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DEPARTMENT OF MEDICAL GENETICS
SCHOOL OF MEDICINE

DEPARTMENT OF GENETICS
COLLEGE OF AGRICULTURE

Please Reply To
GENETICS BUILDING

January 27, 1958

Dear Art:

You can imagine what a year this has been for us. In the same interval that we spent one month in Europe and the again another four in Australia and there and back, we've faced this complex of decision-making, which has been even more involved probably than you know. You will understand that I am reluctant to engage myself in any further bout of negotiations. However, I am eager to encourage your and Stanford's interest in genetics, and to offer my views on organization and personnel, if for no other reason than the impact of your actions on the whole Bay Area environment. As to my own availability I can only say that I am not yet by any means legally bound to any course of action, and I can visualize a pattern of circumstances during the next several months at Madison, Berkeley and Stanford that could bring me into your proposal. Having said this, I would like to step into the role of an 'objective' consultant, and leave it to you to construct a tangible plan from these ideas. For my own part, however, there is not very much leeway of time. After a very long drawn out courtship, conditioned partly by problems of laboratory housing, partly by the layers of hierarchy, Berkeley is renewing its proposals, and some firm decisions will have to be made in eight or ten weeks. It would complicate my life immeasurably to prolong after that time. Is there any chance of your coming to Madison earlier in March? I will do the legwork with the Enzyme Institute if your own schedule will allow a change of date. (But we are still chasing each other around the ~~country~~ and my Haverford date is the week of March 11. Or could we meet for, say, half-a-day at Midway airport (to name a roundtrip we can both easily make in one day)?

*world

Let me interject one more point: making a decision among several alternatives is difficult enough without compounding their interactions. I think you should know the details of my current situation, e.g. that my present salary is 12.5 may save you a bit of time, but I don't think I should go into the details of Berkeley's offer, as I have not ~~here~~ beyond putting on the record the continuity of their interest. I would beg you to keep your own counsels on our affairs lest you put me in an extremely awkward position, and I will count on the same, of course, for any slanders I may make later on.

You already know my basic approach to medical genetics, and the type of program which my memorandum outlined is evolving here. The Medical Genetics Dept. now consists of Newton Morton & myself. He is a rather unusual product of the biometrical school of human genetics, insofar as he is also eager to dabble in the laboratory, and he is doing some work, for example, on the chemical pathology of spherocytosis and of muscular dystrophy in man and in chickens. We are also in the throes of another appointment, ultimately aimed at some strength in clinical genetics and in the genetics of somatic cells; if this succeeds, the department will be on its feet to the point where substitution of single members would not spoil its continuity.

The main point of a departmental evolution, the one thing we can do this way that was not possible within the framework of the Genetics Department, is

i.e., in Agriculture

training geneticists for medical schools. We hope that ultimately a residency under Medicine might even be established in this field, and we already have evidence of very strong interest in having a post-graduate (i.e. post-M.D.) program. The products of such a program are badly needed to staff the number of schools which have no genetics at all, and which are waking up to the lack. (It also happens that there would be some distinct research advantages to this liaison, but this is a tactical situation, not necessarily generally important, though it was a strong impulse for me).

The program is predicated on the Wisconsin situation-- that we have a medical school already in an academic context, and that we already have a strong genetics program on the same campus. We concluded that competent training in genetics requires a much broader base than human genetics alone, even for practitioners whose main preoccupation later on will be clinical. (This for the same reason that you teach biochemistry, not human biochemistry).

The training aspect aside, there is no compelling reason in principle why a genetics department must be in the medical school and not another division. However, it is no less logical a situation than any other, and if the research strength at some point is concentrated at the medical school, then genetics can well go there too.

