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About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

Dec 1941

Dear Daddy and Helen,

I have not been able to write you because I have been so busy, deliver newspapers and I am also in the clouds. This Christmas for a Christmas present I am hoping to get a Boy Scout uniform.

In one of my Boy Scout tests I have to have a garden and earn \$5.00 profit so I think I will have a garden again next year. From the garden this year I earned about \$2.00.

In one of your letters before you said if I took care of your microscope I could have it. Well I would like it very much.

The whole family is excited about the package you are sending us. We can't guess what in it.

The Boy Scouts have been called for defence work so I will be busy. We are learning first aid in the dark. In scouts I have already passed my tenderfoot.

In school I have been doing fairly well but not as good as I have done other years. I am in two clubs at school. One of them is ping pong and the other is stamps. I have made quite a lot of money selling stamps.

I am collecting newspapers for national defence.

I have already ^{gotten} ~~received~~ 180 pounds.

I have received the certificate you sent be about crossing the equator. I think it is very pretty.

I have been saving defence stamps as soon as I get a book filled I will be able to get a defence bond. Thank you a lot for the stamps you have been sending me.

Yours Truly,

Hugh P. ...

In one of your letters before you said if I took care of your microscope I would have it. Well I would like it very much.

The microscope is excited about the microscope you are sending me. It is just what I need in it.

The microscope has been sold for defence work. It will be done. We are having first aid in the school. I have already passed my first aid course. I have been doing first aid well but not so good as I have done other years. I am in the club at school. One of them is being kept out the other is a student. I have made a lot of money selling stamps. I am collecting newspapers for national defence.

April, 1942

COSMOS CLUB
WASHINGTON, D. C.

Dear Helen,

When Daddy came up I was hoping you would be with him. We have missed you alot. Are you having a lot of fun down there. I have that Mrs. Smith was visiting you during the Easter holidays. Send my love to her and tell her that I haven't forgotten the good meals she gave me.

I liked the collections you sent me for Christmas. Now my collections are getting pretty big.

Right now I am sitting in the Cosmos Club writing this letter. In about a half hour we are going to the store to get some clothes.

I am saving up for a bicycle. I have been making the money off of my paper route.

We had a nice Easter. We got a lot of candy in our baskets. What kind of Easter did you have? I would like to hear all about it.

When Daddy came up I met him at the train. Dr. Reed and I were the only ones to see him get in. He said that he was surprised to see me. He has given me a lot of coins from South America. He has also given me that knife, spoon and fork set. I like it very much and I think it is very clever.

Sunday we had a big T-bone steak. It was very delicious. This Sunday we are going to have a T-bone steak even larger. Alfred is coming down to help us eat it.

Uncle Mat at the United Fruit Company's office gave me this pencil I can now write with.

I have been having a lot of fun at scouts. A few weeks ago we went on an overnight hike.

If you see Mrs. Roach give my love to her.

Love of Love,

Vugh

Dear Mom and Dad,

Feb. 7, 1949

Well, the worst has happened. I bought a jeep. So far it seems like I got the best of the bargain but it is always hard to tell. It is a 1943 military jeep and in pretty fine condition. At first the man wanted \$545 but I finally bargained him down (Senate-malan style) to \$500. I figure it will probably take another \$100 dollars to get it in tip-top condition for next summer. It has no top so I'll have to get one. The man also gave me a brand new tire for it as one of the others is a little worn. I have been pricing other jeeps and in comparison it seems like I really got a bargain. I am going to spend some of my time in the spring semester getting it fixed up and maybe I'll be able to learn something about it while I am working on it. I have a learners permit which means I can drive while somebody with a license is in the car. So far I have bought it with my own money but I plan on selling it to you when and if I get there next summer. Today I took it up some pretty steep hills so I think it is capable of anything Central America can offer. I guess this means that I'll be seeing you next summer if everything turns out all right. It will really be nice seeing you all and zamorano again. I wish that school would pass pretty quickly so I can see you again.

I got my grades for last semester as follows. They're okay but they're not as good as they could be.

Agriculture	8	B
Chemistry	9	B
Genetics		
Economics		
Military Science	A	
		A

I have really been on the move down here in Southern California. I went down to Baja California and saw what there was down there. I wasn't too impressed & it sort of represents a transition between the U. S. and Mexico accentuating the worst points of the two cultures. I visited Tijuana and Ensenada. at Ensenada for a \$1.00 I had a big steak dinner and the steak was one of the finest, about 3 inches thick and chorizo and sangre. I don't think people in the states know what they are.

I spent a few days on a friend's ranch at Escondido. While I was there I shot a couple of cotton-tails which make fine eating when cooked right. This friend was Tom Mc Shane. you'll probably hear more about him.

I also went down to Mexico with him and spent a couple of nights at his house here in Los Angeles. By the way that trip to Mexico was the first time I had set foot on Mexican soil. I guess there will be more times in the future (I hope).

I think in a couple of weeks after I get up to Davis I'll go and spend the week-end in San Francisco. I'd like to go and see the Bowmans and it is always better to do those things at the beginning of the semester before the homework starts piling up.

I went down to the desert another time and saw Uncle Paul's old place. I also got a chance to see Palm Spring. It's a rich mans town and I don't think much of it. Everything is so superficial.

I guess my next letter will come from school as the vacation is about over.

I hope everything goes well at Zamorano

Lots of love,
Hugh

April 18, 1949

Dear Mom, Sally, and Dad,

Well, yesterday was Easter. It started out to be a poor day but in the end we really got some nice weather. I got up at four o'clock and went to the Easter sunrise service up on top of a hill. From there I took the jeep into the hills and spent the day collecting plants for my plant collection. I found twelve new ones for my collection but what bothers me is I am going to have to try and classify them today in my spare time. While I was collecting plants I managed to shoot eight ground squirrels of which there seemed to be an abundance. They're bad nests for the farmers and present me with a good opportunity to keep my shooting eye in good condition. I saw three deer but I didn't shoot them as this is not the deer season.

Dad, thanks a lot for the check. I received it and I assure you it will be spent sooner or later. It's too bad that money makes the world go around but it seems as if it does.

Right now I have a big iron in the fire. Next week we get the week off for spring vacation so I am going to try and go to Canada. Reasons for this are numerous. This is the best time of year I could go except in the summer when I usually have other things to do. I plan to go in the jeep and take two other guys with me. I figure that transportation will cost us about fifteen dollars a head round trip. This is far cheaper than I will ever be able to do it any other way. We are taking sleeping bags and will sleep out all of the time. The major expense will be food which either I or whoever I would have stayed with would have had to pay for any way. I think this provides me with a pretty good opportunity to see most of the country North of here and will probably be the only chance for a long time. Who else can go to Canada and back on fifteen dollars for transportation. I figure it will make a good test run for the jeep now that I have got most of it fixed up.

Last week-end was Picnic Day here. I think I presented you with a pretty good picture of what went ^{LAST YEAR} on. This year I had the job of driving a tractor and pulling the guest around in cars on a tour of the campus. It was a pretty soft job and took me back to my tractor driving days in Hawaii. No accidents happened so I guess I was all right.

Dad, I got your letter about the shoes and went into Sacramento to see what could be done. I ended up buying a pair of Sears best with the tire cord soles like you wanted. They charged me \$6.95 for them with tax which isn't too bad. As soon as I can find some wrapping paper for them I will send them on to New York.

Today we have elections for student body president and other positions. There has really been a lot of campaigning going on the last few days so I expect it will be a pretty hotly contested election. Today I will exercise my privilege and go down and vote and see if I can do any thing to swing the elections so my man gets in.

Lots of love,

Angie

Feb. 10, 1961

Dear Mom and Dad,

My eighth and last semester of school starts the day after tomorrow. Registration is over now and we are just waiting for the actual classes to begin. As usual I find myself carrying quite a heavy load; twenty units this time. I figure this will be my last chance to get a crack at a lot of these classes so I might as well take as many of them as possible. Most of the courses I will be taking will be in irrigation.

Today was my last day of work for the irrigation for I figure I won't have enough time during the next semester to work. I am sorry because I was learning quite a lot as well as picking up some money. Most of the time I was running research experiments for one professor or another so it was almost like taking a course. It gave me a good insight into research. I was constantly changed around from one professor to another so it made a good chance for me to make some observations of my own. During Christmas and in-between semester vacation I made about two hundred dollars. This was possible because the professors let me put in a lot of overtime and work during holidays.

About the saddle; we did buy it from the school or rather through the school. I kind of hate to give it up but I see no alternative as it is getting rather little use these days and I hate to see a good saddle go to waste. Originally I was planning if I worked down in Latin America I would keep it but now it seems too far in the future to worry about. I guess the best thing to do is sell it. Some day if I ever settle down I'll have to buy myself another one to replace it.

Thanks a lot for sending my copy of the birth record. It came through in good time. Now if I ever run into any trouble I can just flash my document with the big red ribbon. I can always keep it around just for emergencies.

A couple of days ago I went over to see Huck who is now working in Walnut Creek. He is a mechanic over there and seems to be taking life rather easy. I guess he is just waiting for the services to catch up with him since he is in the naval reserve. I had a nice talk with him. It's too bad that I can't see Edith and Pete too.

It seems like recently I have been thinking more of our home in Honduras than usual. During vacations when I am just doing work with my hands I find I have more time to reminisce than when I am studying. It seems like a pretty long time since I have been down there. I certainly would like to go down on vacation as soon as school is out but we will have to wait and see what are the possibilities. Although I never was in Honduras a very great length of time I think that place is about the closest to being my home. It's too bad we all haven't been together more often but I guess that is life. It seems that we should go out of our way a little more just so we can be together.

I went down to Los Angeles last week for a two day conference of representatives of the different branches of the University of California. They were really two full days. It seems that just about every minute of our time was accounted for.

Heral

Dear Tom and Dad,

Dec. 29, 1952

The past few days have brought a couple of very nice letters from Dad and a generous Christmas present from Mom. Many thanks to both of you. I hope some time in the not too far distant future we may be able to exchange Christmas greetings verbally rather than by mail. However, mail is the second best bet.

This Christmas was spent at Uncle Paul's house (I always call it my United States home). Pat, John, and Davis were there so the only one we missed was Oliver's wife. It looks ~~that~~ like around April John will probably be adding a new addition to the Bosserne clan. Sal wasn't there. Instead, she ^{came} north to visit some friends in San Francisco and missed me, thinking I was at Fort Ord. Nevertheless, today I received a very sweet telegram from my favorite youngest sister.

My favorite oldest sister sent a very appropriate Christmas card and a couple of boxes of candy. She knows if I can't use much else in the army I can always eat a little extra (not that the army doesn't feed us well anyway).

Now in-between Christmas and New Year's I am at Fort Scott painting, waxing floors, and doing other odd jobs. During New Year's I get a couple more days leave and I hope to go to F. A. again.

While I was at Altadena I had a chance to see Grandma and Aunt Vivian and exchange presents with them. I also went over to the Herbert Bossernes and showed my colored beanseed slides to them and the Parkinson Bossernes.

I came back up to San Francisco to meet Howard Neam's family (no other reason except for my admiration of Howard and his work as contrary to what your letter intimated). He has a daughter but I'm certainly not interested in her. He has done a very fine job in Thailand both with extension activities and agronomy. He conducts many variety trials with corn, sorghum, soybeans, kenaf, ~~peanuts~~, and forage crops. Actually I think he did the most successful job in our mission in Thailand.

Now he is back in the States to take a job as regional ^{extension} service for the malweeds. I would like to see more of him in tropical agriculture. I was

wondering if it wouldn't be possible to sponsor a trip for
him to Central America for I feel positive both his sponsors and
Central America would stand to gain. Now that the extension
idea is starting to take hold down there he might be very
timely. I think that Uncle Knowles could back up everything
I have said.

Thanks you very much for sending to Wall Street for
some more information on stocks. I will be interested in hearing
what they have to say. I was interested in the tale of Amerasia.
I have been thinking of buying some of their stock all along
but I'm afraid it ~~is~~ is a little too high priced now.
In November I bought my Socony at $34\frac{1}{2}$ right after they
floated a new issue which pulled the price down from 40.
I anticipated that it would go back up and now they are
at $37\frac{1}{2}$. They pay \$2.00 yearly on a quarterly basis. I can't
see where oil will drop any time soon.

If there is anything I can do on your house while I am
in S. F. let me know. As you know I won't be here much
of the time but if I get a pretty good idea of what you want
I might be able to get some estimates. I know one can-
tractor well which might reduce costs on a lot of ma-
terials. As you know I'll be in Alaska when you
arrive here in June.

Howard Ream brings news from Thailand that Mr. Fuate is
returning from Thailand to work with the State Dept. in
Washington picking personnel. The job is supposed to be
quite a plum and a feather in his cap. They are fine
folks and he did a good job in Thailand.
I hope you like the jeep. I became quite fond of my last
one and was ~~very~~ very sorry to leave it in Thailand. Maybe
later on I can get another one. The military jeeps are very
impossible to get a good one.
Best of love,
Hugh

Aug. 21, 1953

Dear Mom and Dad

I just received Mom's first letter from Spain which paints a very enticing picture of your travels there. I ought to give you plenty to talk about when you get back. Thanks for the best wishes for my birthday.

The electric ~~equipment~~ came through in good order as did the other things. Thanks very much for both. Car's book was about what you said it was but it did increase my case of nostalgia for Zamorano. His sketches of the people, the land and the wildlife made me want to go back there once again more than ever. Once I get back to Zamorano I am going to spend a lot of time re-creating a lot of the familiar *huentos* around there.

I almost wasn't around to celebrate my 24th birthday. On Aug. 17 the helicopter I was riding in had the engine go out and it crashed into a lake from 500 feet up in the air. After a couple of very trying minutes I finally freed myself from the wreckage and got up to the surface of the water. I got no broken bones out of the deal but I will have a couple of nice scars to show my grandchildren. My camera, which has accompanied me so faithfully the past few years was not recovered and I also lost my new wrist watch. All of my surveying equipment, including my theodolite, was lost but since the government pays for that I'm not worried.

It was interesting to me that in the couple of minutes I was pinned in the wreckage under water that my mind didn't turn to God as it is told in most of the stories. Instead I thought only of three things: ^{controlling} holding down my panic, holding my breath as long as possible, and getting the hell out of there. I guess God decided if I wasn't going to pray for him, he didn't want me and thus allowed me to return ^{to} camp for a couple of days. Now after being the hero around small routine of living. However, it's the closest that I have been to death that I had so much time to think about it.

We should be camped here around Chignik Bay for about two weeks more before we start back to the States, as I said before we should reach Trisco by about the first week in October.

I have made ~~to~~ very good friends with an eskimo family here and almost every day they ~~for~~ bring me a couple of pounds of smoked salmon. It is quite a delicacy and I really love it although I am getting a little full. I wish you two could try it if you haven't already for it is quite a treat.

Two weeks from now I will have reached the half-way mark in my army career. I can't pretend I am anything else but pleased.

Best of love to you both,

Paul

Dear Mom and Dad, Paul + Peter Oct 6, 1953

You all are probably still trying to get resettled after your recent emiable trip. I'll bet Mom is having a wonderful time pulling a redecoration job on the house with miscellaneous aquired in Spain.

Congratulations on another anniversary of the school which I believe comes up on the "Pica de la Raza". The school is no longer an infant but a very successful experiment.

Things are happening pretty fast to the Popenoes. In less than 11 months our three gals are all married; it must be contagious. The day I came back from Alaska I got my three day pass, grabbed a Greyhound and went tearing down to L. A. and Marion. She was in the middle of big planning for the 17th but nevertheless had some time for her favorite brother. She is doing an admirable job of setting up the wedding (maybe because of Hal's and Nancy's pioneering or maybe just Marion's ability). She seems wonderfully enthusiastic and to be planning very wisely for the future.

I knew Dick Hatch a little in college and have nothing but praise for him. Since I knew him before he knew Marion, my impressions are pretty accurately founded. He was quite active in school and quite popular. He has a high standard of Popenoe son-in-laws to live up to but I'm sure he will more than hold his own. I think you can write it down for posterity that all of your daughters made excellent choices.

It looks like the family ^(2.) is growing by leaps and bounds. Besides the addition of three new full-grown sons there will be a couple of newer additions. Speaking of newer additions I saw Sal on Sunday, and Hughie (she assures me it is to be a boy and consequently named Hugh) is coming along quite nicely. I extracted quite a few promises from her that she will take good care of Hughie (probably skwie or shoeie by the time the playmates get finished with it). We had a wonderful day together and wound it up by cooking a round steak on their little outdoors grill. They make quite a wonderful pair and I enjoyed Ed as much as ever. We talked army, hunting, and Hughie almost all day. Sal treasures your letters and pulled them all out to show me. Ed will finish his training in a week and as yet they don't know what the future will hold but are facing it very admirably and brave. Now I am as proud of our Sal, our Mayan, and our Nancy, as I have ever been. All three are a great credit to anybody's family and most of all, ours.

Thanks ~~of~~ for the offer of a new camera but I am hoping the army will take care of it. After the usual reams of red tape I might get reimbursed for my tragedies this past summer. Many more summers like that and I will be taking out insurance on my possessions.

You requested more details of the helicopter crash so I hope I don't bore you in telling about

it. We were flying along ^(3.) at 500 feet (the pilot and myself ^{over the ocean} when the motor stopped. The investigation later showed that ice had formed in the carburetor. The pilot pointed it towards shore and we hit in a lake which was inland from the beach. The helicopter hit on my side and we sank immediately. We were sitting in a small Plexiglass bubble which filled up with water as soon as we hit. The pilot was thrown out as soon as we hit so he had no worries. Since the plane hit on my side I sank with it. At first I started desperately flailing around because I was afraid I might get pinned when we hit bottom, but as soon as I discovered that my safety belt was still fastened and realized that I had been getting panicky, I calmed down immediately and realized that if I didn't keep calm I might drown, and that I might drown anyway. I found my door had jammed and spent some futile time in looking for the door release jettison (afterwards I found ~~to~~ out it had been removed a week earlier for repairs.). Being unable to open the door and rapidly running out of breath, I decided to knock a hole ~~it~~ in the Plexiglass with my fists and crawl through. I made a hole, and after a futile attempt to get through it since it was too small, I enlarged it and wormed through. I finally got to the surface (I must have nearly set a new breath-holding record) and found the pilot starting down to look for me since I had been under water such a long time. He claimed my first words were that the water wasn't

(4)
as cold as I thought it would be. We swam 300 yards to shore and then walked the two miles back to camp. My only injuries were some cuts on my hands and arms ~~of~~ which I received when I was breaking the plexiglass. Contrary to popular opinion, when I was under the water, my life's events weren't flashing across my mind, because I was 100% pre-occupied with the particular problem at hand.

at present I am back in Fort Scott undergoing a period of intensive military training. I don't know what I'll be doing this winter but I'll let you know what develops.

I hope I am able to get a pass for Marion's wedding which I wouldn't miss for anything less than the army. She asked me to usher for the wedding which I will be more than happy to do.

Best of love to you both,
Hugh

Dear Mom and Dad, Oct 19, 1953

The family is growing all of the time. The day before yesterday you added your fourth son, making at least three sons of top notch quality and caliber.

The wedding went off quite well as no doubt you are hearing from many other sources. It was all quite touching and Marion's embrace with Dick after the preacher finished his part made a very fitting final touch. I have never seen so many tears all at once but there were quite a few women in the crowd crying at the end, I guess the circumstances affect women differently but for myself I was very proud of our Mayan. She is off to a fine start.

The reception after the wedding was a real fucille and quite well attended. After an hour of picture taking etc, Marion and Dick left amid handfuls of rose blossoms and rice. Their car was well decorated and included the customary tin cans among the accessories. I think every one was very happy for them both.

During the same week and I picked up news of a pending separation between Joanne and Walt. It sort of added an disharmonious note to the entire weekend. However I hope it turns out all right for them, especially with a child. Joan claims that Walt is letting his success go to his head.

