March 15, 1951

Prof. E. Bright Wilson
Harvard University
Cambridge 38, Massachusetts

Dear Bright:

I am writing to thank you and your colleagues for having invited me to be Visiting Professor at Harvard next year. Under normal circumstances I would not hesitate at all about accepting it - or, at any rate, doing everything possible to arrange here for a leave of absence to permit me to accept it. As I said to you over the phone, the present situation is an unusual one. I hope that you will allow me to think it over for a while, and to make a definite decision a little later - if you need to have a definite answer soon, please let me know.

I am sure that you will not want to wait too long, and I do not want to handicap you in finding a good man for the job, in case that I am not able to accept.

As to the matter that I mentioned over the phone, it still seems to me that it would be wise for me to stay in Pasadena during the coming year, and to push our protein work forward as rapidly as possible. I am having a hard time to keep my feet on the ground now - I have been working night and day, neglecting almost everything else. Corey and I have a paper coming out in the April issue of the Proceedings of the National Academy of Sciences, in which we describe, rather precisely, two configurations for polypeptide chains. We are hoping to have about six papers in the May issue of the Proceedings. In these papers we describe two other configurations, and discuss the presence of these structures in various special proteins, and the experimental evidence that the structures are right and are present in the proteins. I think that we know quite precisely the atomic structure of extended muscle and contracted muscle, of stretched hair and normal hair (we are rather uncertain as to whether we know what supercontracted hair and muscle are, or not). I think that I feel most excited, however, about the structure of collagen and gelatin, and related fibrous proteins of this class. The molecule in these proteins is a triple helix, involving three polypeptide chains that are coiled together in a helical form - resembling three springs that have been made to occupy the same cylindrical surface. This seems to me to be an astounding structure. One nice thing about it is that we have been able to predict its atomic coordinates very closely, and that these coordinates are supported by experimental evidence - the intensities of x-ray reflection. Another very interesting structure is that of the keratin of feather rachis. This consists of sequences of three layers, a pleated-sheet layer of nearly extended polypeptide chains, a layer of our 3.7-residue helix molecules, and another layer of these molecules, staggered with respect to the first. I think that it will turn out that still more complex structures than this exist in nature - and that it will be possible to discover them and to show just what the atomic arrangement is.

With best regards, I am

Sincerely yours,

Linus Pauling:W