You've noticed that I've said very little about teaching genetics to medical students. I'd want more experience on this point, but frankly this is the least important function. I am not too hopeful that a dozen lectures, to students not already prepared by past training and by constant restimulation from the whole medical faculty, are going to be very useful. Hogben recently sent an article into the Jour. Med. Educ. on the subject; his point was that clinical genetics, of relatively rare afflictions, is quite unimportant compared to the necessity of genetic insight for the understanding of the meaning of 'aetiology'. And with this I heartily agree. So I feel that the function of a medical genetics department ~~is~~ is for the education of the faculty more than the students, except insofar as these become the faculty of tomorrow. I suspect (subject to more experience) that the place for genetics in medical education is early in the premedical curriculum, next to chemistry and physics, and that it should come out in the medical course all over the map, just as biochemistry does. For the budding academic MD's, we might well have more advanced courses, of course. (I won't take time here to go into the whole question of training for medical research, botched up as it is now~~/~~). But this is one of my keenest concerns in education, the only administrative question I get much steamed up about, and perhaps the other important reason for my leaning to the medical school here.)

Genetic counseling is in such a primitive stage that we decided here to avoid it like sin. Much of the need for it should disappear when we train more physicians who know what a chromosome is. We are of course willing to deal with practitioners who ask for more detailed information (usually literature) to help them cope with a particular situation, but we have avoided direct dealings with patients. To do counseling at all well would require a tremendous staff; perhaps what we'd need is a school for genetic (cf. psychiatric) social workers. Considering how poorly even most professional people understand elementary probability ("well, since your first child had the condition, and it's recessive, your next one is less likely to be!") I think that most genetic advice must be quite misleading unless it is part of the whole pattern of medical care.

Frankly, I am not altogether sure whether Stanford should emulate Wisconsin in establishing a Genetics department (and I would call it that rather than Medical Genetics unless there's other good reason) unless it can get a fair

amount of money for staff. The difference is the breadth of the base. ~~Between~~ Between your group and Biology, you will have considerable strength in genetics, but it is highly concentrated on microorganisms, and one would like to see some Drosophilists and mousemen in the picture. I can visualize the following courses of action:

1) A comprehensive Department of Genetics: should comprise at least two men ~~(X)~~: one preferably a mammalogist (viz. inbred mice), the other of biometrical-clinical orientations. In this picture, I would be, topically at least, superfluous, which is to say one more item of cost.

2) A less ambitious program which did not aim, at first, at the postgraduate training aims. This might take the form, for example, of reorganizing a single Department of Biochemistry & Genetics. You are the one person to whom this should not sound absurd! I have in mind that chemical genetics (DNA) plus genetic chemistry (individuality) encompass much ^{of} the important principles of both subjects, not to mention the particular interests of yourself, your group and me.

✱ I am not sure which of these I would personally prefer if I had the choice. If the funds were so readily available that I did not have to take too much time raising them, I suppose (1), insofar as there can be some advantages (can you name them?) in the freedom of action of a chairmanship. But (1) would be much less appealing if it put some distance between us. Perhaps some compromise between (1) and (2) can be thought of. One of my points is that I would not be attracted to the chairmanship of a group where the balance of growth needs vs. available resources was such that it would take too much of my time. Any program ought to be realistically conceived in relation to those resources.

After all, Art, you are (to my mind) Stanford's most valuable asset. It is perfectly plain how uniquely your talents and interests complement ~~me~~ ^{mine} ~~another~~ -- my most cogent dissatisfaction with Wisconsin is that I could not succeed in working out a longlasting biochemical collaboration, which I so badly need. (I hope this was mainly because my very good friends among the biochemists have been preoccupied with other lines of work, though Van Potter is moving in a more interesting direction lately.) I have been trying very hard to move my genetic work in a direction to fit my own prescriptions (at Baltimore) but have not had much encouragement with E. coli. Just since last week, I've been playing with Hemophilus, and find this a much more manageable system than I had supposed. My immediate concern is to familiarize myself with one system ~~that~~ of dna-transduction that does work, to have a better foundation with the attempts with E. coli. Failing that, I have in mind to 'mix the systems' to see if there is some obvious non-cellbound impediment in E. coli; if that fails too, I may even see if some more interesting markers can be developed with Hemophilus, though I am naturally reluctant to give up our investment in coli.