I hope you two take especial pains to write her some very encouraging and sympathetic letters at this time for it seems to me that she feels a little deserted and let down by the world at the present time. Ed is due to go to school a couple of weeks after which

time I think she plans on staying with the Hallages in Stockton. The next few years are going to be very trying for Sal and it is very important that she does not feel discouraged or deserted by her friends and family. However, you are probably as well aware of all of this as I am.

Nancy's baby ought to be here any day so there will be one more cause for celebration in the family. It's a big year for the Wilson-Popenoes.

Tomorrow morning I leave for a couple of weeks surveying at Inyokern (in the Mojave Desert). There are a couple of us that are being sent down there to survey the rocket testing range they have. I'm very enthusiastic about going as it gives me a brief respite from the intensive military training we ~~to~~ are undergoing.

Friday, the air force had a large air show and I was asked to demonstrate how the surveyors are flown to new points by helicopter and set up their equipment. I was only allowed 5 minutes to set up and tear down my mountain tent but with considerable fumbling I finally made it. I hope that doesn't happen often as with a few thousand people watching it makes one's eyes closed.

Best of love to you both and congratulations on such a wonderful set of daughters,
High

November 16, 1953

Dear Mom and Dad,

Dad's latest letter arrived today along with a letter from Mom which she sent Aug. 21st from Spain. Very happy to get them both. Dad's article on Agriculture Engineering was very fine and makes me appreciate more than ever the field I am in and the background I have had. Dad in his letter mentioned that the article might be a little light but it is just such articles that get the point across. It's a good point, put in plain language, and needs no scientific gobbledehoo to obscure the basic idea.

Just returned from a wonderful weekend with Sal and the Halleys at which time I saw my nephew Hugh for the first time. What a wonderful baby! One can just sit hours admiring him. He is an extremely handsome baby and seems to be entirely devoid of the defects which mar most children at such a tender age. Dr. Halley is keeping an excellent photographic record of him in colored stereo as well as colored movies. I told him I hope you get a chance to see them and the baby before too long. He has a movie of the baby and Sal just seconds after the delivery. In the picture the baby is all covered with mucous and still has the umbilical cord. The birth was an exceptionally orderly one and the baby was delivered with a proportioned head (no Points) which indicates a very easy birth but is very rarely found. Hugh Halley is on the bottle now and sleeps most of the time but I imagine in a few more months he will advertise his presence with a pair of healthy lungs. As I said before, all prejudices aside, it is quite an admirable baby. It weighed 7 pounds and nine ounces at birth.

I talked to Sal quite seriously about the possibility of going to Zamorano for the next few months. She hopes that she will probably get down there next summer. Now she feels it will probably be a problem travelling with the baby and also if she can make adequate arrangements she hopes to continue at Scripps next semester and graduate in Art. It sounds like pretty ambitious planning but Sal could easily do it.

The Halleys impressed me very much (this is the first time that I have seen them). Mr. Halley and I had quite a lot in common and we spent hours talking about mutual interests. The whole family, Hughie included, and myself went on a two day yacht cruise in their thirty-eight foot ketch through the delta country around Stockton. Quite a nice trip and it gave me a very good opportunity for getting to know some very fine people. I feel that Sal is in very good hands and that she couldn't make a better choice of a place to stay. Both of the Halleys are highly intelligent people with a variety of interests and with their feet well on the ground. I hope that you both may have the opportunity of meeting them some time in the not too-distant future. Ed Halley has been shipped out to the Orient but as yet no word of his exact location.

Nancy's baby is another piece of very pleasant news. This year is one of the most important years in the history of the present generation of Popenoes. I would like to see Nancy's baby very much. Nancy accomplished what ~~she~~ our mother failed to do when she tried to have Sal on your birthday. It is nice that Marion's and Marion's birthdays are coincidental.

A couple of days ago the first sergeant told me that I had to take a furlough in December or I wouldn't have another chance before I got discharged. I have applied for forty days beginning around the first of December. Quite naturally there is only one place I have in mind when taking a furlough and that is in Zamorano with Mom and Dad. Your being away from there the first of the month will postpone by a few days the time of our next meeting but not by much. My present plans are to try and hitchhike down to Latin America on military transportation and thus make the trip financially feasi-

ble from my standpoint. Since this type of transportation cannot be scheduled it precludes working up any set itinerary. Present plans are to take a transport from here to Mobile, Alabama and try and catch the first ride going South out of there. If you send me your itinerary it might be possible for me to bump into you somewhere en route. I hope you are planning on spending your Christmas somewhere in Central America for it will be our first Christmas together in seven years. I would have warned you of this sooner but as I said before the idea is only a couple of days old for me and most of my plans are still in the embryonic stage. Sometimes putting in for furlough and getting it are two entirely different things. As I said before tell me how I can fit into your plans without disrupting them too much.

No news from Marion but it is probably as they say, "no news is good news".

I have probably already startled you a couple of times in this letter so it had better end now.

Best of love,

Hugh

Dear Mom and Dad,

Jan. 29, 1954

It still seems like almost yesterday that we were together in Zamorano. My colored slides that I took down there were developed and are a very vivid reminder of the vacation. The slides taken inside the house at Antigua are perfect. I am going to try and get some duplicates made and send them on to you, maybe in time for Mom's birthday.

In retrospect you both were really wonderful to me on my vacation and I hope you feel that I really appreciate it. Mom's fine meals (sounds like Naranjo) and the discussions we carried on over coffee in the evening too Dad that we didn't start the after-supper discussions years ago for it is a good way to get to know each other. Our family, through the years, has needed a more mutual understanding which is only gained by living closely together. I hope the girls gain as much from their trips in the summer as I have the past month.

Probably when I left Zamorano, you still had some unanswered questions about Sigrid in your mind. I advise your discretion for not willing to interfere in my personal affairs but since we are all family I ought to enlighten you on the present status.

At La Lima the Taillon family was so wonderful with me that I thought the least I could do to show my appreciation was to reciprocate by inviting them to Zamorano since we have as much to offer visitors as La Lima. Mrs. Taillon couldn't come to Zamorano but Sigrid did. It was a lot of fun having her visit us and she fit nicely into the picture. At present (despite gossip to the contrary) we are not thinking of marriages; there are too many differences between us. However, the future may change but who am I to predict the future. If I ever do contemplate marriage you two will be the first to know. At present I have an engagement ring in his safe box and I will remain there for a long time.

Once again, I'm very pleased that you took flight in
without question and showed her such a wonderful
time. Most assuredly whenever I do have a wife I
won't have any qualms about taking her home to
show her off.

Last week-end I ate supper at Grandma's and
had a wonderful time. They really put on a good
feed and were quite entertaining. Yesterday, in the
mail, I received a loaf of Aunt Vivian's home-made
bread which I saved ^{so} much over. The two of them
are looking the healthiest I have seen them in a
long time.

Life in the army is progressing smoothly. I
have taken on a few outside activities to make
the time speed by faster. Now, I am playing bas-
ketball in the Palm Springs city league and play
for Village Market. They supply me with a black
and orange satin outfit with Village Market dis-
played prominently in orange letters across the
understirt. We lost our last game 46-29 so I
don't seem to be such a tremendous asset. At pre-
sent, off the record, we are at the bottom of the
league.

I have my transmitter set up here now and am
talking to the S.F. Bay area almost every day. To-
day I talked to Woodland (14 miles from Davis), lo-
cation of my draft board.

~~If I could~~ ^{man, if you} ever get all of the pictures you want
off of the roll of negatives I left, I would appreciate
it if you sent them along. I would like to print
some pictures and present them to the girls.

The binoculars are being fixed at a cost of \$8.00. ^{being}
the lenses would have cost \$5.00 more (too much). I'll
be compensated by the use of the glasses
I'll return them. Best of love to you both, Frank.

of one dollar you are issued fishing tackle, a bucket, and a towel. you are then allowed to fish in the swimming pool and as each fish is caught you gingerly take it off the line, using the towel so as not to smother your hands. Each fish caught costs you thirty-five cents and, as the sign reads, there is no limit. Give me a couple of good guapotes in the square any day.

you are right about the stock market going up recently. Since most of the rise has occurred ^{as} the result of Eisenhower's recent statements, it doesn't actually reflect an increased asset value of the stocks but an upswing of participant optimism. If it proceeds much higher I may sell and then buy later on when it is lower (if). Are you still interested in buying my Gen. Am. In. at any time. Since ~~most~~ ^{all} of my stocks is high grade and non-speculative, any drop in the stock market won't bother my earnings.

Week-end before last I went down to ^T ~~Chiapana~~, Mexico: a plate consisting of Taco, Enchilada, and Tamale cost me 20¢ and wasn't very reflective of good Mexican cooking. I ended up buying tacos from a street vendor at a dime apiece; a poor substitute for good Latin food.

It is nice that much of the family might be down in Central America this summer. Sure wish I could be down there. No letter from Sal but word indirectly says she might go to Berkeley the spring semester and have the landlady take care of the baby during the day. Pues, vamos a ver.

Best of love,
Hugh

Feb. 17, 1954

Dear Mom and Dad,

Happy Birthday, Mom. I didn't get the colored prints finished in time for your birthday but they should be down there before too much longer.

In retrospect I forgot to answer Dad's questions on bringing the silver into the country. The silver was not dutiable but I still had to declare a fair evaluation. Whether the evaluation came under my \$400.00 exemption or whether it wasn't covered at all I still don't know. You better tell Grandma the exact status of the silver. She doesn't seem to be sure what is going to happen to it.

Notice came through that the binoculars have been fixed. I'll have to drop into Pasadena one of these days and pick them up. If they have done a good job with them, maybe we ought to have the lenses on our portable Swift microscope cleaned up. I'll let you know how it comes out.

Last week-end I revisited Mexicali and Tijuana (both holes). I had some good "gallina en mole" (cost \$1.00) which reminded me of the mole at the Williams. I also had plenty of tacos and enchiladas at a dime apiece. It's too bad these days that this has to serve as my substitute for good travel. A couple of years hence I ought to be able to make up for it.

The second week in March ought to see me going up to San Francisco and then a month later I should be embarking on another troop ship for Alaska.

By now you all should be preparing yourself for the annual graduation. You will no doubt be quite busy but I hope not too much so to write.

Best of love,
Hugh

be able to make it down there at the same time as the rest of the family but that is one of the consequences of the fulfillment of my present obligations.

There is about one chance in ten that I may get out in June to attend summer school at Florida but chances look pretty slim. The army now has a ruling that will let certain people out up to three months earlier to attend a collegiate institution. However, I believe the company is banking pretty heavily on me going to Alaska as there won't be too many experienced men available. However, I won't mind making another trip north as I will be able to add to my finances for the lean years directly ahead.

Indirectly I hear that Hal and Marion were together for a week at Lake Tahoe. No doubt you know more about that than I do.

I called up Aunt Lucille the other day and she says that Frank is going to UCLA for the spring semester to take geology. Next summer he hopes to go to Europe on some sort of a student tour.

If you want to buy my Gen. Am. I n. I now have 40 shares which I am interested in selling. If you send the money and the name of the place you want them put in safe-keeping, I'll take care of the transfer. I think I better get some of my stock into money for school next year.

The binoculars have been repaired and are really in fine shape. I'll probably send them down with Marion. They left the mail reticle out and when I asked them about it, they said they always leave them out when cleaning military binoculars. However I still have the reticle and we can have it put back in my time. It's good for calculating distances.

Temperature here yesterday and today was around 94°F. Good winter weather. Are you still thinking about putting someone in the lot of loves, such

Dear Mom and Dad,

March 28, 1954

Last Wednesday was our dear Lal's birthday. I haven't seen her for a couple of weeks but I hope to get a chance to get over to Berkeley one of these days and see how the girl is coming along.

In the March issue of "Harpers Magazine" there is a very good article on Spain - its sights and eating places. After listening to many of your conversations in the library, the article seems to hit the point, but of course that is a layman's view. You ought to read it.

Maybe you never realized it but when I was in Zamorano at Christmas I was a little hard of hearing. My hearing has been gradually deteriorating until for the last couple of weeks I have been sort of a standing joke around the company. I finally decided to see the doctor and discovered that my only trouble was an excess of wax; a natural barrier the ear uses as a protection against loud noise. The doctor said probably association with the helicopters caused it. At any rate they have been removing it for the past three days and I am surprised at the little noises that I can hear now. I first was aware of my trouble when I was dove hunting at Zamorano. In the old days I remembered that I could hear the doves wings whistle when they flew. This time unless I was looking right at them I never heard them. It was a lot snuck up on me. Next time you can bet it will be a different story.

For a long time I have been worried about my lack of specialization of interests. It always seemed like I was interested in too many subjects for my own good - too much generalization and not enough specialization. A couple of days ago I took

an aptitude-interest test and found just the opposite was true. My scientific interest was highest on the list and literary and outdoors interest both tied for second place right behind. All three were very high and other interests were much lower. The tester said my outdoors interest was the highest he had seen (which doesn't surprise me too much). Next week I'll take an aptitude test and find if my aptitudes lie in the same field as my interests. Maybe I should have taken some of Uncle Herbert's tests.

I never told you but I had another plane mishap while in Palm Springs. A couple of days ago we had a class in aerial photography and it was necessary for the whole class to ~~go~~ take turns going up in the helicopter to take pictures. The instructor announced to in class that I would be the last one to go up as he wanted the whole class to have an opportunity to take pictures before I did anything to the plane. Quite a reputation I am getting these days.

I hope the trip to Salvador turned out fine and you got the students you wanted. This time you probably didn't stay at the Hotel Astoria.

Last night I talked to Indiana on my ham set. It is really reaching out there these days.

Take care of yourselves.

Best of love,
Hugh

AAN BOORD VLIEGTUIG
ON BOARD AIRCRAFT

VAN
FROM
DATUM
DATE

NAAR
TO
June 20

1955
1957



Dear Mom and Dad,

Arrived back in Gainesville a couple of days ago to find a stack of mail waiting from you. Sounds like you are doing a fine piece of work in Spain and enjoying yourselves at the same time. I think you are perfectly right by wanting people to know you by what you are doing and not by what you have done. I am sure you will always go on making very significant contributions in the field of tropical agricultural and especially horticulture. I am thrilled that the people in Salvador want you to be the Director of their agricultural school. You could do them a lot of good.

Dr. Paddock will arrive here next week to confer with Bert about the school. Bert told me that after his visit to Zamorano a couple of months ago he wrote a report to Dr. Reitz that Zamorano at present shouldn't try to set itself at the University level with a new director and an untried staff. Bert felt that they should wait awhile and make sure that the new staff members are capable of assuming the responsibilities of a vocational school before they embark on a new program. Bert says that Bill and Mr. Coolidge are the main ones behind the idea of raising the level of teaching at Zamorano.

Paco Sierra is here and is complaining about the high cost-of-living and the low salaries. He will never change.

Came back to Homestead and found that John has taken a job as associate professor of horticulture at Auburn. He will be ~~teaching~~ teaching three courses this fall. I think it is quite an improvement over his old job.

By the way, I have finally found out what I have long suspected -- that your book on tropical fruits is not as good as it is cracked up to be. I found one in a second-hand book store in Rio for sixty-five cents. Naturally, I told the store-keeper that was a ridiculously high price to pay for such an old book but he wouldn't bring the cost down. All kidding aside, I am glad to get a copy of your book at any price. Incidentally, I picked up a magnificent collection of books on this trip. By manipulating exchange rates in Brazil, I was able to buy books at one-third the U.S. prices. By now I have accumulated a pretty good collection of books in my own and related fields. I hope I don't have to move them very often.

Incidentally, do you have any good ideas for a book plate. I would like to have one for my books but haven't been able to think of anything too appropriate for tropical agriculture. I would appreciate any suggestions.

Your soil samples arrived yesterday but I haven't been able to do anything about them as yet. If what the boys say is true-- that your main problem is an overabundance of sodium, the best kind of amendment is simple. Excess sodium in the field will be characterized by a very poor structure of the soil (a very poor soil structure condition) and consequently very poor

AAN BOORD VLIEGTUIG
ON BOARD AIRCRAFT



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permeability to water. Several applications of gypsum (calcium sulfate) between irrigations would clear up the whole problem. If sodium is a problem, one should also check the sodium content of the irrigation water. Nevertheless we will wait until I can run some analyses and see if that is the main problem. Gypsum or sulfur might be a good soil amendment in any case to lower the pH of the soil. A pH of 8.5 or 9 sounds like it might be a little high for avocados but you probably know better about that business than I do. At the extremely high pH's the minor elements become unavailable to the plants even though they are present in the soil.

I'm glad to be able to stay in one place for a change and concentrate on my writing but I'm sure glad that I took that long trip through Latin America. I think I probably learned as much about Latin American Soils and soils research as anybody has in a comparable length of time. Now I want to get the information ~~filled~~ compiled and see where it is taking us. I have developed a couple of interesting hypotheses but maybe a review of the literature will prove me wrong.

Incidentally, don't ever underestimate your reputation in Latin America. It stretches to all the remote areas--even through Brazil. Furthermore your name has been a big help to me. I remember one time that I told someone that I never wanted to use your name to further myself. They replied that was all right but I also should never let your reputation handicap me by trying to avoid it. I think that was pretty sound advice. I find you have helped me quite a lot professionally--indirectly and directly. You always liked my ideas, even when other people were saying that they were a little far-fetched. Also, I have always felt (though maybe wrongly) that you would stand behind me financially if I got in ^{any} bad straits while trying to do a decent job. This idea has allowed me to cut my finances a lot closer than most people of my age. I have tried to put money in the background and not let it become a motivating force. I prefer the challenge of constructive work over a materialistic approach. This might not have been possible if I hadn't faith in the fact that you were standing behind me. All in all I am proud to be your son.

Best of love,

Hugh

Dear Mom and Dad, Kearballs Sept. 10, 1955
Limerick, Ireland
In Paris I didn't get a chance to say a decent good-bye to either of you but good-byes are usually the most unpleasant tasks of life. This summer was a wonderful experience and I believe we had a much better opportunity to know one another than is available at Zamorano. Furthermore, we really covered a lot of country (amen) and had many memorable experiences.

The Renault deal was successful and they showed deposit \$731.15 to my account at the American Security & Trust Co. When I'm sure the money is in the bank and my check won't bounce, I'll send you a check for the same amount.

You might be interested in a breakdown of transportation expenses this summer.

$$\frac{9200 \text{ miles}}{33 \text{ miles per gal}} = 279 \text{ gal. of gas used}$$

$$279 \text{ gal.} \times \$0.65/\text{gal} = \$182.00 \text{ spent for gas}$$

$$\$1159 \text{ cost of car } - \$731 \text{ refund} = \$428.00 \text{ depreciation, insurance, license fees}$$

$$\frac{\$610 \text{ cost of transportation}}{9200 \text{ mi.}} = 6.64 \text{ per mile}$$

This is a much better figure than that offered by a fellow I met in London. He hired a car in Switzerland through Thomas Cook & Sons and travelled through Europe at the cost of 264 per kilometer plus chauffeur's expenses.

The night after you left I had a 450 franc supper at the Ralle (sp.). I saw "2 Amelles D'agneau Menniere" on the menu and ordered it since I recognized the word "butter" and nothing can be had with plenty of butter. I was pleasantly surprised when I ended up with a very good dish of brains.

There wasn't any mail for us in the

American Embassy in Paris.

arriving in London, I let the airlines desk fix me up with a cheap hotel. I stayed at the Hotel Abbey for 20 shillings a day with breakfast. The folks were German and took very good care of me including fine breakfasts. When I left there was no service charge on the bill. I gave them 6 shillings and they deposited it in a box for an old widow who was in their care - very decent folks.

Took a Thames tour to Oxford and Stratford-on-Avon. Got a very heavy dose of fellow American tourists and was glad that the rest of the summer had been spent in a Renault. Otherwise didn't get very far out of London because had trouble with the verification of my reservation. Found England one of the cheapest countries in Europe and the girls surprisingly good-looking. Got a 2 shilling haircut right ^{next} to St. James palace.

