the country to the importance of adding an astrophysically trained physicist to the departments of physics. The University of Illinois was specifically mentioned at that time, along with three or four others.

I mentioned above that instead of big telescopes, the modern astronomer can busy himself usefully with large computing machinery; with spectroscopic laboratories; with photoelectric photometers attached to small telescopes; and with radio astronomy. But the most important development of recent years is the cooperation among various observatories. Four or five departments depend for their observational material on the Harvard Observatory; an equal number depend, beginning a year or two ago, on the unused observing times with the 60-inch telescope at Mount Wilson. Minnesota, Princeton, and two or three others depend wholly on the material provided free or economically by the larger observatories; and Indiana, Michigan and some others depend in part on such materials.

+ 2.5 additional pages on personalities

H.S.