A propos biophysics, I hope we have a chance to discuss this before you make a firm bid. Benzer is a very talented and entertaining fellow; I am not sure (just that, he might be) that he would be my first choice as a biophysicist. (Perhaps that doesn't matter at all in a school that doesn't know the difference between Bacteriology and Biochemistry.) His achievements have been the result of fantastic concentration on ~~a rather~~ narrow issues, and he still shows astonishing naivete in conversations on almost anything he is not immediately concerned with. This is easily rationalized: he was trained as a physicist, has a good head, but no particular depth in biology, and he has involved himself in problems that make no very direct use of his physics.

(Art you make for the course)

(McCollum's unit 1956) ←

"P. 9. some anti competition factors a lack of another factors"

All this can (and should) well be read as a strong endorsement. Still, it is rather pointed that he has worked some years without graduate students, or even in effect, postdoctoral fellows, and I trust that any decisions you make will keep the question of leadership potential in mind. If that function would still rest with Kaplan, you might be able to afford what might be called an appointment of staff instead of line.

This may be too distracting a suggestion and put more stress on

The rub is that I'm hard put to suggest anyone apter! Perhaps Novick (disregarding his overlap with Mel, which is probably temporary). If that thought could have any effect, you'd have to give Aaron some notice of it fairly soon, since he's trying to decide between Dartmouth and LaJolla, both of which are distinctly less attractive than Stanford would be. What is biophysics anyhow?

The notion of concentrating on DNA as a theme is irresistible to me. Do you have anyone at Stanford who'd be an opposite number to say Schachman? Or would he function adequately just where he is? Have you thought about Alex Rich? Or even Jim Watson? *the para magnetism resonance?*

To revert to (1) and (2), the financing of (1) might not be so very difficult in the short run. We ~~started~~ started Morton off by means of a fairly small grant from Rockefeller, and I have the feeling that (barring some unknown personal discriminations) Stanford could get \$100,000 or so from them to set off such a department. (Genetics happens to be one of Weaver's pets, and for good reason!) Furthermore, genetics is one of the subjects specifically named by the PHS as an area for award of 'training grants' and a well-thought-out program ought to elicit perhaps 25-30,000 a year for four or five years at least, not including some use of this for new staff. Stanford would, of course, have to show a substantial contribution to match. The trouble with this is just the timing, but if Stanford had some funds for ~~reins~~ reinsurance, it might be gotten underway. Stanford would also have to be able to make a commitment to pick up the tab for tenure salaries at the expiration of these initial grants. Thinking about all the letter-writing and phone-calls all this would mean again makes me lean strongly back to (2).

My best comm: NOR 466 -> Chicago at 1135

This has been quite a bout of logorrhea, some of it awkwardly written, but the next best thing to a tête-à-tête. Why don't we agree to have one. I can be in Chicago between noon and suppertime almost any day you care to name. The trouble with going all the way to St. Louis or vice or versa is that, taking account of the connections, it would work out to not less than a two-day trip, and I would have to make more involved plans a/c the continuity of my lab work. After Feb. 1, I'll be teaching Tu & Th; Wednesday would be the best day (or weekend). For your part, you might be able to route your next trip East through Chicago, and save 1-way that way. *if you can't through Chicago, I'll do it*

If these schemes materialize very far, I will have to tell Jenkins (at Berkeley) about them, in all candour. He would be deeply hurt if he heard about them, ~~at least~~ or at least any participation on my part in them, from anyone but myself. I am relying on you for this. Since both of us would give high priority (on moving anywhere to the westcoast) to active cordiality between Berkeley and Stanford, we ought to go out of our way not to provoke any resentments. I had precisely the same feeling when the tables were turned last spring.

Who's going to be left in the midwest? It's curious there should have been a strong tide flowing in here during the 40's, and so many people leaving again now (at least in microbiology).

Enough for now-- we just have to get together soon. You can reach me most evenings, more relaxedly (and cheaply, if we're to have more 15 minute sessions) by a station call to Cedar 3 2969.

As ever,
Joshua
2468