Ireland has turned out very worth-while. Landed at the airport at midnight and at 1:00 A.M. rang the bell of the fanciest hotel in Limerick and asked if they had a room. They gave me one of the best rooms I've had this summer and cost was 15 shillings. Food here is a little more expensive but as good as you'll find anywhere. Name of the hotel is Cruise Hotel and has been operating for almost 200 years.

Since there were no day tours operating from Limerick, I rented a Ford Anglia and spent the day driving on the wrong side of the road and looking at agriculture. Went 117 miles for a total cost of 10.28 or 9 p a mile, also recommended as a good way of seeing the country if you are allergic to American tourists.

Am now waiting for my airplane which leaves at the ungodly hour of 3:00 A.M.

5.
For me this past summer was very
much worthwhile and I hope you all en-
joyed it half as much as I did. Without your
help I wouldn't have been able to come alone
and I hope you know that I appreciate it
very much. I'm very grateful to you in
many ways.

Tomorrow I should be in New York and
then, not much longer after that, back at Gains-
ville studying. I should see you in Gains-
ville in December, at which time we'll try
the cuisine of Cedar Keys.

With much love,

Fugh

June 13, 1956

Dear Dad and Mom,

The trip to Antigua from Zamorano turned out to be rather eventful. Since the boys at the Honduran border gave me no trouble I didn't bother to ask for Fernin Chavez. I actually spent about a half an hour going through the border on both sides.

Upon arriving in San Salvador at 1:00 P.M. I found the De Sola's place closed tight and not to be opened until 2:00. I decided to wait for Chico to come back from lunch. I parked my car right in front of his office and proceeded to eat lunch. While eating I heard a noise in back of the jeep, and on turning around saw a thief trying to take one of the sacks of bulbs out of the back of the jeep. I grabbed him and pushed him up the street whereupon he started acting like a drunk man. He stayed around the jeep pretending that he was drunk. After about five minutes a friend of his came along and asked him what the trouble was, and ~~why~~ why was he acting drunk. The thief immediately told his friend that for no reason at all, I had roughed him up a bit and pushed him around. The thief with his friend to back him up, then came over to me and started cursing at me for having pushed him. He pulled a knife, whereupon I smashed him in the face, knocking him out. Since I was afraid that someone would call the police, who probably wouldn't be in sympathy with my case, I decided to leave the fruit for Chico and head for the border. I immediately left and crossed the border as fast as I could. I hope that the police are not waiting for me the next time I go through San Salvador. From past experience I would say that San Salvador had quite a well organized band of thieves.

The entire trip was quite muddy. Evidently all of Central America has suffered from several days of intense rain. I got one flat tire near Progreso but soon had it fixed. I arrived in Antigua at 8:00 P.m. Maria had quite a lot of gossip ready for me. She said that Ed Farnsworth married a millionairess, whom he had been courting for seven months and left for the U.S.. He came around to tell me goodbye before he left.

There has been quite a lot of rain here in Antigua. The Drive's finca, La Jauja, and one other finca were completely ruined when one of the creeks overflowed its banks. They won't be able to harvest any coffee this year and also lost a few buildings.

A letter from Mrs. Hempsted says that the road to Pancajche is in bad shape. Maybe I won't be able to go for a few days. The Hempsteds are all staying in Guatemala and have invited me to visit them.

This morning Victoria came around to ask if she could use an iron providing she paid for the excess electricity used over 1.60 a month. Evidently she has been using the iron for the past week. I told her not to use the iron any more until you came at which time she could ask you. I warned her that she better tread lightly for you were not much in sympathy with the Casa Popenoe laundry. Victoria says that since her customers ordinarily give her money for the charcoal, and since Charcoal is rather expensive, she would rather pay you for the electricity. One ray of hope is that maybe we can stop paying for their charcoal.

Thanks very much for the pleasant stay in Antigua. I hope to see you when you get here.

A good-by kiss for Mom.

Best of love,

Hugh

P.S. Five packages of books have arrived from Zamorano.

Sept. 22, 1957

Dear Mom and Dad,

Enclosed is a list of the books which I have from the libraries in Antigua and Honduras. The first section is books that I could do without (although I like to keep them handy), since the library here probably has duplicate material. The second section contains books that are very useful in my work and otherwise unavailable here. If at any time you need any of your books I will be most happy to send them to you posthaste.

The schedule I sent a couple of weeks ago should pretty well cover my future plans as I know them now. At present I have no commitments for myself after my grant expires next September. As usual, I hope to get more money to keep up the same type of work. I will stay on shifting cultivation as long as it is economically feasible and then I hope to shift to some closely related field - in the tropics of course.

I don't believe I have any maps stored in the tin box. Any of your maps that are missing are probably up here with me since I brought along the more important ones of the areas with which I am immediately concerned. I believe the box mostly contains my camping equipment, a few sets of khakis, a pair of shoes, and some misc. soil sample bags and chemicals. The stuff in the box is needed for field work in C.A. if I never get another chance. I thought it was too much trouble to haul work clothes back and forth between Fla. and C.A. since I have no need of such things up here. Around here we don't do honest work - just desk work.

Before the Negretti and Zembra instrument finally had a complete breakdown, it had a tremendous accumulative error - about 20% I believe. Thus for every thousand feet the instrument was off by 200 feet. I believe this amount is much above the average and made the instrument impractical for rapid field measurements. The screw in back of the case can be used for correcting the elevation at any one point without endangering the instrument in any way. Set the elevation for Antigua - or better yet at the airport in Guatemala City, then see what happens when you go over the Chixoy pass and down to Puerto Barrios. At present I am using the Short and Mason which has always given me very good results and is practically foolproof. It marks the elevation closely until one goes much above 9,000 feet. Above that elevation the error deviates markedly from a straight line.

I also have the Abney hand level, a good compass, the box sextant which I use about as much as you use your excellent boiling point thermometers, and the microscope. Now, although I am beautifully equipped for almost any type of field work, I find myself almost chained to a desk. I think it is about time I changed my present habits. The Graphic 5 x 7 should still take excellent pictures if you can stand the prohibitive cost of the larger size film. I had the Goerz D₂ lens cleaned at the factory and it should be as good as new.

Digitized by Hunt Institute for Botanical Documentation,

Carnegie Mellon University, Pittsburgh, PA

The box of paraphernalia I left there happens to be different types of minor elements for basic soil investigations. Don't use it on any of your plants unless you want to lose all the beauti-

fulgeraniums and speed the demise of our fine old cypress tree. The elements are usually toxic in anything but the smallest amounts.

It was nice of Kitty to send you the Record Player. She is very thoughtful. Next time we go to Spain we will have to get some more records of those fine Cante Hondos and Jotas.

Your loving son,

Hugh

The schedule I sent a couple of weeks ago should pretty well cover my future plans as I know them now. As progress I have no commitments for myself after my event expires next September. As usual, I hope to get more money to keep up the same type of work. I will stay on a 4-11-11 schedule as long as it is economically feasible and then I hope to shift to some strictly research work in the tropics of course.

I don't believe I have any maps stored in the tin box. Any of your maps that are missing are probably up here with me since I brought along the more important ones of the areas with which I am immediately concerned. I believe the box mostly contains my camping equipment, a few sets of khakis, a pair of shoes, and some misc. odd things like a pair of socks. The stuff in the box is needed for field work in C.A. If I never get another chance, I thought it was too much trouble to haul work clothes back and forth between Tia and C.A. since I have no need of such things up here. Around here we don't do honest work - just desk work.

Before the Kestrel and Zambra instrument finally had a complete breakdown, it had a tremendous accumulative error - about 30% I believe. Thus for every thousand feet the instrument was off by 300 feet. I believe this amount is much above the average and made the instrument impractical for most field measurements. The screw in back of the case can be used for correcting the elevation at any one point without endangering the instrument in any way. Set the elevation for Andean - or better yet at the airport in the same city, then set the barometer when you go over the Chixoy pass and down to Puerto Barrios. At present I am using the Baro and reason which has always given me very good results and is practically foolproof. It marks the elevation closely until one goes much above 8,000 feet. Above that elevation the error deviates markedly from a straight line.

I also have the Abbey hand level, a good compass, the box contact which I use about as much as you use your excellent boiling point thermometer, and the microscope. Now, although I am basically equipped for almost any type of field work, I find myself almost drained to a desk. I think it is about time I changed my present habits. The Graphic 5 x 7 should still have excellent pictures if you can stand the prohibitive cost of the larger size film. I had the Geor 5 door lens cleaned at the factory and it should be as good as new.

BOOKS AT GAINESVILLE

The Pioneer Fringe
Civilization and Climate
The Ancient Maya
Hunger Signs in Crops
Soils - Hilgard
Vegetation of South Florida - Harshberger
Timbers of Tropical America - Record
Ecological Survey of the Flora of Puerto Rico
Handbook of Travel
Hints to Travellers - 2 vols.
Minerals and How to Study Them

Soils of Cuba
Contributions to American Anthropology and History Vol.VI
Annual Report of Smithsonian Institution 1919
Maya Indians of Yucatan - Steggerda
Historical Geology - Antillean-Caribbean Region
Sapper - 4 books.

Sept. 11, 1958

Dear Mom and Dad,

Receiving your latest letter makes me realize just how long it has been since I have written. I didn't realize that much time had passed. Enclosed are a few mimeographs - indicate what I have been doing with my time.

I have run several analyses on the soil samples and so far have found nothing really unusual. I am inclined to ^{agree} believe with you that waterlogging may be one of the main factors. The pottery factory gypsum that Luis is adding is the same thing I recommended originally when we thought the pH was too high. However, I don't think any soil amendments are really necessary.

Lots of water has gone over the dam since the last letter. As you will notice in the enclosed papers, I have written a proposal for a study of the possibilities of a Tropical Research Center. The proposal is already in the hands of Pres. Reitz and we'll see what he wants to do about it. I have talked to a member of the Ford Foundation who says that they might be willing to kick in some money for the study. If you can think of any additional ideas or arguments, I would appreciate hearing them.

The outline on tropical soil management is on my syllabus and a course which I eventually hope to give. I have collected a lot of material and I believe it ought to help tropical agriculturists that are just cutting their teeth on the subject. Of course, some of the older ones are beyond help.


The outline on vegetational plant geography of the Americas is for a graduate course I will be teaching in the Botany Dept. The outline is not yet detailed but I will add more information

was only too happy to oblige since the subject interests
me very much. I hope it doesn't slow my dissertation
writing as now that is the important thing.

I have arranged for Prof. Hardy to come to the
Caribbean meetings here in December. While he is here
we are going to have him give a couple of talks to the
soils dept. and get them enthusiastic about the
possibilities of tropical soils research. I think he
will be a very good ~~off~~ influence here.

Enclosed is a letter from Mrs. Pennington. It
was enclosed in a letter of mine for forwarding.

Incidentally, in the Amazon Basin I found some
soils very much like some of ours here in Florida. If
they ever develop the markets and can use as high a
rate of fertilization as in Florida, they might be able to
grow something. Two points they have in their favor:
100 inches of rain equitably distributed throughout the year.
Good soil structure.

If you go through Holland, please try to steal a
couple of their soil augers. They have the best I have seen
so far but they are unavailable here in the States. The
business end looks something like this - .
You can buy extensions for going as deep as 10 feet. Try
one sometime and you'll never use another. Dr. Edelman,
head of soil survey, can tell you where they can be pro-
cured.

Your trips really sound enviable. I don't think I'll
be taking any for ~~so~~ a while now as I have too much
material left to work up from the last trip.

BOTANY 603. -- VEGETATIONAL PLANT GEOGRAPHY OF THE AMERICAS

Introduction - Ecology as a science - purposes and usefulness. Nomenclature.
Sources of information. Relation to other fields.

I. Environmental Factors - A review.

- A. Soil
- B. Water
- C. Temperature
- D. Light
- E. Atmosphere
- F. Biotic
- G. Fire

II. Concepts of classification of Vegetation. Schimper, Harshberger, Danserau,
etc. Discrete classes versus continuum.

III. Vegetation of North America

- A. Natural features of area.
- B. Vegetation types.
- C. Vegetation of areas. Environmental influences.

IV. Vegetation of Latin America

- A. Natural features of area.
- B. Vegetation types.
- C. Vegetation of areas - Descriptive. Relation to environment.

V. Uses and Conservation of Vegetation. Utilizing Knowledge of Vegetation in
Other Sciences.

LABORATORY WORK: Principles of making vegetation maps. Reports from the students
on the vegetation of chosen areas (each student will be responsible for two
reports and two maps - one of each for North America and for Latin America).

GUEST SPEAKERS during the semester might be:

- A. S. Muller - Vegetation of Venezuela
- C. Hoveland - Vegetation of Great Lakes region.
- C. W. Wang - Northern Deciduous Hardwoods
- G. R. Hoggie - Photoperiodism
- F. Hardy - Vegetation of Trinidad

TROPICAL SOIL MANAGEMENT

Introduction - Definition and concepts of tropical soils, relative soil fertilities, population densities, importance of studying, classical literature, world food problems, assessment of economic limitations, analysis of large agricultural projects in the tropics that have succeeded and failed.

Section One - Land Capability

I. The Tropical Environment. Interrelationships between environment and soil important in determining land use.

- A. Parent Material - Igneous, sedimentary, metamorphic, acid, and basic rocks, decomposition to give soils, weathering sequences.
- B. Climate - Climatic boundaries and patterns of the tropics. Influences on vegetation, soils and agriculture.
- C. Vegetation - Vegetation types, organic matter production, relation to soils and land use.
- D. Other Factors - Time, organisms, relief - role in soils and agriculture.

II. Tropical Soils - A brief review. Generalizations and over-generalizations, relationship to environment, management.

- A. Soil Characteristics Used for Evaluation - Color, texture, structure, profile, etc.
- B. Soils of Humid Tropics - Latosols, red-yellow podsoils, hydromorphic soils, grumusols, etc.
- C. Soils of Dry Tropics - Desert soils, salinity and alkalinity, red-yellow mediterranean soils.
- D. Soils of High Altitude Tropics - Andosols, podsoils, organic and alpine soils, temperate climate soils.
- E. Soil Associations and Catenas

III. Chemical and Physical Properties of Tropical Soils Affecting Management Practices.

A. Chemical Properties

- 1. Nitrogen - Organic matter, humus, N cycle, seasonal fluctuations.
- 2. Phosphorous - Fixation by gibbsite, use to decrease Al toxicity, methods of evaluating needs.
- 3. Potassium - Deficient areas, correlation with parent material and degree of weathering.
- 4. Exchangeable cations and pH - Base saturation, influences of management practices and amendments, relationship to type of crop.
- 5. Minor elements - Relation to pH, analyses and control of deficiencies, Al toxicity.

B. Physical Properties

1. Structure and texture.
2. Water and air relationships.
3. Clay pans.

C. Deficiency Symptoms - Useful method of field analysis, general concepts, specific deficiencies of tropical crops.

Section Two - Land Use

I. Management Decisions

A. Selection of practices governed by following decisions:

1. What and how much to produce.
2. ~~How much~~ ^{Capital} resources to use - land, labor, capital.
3. When to produce.

B. Management Practices

1. Survey and selection of agricultural soils.
2. Land clearing and burning.
3. Drainage and irrigation.
4. Cultivation.
5. Soil conservation practices.
6. Cover crops and green manures.
7. Crop rotations - grass leys.
8. Fertilization.
9. Mechanization.
10. Experimentation and technical aid.

II. Land Use Classes - Limiting factors: environment, markets, capital, technology. Advance in classes follows accumulation of knowledge and capital.

- A. Subsistence farming - No capital, primitive technology, family labor, shifting cultivation to planned rotations, produce not used for capital, no large agricultural surpluses.
- B. Extensive farming - Low capital inversion, primitive technology, low labor consumption, use of large areas of land - usually inefficiently, land farmed continuously with little or no additions of labor or capital. Surpluses sold or traded. Pasture.
- C. Intensive farming - Advanced technology
 1. Low Capital - Soil selection, crop breeding and selection, crop rotations, composts, mulches, cover crops, shade, minimum of industrial materials, large labor force.
 2. Large Capital - Machinery, fertilizers, chemicals, irrigation, large production per man hours, large capital inversion, favorable topography.

III. Application of Knowledge of Management Classes - Soils, crops

- A. Important tropical crops which illustrate management classes and methods.
 1. Coffee and cacao.
 2. Bananas

3. Pineapples.
4. Pasture.
5. Citrus.
6. Field crops - corn, cotton and rice.

Summary - Integrate management practices with environmental conditions and technological resources. Future of tropical agriculture.

A UNIVERSITY OF FLORIDA TROPICAL RESEARCH
CENTER FOR RESOURCE DEVELOPMENT.

Hugh Popenoe

Introduction

Today the tropics are less well-developed than other parts of the world. Development of the great potential resources in the low latitudes awaits a coordinated fundamental and applied research effort. Within the tropical areas, capital, scientists, well-equipped laboratories, adequate library facilities, and above all enlightened working conditions plagued neither by political machinations nor discontinuity are scarce. Thus, the opportunity for tropical research falls to the growing universities adjacent to major tropical areas. This report discusses the need and possibilities for a Tropical Research Center (or Institute) at the University of Florida.

Justification for Tropical Research

In most of the tropical areas of the world, there is an abundant supply of undeveloped natural resources primarily in the form of land, water and climate. Amidst these natural resources live a large number of people who work extremely hard to earn a very modest living; a level of living far below that prevailing in other parts of the world. The rapid increase of population, largely brought about by adoption of modern medical practices, further strains the underdeveloped economies. This situation exists primarily because the people living in these areas do not possess the physical, biological and social techniques needed to make this abundant supply of natural resources more fully satisfy their wants and desires.

Some
↑
requirements

Studies leading to the development of natural resource use within tropical areas will greatly increase the role and responsibilities of these countries in a free world. Leading nations can wait until the need to aid tropical development becomes so great that the people within those regions will be forced to seek their own solutions. Alternatively, outside organizations can enter the field early and lead development, rather than follow, by laying a basic foundation of principles evolved through planned research. Individual companies or governments have already made significant contributions in some areas, but these are very rarely done on a regional basis or for other than immediate benefit.

Problems of the tropics requiring most urgent work are those involving the production of food and raw materials. Solutions to these problems, often unique, are slowed by ignorance of the basic differences between tropical and temperate environments. After the development of resources is put on a sound basis, then the capital produced and labor freed can be diverted to industrial schemes. In contrast to resource development, industrialization will embrace the application of known techniques, already proven successful elsewhere.

A Role for the University of Florida

Florida has a subtropical environment and is located in close proximity to a large tropical area, therefore, the people of Florida are destined to assume a role of leadership in tropical development. This role is not a one-way street for in the past there has been a beneficial exchange of products and techniques between Florida and countries to the south. Some important contributions made thus far by tropical areas to Florida agriculture are:

1. The introduction of tropical fruit plants as citrus, mangoes, and avocados which established the foundation for one of Florida's largest sources of revenue.
2. The introduction of Brahman cattle and Pangola grass has given Florida's livestock industry a well-respected place.
3. The Mediterranean fruit fly was studied by Florida scientists in Costa Rica before the fly became a pest in Florida and was successfully controlled.

In return, developments in Florida have greatly aided agricultural production in tropical countries:

1. Citrus, avocado, and mango varieties are now found throughout the frost-free areas of the world.
2. Investigations on minor element deficiencies in Florida soils have led to a reevaluation of soil fertility work in the tropics.
3. Studies in Florida on viruses of citrus, coconuts, and papayas, and work in nematology have contributed knowledge of control measures for these pathogens in tropical areas.
4. Florida pasture management practices are being used by many tropical producers of livestock.

Many other examples are available but the above serve to illustrate the importance of a close relationship between Florida and the Tropical World.

A University of Florida Tropical Research Center for Resource Development could make tremendous contributions to increasing productivity of underdeveloped regions, and at the same time be of great service to the University and to the State of Florida. At present the University of Florida has many staff members engaged in projects related to the tropics and is training students from tropical countries (approximately one-fourth of the students in the College of Agriculture are from tropical countries). Since development of Florida's resources is so closely interrelated with development of tropical areas, a Center would focus attention on these activities and help their coordination and expansion.

