

UNIVERSITY OF ILLINOIS  
COLLEGE OF LIBERAL ARTS AND SCIENCES  
DEPARTMENT OF PHYSIOLOGY  
URBANA, ILLINOIS  
U. S. A.

NATURAL HISTORY BUILDING  
TELEPHONE: 7-6611, EXT. 3040

December 27, 1952

Dr. Alberto Hurtado  
Director, Institute of Andean Biology  
University of San Marcos  
Lima, Peru, S. A.

Dear Dr. Hurtado

On March 18, 1952, Dr. Robert E. Johnson, Chairman of our Department, addressed a letter to Dr. Carlos Monge in my behalf relative to my spending six months in your country to study certain problems of high altitude physiology in his laboratories. In answer to this letter Dr. Monge wrote that you are now in charge of the laboratory and that you were in the United States and therefore he could not give a specific answer to the request until he had conferred with you. At that time he mentioned that you were supervising an important project on body tissue acclimatization. He also stated that you have two low pressure chamber developments, one at sea level and another at 15,000 feet at Morococha.

Shortly after this correspondence we received word from Dr. Monge that your laboratory and facilities were crowded and at that time you could not make any definite commitments. Instead, Dr. Monge invited me to consider a stay in the laboratories of his son who was in charge of his particular laboratory since he himself had been retired from active duties. In response to this information I wrote Dr. Monge and outlined some of my interests in the effects of altitude on gastrointestinal physiology.

In August I wrote a letter to Dr. Bruce Dill outlining my interests for a stay in your country and asked for his counsel concerning financial assistance to make the trip. In answer, Dr. Dill made arrangements for a personal conference with him during the Physiology meetings that were to be held in New Orleans in September. On this occasion Dr. Dill and I had breakfast together and he told me more of your facilities and recommended highly that I spend my time in your laboratories and that I ask for financial assistance from the Randolph Field group. While in New Orleans I also talked with Dr. Wallace Fenn as well as Dr. Robert T. Clark, Jr., the present Head of the Physiology-Biophysics Department at Randolph Field, and they, too, talked about your research program. Dr. Clark promised that he would write to you in my behalf and than inform me of your reactions. On December 8 I received word from Dr. Clark



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stating that my proposed contract has again been accepted by his Research Council for the coming year and that I would hear either from you or Dr. Luft in the near future regarding my proposed visit to Lima, Peru.

Since I have not heard from you, I write to state that I am still hopeful of spending at least part of my proposed leave between June, 1953, and January, 1954, in your laboratories if you think satisfactory arrangements can be made. I have made arrangements to spend four months of my leave at the research laboratories of the Mayo Clinic in Rochester, Minnesota, and I should like to spend two months in your country. I would come without my family.

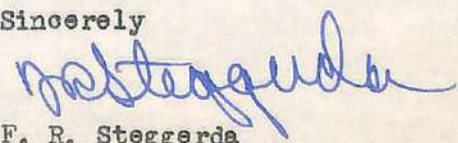
My research interests, in particular, deal with the activity of the gastrointestinal tract as well as the volume and composition of collected flatus with altitude. Recently we have become much interested in the source of the high CO<sub>2</sub> composition of flatus upon going to altitude. We are of the opinion that upon going to altitude there is a marked release of CO<sub>2</sub> from the alkaline secretions in the small intestine and that as it passes along the gastrointestinal tract a major portion of the CO<sub>2</sub> is absorbed into the blood stream and expelled through the lungs with the remainder being passed by way of the rectum. We have recorded data which indicate that with this increased release of CO<sub>2</sub> in the intestine there is a hyper-ventilation with a resulting increased alkalinity of the urine as well as changes in the pH of the stomach contents. These results are altered by the ingestion of dilute HCl thirty minutes previous to the time of the experiment. I will enclose reprints of two of our previous reports and a copy of a manuscript we have just submitted to the Air Force group at Randolph Field.

My particular interests in coming to your laboratories are threefold. I have always had a strong desire to visit Peru. Next I would like to visit your laboratories of which I have heard many favorable reports, and which up to recently I thought were under the direct supervision of Dr. Monge. And last, I would like to test, in a preliminary way at least, on myself and possibly on a few other subjects the acclimatization changes that might occur in the activity of the colon, volume, and composition of flatus, urine and stomach hydrogen ion concentrations and respiratory exchange at sea level and at 15,000 feet. I am guessing that a three weeks stay at each altitude would be a fair test of time to note differences that might occur. My equipment is quite portable and I could take practically everything with me to do the work.

I can furnish references from people who know me and my work if you so desire. I sincerely hope I may have your reaction to this request at an early date because it is necessary that I submit detailed plans for my leave to the University authorities before January 31, 1953.

Dr. R. E. Johnson asks that I extend his best regards.

Sincerely



F. R. Steggerda

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