The position of organizations on the University campus which have interest in tropical areas would be strengthened by a Center. The Director of the School of Interamerican Studies has indicated that a Center would cause no conflict of interests and would be well received. Similarly, if a School of Tropical Medicine is established, a Tropical Research Center would greatly aid rather than hinder its growth.

Tentative Organization

Initially, a Center could start research activities on a modest scale using resources currently available and eventually expand as it proves its value and as the needs arise. One man with secretarial help could perform the following functions:

1. Research by University staff members with tropical implications could be coordinated and strengthened.
2. Guidance and counseling could be provided to scientists interested in tropical problems.
3. Grants and contracts could be solicited and accepted for tropical research. The Center could also help individuals in their requests for funds.
4. Team or group projects could be administered through the Center. Since a Research Center would not be limited to the usual disciplinary boundaries, it could handle team projects involving several colleges.
5. Personnel unavailable in the University for studying a specific tropical problem could be hired by the Center from outside sources.
6. The University's contract with Costa Rica could be evaluated for possible benefits to other areas.

Students coming to the United States from the tropics for study receive good basic training in the sciences but many of them upon returning to their countries are unable to apply their basic knowledge to tropical problems. A Tropical Research Center could help bridge this gap by offering graduate research projects in tropical areas and by providing stronger curricula in tropical subjects. A graduate program could be strengthened in the following ways:

1. Funds could be obtained from foundations and private organizations to support graduate research in tropical areas by students with interest in those areas.
2. Foreign graduate students now being supported by the State of Florida, could be supported by organizations with interests in the countries from which the students originate.
3. Courses could be added to the graduate curricula on tropical subjects and courses now being offered in this field could be strengthened.
4. Outstanding speakers on tropical problems could be brought to the University for lectures.
5. Non-credit short courses and field trips could be offered during summer work-shops to students with tropical interests and to government and institutional personnel ~~who~~^{who} have accepted jobs in tropical areas. Subjects such as: tropical horticulture, tropical plant pathology, tropical fisheries, and tropical sociology could be taught by University faculty or invited speakers.

Potential Research Activities

To illustrate how wide a scope could be covered by a Tropical Research Center, some areas of study might be the following:

1. Utilization of tropical products.
2. Nutritional and disease problems of livestock in the humid tropics.
3. Testing disease resistance of rubber clones at the University, a location where rubber industries will not be endangered by introducing pathogens.
4. Virus diseases of citrus, papaya, and coconut.
5. Identification and control of nematodes.
6. The migration and feeding habits of fish. The flying fish industry of Barbados was started by such a study and now contributes significantly to the annual revenue of the island.
7. The effects of controlled burning in forestry, range management, and land clearing.
8. Climatic patterns in the Caribbean -- effects on agriculture, forestry and dispersion of insect pests and pathogens.
9. Irradiation of tropical plants to produce mutations for disease resistance or higher productivity.

10. Use of plant growth substances and hormones on tropical plants.
11. The genesis of laterite and bauxite in relation to prospecting for large bodies of aluminum ore.
12. Characterization of clay minerals in tropical soils as an aid in prediction of management practices.
13. The interrelationships of soils, crops, pests, human sociology, vegetation and climate in "shifting cultivation".
14. Organization of a counseling service for foreign aid organizations to coordinate research in a particular field over wide areas if deemed desirable. Example: An agronomist could plan and direct research on pastures for Central America utilizing the scientists working in the different countries on similar problems. Thus, the results could be applied to a region without following political boundaries. A higher level of research could be accomplished since one man with such training and tropical experience would direct a research program for a large area.

Obviously, many additional potential areas of research could be cited, but the above suffice to indicate possible research programs which might be administered by a Tropical Research Center.

Proposal

It is proposed that funds be requested from a foundation to study the organization of a Tropical Research Center within the framework of the University of Florida.

A preliminary study of a Tropical Research Center could best be made by inviting leaders in tropical resource development to the University to appraise the situation, make recommendations and answer the following questions:

1. Is Florida in general and the University of Florida in particular a desirable location?
2. Are the facilities and staff of the University adequate?
3. What should be the scope of a Tropical Research Center's activities?
4. How should the Center be organized and how can it best be fitted into the organization of the University?

5. What would a Center of this type cost and what would be the sources of support?

Such a study would serve three purposes:

1. Start the Center on a firm foundation of careful planning and anticipate problems before they arise.
2. Interest people in the possibilities of a Center and serve as a form of publicity.
3. The same consultants that make the study, may later be influential in bringing areas of investigation and interested organizations to the attention of the Center.

The purpose of this report has been to show the need for a Tropical Research Center and to indicate how various groups could be benefitted by its establishment. Many people have been consulted in the process of developing the above ideas. At the University of Florida the following staff members have made suggestions: A. F. Carr, R. E. Crist, G. R. Davis, L. C. Hammond, W. K. McPherson, A. S. Muller, G. R. Noggle, J. W. Sites, T. L. Smith, N. J. Teas, and J. V. Watkins. University administrative personnel consulted indicating their approval have been: W. M. Piffard, L. E. Grinter, F. W. Pervin and A. C. Wilgus.

Oct. 14, 58

COLLEGE OF AGRICULTURE

Dear Mom and Dad,

Enclosed are my answers to your questions. The problem of drainage is not easily resolvable in the laboratory but it looks like the cause. A lime induced iron chlorosis can only be cured by applying iron chelate to the leaves of the plant on alkaline soils. Iron added to the soil is immediately tied up in unavailable form — thus, the possible reason for Luis failure with additions of iron sulphate to the soil. An experiment with iron chelate might be worth trying.

Looks like the University here might shoulder a big part in technical aid to Latin America. Based on my proposal, President Reitz goes to New York next week to ask Ford Foundation for the money. I just hope the project goes slow enough to keep it on a firm footing.

Not much we can do about Sal — just wait and hope. I don't think any of our presences in San Francisco would do much good.

Your loving son, Hugh

SOILS OF RANCHO CALIFORNIA, ALMUNECAR, SPAIN

1. You have examined a sample of the basic material we have here - the decomposing rock. This should give us an idea of what is in our soils. Is this decomposing rock high in lime, or is its pH of about 8.5 due to other basic materials, and if so, what?

The decomposing rock is very calcareous and thus very high in lime. A few drops of 0.1 N HCl added to the material gives violent effervescence indicating the presence of much calcium carbonate. The pH of the sample is 8.3 which is the usual pH for decomposing limestone.

2. You have examined a sample of the terra rossa or red soil which has been used here as an amendment, primarily on the basis that it may supply iron. Is there anything in this terra rossa which is lacking in the normal agricultural soil of this area (as exemplified by the sample sent you)? Do you have reason to think that our normal agricultural soil lacks one or more elements - especially minor ones - which should be added?

I do not believe the terra rossa is supplying any nutrients not normally available in the vega soils. The sample received for examination has a pH of 8.4 and, if this is typical, such a soil wouldn't help much in reducing lime-induced iron chlorosis.

The vega soil doesn't appear to have a large deficiency of any nutrient. It is possible that additions of plant nutrients might increase crop yields slightly but no element appears to be limiting. Iron might be the exception since soils with such a high pH can easily cause a lime-induced chlorosis. Unavailability of iron can be tested very readily by adding a little iron chelate (Nu-green, Ferro-Grene, Versenol Iron Chelate, etc.) to the leaves or soil. Iron deficient plants will quickly turn green. If you do have lime-induced chlorosis, the addition of sulphur to the soil around the trees should cause the trees to turn much greener.

3. Elaborating the above point, do you see any evidence that our normal soil is deficient in nitrogen to an extent which requires large amounts of nitrogen-carrying fertilizers for young trees?

I do not believe nitrogen is necessary on your soil in very large amounts. This can readily be verified by the response of non-leguminous field crops to nitrogen fertilizers. Corn is probably much more sensitive to nitrogen deficiency than avocados. However, there is a greater possibility that nitrogen is deficient than potassium or phosphorus.

4. It has been argued that the calcium content of our normal soil is too high in the upper levels, and for this reason the young avocados suffer from calcium chlorosis until their roots get down to the lower levels - based upon the fact that chlorosis has affected the very small trees more than those which have attained a height of 5 or 6 feet. The analyses made in Madrid show 500 ppm. of Calcium in the upper levels but only 250 at a depth of 2 feet or more. You cannot say much about this difference, but was there too much calcium in the upper foot, which represents the sample I sent you?

Much calcium and free calcium carbonate (lime) is present in the soil received for examination but it certainly doesn't seem that the amount should be a limiting factor. It is interesting that more calcium is present in the topsoil than in the subsoil. I suspect that calcium is being added to the surface of the soil either through organic matter from leaf-fall or additions brought in by irrigation water. Calcium in the surface limiting root growth of avocados sounds dubious -- look at Homestead, Florida where avocados are grown on pure oolitic limestone with the addition of nitrogenous fertilizers and minor elements. (Incidentally, the analyses from Madrid are highly

suspect. I don't know what extracting agent was used but it is difficult to imagine an extractant that would only extract 500 ppm. of calcium from a calcareous soil. Nitrate and ammonia determinations don't mean much on soils unless analyzed on fresh samples, immediately after they have been collected in the field.)

5. Is the texture or structure of the sample of our vega soil sent you (agricultural land on the valley floor) such as to suggest that this soil must be kept open by tillage, by frequent addition of rough organic material (cover crops, etc) or by withholding irrigation until the land shows definite indications of needing water?

The extreme uniformity of the texture might cause poor drainage since the particles may become closely packed. Even the best textured (and structured) soils can be waterlogged by poor irrigation practices. The terra rossas usually have very excellent structure because they are well aggregated. Additions of terra rossa might improve drainage qualities of a soil.

I believe that drainage is probably the main limiting factor -- (the other possibility that should be checked is a lime induced chlorosis of iron). The use of leguminous cover crops might be desirable on young trees. The legumes will help keep the soil moisture down to an optimum level. The young avocados are not able to extract soil moisture as fast as the older established trees and thus the soil becomes more easily waterlogged. Incidentally, mottling or a grayish-blue color in the subsoil is a fairly good indication of poor drainage. The best moisture control is by withholding irrigation until the land shows a definite need for water and then by applying a large irrigation to move the soil moisture deep within the soil profile -- this promotes deep rooting by the plants and prevents accumulation of salts on the surface. A few deep irrigations are better than many shallow ones.

BLACK ALKALI - (SODIUM COMPLEX)

I don't believe you are having any trouble with a sodium complex. Sodium causes poor structure and toxicity problems only when calcium is very low. However, your soils have an abnormally large amount of calcium which should prevent deterioration by an excess of sodium.

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The extreme uniformity of the texture might cause poor drainage since the particles may become closely packed. Even the best textured (and structured) soils can be waterlogged by poor irrigation practices. The terra rossas usually have very excellent structure because they are well aggregated. Additions of terra rossa might improve drainage qualities of a soil.

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SOIL PROBLEMS IN CONNECTION WITH AVOCADO
CULTURE AT RANCHO CALIFORNIA.

The main problem here has been the appearance of a chlorotic condition of the leaves, especially in the nursery. Chlorosis is often followed by development of necrotic tissue along the leaf margins, sometimes followed by complete loss of leaves and death of the plant. Among several possibilities considered by don Luis Sarasola, as responsible for this condition, has been that of an iron deficiency.

It has been impossible to attack this problem intelligently until we knew more about our soils. Information has recently been obtained from the Ministerio de Agricultura in Madrid and from the laboratories of the University of Florida, EE UU de A, on the basis of which I believe we are at last prepared to proceed intelligently.

The pH of our soils, (8.3 to 8.5, as ascertained here in the field, at the laboratory in Madrid, and at the University of Florida) is due to high lime content. ~~Analyses at Madrid show only 500 parts of lime per million; Florida considers lime content to be much higher.~~ But there is no reason to believe that high content of Calcium carbonate (lime) should in itself be a limiting factor in avocado culture. The avocado orchards of southern Florida are on Miami oolite, soft lime rock. In Cuba, in Jamaica, and in Puerto Rico the only good avocado regions are those in which the soils are calcareous. No good avocado trees are seen on the sugar cane lands of eastern Cuba, or of Jamaica, or of Puerto Rico, where these lands (as they usually are) consist primarily of heavy poorly-drained clays. The ~~limestone~~ soils are characterised by excellent drainage.

Where, then, must we look to solve our chlorosis problem? The Yearbook of the California Avocado Society for 1957 contains important data, based upon the investigations of Bingham and Beutel. They state: "The cause or causes of ~~of~~ iron chlorosis are poorly understood, but poor soil aeration, soil moisture, salinity of the soil and soil lime are usually some of the factors considered in chlorosis studies." They continue in this manner: To be effective in maintaining a proper nutritional balance, soil iron must exist

in an "available" state, that is, it must be in a form which makes it possible for the plant to absorb it readily. In Los Angeles county, California, where I know from personal familiarity with avocado groves, many of the soils are heavy and poorly drained (this is a major factor in connection with root disease, or Phytophthora root rot) these investigators say "the soils are fine textured and frequently contain lime, both of these factors contributing to the unavailability of soil iron. Under these circumstances chlorosis is usually referred to as "lime induced" or "bicarbonate induced" chlorosis.

On the basis of information now available to us, I ~~feel sure~~ ^{suspect} we are ~~reasonably safe~~ ^{may say} in saying that our trouble here at Rancho California is a "lime-induced iron deficiency". What is the remedy? It is only fair to assume that the research workers in California have given more attention to this problem than have others, and Bingham and Beutel, in the same Yearbook, give their present opinion regarding "Corrective Measures": "A number of attempts to correct the disorder have been taken in the past but none has achieved any real success. Perhaps less frequent irrigation has been as effective as any practice in reducing chlorosis, especially in fine textured soils". Since last March, when we first began to suspect that the soils at Rancho California have poor drainage qualities, this principle has been part of the program here. Bingham and Beutel go on to say, "A variety of iron compounds, have been tried as sprays, trunk injections and soil applications, and thus far no treatment has proved to be consistently effective. Numerous attempts to correct chlorosis by sulfur applications to the soil can be observed, especially in the La Habra Heights district, and all have been without positive effect."

The above considerations are of particular interest to us, in connection with efforts of Mr Roger Magdahl and don Luis Sarasola to solve the local problem of chlorosis through applications of minor elements and more especially the possibility that iron is the limiting factor. Tierra roja (terra rossa as it is known to the soil technologists) was brought from a neighboring area and placed around the roots of young avocado trees in liberal quantities,

both in the nursery and in orchard plantings. This did not result in eliminating chlorosis, and in the light of available technical information it could not be expected to do so. In reporting on the work done on our soils in the laboratories of the University of Florida, Hugh Popenoe writes: "I do not believe the terra rossa is supplying any nutrients not normally available in the vega soils (the sample sent to Florida was from Haza 15 at Rancho California, 0 to 30 centimeters in depth). This soil has a pH of 8.4, and if this is typical (he is referring to the terra rossa) such material would not help much in correcting lime-induced chlorosis."

Further commenting on the samples sent to Florida (which were three, (1) partly decomposed rock from behind the gallinera, (2) terra rossa from across the valley, and (3) typical soil from the Haza mentioned above) Hugh Popenoe reports:

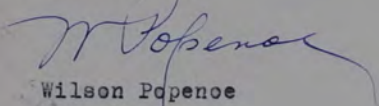
"The extreme uniformity of the texture of the vega soil might cause poor drainage since the particles may become closely packed. The terra rossas usually have excellent structure because they are well aggregated. Addition of terra rossa might improve drainage qualities of a soil..... Referring to your problem, I believe that drainage is probably the limiting factor. The other possibility which should be investigated is a lime-induced chlorosis of iron. The use of leguminous cover crops might be desirable in connection with young trees. The legumes would assist in keeping the soil moisture down to an optimum level. Young avocados are not able to extract soil moisture as rapidly as older and better-established trees, hence the soil around them may more easily be too wet". In this connection reference was to our observation here that the young plants in nursery or in the orchard were suffering more than the larger ones.

To continue, "The best moisture control is obtained by withholding irrigation until the land shows a definite need of moisture, then applying water abundantly to move the soil moisture down deep within the soil profile. This promotes deep rooting and prevents accumulation of salts near the surface. A few deep irrigations are better than many shallow ones."

So much for the chlorosis problem, which both Luis Sarasola and myself believe can be solved here by (1) careful control of soil moisture, based on frequent use of the soil auger before water is

applied to the land, and (2) addition of beach sand and coarse organic matter to the maximum extent possible, and (3) the use of West Indian rootstocks rather than Mexican. This latter point we consider to offer great hope, though we recognize that genetic differences in any group of avocado seedlings, even those from the same parent tree, make it impossible to attain complete uniformity. This has been pointed out frequently in California, most recently, perhaps, by the Dean of avocado men, Dr. J. Eliot Coit in the 1957 Yearbook.

Returning to a consideration of Rancho California soils, apart from the chlorosis problem, we asked Hugh Popenoe to summarize the results of the laboratory examinations made at the University of Florida. "He writes: "The vega soil (Haza 15) does not appear to have a large deficiency of any nutrient. It is possible that additions of plant nutrients might increase crop yields slightly, but no element appears to be so deficient as to constitute a limiting factor. I do not believe you have a sodium complex. Sodium causes poor structure and toxicity problems only when calcium is low. Your Rancho California soils have an abnormally large amount of calcium which should prevent deterioration by any excess of sodium." And he goes on to say "I do not believe nitrogen is necessary on your soil in large amounts. This can readily be ascertained through observing the response of non-leguminous field crops to nitrogenous fertilizers. Corn is probably much more sensitive to nitrogen deficiency than is the avocado tree. However, there is a greater possibility that nitrogen might be deficient than potassium or phosphorous". These comments were made because I had written Hugh that Corn and potatoes and tomatoes and several other annual crops have been grown on the vega (Haza 15) since my arrival here, and that their development has seemed to me quite satisfactory.



Wilson Popenoe

Rancho California, Almuñecar (Granada)
22 October 1958

October 31, 1958

Dear Mom and Dad,

Now this is about the last time that I will have anything to say about the soils at Rancho California. I still believe that a fellow in the field can make a general diagnosis better than the fellow in the laboratory. Laboratory work can verify field observations or can be used as analytical work in basic research.

Don't give up the idea that drainage is probably the most important problem. The evidence for lime-induced iron deficiency is not too good and I still believe that a good water program will probably solve most of the problems. Iron deficiency is very rare on soils that are originally high in lime. It is usually induced by liming acid soils. In Florida iron deficiency is almost never found in groves on limestone. I am enclosing a bulletin on recommendations for avocados on limestone soils in Florida.

Your analysis of soil texture agrees much closer with mine than the analysis from the Madrid Lab. As a matter of fact, I would say that you hit the texture about on the head. If the Madrid fellows think you have a sandy soil in the Vega then they ought to take a quick trip to Florida. We can show them sands they will never forget.

I continue to believe that the Madrid analyses are low under any system. We find almost no sodium. Our analyses show:

calcium ... 5596+ lbs. per acre
magnesium...3316+ lbs. per acre
potash..... 210 lbs. per acre
phosphorus.. 160 lbs. per acre

Contents of nitrogen and organic matter are about medium. The above figures can be divided by two to give you parts per million. The trees might respond to some nitrogen. We also find about 700 ppm total soluble salts which is low and should indicate that you have no salinity problems. The soil analyses from Madrid don't mean much to me. I am lacking too much information and can't interpret them. The irrigation water analyses are useful and indicate that the water is of good quality for irrigation. Many times in arid regions one encounters problems when irrigating with water that is much higher in sodium than in calcium. However Rancho California's water appears to be all right in this respect.

The latest Unifruitco reports that Lloyd Shank was married last spring in Tegucigalpa. Evidently he married some local girl -- I believe her last name was Martinez. Silvia married a medical student in the United States.

Am doubtful whether I will have my dissertation finished in Feb. It will be touch and go. The course I am teaching is taking a lot of time, especially since it is a graduate course and no textbook is involved. I have to do a lot of digging to stay ahead of the students. I originally took the course on the basis that it wouldn't take too much of my time, but now I feel that I have a responsibility to the students and want to get them off on the right foot. The response is very encouraging although my delivery is not the best in the world.

Appreciated the post card from Granada. The picture looks like you though the attire is a little foreign. I envy you being able to revisit a lot of the old territory. I will especially miss the Sardanás. I think if I was there long enough I could learn how to do them.

H. G. G.

Dec. 16, 1958

Dear Mom and Dad,

How wonderful to hear that you will be in Antigua for Christmas. It will be a perfect place to spend the holidays and will give you a nice opportunity for relaxation after the travelling. I'll bet Maria and the girls will be thrilled at the idea of having a real Christmas celebrated in the house.

Mom, thanks so much for the Christmas remembrance. I'll follow your advice and take a girl to Cedar Keys for dinner. My only regret will be that you two won't be along.

So far I haven't heard anything about Justice. What happened? Did he die or something? Florida is not on the direct route for news.

Last week we had the Caribbean Conference here and the usual number of accompanying visitors. The conference came off well, but as usual was dominated by the Kingos. Prof. F. Hardy gave a talk here and added a little to the respectability of the occasion. Ralph Allee also gave a couple of fine talks. I corralled him into giving a talk to the ag. professors on the educational and

research needs of ² Latin America. Maybe
we will get the message across one of
these delays.

I'll be spending the Christmas
holidays here at the University, writing
on my dissertation. It is way behind
schedule because of the course I have
been teaching. However, I'm going
to buckle down to work and get
it out of the way. Then we can get
on to more important things.

Received a nice letter from Ed. She says
that you might be visiting her around the
first part of January. She ~~was~~ ^{is} looking
forward very much to your arrival.

Hope you have a wonderful Christmas.

your loving son,

Hugh

March 10, 1959

Dear Dad and Helen,

a belated Happy Birthday! It just occurred to me that you had had a birthday and, although the time has passed, I want to send you best wishes.

The marimba sounds fine. Dr. Pritchett is willing to buy it but is in no great hurry. During the usual amount of time it takes to check for those things, you might keep your eyes open for a better buy. We leave it entirely in your hands and you can have the money anytime.

The best idea is probably to leave the marimba at the house until I or someone else is coming up this way and we can declare it as part of our luggage. Dr. Pritchett is investigating duties on second-hand musical instruments. In the meantime you have a marimba for your fellow Antigueros when they need some entertainment.

Your trip to Venezuela sounds fine. The University has a contract (\$30,000 paid by Creole Foundation) to develop the agricultural program at Maracay. Their main

2.

interest in the beginning is trucks cross
and horticulture. Dr. Field will go down
in a couple of weeks to lay plans. This
might strengthen our trooped emphasis.
You have probably already heard
that Chris Kempstead was married in
New York last week.

Thanks for your offer to make use
of your safe. At present I couldn't fill it
very full with stock certificates — maybe
in a few years. +

Still no definite plans for the future.
I might stay here this summer and do
some writing and teaching. The only
two opportunities I am seriously considering
at present are the Univ. of plan. and the
Kivstone Rubber Co. in Siberia. We'll
see.

met Karl Sax of Harvard here the
other day — a fine fellow. He sends
his best regards.

I might be down this summer. Casser's
course sounds good but my teaching
Spanish may not be up to par.

Best of love,
Hugh

Antigua G, 5 April 1959

Dear Hubo:

We are having a touch time getting visas to go into Venezuela. May have to change our airplane reservations and go a week later, but that's allright. What I dontliketoo well are these factors, (1) a guy who is not interested in the kind of the gvot they have, and (2) a guy who isnt come down to make any money, and (3) a guy who has been there before and has pretty good connections, has to wait so long to get permission to tread those hard clay soils.

Just had a fine letter from Archie Carr. I asked him to tell me the name of the bird in New Orleans who sold me the Louisiana irises some years ago. He also said he hoped you wouldnt give the Univ of Fla permanently. I asked you the other day to tell me more about your plan if/when you have any. It is hard to get plans out of you as it was to get \$18 our of a Zamorano graduate who had been loaned that amount so he could have his Class Ring. Incidentally, they are now going to advance new students transportation costs and the \$38 per semester which all have to pay, and these advances can be paid back three years after graduation, with 3% interest per annum/ I would hate to be the chap who has to collect these debts. Expecially if the debtor happens to live in Bolivia or Paraguay.

Now here's the milk in the coconut: You very thoughtfully sent me a copy of Ruehle's ndw avocado bulletin. It is very useful and I would like to have three more copies because someone is always asking me for published information. Right now a bunch of guys in the Canary Islands - guys who are called Canaries by our friends over there but I dont like the term because it sounds too much like Pansies or something of that sort. I also want to get three copies of that good bulletin on mangos which Bruce Ledin and I believe Dr Ruehle got out a year or two ago; it has a fine colored plate of mangos on the front cover/ So you get on your Desert Casuals and walk over to the appropriate office and tell them why I want these documents and send them to me here and to relieve your mind I will tell you in advance I w ll reimburse you for the postage.

No further news from Sally. The situation is very difficult. She thinks she is pregnant again; Ed doesnt seem interested in a job; Sal wants a home of her own with a bredwinning husband; and my heart aches every time I think of her, so pale and wan the last time we saw here. She cant take an awful lot more. And she is such a dear! But as I told you, dont send her money; I will take care of that angle but it has to be done right. She can leave Langley Porter at any time now, but she asks, Where ~~de~~ we go from here? I wanted to bring her down here for 3 months, as I believe I have told you, but Ed put his foot down.

Ever yr devoted

April 12, 1959

Dear Mom and Dad,
Sorry to hear that you didn't get to Venezuela on schedule. I hope that your plans haven't been blocked completely. Evidently, you are running into the same trouble I had last year when I tried to visit the country. Bert says that now they have relaxed their restrictions somewhat on tourist cards but are still pretty rough on visas.

I am just completing an unexpected visit to the hospital. They hauled me in here a week or so ago for observation, then decided that they ought to perform an appendectomy on the long appendix they found it had been ruptured for longer than twenty-four hours. If this had happened just a few years ago I wouldn't be sitting here writing a letter. The new antibiotics help operations a lot. Over the last few years I have had recurrent intestinal cramps and I am now hoping that the loss of my appendix will solve some earlier problems. I was on intravenous feeding for three days but am now on solid food and hope to leave this place in a day or two. Unfortunately, I'm afraid my graduation will ~~be~~ now be delayed until August.

It appears that I might have a future here at the Univ. of Fla. Many people are desirous of seeing me stay here to promote and increase interest in problems of the tropics - such a responsibility would suit me perfectly. I would much rather be associated with an institution or foundation now than the commercial companies at any price. The possibilities of getting a high salary have not as yet tainted my thinking.

I will send the bulletins wh. you requested. I have an unanswered letter from you in the office. When I finish work in my moral chair I'll get off another letter.

The news about Dad really depresses me. I don't know what to do.

like to bring her here but wouldn't know what to do
with her.

Ever your loving son,
Hugh

May 5th, 1959

Dear Mom and Dad,

I apologize for letting a long period of time elapse without writing you. I appreciate all your letters that have arrived in the interim. Your letters always give me a lift and add to the feeling that the work I am doing here has a definite purpose. I will always appreciate your advice and consolation. I will always ap-

Had my final check-ups at the doc a couple of days ago and he says that in about two weeks I should be as good as new. He reiterated the fact that I was plenty lucky. He said that by all rights in an operation of that sort, recovery is generally much more complicated and youth probably makes the difference. I took my cue and told him it was probably because he was such a good doctor.

The picture of Dad looks very discouraging. Even more discouraging is the fact that all the advice says there is nothing we can do but to sit and wait and hope. It is mighty hard to have Dad in trouble and to think that there is not much one can do. It appears that a divorce is imminent, but she won't be much better off afterwards since she will still have four children - not an easy load as you well must know. Furthermore her possibilities of remarriage will be reduced considerably. I hope that maybe we can split up some of the responsibilities within our family.

Provoost Zifield is back from his trips to Venezuela but as yet I don't know what he achieves, if anything. It is too bad that you weren't down there all the same time but I'm glad you will be going this month. I have just finished analyzing some soil samples from the Venezuelan llanos, an area that reputedly has high potentiality. Nevertheless, the samples indicated miserable soil conditions from the fertility standpoint. Since the soils were somewhat sandy, physical conditions might be less of a problem.

I have been receiving several requests in the mail recently for information on manioc. Most of these are from anthropologists who are studying it at the subsistence level. Do you know of any good literature on the cultivation of manioc.

In your letter to John you overestimate the value of your book in Brazil. I only said \$0.85 instead of the \$1.85 you reported to John. It's a matter of one dollar but it changes the value by more than 100%.

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Carnegie Mellon University, Pittsburgh, PA

perfectly. I'm sorry we weren't smart enough to think up the term.

about my personal finances — thank you for showing concern and I think I will be able to see my own way through this summer. as you probably know, right now I am receiving no outside forms of support. I was lucky last year to have a grant from the Rockefeller Foundation and some of the savings are carrying me along now. the entire cost of the appendectomy was about \$500, but by juggling the books some I have been able to fit it into my financial picture.

as yet I don't know whether I will be able to come to Guatemala at the end of the summer but I appreciate your offer. as you well know I don't have a ghost of an idea what I will be doing next fall and of course that will dictate my activities at the end of the summer.

I notice that Cox, assistant research director for UF Co., died. He seemed to be very young and I guess his death was somewhat unexpected.

There is a very sharp graduate student here from Austria, working in Economics. For his Ph. D. dissertation he is studying the influence of industrialization on agriculture in Guatemala. I feel this is an extremely important problem and that this fellow is quite capable of making the study. He will be in Guatemala this summer and I have given him the names of some businessmen men who should be able to give him some data. you might want to talk to him. I'm talking to my students & always maintain that we have to modernize tropical agriculture so that it will be able to carry the financial load of industrialization, wherein lies the real future of "developing nations".

I understand they discovered a dated stela at Tikal which antedates the Leyden plate by 200 years. What news! I wish the archeologist in Peten would spend more time on the pre-Maya works (or as some archeologists like to say "the Casement complex"). No one knows much about the early origins of the Maya simply because people like to work with the spectacular. They would rather uncover synchronous material and fake figurines than dig up archaic stone tools. I think the early origins of the Maya

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environmental limitations of culture. Was the Maya culture
able to evolve in the tropical rain forests of Peten or was
it developed elsewhere and introduced into the humid low-
land tropics only after it had reached a highly evolved
~~the~~ social structure?

These Chucks Popenoe will be getting hitched in about a
weeks time ~~time~~ and then David will follow this summer. I met
Chuck's wife ^{tenbe} in Wash. last summer and she seemed very nice.
He is a tall, willowy, attractive blond and quite athletic. She
and Chucks get along very well and share a lot of interests. I
guess Pete will be the next one to get married now. That
will about wind up the Popenoes, except, of course, for yours
truly.

Sorry to hear that your wallet was taken in Antigua, but
somehow I've always felt that you weren't too sympathetic
when other people talked of their trouble with pickpockets. Now
we welcome you as a member of the clan. However, I still
haven't heard taps put on my shoes!

your loving son,

Hugh

Antigua, 16 June 1959

Dear Hugh:

On getting back here after my long trek to Venezuela, Costa Rica and way stations, I find your letter of 5 May, main items of which Helen had already passed on to me; she did not send the letter to Venezuela because we found the mail to that part of the world was not working too well. Ten to fifteen days for a letter to reach me and I guess some did not reach me at all.

Your letter was extremely interesting. Prof Wolfe and family were at the ASHS meetings in Costa Rica and gave me some news of you, but a letter from your Aunt Betty says you have not been too well recently and we want more recent news. Do drop me a line right away and tell me how you are coming along. We will be flying to Mexico City on the 27th where I am to give a series of lectures at the Curso Corto de Productos de Consumo Popular, Project 39, Organization of American States; we will get back here about the middle of July, DV.

In Costa Rica I had a delightful lunch with Prof Hardy and wife. They spoke most highly of you and I had pleasure in telling them how greatly you admired the Prof and the work he has done. He is a grand man, they just simply come any better, I mean they dont.

Sorry I cant refer you to any good material on manioc; that is out of my line these days. I like your term "developing nations" justas much as I dislike "underdeveloped". As I told you, I will stand for "less developed" but all in all, I think I would try to dodge the subject in writing. Why do we have to say "developing" or anything else? Why cant we just talk about the possibilities of development, without implying that people have been too slow in developing their pøtentialities. Take Brazil, for example. Not underdeveloped, but just a big country which still has immense possibilities in agriculture as well as in such lines as industry. Isnt the USA "underdeveloped" along some lines? You mention the Mayan civilization. As I see it, the Maya simply had not yet reached the stage of agricultural development which has been reached in more recent times by other peoples. Basically I think they were, and are, pretty darn good agriculturists. If I am here when your friend, the graduate student from Austria, comes to Guatemala, I shall be glad to talk to him. Give him a note to me. I am pretty dumb and probably cant tell him much; I felt this at Turrialba last week when Damon Boynton talked on Climate and Horticulture. Those boys are ahead of me, as they should be, because they belong to a new generation.

Now about our little Sal. She writes that she is thinking of going East with her little family. Whether this means a definite break with Ed I do not know. I wont influence her either pro or con, or vice versa as the Jamaicans say. But I will back her in everything she does, and I want all of you to know that. I only hope that Ed and his family will not feel that I am trying to influence Sal. I have tried hard to avoid that. I do feel that there is nothing wrong with Sal, mentally and basically; I am confident that she will go on to live a perfectly normal lifeonce she finds the way out of her worries. We must help her do this, and we will have to let her find the way out, whatever it may be. Her recent letters sound so perfectly rational that I feel greatly encouraged. She wants to get away from people who are mentally unbalanced and I believe she should. Dont you?

Try to get a letter to us before we leave here on 27 June, and we do hope to see you down here before frost hits the orange trees in Alajuela county again.

Ever your devoted

June 20, 1959

Dear mom and Dad,

I apologize for the lack of correspondence from me this spring. Nevertheless, I appreciate all your letters and hope they continue to come. I hope to be more productive in the future.

I believe I am finally recovered from my operation. I had some trouble because a secondary infection set in, which I understand is rather common with ruptured appendixes. A long seige with antibiotics finally solved the trouble. I was partly to blame for the infection because I started back to work too early.

The dissertation is coming along slowly and I am still not sure whether it will be finished this summer in time for graduation. At any rate, I will be finished before next fall.

I have been close-mouthed about my future job opportunities for, as a matter of fact, I don't have any. I am hoping some money might be forthcoming for a position here with the University next year but this isn't even assured. It looks like I have run into a dead-end, by over-specialization, and will have to squirm some to get out. I have two books

We are not too serious, but have been dating some the past few months, and she has expressed a desire to see Guatemala. She is receiving a master's degree in Biology and is from Jacksonville. She is definitely the outdoors type but might not be out-of-the-country type. I haven't asked her to go yet so there is nothing definite in our plans. Her parents are going to Canada for the summer and she might go with them.

Incidentally, Archie Carr was promoted to Research Professor. It is quite an honor for there are less than a handful on campus. Their responsibilities are light and they develop their own programs. Their main job is to lend prestige to the University — much like the occupation you always envisioned for Marston Bates.

Sal's move to Washington may be the best thing. We are all solidly behind her and I don't think she will be a great burden on any one person. I think our family are the only people that can really solve the problem — every other place has a dead-end.

I want to write in the next two years, and for that reason I prefer work with an institution.

Incidentally, the six mango bulletins I sent with the others are out-of-print. I took contributions from fellow staff members to supply enough for you. The extension office told me the mango bulletin had been very popular with tourists because of the pretty colored picture on front.

The trip to Venezuela sounded wonderful and I'm sure you contributed a lot. Prof. Wolfe brought back news of you and Prof. Hardy from Costa Rica. Glad you saw Prof. Viehmeyer in Venezuela — he was a big inspiration to me at Davis. I wish we had people like that here in Florida.

Thanks, mom, for the book "Plant Hunters". I enjoyed reading it especially the chapter on Dad. I notice Dr. Wolfe had a copy in his office.

I still hope to come to Guatemala at the end of summer for a couple of weeks. If it is all right with you and won't interfere too much, I would like to bring along a friend, Joan Williamson.

I am living in a new place this summer and it is quite an improvement over the old apartment. Some friends went to Trinidad for the summer and left me their house on Bevan's Arm with 20 acres of land. Since, there are also a dozen chickens, I am back to my old habit of eating six eggs every breakfast.

Incidentally, frozen tortillas are offered in the store which are just as good as the real thing — much better than canned ones. Plantains are also on sale and help balance one's diet. Chicken here is 29¢/lb, probably much cheaper than Antigua, and it comes dressed and cleaned.

Hope you have a very good trip to Mexico — wish I were going too.

much, much love,

Hugh

Antigua G, 13 July 1959

Dear Mister Hubo:

Just back from giving the course of free lectures in Mexico City with field trip and grafting demonstrations to Querétaro and Rio Verde and Irapuato. All very interesting. And my per diem covered all our living expenses; only cost of the trip was Helen's \$81 excursion ticket on KLM.

My last day in Mexico City I had a talk with Ralph Richardson. He is now head of the Agri Program of Rockefeller Foundation in Mexico - and a good one. I think a lot of Ralph. We discussed the possibility of a fruit program in Mexico. Rather nebulous. If it should develop, the only part I would take would be to advise re climatic zones for particular fruits and varieties. They wouldn't want me for anything else; I am too old. He asked about John; I think they might use him later and shall write him. He also asked about you, but I didn't say much. I want you to make your own plans and your own contacts.

Now as to yrs of 20 June. I am not worried about delays in your doctoral dissertation. That is just like trying to get a driver's license here in Guatemala. It takes time and that's all. But I don't think you should worry about having run into a dead-end. If you will take my word for it, this business of tropical soil management is one of the very biggest things in tropical America. I believe the Rockefeller Foundation might be delighted to set up a project along that line. The UFCo would probably grab you - they are now spending \$1,500,000 on research annually but I would rather like to see you start with some research outfit tho a good many of my friends have started with UFCo and ended up well, as for example Norman Volk. I still think UFCo is a fine outfit - they have treated me well for some 35 yrs. I like the idea of your writing a book or two. You have no idea what that Manual did for me - written in 1920. What little reputation I have is still based mainly on it.

Now about the immediate future: we shall not wander far from base the rest of this year; I am working on the Manual of tropical fruit culture in Spanish and I believe it is going to be good. Not too many diploids and triploids but lots of practical advice. You must come to Guatemala at the end of summer and you bring along Joan Williamson who will enjoy having you drive her around the highlands in Ou Donc who is sort of chafing at the bit because we haven't used him enough.

I cannot tell you how pleased I was to have Prof Hardy speak so highly of you. And as for Archie Carr, if you see him, tell him I am delighted to hear of the honor which he has received. And here's another thing, Bob Allison writes that the Florida SS and CS is going to have a meeting at Gainesville, just before the Caribbean Conf, about 1 Dec. He wants me to come. We might do it, especially if the Carib Conf is going to be of interest to me this yr. Will you please - and don't wait too long, - drop in on A Curtis Wilgus and tell him I am interested in the kind of program they are going to have this yr, because I might be able to attend; let me know what he says.

I suppose Sal is being taken to Washn by Paul and Betty tomorrow. Its pretty tough, Hugh. The idea seems to be that Sal is antagonistic toward almost everybody, in time. Her sibs will understand and won't get hurt if she steps on them - that's one consolation. I want you to know that I have told Paul to make it plain that I will back Sal financially to any extent. I do not want to ask the Halleys to do that. Now that we are home again, let us hear from you soon. And say, Boy, there really is no place like Antigua and this old house.

Ever yr devoted

Antigua, 14 July 1959

Dear Hugh:

Better keep this where you will see it just before you and Joan step into the Henry J to drive down to Miami and step on TAN to have us meet you at La Aurora in the Volkswagen and bring you over to Antigua where we are going to fill you so full of lomitos you will cry PECCAUI. Ask your Latin prof what that means. Otherwise you will never know.

Item 1. That nice knock-down soil auger you and Prof Smith gave me after you broke the shank of mine in the Jamastran was so attractive to one of my colleagues in Venezuela that I had to give it to him on leaving. I still have my 7/8 inch one which I rather like because it is easier to pull in most tropical American clays, but I need a spare, so please buy another of the kind you gave me and bring it.

Item 2. If you can find time in Miami, go to see Dick Dijkman, whose home is now 6767 SW 112th St, and see if he will give you a few cuttings of the strap-leaved Vandas to bring down to me. Tell him I will pay for them (if not too expensive!) or swap something, but as a matter of fact we have already given him enough orchids and furnished transplants for him to ~~get~~ get enough more, so that he should shell out a few with pleasure. Wrap them up in a package and I don't think we will have any trouble in getting them by the aduana here.

Did I tell you that the papers are full of news about the Point Four boys? The Min Agr says he is going to cancel the agreement with the US govt and liquidate the SCIDA. We went into town yesterday and had a talk with Jorge Benitez who thinks he will be out of a job as of 31 August. Maybe they will keep him on, some way or other, but I rather believe the American technicians will move out. But I don't believe things are final yet.

Papers yesterday carried news of an attempt to take Tegucigalpa, in which some 90 people were injured, or perhaps 20 killed. It failed, they say, and the ringleaders got to the Costa Rican embassy and were given salvoconductos to go to Costa Rica.

Remember I told you I would give you a ticket round trip on TAN from Miami to Guatemala if you would come down for any time you can get away.

Paul has just written that Sal is not going East with them today; says she writes that for reasons of policy and finances she has decided to stay in California for the present at least. She got 6 days leave from Langley Porter and went to Tahae with Ed and said she rather liked the place. Maybe she plans to move up there with him; Paul doesn't know.

[Aug./Sept. 1959]

Hubo: We have just been checking up and find that I am running low on shirts. So here's the story: You go down to Sears and Sawbuck and buy six count them six of their best quality Pilgrim shirts, cotton, size 16 neck by 34 sleeve, and no French cuffs, and you take out the pins and stick them in that J H Higgins suit case you are going to bring down, and let them look as though you had worn them for about a year and a half, and when you get them here I will not argue about that year and a half but will pay the price you paid, even though I could argue that they are not as new. But now for el amor de Dios, dont come off without remembering this, because it does look as tho I am going to run out of shirts if I live a couple of years longer. If you dont have room in your suitcase I will lend you a 65% sea island cotton 35% dacron shirt while you are down here an you can wash it out for yourself every night while I stand back and enjoy the sight, because I have just been doing the same thing in Costa Rica and didnt enjoy the sight, guess I am too far-sighted.

August 3, 1959

Dear mom and Dad,

I am making reservations for Guatemala some time around Aug. 15th Joan will probably be coming too. as yet the reservations haven't been confirmed, and as soon as they are I'll send the exact times. I will probably be able to spend only two weeks in Guatemala before returning here. Incidentally, mom, can you send a small note, inviting Joan, ^{as the liaison} I guess that is better than writing her parents since she is over 21. If you send it care of my P.O. No., she won't have any trouble getting it.

I want to spend most of the time in Guatemala visiting with you. However, I hope we can make some trips together and I would especially like to accept Dad's idea of a visit to the fine farms on the "Bocacosta".

- Please don't think there is anything serious between Joan and myself. after the trip she will probably go to work for the American Museum of Natural History. In the meantime she would like to have a look at the tropical environment, especially the cloud

at present I don't think I can get a job with Northcote. They will want to look at my dissertation first, and by the time that is printed I hope to be well on my way. ICA is one possibility but I am not very strong for the characters in that outfit. However they have a good idea. The Univ. of Fla. is another possibility but right now they are in the midst of a budget and staff squeezing program. at any rate we will see what develops.

The other day I bought a used copy of Squier's two volume work on "Touche in Central America". I haven't seen it before but it is nice, but mostly on Nicaragua. The best book is the one you have.

a month ago I was elected to Sigma Xi. It is the honorary society for science and is equivalent to Phi ~~Kappa~~ ^{Kappa} which is for liberal arts.

Best of love to you both.

Fugh

forest habitats.

I am hoping to finish most of my dissertation this summer but still have lots to do. Opportunities for work in the fall are still mighty few. In the meantime I have lots of material I can organize in writing, providing my writing improves.

I have ordered a knock-down soil auger but ~~maybe~~ it might not arrive before my departure.

Re the chapters on bananas. after receiving your letter I rushed to Prof. Wolfe, but found that he already had the desired items in the mail.

I mentioned to Wilgers the fact you would probably be here in Dec. He said he would send literature on the Caribbean program. It will be on education but I think all the spots have been filled. It is too bad you couldn't tell them something about vocational education.

It will be nice to have a short vacation in Guatemala. I wish I could spend more time there. If the job possibilities still look poor, I might come down for a short stay again this fall.

COLLEGE OF AGRICULTURE

Aug. 4, 1959

Dear Mom and Dad,
Just a short note to tell you that Joan and I will arrive on Aviateca at 6:00 P.M. on Friday, Aug. 14th. We will return to Miami on Sat., Aug. 29.

The bad news, which you've probably heard, is that Bruce Fedin died, apparently of a heart attack. Watkins says Bruce had heart trouble for a long time.

Congratulations on the new grandchild. Hal ought to be next now in a couple of months.

Looks like I might get a position here for the coming year. I'll know in about another week.

Best of love,
Hugh

Antigua G, 7 August 1959

Dear Mister Hubo:

Hooray! Yours of 4th instant arrived per old Don Vicente last evening and we are delighted that you and Joan are coming on the 14th, via Aviateca; I asked Helen how you ever heard of Aviateca and she said "Well, dont you know that Hugh always finds out what is cheapest?" So, if the Volkswagen should break down or I should get a ticket for driving on the wrong side of the street and we dont show up, you just get a taxi at the airport and come over here; the official rate is \$12 which I will pay but there is only a remote chance that we will not be on hand when Aviateca drops down onto the good old Guatemalan sod.

Of course we are already making plans for you and Joan, but they are all subject to change without notice. The one thing I really want to do is to drive up to Coban, and they tell me the very best road now is via El Rancho and San Jeronimo. Which reminds me to add that you must not fail to bring your driver's license with you, because you will have to do most of the driving here. After the trip to Coban, I assume you will want to take Joan over to Atitlan and Chichicastenango; I came through that region a few days ago as I believe I have written you and once more ate at the Comedor Central in Godines where I believe you get more grub for 75 cents (used to be 35) than anywhere else in Guatemala. Unfortunately the little restaurant at Los Encuentos where we used to get scrambled eggs, white cheese, and coffee for 15 cents has closed down; maybe because they started asking 25 cents if you demanded chicken.

You mention the death of Bruce Ledin. A good lad, and I mourn his death; and just last evening we got a telegram from Taillon saying Jeff Coolidge died the day before. Kitty had written us that Jeff had suffered a terribly serious operation, including taking on 12 pints of blood, which of course had me worried though Kitty thought her father was out of danger. I have had few better friends than Jeff Coolidge.

I think I wrote you that Dick Dijkman lives at 6767 Southwest 112th St, Miami; I dont know where you intend to leave your car when you drive down from Gainesville, as I assume you will. None of my business. Mrs Fairchild I assume is in Baddeck but Helene and husband will be at the Kampong I suppose. If you see Dr Dijkman, just suggest to him that I could use a few cuttings of those strap leaved vandas and let Joan stick them in her handbag when you come thru the customs in Guatemala City; they are getting particular about such things here. Yesterday I got a tiny envelop of Iris seeds from Ohio; opened by the Aduna and questioned again by the PO here in Antigua.

Mighty interested to know you may get lined up for next school year in Florida; we are of course interested to know about that PhD. If you dont have your Doctoral Hood by the time you come down I will lend you mine - it hasnt been worn very much.

Ever vr devoted

Sept. 2, 1959

Dear Mom and Dad,

Thank you so much for the wonderful two-week vacation. It was a very pleasant change from Gainesville. Time spent in Guatemala always seems to pass too fast but I always know that I will be returning again soon. Thank you also for taking good care of Joan. She enjoyed her first real trip outside of the U.S. (Quiba doesn't count). I hope you both enjoyed the book of El Greco that she left for you.

The trip back on Aviateca was very pleasant and they served a very good breakfast. The return trip was on a much more luxurious plane than the trip going down and that is probably the reason for the reduced baggage allowance. Landing in Miami is much easier and faster now with the new airport facilities. Customs was quite simple and took only two or three minutes. Everything came through satisfactorily and the material and medicine have been shipped to your mother.

I find that you are not the only one that is upset with Wilgus. Archie feels that since he taught at your school and since he organized a department of biology at the University of Costa Rica that he might be able to contribute something to such a conference. However, apparently Wilgus as usual consulted no one and is bringing in the usual bunch of "Americanists" from the Antilles and the United States.

Work here has really piled up. I find that devoting one third time to the experiment station is not going to allow me much time for my tropical interests. I hope that will be remedied within a year. My work in the experiment station will mostly be on soil microbiology which will give me some additional training in another field.

I decided to keep the room I had already rented. It is very nice and comfortable and the old lady takes very good care of me. I am almost beginning to feel pampered. She makes my bed every day and cleans up the room. At night she usually has some cakes and coffee waiting for me when I come in. For that I can give up kitchen facilities.

I hope your trip to Alta Verapaz is very fruitful. There ^{are} is a fine bunch of people up there and they can use some help. If you go to the banana land Chris wants to buy, check the drainage. I went there in the dry season and, of course, at that time it looked very good. The pH of much of the flat land is near seven.

Thanks again for the wonderful time in Guatemala. It will be a long time before I forget the trip, especially the birthday party.

Much love,

Sept. 28, 1959

Dear Mom and Dad,

Sorry to hear that Pascual has had such a tough time. Little did we know that the arrival of four new ducks would completely turn his little world upside-down. On the contrary, I thought he probably craved companionship. I suppose he is a good example of outside social forces working to corrupt an individual's life. By himself he was perfectly happy, but now he finds that he can't even get along with four other ducks. One would think the patio and pila would be able to hold them all in perfect harmony.

I believe I can get some copies of your fruit book through the local bookstore. The fellow is good at finding Out-of-print editions. What price do you think some of your admirers are willing to pay for the classic in tropical fruit. I have to give the fellow a ceiling price to ~~use~~ use. Incidentally, they really have a fine book store here now. The old Florida Book Store has developed an annex. They have a nice collection of the type of stuff that interests us. The main trouble is that I don't have the money to support my tastes. Nevertheless I have given him a lot of business.

I hope you have been to the Alta Verapaz by now. I know those people are really looking forward to your visit. They are all quite fond of you and are sorry that they haven't seen much of you the last few years. I hope you go to Isabel and take a look at the property, Murcielago. I told you the pH of the soils were near neutral, which I find very surprising. Chris is thinking about buying the place, and if it looks like a good site, I would like to go in with him. He is considering the possibility of banana production but many crops ought to do well on that soil. Since the land is on the lake, produce and supplies could be carried up and down the Rio Dulce by barge. No doubt there are better soils in Guatemala, but not so readily accessible and not at \$600 a caballeria.

The coffee research group has sent their first batch of soil samples from Guatemala - 44 in all. We will have them analyzed and the results back to them within two weeks. The University hasn't seemed very willing to go along with the project so I am sneaking the samples in as research samples. Evidently, the experiment station still insists that State funds are only for Florida work. At present they don't want to get involved in any large-scale contracted research. I hope it changes some day.

I have worked up an interesting project here and have now asked the AEC for money. I want to radiate soil samples with Cobalt-60 radiation and then measure the effects on the metabolic activities of the soil micro-organisms. I believe that many times when both plant and soil have been irradiated, changes detected in the plant many have resulted from changes occurring in the soil population. These changes have all been attributed to genetic or somatic changes in the plant itself. However, if radiation affected nitrification or ammonification, it is quite possible that these changes would be reflected in the plant and attributed to the plant. We will see.

Chris writes that Peten has a grid system of trails now that were suddenly discovered by the ~~Ecological~~ ~~Department~~ ~~for~~ ~~oil~~ ~~research~~ ~~for~~ ~~oil~~. It seems to me that these trails would be the ideal thing for the ecological survey we have wanted to make here for such a long time. One could

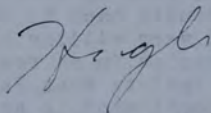
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use a boat on the Usumacinta, Pasión or Chixoy as an operating base. From there, periodic trips could be made into the hinterland along the trails. Since the trails connect with the river, we have an ideal system for our study. The boat will provide a moveable base from which short excursions can be made by land. In addition, botanical or biological specimens could be stored on the boat. What think you?

I am enclosing a copy of the introduction I have written for the course on tropical soils. I am trying to write up most of the material this semester, which I can use as a framework for a book later on. The introduction plugs away at my usual theme of optimism on the potentialities of the tropics.

I still hope to be able to come to Guatemala for a few days around Christmas. As I told you this summer, I hope to bring Hal Conklin and his wife. He is an anthropologist at ~~the~~ Columbia University and the fellow with whom I worked in the Philippines. I consider him one of the best in the field. We will stop at Merida on the way down. I hope to arrive in Guatemala on Dec. 19th and immediately take him up to the area of my work in the Polochic Valley. Since he is very much interested in shifting cultivation, he wants to see the site of my plots. Afterwards, I hope to show him a little of the Guatemalan anthropology. On Dec. 26th, we have to fly to Mexico for the meetings of the American Anthropological Association. It will be their first meeting held outside the U.S. I will be presenting a paper there. My thesis will be that although Mindoro Island in the Philippines and the Polochic Valley have almost identical environments, the differences in agricultural are mainly cultural rather than ecological. In other words, I am trying to separate the environmental effects from the human effects on primitive agriculture. I believe this is the first stepping-stone to finding out how man can modify the tropical environment without disrupting it.

Best of love to you both,



P. S. I am still trying to wrangle a piece of land from Chepe Orive on Finca Cuntán to be used for a public park. There is very little good rain forest left on Guatemala's Pacific Coast that is accessible. Some day I think people will appreciate having some rain forest preserved. They can show people the appearance of the Pacific coast before agriculture. Those things are part of our heritage and as such ought to be preserved. I am amazed at the changes new transportation routes will evoke on the local landscape. I envision the day, not so far away, when there will be little accessible rain forest in Central America.

should increase

INTRODUCTION

with same time

In the present age of rapidly expanding world populations, the study of tropical soil management becomes an extremely important field. Population is increasing in the tropics at a faster rate than in temperate zones, but agricultural production is not keeping pace with the growing number of people. If we are to have a higher standard of living in the world for everyone it is important that crop production ~~increases~~ at a faster rate than the number of consumers.

In many ways tropical countries provide an ideal area for expansion. Regions like the Amazon Basin have a year-round growing season and abundant water supply. Most of the soils are well-structured. Lack of soil fertility is the biggest deficiency, but the problem easiest for the soil scientist to handle. Up to now the use of chemical and organic fertilizers has not been economically feasible in ~~the~~ remote areas, but with increasing population pressures, the use of capital and transportation for fertilizers becomes a greater reality.

Mexico has shown what can be accomplished in producing new foods to feed a growing population. Until now the highest annual increase in agricultural production in any country in the world has been 2 3/4%, now Mexico ^{is annually} increasing her production by 4%. The number of people in ~~many tropical countries~~ ^{tropical America} is increasing at the rate of 2 1/2% a year.))

Great danger exists in over-simplifying the concept of tropical soils. It is difficult to resist the urge to summarize knowledge of tropical soils in a few broad, sweeping generalizations. One is familiar with statements beginning with such phrases as: "The trouble with tropical soils is ...", or "All tropical soils are ...". Since a wide range of environmental conditions and parent materials exist in tropical latitudes -- which give rise to numerous soil groups, possibly exceeding in variability and quantity those found in temperate climates -- one should exercise caution in using or synthesizing comprehensive rules for the management of tropical soils.

For the purposes of tropical soil management we can define tropical soils as soils found within the tropics, or as fossil relics in areas which once had a tropical climate. This definition includes very young and immature soils (such as alluvial soils, lithosols and regosols) since the method of using and handling these soils in a tropical climate is different ~~than~~ their management in a temperate climate. We will define the tropics or tropical climate in more detail later but for now we can consider them as essentially, the frost-free areas of the world. In mountainous areas, receiving at least occasional frosts, within tropical regions there are soils and crops which are very similar to those of temperate climates. Typical temperate crops as wheat, apples and peaches may grow quite well. In many cases, though temperature effects are similar to more polar latitudes, plants will nevertheless be subjected to tropical photoperiodicity.

Some of the richest soils in the world, and some of the poorest, are found in the tropics. Fertile soils in the humid tropics are new soils -- soils recently derived from volcanic ash or alluvium, or soils periodically rejuvenated by erosion of the highly leached, topmost horizon. The Amazon Basin, on the equator, supports less than two people per square mile. Half-way around the world

watch your proofs

at the same latitude, Java, one of the most densely populated areas in the world, supports a population density of 1000 people per square mile. Climates of the two areas are approximately the same. However, the soils of Java are rich volcanic soils, with nutrients periodically replenished by ash; whereas much of the Amazon Basin is an old highly leached peneplain -- the actual alluvial plain of the river is comparatively narrow. The population of Java is also at least 100 times as great as the neighboring island of Borneo, which is composed of very old rocks and soil.

Sad wrecks of once-proud agricultural projects litter the landscape throughout the tropics. Often attempts to apply temperate climate agricultural methods in the tropics have back-fired drastically. Many promising enterprises have ended in failure because some basic rule of tropical agriculture has been overlooked. Vageler () states that "more than 75% of all failures in tropical and sub-tropical areas are due to choice of unsuitable land". Many times the luxuriant growth of the dense tropical rain forest has led settlers to believe that large yields could be expected in such areas. Actually, well-developed forest can be found on almost sterile sand, as well as fertile soils, since most of the nutrients are tied up in the vegetation and decaying organic material.

In judging the suitability of tropical lands for agriculture, soils are just one of the many factors that must be considered. The desirability of agriculture in a given area is influenced by the total environment, transportation to markets, demand for farm produce and available capital. In addition, ~~as~~ Egler ¹⁹⁵⁸ ~~states~~ ^{that:} "climate, soil and vegetation must not regarded as they sometimes have been in the past as mutually exclusive fields of study". Proper management of tropical soils is based on an adequate understanding of the relationships between crops and environment.

Many problems still exist in tropical agriculture for which modern science does not have ready-made answers; however it can give us the approach and methods of experimentation to find those answers.

Per Dees Santos let me help you in writing such memos

[159]

Thursday, I guess its 1 Oct, aint it?

Dear Hugo:

Yr good letter of 28th Sept came yesterday p m; so welcome that I gave old Don Vicente 25 centavos de Quetzal (wh reminds me, they have a sign under the counter at Töpke's as follows: No diga pesos, no diga dólares, diga QUETZALES; wh I am doing because they are all the same price).

Now to business. Dont be too hard on Pascual. He is happy again because I put the four new ducks down in the patio back of the new house, where they are perfectly happy, tho they set up a howl when I went down yesterday morning and found the corn basket empty. But after all, Pascual should not have pinched the rear end of those girls and then whistled at her.

Now as to my "Manual of Trop and Subtrop Fruits". If you can get copies in good condition at ten dollars each, buy up to 10 of them. If you have to pay up to fifteen dollars each, pay it and get up to ten of them provided they are in very good condition. Tell me and I will send you the money. I have two copies wh are all I need, but every once in a while I get an urgent request from somebody who wants one. Why didnt you but more in Rio de Janeiro?

I have not yet gone to the Alta Verapaz. Met Chris on the street last week and he says the weather is bad up there. I told him to keep his weather eye open and tell me if and when he thinks we should go. I can go any day, except at the end of Oct when I think we will roll out of here in the Volkswagen for 3 days in Salvador and a week in Honduras. I sure want to see that land wh Chris has in mind at Murcielago. I think it might be very much worth while, and again it might not. You could tell him and I believe I can too.

Dont talk to me about your project for radiating soil samples with Cobalt-60, because I dont know Cobalt-60 from good cow manure and as a matter of fact prefer the latter. But I am keen about seeing that Peten country with you. I believe together, if we could go over some of those trails (and why cant we ?) we might turn out a paper which will go down in history. Did Charley Simmonds ever do a soil survey of Peten? If so, then there probably isnt much left for us. But even if he did, we can size up the agr'l possibilities. Oh boy, this is an attractive proposition. I will go along on this job. But I am not too sure about getting Alberto Orive to give away some of Cuntán, even ~~got~~ a National Park. Work on the idea, but dont count on it.

Finally I want to say that the only thing which remains for me to do is to go along with you on a few studies on out-of-the-way Guatemalan areas and line you up to write better English. I dont quite understand the latter problem. Your Uncle Paul was born writing good English; I began to write when I was about 18 and I dont think I do too badly; and your mother wrote beautiful though almost too classic English when I first met her. I re-wrote her "Santiago de los Caballeros de Guatemala" to make it a little less heavy; maybe I didnt succeed. At least I feel I have gotten you out of the habit of writing "underdeveloped areas". That's something accomplished. And watch your proofs: no need to let those people spell actual "aactual". And dont let them spell "answers" "ansers". Kick up a row, raise Hell, and watch your proofs! If you dont know how to spell the words yourself, let me know and I will send you a check to buy a Webster's Collegiate Dictionary. And now to finish, you are coming down here at Christmas time and dont forget it. I will sign the book for you.

Digitized by eGangotri for Botanic Board of India
Carnegie Mellon University, Pittsburgh

18 October 1959

Dear Hubo:

There has been a big storm on the south coast; up here we have had misty weather for two whole days and early this madrugada it really began to rain and has kept it up steadily for six or eight hours. And the Papal Nuncio is coming over today and there was to be a big procession down our street and we had to drive down to San Antonio Aguas Calientes yesterday to get a lot of pacaya leaves to decorate our window grills. Looks like it will be a wash out, in sensu strictu. Gonzalo came over to decorate the windows which reminds me of the father who says to his son "Go out and water the lawn" and the boy replies "But Daddy, look how it is raining!" And the old man says "That doesnt matter, you have a raincoat havent you?" Which reminds me of another one (I dont know why). The boss calls his new secretary and says Miss Smith, your letters are not turning out well; and she replies "I dont know why; I put in two pieces of carbon paper so as to get a good copy for you."

No doubt Sally has advised you of the arrival of the new baby, Mary Catherine. As usual, Sal had no trouble in childbirth; she seems to get through much more easily than Marion does. Marion and Knowles have both written that they have never seen Sal so low as she has been the past few weeks. Poor kid, it is tough going and I cannot express my admiration for her courage. Ed stays up there at Tahoe and poor little Sal has to go out and find a place to farm out her baby, and as you probably know she is placing it with a colored family of Jamaican origin in the outskirts of San Francisco where she can go by bus. I have promised to pay for the upkeep. In the meantime, Sal says Ed says he is building a house for them at Tahoe - but what is he going to do at Tahoe to support the family, after the house is built (if it ever is). We have urged that they let Sal come down here with the baby, leaving the rest of the family for a while; but it does not seem likely that the medicos will agree. To me the most discouraging feature is that the psychiatrists have had Mar in hand for a year and do not seem to have accomplished very much - probably there has been some improvement, perhaps more than I imagine. I have given Sal \$400 to help with immediate expenses and have told her I will send her \$100 a month as long as she needs it; and in the meantime, what is Ed doing? You ask Marion.

Helen and I are driving over to Salvador on the 30th; I want to see what they are doing with the Fruit Improvement Program. Then we go on to Honduras; we have not been there in exactly two years. The basis of the trip was the proposed meeting of the Board of Trustees of EAP on 6 Nov, but we have just recd word that there probably wont be any meeting, because of the death of Mr Coolidge and the sudden retirement of Mr Redmond. It looks as the Doris Stone and myself might be the only outsiders present and this would hardly constitute a quorum. George Harrar might come; I havent heard. We will probably be away from here from the 1st to 12th or 15th of Nov; while we are over in Honduras we want to see a few of the old friends.

If you go to Mexico City, I suggest you stay at our little Hotel Conquistador, Isabel la Catolica num. 7, right in the center of town (two blocks from the Zócalo) and around the corner and on the Calle Bolivar I believe is the Café Oviedo where you will get

Oct. 19, 1959

Dear Mom and Dad,

Received a nice letter from Dr. Richard Bradfield, Prof. emeritus of soils at Cornell University, whom I think you know. He will be going to Mexico and Costa Rica this winter and said that he would like to visit you at the same time for a day in Guatemala. I took the liberty of telling him you would meet him at the airport in Guatemala City if he ~~was~~ would be stopping there. He wants to talk over tropical problems with you. I suppose he has several irons in the fire. He used to be an assistant director for the Rockefeller Foundation. He says he is very much interested in the problem of shifting cultivation. I will see him in Cincinnati in Nov. and at that time will be able to push him a little. If he is interested, so much the better.

Glad to hear that Pascual's problems (4 of them) have finally been solved. The idea of putting the rest of the ducks in the sitio was a good idea. Now, if we can get them to start breeding down there, we will be able to give Matilda Gray a few ducks for Christmas, not to mention a few for Gainesville.

You are quite right about my writing. It is atrocious and also quite painful. I now have several different things to write and find that I do it very inefficiently. Furthermore, the end product is usually not worth the effort. If I could write better I would go a lot further in this man's world.

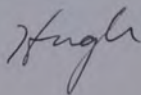
Do you have any news of Sally? I haven't heard a thing since Uncle Paul went to Europe. He used to be a good source of information and was very good. Now I will have to get the news from you or the girls. I believe Prexy Reitz is due home this week. He will find a lot of work waiting for him.

The course in tropical soils is coming along fine and I am proud of it. If I could teach the course another couple of years I would have it very well rounded out. I hope to organize most of the basic material this semester.

Sorry to hear that you won't be coming to Florida this fall but I disagree with your reasons. I believe you have a lot of information and wisdom that can be passed on to people and you also have more enthusiasm for tackling tropical problems than any other five people combined. We still have lots of work to do and are going to come up with some big solutions. Petén is only a small segment of the total job to be done but I am willing to start there.

I hope we have a chance for a good visit this Christmas. I will send you more definite plans in the next letter.

Best of love,



Antigua, 22 October 1959

Dear Hugh:

Yrs of 19th came this morning. I am surprised to hear that Prexy Reitz is coming back so soon; last intimation I had was that he wouldn't be home before December and I warned Bill Paddock that we probably couldn't have a Board meeting Nov 6th because Prexy would not be here. But anyway, if he is just home after a long absence I doubt that he will want to leave again for Honduras soon as Nov 4th.

Got the announcement of the 10th Caribbean Conf and am glad I gave up planning to come; there won't be much in it which would interest me.

Yes, I know Prof Bradfield; believe he came to Zamorano once with some more of the Rockefeller Foundation people - probably Harrar for one and perhaps Stakman for another. If you see him at Cincinnati by all means confirm that we will meet him at the airport if we will give us date and flight number; but tell him he should also, by all means, plan to spend at least one night with us in Antigua. I can't show him much shifting cultivation right around here, of course; but you might suggest something near here which would interest him. For example, the Indian farming around San Antonio Aguas Calientes. Wh reminds me, the Indians down there must be hard up, for there are two women who come here about once a week, selling used but fine huipiles at \$6 and even \$5 each. The tourists have been paying 8 to 15 quetzales for the same things - and still do in Mary's and the other shops here.

On the 18th I wrote you fully about Sally, feeling that perhaps she has not kept you fully informed. Two or three weeks ago Karl had a long talk with her; wrote me all about it. Said Sally was pretty antagonistic and spoke rather badly about all her family. It was just before the baby was born and of course she would be likely to have emotional upsets at such a time.

Now here's a proposition: if you will rough draft your doctoral dissertation and bring it down here at Christmas time, without any girls to distract your attention, we will sit down together and whip it into reasonably good literary form - but no so good Prof Smith will ask who wrote it for you. I really feel the time has come for you to get that hood thrown over your head, and I think all that is holding you back is that you find it so hard to write the dissertation. I am sure you have the materials in hand, so just whip them into a good rough draft or outline and come down with it. If we get that job out of the way I would like to go up to the Verapaz with you for two or three days. Alan wrote that he was going up with Denis K not long ago, but he didn't want to take me along as he knew I wanted to see his mother and she might have to come down to Guatemala unexpectedly because her old friend Sra Asensio is about to die.

Just got the 1959 Yearbook of the Calif Avocado Soc with a long account of our work around the Mediterranean. Borrow the Yrbook from somebody and read it. The paper is an example of trying to make horticultural literature readable while at the same time informative. I want to get a few reactions to it.

Antigua G, 5 Novbr 1959

Mister Hubo:

Last call. Reminds me of the time your Uncle Herb went to the auction sale at the store he called the Mikadoo in Pasadena, and the auctioneer put up a genuine monkey skin purse for sale. And just as Herb was about to offer 20 cents - and in fact did, in a very feeble voice - the little jappy said Last Call; fifteen cents; too late. Maybe he was decent at that, and didnt want to take Herb's 20. Maybe they had a surplus of monkeys in Japan at that time and monkey skin was in a buyers market,

But here is the point: Your Uncle Knowles is bawling Hell outn me because I dont make you finish up that Doctorado. Says you will never get a decent salary until you can sign Dr Hugh Popenoe Ph D. (when Karl Bowman got his M D he had cards printed Dr Karl M Bowman M D) Last time Helen was in San Francisco alone, at Karl's place, the latter was bawling Hell out of Richard alias Dick, who must be into his footies now, because he has never finished his work for his Ph D. So let me tell you now, once and for all, you are cimply going to come down here at Xmas time and we are going to wind up this PhD business. I am c nvinced that your only trouble is you find it awfully hard to sit down and write anything except letters to girl friends. For your consolation I might tell you that when I began to write - for the Pomona College Journal of Economic Botany - I had an absolutely terrible time getting star ed on an article. Afetr I had broken ground and finished the first two pages (on which my father, who was a good writer, always helped me) I could ramble along indefinitely. But REMEMBER, you are going to finish up that dissertation and get your doctoral hood at the February convocation or I cut you off with a shilling. And the more I think about it the more I feel sure Kowles is right and the more I feel that we can get the thing lined up down here, right in this little shack where I am punching out these lines with the little electric heater behind me, in a very few days.

The annual mtg of Board of Trustees EAP has been changed now about four times, and last word is that it will be at George Harrar's office in NY on 24 November. If you see Pres Reitz and he tells you he expects to see me there you tell him it is quite doubtful. Even assuming EAP will pay my travelling expenses, I dont want to go and dont believe I need to go; the big problem is finances, the present administration of UFCO having announced that they want to get out from under as soonnas they can; they wont drop out immediately and leave the school out on the end of the limb, but they want Bill Paddock to find other sources of revenue as promptly as possible. The only source I can see is the Rockefeller Foundation. And as you know, I am not very enthusiastic about the present trend, i.e., to put EAP on the university level. Sooner or later it is bound to end up by turning out a lot of people with titles and bureaucratic tendencies. And I dont think my advice is rich wanted at Zamorano, and por lo mismo I cant be of much help since I cant suggest any big sources of easy money.

Antigua G, 22 Nov 1959

Dear Mister Hubo:

Back from a week more or less in El Salvador. Principal item of interest is el siguiente: At Los Andes, on the slopes of the Volcan de Santa Ana, the fruit trees which Chico de Sola has planted are simply not growing. He has 750 avocados, from two to four years old. The latter are rarely more than four feet high. They are on a steep slope, at about 6000 feet (which should be allright for the avocados of the Guatemalan race) but the land is covered with grass and bracken (Pteris sp) and I have the feeling the fertility is low. They say the pH is around 5.5 which I would suspect to be the case because the bracken is usually on acid soil. I wish you and I could go over there for a day and look things over. Plums and peaches have made very little growth in four years, tho the elevations are allright for them.

Now, vamos al grano: I want to know what to expect re your plans. (Incidentally, Prof Bradfield of Cornell will be here overnight on the 15th of December). I have written you about that maldita disertación! You simply must get it offn your shoulders. So again I say, come down here after Mexico and spend a week, and the first thing we will do will be to sit right where I am sitting as I write these lines, and whip that maldita disertación into shape. This is important because you can get a raise in salary until you have that PhD, and as I know very well, there are few things in this world which interest you more than raises in salary.

I have just dusted off my Cordobés hat in preparation for a trip into the city this afternoon to see the bullfight. Yesterday when we were in the supermercado Puerto del Sol I noticed a group of four guys standing over to one side and talking Spain Spanish; so I wandered up casual-like and said "Indudablemente Uds son aficionados. Díganme, que tal va ser la corrida del domingo?" And one of them answered "What do you mean?" And I said "Pues los toros" And he came back "Pues no son toros, son vacas". That's not very encouraging but we are going anyway, and if things go badly with the Mexican matador I will shout like the guy next to me shouted in Madrid, "Quien metió aquel hombre en este negocio? Debe ser sacristán de la catedral".

If you havent written already sit right down and tell me your plans, and bring down the old binoculars so I can change them with you for this new set which are swell but build for one man to see at any distance from 25 meters forward. Bug what illumination! Better by night than by day.

Ever yr devoted

Dec. 10, 1959

Dear Dad,

Your letter of ~~the~~ Dec. 8th makes no mention of my ^{very long} recent letter to you wherein I told you of my complete Christmas plans. At danger of repeating myself, I will go over the details. ^{The} last letter may have been lost in the mails.

I will leave Miami on Dec. 17 and fly to Merida where I will spend two days. There I will meet my very good friend Dr. Hal Conklin, from Columbia University, and his wife. He is an anthropologist, and to my notion, one of the best in the game. I worked with him in the Philippines. I am especially interested in his work since he has been stressing the ecological aspects of anthropology. He actually started out as an ethnobotanist.

He is very much interested in seeing my plots in the Polochic Valley and, as I told you last summer, he and his wife will be with us for Christmas before we go to the meetings of the American Anthropological Association in Mexico City on Dec. 26th. We will arrive in Guatemala on PanAmerican Flight 503 from Merida on Dec. 19th at 11:30 A.M. Chris Hempstead will try to fly us to the Polochic Valley if his wife is not having a baby just at that time. Since the Conklins also want to see some of the Guatemalan highlands, I will take them to some of the usual places. We will actually have seven days in Guatemala but I am afraid that a lot of the time will be spent travelling and looking at land-use patterns.

Dr. R. Crist from here, whom you already know, may meet us in Guatemala. We hope to start some informal round table discussions on land use ~~and~~ patterns in the tropics. I hope this may become an annual event.

Please excuse all the mistakes. I am a little upset that you did not get my last letter and cannot imagine what happened to it.

I am bringing down all the materials which Helen requested plus some additional things which her mother threw in for good luck. I am also bringing some other things which ought to interest both of you.

We had some very good meetings here of the Florida Soil and Crop Science Society. Of course, you know that they made you an honorary member. Since you weren't here, I had to accept in your place, a position which I think I can't fill. I told Dr. Allison that I suspected that they picked you since you had already paid your dues to the age of 95 and that they wouldn't be losing much in the way of income. Incidentally that was a sound financial gesture when you did pay your dues way in advance at the rate of one dollar per annum. Now it would cost you three times as much to do the same thing as they raised the price of annual membership.

Dr. Scarseth was here and I had an exceptionally fine talk with him. He was extremely interesting. I wish we had some men like him around here at the University. He is most stimulating. He talked a lot about his work in the tropics, some of his new ideas. I was
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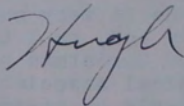
I hope to have the bulk of my thesis finished by the time I get to Guatemala. Nevertheless, I appreciate the offer of help very much and hope that I will be able to avail myself of it some time in the future on other written material. Since the dissertation deadline is so close, proof-reading at Christmas time will come much too late.

I am very sorry to hear about Sel. Now that I have my work out of the way I might be able to help her in a constructive fashion. So far I have felt too far removed from the scene to be of much help.

I hope that everything in Guatemala is very peaceful now that the elections are over.

There are many other things I would like to say but I see my dissertation staring at me from the desk.

With much love,

A handwritten signature in cursive script, appearing to read "Hugh".

ESCUELA AGRICOLA PANAMERICANA

APARTADO 93

TEGUCIGALPA, HONDURAS
CENTRO AMERICA

Antigua, 11 January 1950

Dear Hubo:

I enclose a copy of a letter re my life insurance which I think you may wish to keep, though I have a copy here of course. My two policies in New England Mutual are now worth \$20,689 and are increasing in value at the rate of nearly \$100 per annum as all dividends are used to purchase paid-up insurance.

The main point is this, and you will get it clearly from the letter. Let us assume that I outlive Helen, and let us assume that after Helen's death Sally dies. It would be rather silly to leave \$5000 or \$6000 to her very young children, who could not use it. I suppose the funds could be placed in trust for them, but when you split \$5000 into four parts you haven't got enough for any one of the four kids to be worth while. I would think the plan suggested by Mr Summers might be a fine thing for a man who was leaving \$200,000 of life insurance to his children but not for one leave \$20,000.

In connection with my estate, Helen was asking this morning how I am going to provide for Peter's maintenance - and it now looks to me as though he might outlive all the rest of us. I told Helen I thought you would have to take charge of matters after Paul's death - and mine. Necessary funds will have to come out of my estate, tho I am wondering if the Social Security Paul is now getting for him will continue after my death. Peter gets it because he is my son but for some reason not clear to me, they pay the money to Paul in the usual monthly instalments; I believe he gets \$58 per month which is quite a help - present expense for his maintenance is close to \$2000 pr yr.

Some day we are doing to have to get a guardian for him named, in connection with ownership of this house. I cannot do anything without going thru the courts, in Calif and here, and getting myself named guardian with authority to act for him in all matters. Because of my age I do not feel this is worth while; but maybe we should initiate action to get you named as his guardian. I doubt that you will ever want to sell this house but if you should, it would take a long time to consummate matters. Helen and I both wish the house were in your name; it would make things much simpler, and you could protect the interest of all the girls better than anybody else.

Ever yr devoted

TELECOMUNICACIONES NACIONALES GUATEMALA CENTRO AMERICA

TELEGRAMA

CABLE
LT WILSON POPENOE
CABLE _____

99 HA MZ 1400 2330 2400

GAINSVILLE FLO, 13 ENE 60

COME JOIN THE PROCESSION JANUARY 30TH BRING YOUR HOOD AND WE MIGHT MARCH
TOGETHER

HUGH

ESCUELA AGRICOLA PANAMERICANA

APARTADO 93

TEGUCIGALPA, HONDURAS
CENTRO AMERICA

Antigua G, 14 January 1960

Well, well, well. Times change and wechange with them. I had told Helen a hundred times, as she aways puts it, that you werent interested in having us come to see those two 6 ft 5 ins guys elap that doctoral hood over your head. She wanted to come, and has wanted to do so all along. It only required your invitation, which came via cable last night, and Helen said, Hugh must really want us to come if he will spend money on a cable.

So I reckon we will come. I believe Aviateca flies on Wed the 27th. We cal sleep in Miami and come up on the Silver Meteor on the 28th and if you are too busy to meet us at Waldo Bert would probably do so. Of course I will bring my hood, hoping to March with you in the procession, but you will have to rent me a cap and gown and the mortarboard will have to be with gold tassel because of my exatted academic standing. I suppose you will have one on your mortarboard also. If you cant get one for me, ask Prexy Reitz if he can line me up with cap and gown; they always have a few on hand for visiting firemen. But I positively will not walk in thw academic procession without that gold tassel, even if you have to buy one at my expense.

Well, boy this is all pretty fine. Get us lined up with a room somewhere - anwhere you like, but you know I am not averse to the old White House. But anywhere you think best. And after we get that hood onto you we will eat about half a dozen stone crabs - maybe Archie Carr and wife and Bert would join us - r anybody else you choose.

We might throw a little party por cuenta y riesgo mios - think it

ESCUELA AGRICOLA PANAMERICANA
Antigua, 15 January 1960

APARTADO 93

TEGUCIGALPA, HONDURAS
CENTRO AMERICA

Dear Hubo:

We went into the City this morning; rushed right around to Aviateca and booked for Wednesday the 27th of this month. Figured that Thursday was cutting it a bit thin.

Now, help me line up the other details. I have just written Bob Allison, figuring that if he should by any chance be driving up to Gainesville he might take us with him; but this is a slim chance. I suppose it is ever slimmer that you might come down to meet us at Miami on Wed the 27th - you know the house the plane arrives. Without much doubt you will have your hands full those last few days. Next bet is to ask Dick Dijkman to meet our plane - it arrives about noon when he should free - and take us to one of those guest houses south of the River, where we would stay overnight (calling on Mrs Fairchild late in the p m) and take the Silver Meteor to Waldo the next morning. You will arrange to meet us at Waldo or have Bert do so, I am sure. And you will line us up for a room at Gainesville. I have already written you about this. Anywhere you think best. Unless you want us to go to the Florida Union, which would be allright with us, I would choose the White House.

I guess we will plan to stay in Gainesville over Sunday; you and I will be pretty tired after marching in that procession with those heavy hoods around our necks. Then we will head back toward Miami. If you are free, you might like to drive us down that way stopping at Belle Glade for a few hours, then going to Miami and on to the Homestead area to see John and talk to some of the old timers. If you cant get away, then we will go back on the Silver Meteor and spend about three days around Miami before flying back to Guatemala.

This is a rather bad time for us to be away, hence I do not want to be away too long. Chico de Sola and family are arriving Monday next to spend four days with us. Bob Allison expects to come down in Feb for the inauguration of that new fiber-processing plant near Escuintla. I have to go to Zamotano at mid-March and we will not want to go there without spend a week or more seeing our old friends.

Do you want me to bring up any huipiles for you to give as graduation presents to some of your girl friends? I have a fine stock, each and every one worth from 12 to 20 U S bucks but I will quote you a special price - might even swap each one for a big plate of oysters. Speaking of oysters, I mentioned in my last letter to you, that if if you would like to give a little dinner party after graduation or the next day, to a dozen or so chosen friends, you can count on me to help pay for the pussycats or the puppy dogs or what is it they call those things.

If you see Prexy Reitz tell him I hope to have a chat with him/ I have just recd news that he is now a member of the Exec Committee of EAP, the other members being Doris Stone, George Harrar, and George Putname of the First Natl Bank of Boston who is Secy-Treas of the school. School set-up and I am very glad that Wayne is interesting in taking an active part. It will be very good for the school.

Do let me hear from you pronto, by radiogram if necessary, so we will know what to do after we step on Aviateca at 7 a m Wed the 27th.

you say).

I am considering the possibility of going to Calif. to see Sal sometime this Spring. I can combine a trip to see her with a talk with the University people there. I have indicated the possibility to Sal but her response was not too enthusiastic. I will wait to see what Uncle Paul and Uncle Knowles say. If there is anyway I can help, I would like to try.

Re the matter of guardianship of Peter. This might be a good idea and I would like to accept the responsibility. We can talk it over with Paul. It might be better to initiate action soon while I am still in the States. The future is very uncertain and at present I don't know where I will be next year, maybe in Timbuktu. For this reason, it might be better to clear up the matter now.

I think Ammonium phosphate is probably a pretty good thing for your garden but I would go easy on the phosphorus. The main thing you need is nitrogen. And, I would go might easy on the potash. I don't think Nitrophoska is what you need, too much potassium. You might want to put on a fertilizer with phosphorus once or twice to build up the phosphorus in the soil, in case you have a deficiency. After that, forget about it and concentrate on the nitrogen. The main trouble with sodium nitrate is that you pay a lot more for freight since it has a low percentage of N compared to other chemical fertilizers. Ammonium nitrate or urea might be a good bet for you. The best answer for tropical areas is going to be Ureaform, when they learn how to produce it at a low price. It is a high analysis nitrogen fertilizer that gives a slow even release of nitrogen or a period of several weeks or months. In that way, it is not all flushed through the soil with the first heavy rain. Ammonium sulfate is also a good idea for knocking down your pH.

I hope now that this dissertation is finished that we have a little more time for the tropics and a little less time for Florida. We are going to have a lot of fun together.

Much love,

Hugh

COMMENCEMENT INFORMATION FOR FACULTY

First Semester -- 1959-1960

GENERAL INSTRUCTIONS:

- Date: Jan. 30, 1960
- Time: Academic processional begins 7:45 P.M.
Platform program begins 8:00 P.M.
- Place: Florida Gymnasium
- Recessional: There will be a recessional.
- Academic Regalia: Formal Academic Regalia. CAPS, GOWNS AND HOODS MAY BE RESERVED THROUGH THE UNIVERSITY CAMPUS SHOP AND BOOKSTORE. DEADLINE FOR RESERVATIONS IS January 15. Faculty pick up caps, gowns and hoods Wednesday, January 27, through noon Saturday, January 30. The rental rates are as follows: Bachelors Cap and Gown, \$3.00; Bachelors Hood, \$3.00; Masters Cap and Gown, \$3.50; Masters Hood, \$3.50; Doctors Cap and Gown, \$4.00; Doctors Hood, \$4.00. Doctors cap and gown may be purchased at \$45.90 less 10% faculty discount. Wear customary dark apparel under academic costume. Division I remove mortarboards while seated, but Division II does not remove mortarboard except during Invocation, Alma Mater, and Benediction.

DIVISION I:

Members of the faculty holding rank of teacher, instructor, assistant professor, associate professor, professor, head of department, head of division, assistant dean, associate dean.

Assembly Time: 7:20 P.M.

Assembly Place: South end of basketball floor behind bleachers.

DIVISION II:

Members of the Academic Council, Emeriti, guests, and persons to receive special recognition. (Return card enclosed for those to be seated on platform.)

Assembly Time: 7:30 P.M.

Assembly Place: Assemble in corridor of floor just below main South entrance in Florida Gymnasium.

Note: The President, Vice-President, speakers, Board of Control members, and guests of the University will assemble in Dean Stanley's office in Florida Gymnasium, then proceed to the assembly area for Division II.

Les Hale
Commencement Marshal
Telephone Ext. 506

ESCUELA AGRICOLA PANAMERICANA

APARTADO 93

TEGUCIGALPA, HONDURAS
CENTRO AMERICA

Antigua, Sunday 17 Jan 1960

Dear Mister Hubo:

I reckon this is pretty nearly the last time I shall be able to address an envelop to you as just plain Hugh Popenoe. Which reminds me that we had a fine visit yesterday afternoon with Ed Shook and I was talking with him about your doctorado. I dont think Ed has one; I am not even sure he has a Master's (but look at the work he has done). He asked me to give you his congratulations and when we were discussing the doctor business, he said, Well of course, Hugh has to have his Union Card!

I have written everybody I know in Florida, except Louise Mrs Fairchild's cook, advising that we will arrive on Aviatega at noon on Wednesday 27 January. Maybe someone will be going up your way and will drive us to Gainesville, tho that really doesnt matter very much. I would just as soon go on the Silver Meteor and get off at Waldo and have either you or Bert meet us.

At lunch today, over one of the best 80 cent beefsteaks you ever eat, Helen and I were talking about this Ginesville business. I have already written you that if you wish to have a few friends around for lunch after you get that hood, OK; Helen says I havent done this thing up right and I guess she is right. She thinks we ought to give a little party for yourself and friends, commencing with tomatoe juice and ending with de-nicotinized cigarettes, after the graduation. So lets start thinking along these lines: I am afraid Cedar Key is too far away. And I suppose the graduation will be Saturday evening or at least preeet late in the afternoon. So whatever we do will have to be on Sunday. That's a bad day in Gainesville but maybe we could have a little dinner party at the White House Sunday evening. You remember Bert staged one there - perhaps not Sunday evening - at which the Zamorano boys entertained us. Perhaps you could plan something for Sunday evening Jan 31st at which we would be hosts, entertaining in honor of your doctorado; and we could handle up to 18 guests or so. It is hard to have a party for many more.

You may not be in favor of this idea at all, and you may have good reasons. Do what you think is best. If you decide to have a party, Bert would propably be glad to help you get things lined up. And if you know a better place than the White House, alright. Among people to invite I would have in mind the following: Wayne Reitz and wife, who probably would not be able to come. Prof Smith and Wife who probably would be able to come. Archie Carr and wife. Bert Muller and wife (maybe he is not married yet, but he must be engaged by this time). And so on. I leave it up to you. The matter can almost be left until we get there on 28th - if I were you I would leave some of the invitations until Saturday the 30th, but you will probably need to line things up at the White House or elsewhere in a more or less definite manner. You understand that the party will be on me, and it will give me pleasure to give everybody up to two glasses of tomato juice.

I do hope when we step off Aviatega at Miami everything will be as good as done for you. I dont think it is likely you can meet us there, but I dont think it is likely you can meet us there, but

Ever yr devoted

March 6, 1960

Dear Dad,

First off, I want to wish you a very happy birthday. You ought to have the girls there fix you up with a piñata to celebrate the grand event. I hope you have a birthday party as fine as the one I had in Antigua last summer. Now that was a lot of fun. We got the works, even cohetes. Now that I have learned to shoot those things, we will have to celebrate a few more holidays.

I really enjoyed your visit here at graduation. That was a lot of fun and I think the Prexy took good care of us. I also enjoyed throwing that little banquet. These people around here don't have much chance to enjoy banquets unless they are given by the First Baptist Church. And the trip down State was also a lot of fun. We really saw a lot of Florida Agriculture in a short time. I won't be getting any more degrees now for awhile but we ought to plan a few more trips, then the fellows at the motels will be able to say: "You know what I mean?"

I wrote Kitty about our trip next summer and got a very nice answer in return. Apparently, all we have to do is name the date and she will go. She seems quite enthusiastic at the prospects. I am not sure yet when I will be free but I think July will probably be the best month. That will be a lot of fun and I bet my good friend in Lima will take good care of us.

Nixon Smiley wrote that he will be coming up this week to visit some of the boys here. I guess you received a copy of the article he wrote on the Popenoe family. That was a pretty fine job.

Now with the Ph.D. under my belt, it seems that I am working harder than ever. I have written a new proposal for a Tropical Research Center and the response has been very gratifying. The Prexy has named a ten man organizing committee for same and I am the Chairman. We hope to have something positive by the end of Spring. Hobson of United Fruit and Wernimont of Rockefeller will probably be here next week and we will have an opportunity to talk to them about financing the project.

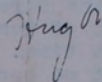
Last week I submitted a proposal to the National Institutes of Health for a three year grant for my shifting cultivation studies but I don't have much assurance of getting the grant. I think it is a little out of their line. Anyway it would be the ideal thing if it came through. The project was set up so that I would spend six months of each year, working in Central America with graduate students and spend the other six months here at the University, teaching courses and doing laboratory work.

I received a letter from Bradfield a few days ago and he thinks it is the best place to do my work if I can get a grant here. He also suggests Turrialba and ICA, both of which I think are out. Anyway, I still have

a half of a year to work things out. That ought to give me plenty of time to get some more irons in the fire and take that trip to Macchu Picchu too.

In a few days I suppose you will be heading towards ~~to~~ Salvador and Honduras. It will be interesting to hear your impressions on the trip. I suppose you didn't get a chance to go to Izabal, not hearing anything to the contrary. I am hoping that I might set up some long range land management experiments on the farm. Since I will have some control in the way the farm is run, I will be assured of continuity in my experiments. It won't be like Archie Carr, where the United Fruit Co. wants to ~~build~~^{build} a pier in the middle of one of his best turtle beaches.

Best of love,



ESCUELA AGRICOLA PANAMERICANA

APARTADO 93

TEGUIGALPA, HONDURAS
CENTRO AMERICA

Antigua, 9 March 1960

Dear Hubo:

No wonder you dont write me more often. Sixty U S Cents for a one page registered letter. How come it so? The same thing from here to you costs us about 15 cents. What does registration cost to Guatemala from Gainesville?

Yrs of March 6th most interesting - brot in by Chente at 3.30 p m today. Yesterday we mailed you from the City, certificado, my brief report on the Izabal job. This noon we dropped by Chris's place to leave him some literature and a lot of Cleopatra mandarins for seed, and Joan said "I hear they just about killed ~~you~~ off up there at Izabal" And then she added "Chris came back a bit whipped down also" I tell you hombre, tramping over those fields at midday wasnt just like lying on a bed of thornless roses. I am sorry to say I was somewhat disappointed by the soils. Pretty darn tight and waterproof. The report I sent you shows what Chris and I figured out, as to future program.

News of your plans and prospects sounds mighty darn encouraging. I think our talk with Prexy and others up there sort of set them to thinking about the project very seriously. What I would like to see is just what you mention; six months up there teaching and in the lab, six down here with some grads; and we will start them on Los Murcielagos and send home those who fall by the wayside in the first 36 hours. That will boil down the staff (and I dont mean boil, I mean fry) to the really worth while guys.

We got our visas this morning and plan to leave here Sat a m for Sta Ana; Sunday there; Monday at the agr'l school and Sta Tecla, then either Tues or Wed on to Teguci. Will probably spent ten days in Honduras; would like to go back to Danli and we must go to San Antonio de Oriente and I want a day or two at the school. If you want to catch me between now and March 25th write in care of Tela RR Co, Tegucigalpa.

Say, that is godness about Kitty. We will have a swell time between Lima and Cuzco and M Picchu, and if we could work in a couple of days at Quito so much the btter. If that is not possible, I will settle for Lima and Cuzco and M Picchu. Helen will write Kitty about the trip. July will suit us allright. I dont suppose it will be too rainy in Lima during that months, do you?

Helen wrote her mother about that silver chain and pair of earrings I left with you to be sent to her. Nancy has advised that she got her garnet ring allright, but Mrs Barsaloux hasnt yet recd her items. Did you send them at the same time you sent Nancy's ring?

What about that picture wh was taken of you and me and Prexy in our academic regalia? Did you ever get a copy? When we receive the samples of material and prices on those academic robes we are going to get you properly fitted out. You will look well at Machu Picchu in a cap and gown, especially if the cap has that gold bullion tassel which is sine qua non.

Oh, a last word. Tell Dr Pritchett I have three men schuting for a marimba. I think we will land one in a month or two and I then think the way to get it up to him is by ship to Miami by Aviateca. Ask him for the address. Bittsburgh, PA. I could ship to one of our friends there for example Johnny, who could put it thru customs and ship it by train to Gainesville. I wont buy however until I see something I think

Antigua G, 5 April 1960

Dear Mister Hubo:

Just back after three weeks away from base - one in Salvador and two in Honduras/ Attended the 15th graduation; muy animado. I got two gold medals and two diplomas, pretty good harvest. No caps or gowns, wh reminds me to say we have recd information from the best mfrs of the latter in the U S, and we can get you a swell gown for \$65 U S Cy and a doctoral mortarboard with a two-button gold tassel (and dont you wear anything else) for less than another ten bucks. We will have to send you the measurement blank; so please tell me by return post af you are prepared to do the rest of the job if I send you number and name of material to be used, and about \$75 bucks. We want you to have this outfit - Helen is quite insistent about it - and even wakes me up in the middle of the night to ask, Do you think Hugh would prefer Faille or cotton and rayon? So be sure you are going to have a good outfit.

We had a very interesting time in Honduras; almost surprised to find how many friends we still have over there. The school looks well; lots of new buildings and other physical improvements. Three new houses like those on Faculty Row and Bill says he needs seven more. The nurseries this year are fine; in contrast, the Italian jefe de horticultura during this past yr (he has now moved to Nicaragua, too late) positively ruined our citrus and mango orchards, by pruning the hell out of them. When you prune the hell out of a mango tree you better plant a new one and forget the hell-pruned old one.

Lots of folks asking for news of you - and incidentally Paco Sierra has resigned and is going back to La Luma to have charge of some lab branch in the Research Dept. Speaking of resignations, Bob Armour et ux left here 2 hrs ago after spending the weak end with us on their way to Scotland via Wisconsin and Montreal.

No rest for the wicked. They want me to come to Colombia to do a job like the one I did in Venezuela (I may have told you and dont think I need to go; I can do it at long range) and now the Nicaraguans want me to come for ten days to help organise a fruit development program. Might go. but the big thing now is that trip to Peru. WHEN? Get Kitty lined up as to time because that factor is only influenced by the obligations of you and she-all. We can go at any time if we have notice in advance. How about July? Or whenever you can properly get away from Gainesville and Kitty can properly get away from the hospital. But do get to work on this; we are going to write Kitty about it again, because we are pretty keen to see the Inca country once more and maybe Quito. If you are like my Colombian acquaintance, quien andaba un poco escasa de recursos materiales, you know I can help you out. Though it may take more than the 25 centavos he requested.

Ever yr devoted

Antigua 5 April 1960

Dear Hugh:

I am really getting this marimba business lined up. My contact, as you gringos say, is old Don Lencho, a real professional marimba-maker, who lives only two blocks from us. He fixed up the little one I bought a few weeks ago, with the idea that it was just right for Dr Pritchett's kids (which it was and is) but Lencho says it is pretty old and worn and we had better get a new one. So I guess we will keep the old one here, for you to play California Here we Come or something like that - maybe El Rancho Grande will fit better.

Lencho says he will make me a good 24 key marimba for \$30, a 36 key one for \$50. The 24-key item measures about 42 inches in length and the 36-key item 60 inches in length. The difference is this: on the larger one three people have to play to do the instrument justice, the 24-key instrument is a two-man (or boy) job. I think Dr Pritchett should pass on this matter. I am pleased by the quality of the instruments Lencho turns out; there are not better in Guatemala, he is an old-school maestro, and he is not making marimbas for tourists to take home to their children in Oshkosh or Kalamazoo.

With these small marimbas you only have the natural notes - no sharps or flats. Those on the marimbas with two keyboards and I don't think you want to spend the money to get one of these - not to mention the fact that you have to be a pretty good musician to handle one of them.

What I recommend is this: If Dr Pritchett wants a marimba on which two children can play at one time, let him order the \$30 job. If he wants one on which three can play at one time, the \$50 job. And in either case, these marimbas have just as good tone as the large professionals - they are simply smaller and simpler. Now, in addition to the original cost, we will have to add about \$5 to get the instrument crated and almost another five to get it to the airport and then I don't know just what Aviatega will charge to lay it down in Miami but it should not - I believe - be more than \$29 or \$25 and from there on you take over. Air freight is the only way to ship, in a case like this.

Personally, if you drove by in a huarso and asked me, I would recommend the 24 key outfit, because I don't suppose that more than 2 Pritchett kids will want to play at one time; but if they want a real marimba band, then take the 36-key instrument and buy a snare drum and later a bass viol for the oldest youngster.

Let me know about this matter. And I don't think you need to send the letter registered; it broke me heart to see that your last cost you some 56 US cents in spite of containing only one sheet of paper and very little information. Cheaper to send a duplicate of each letter, by air mail. One would be pretty sure to get here. I am not blaming the Guatemalan government for our postal problems; probably they are my fault.

Ever your devoted

Antigua, Domingo de Ramos 1960 (figure it out)

Hombre, you make me think of those amateur theatricals in Pasadena, some 50 yrs ago, to which Paul and I always went; and Arthur K Wyatt who ran the press for the Pasadena Star of which Paul was City Editor, always played the part of the burnt cork comedian, Razor Zim with Fits. And Razor Jim used to come up with the mournful statement "I wisht I had back dat job in de livery stable". So what of all this? I wisht you and I were back in the Hotel Seminole in Homestead.

Little Jimmy Moore, son of Dinty Moore used to say in Tela when he was ab ut 4 yrs old, "I need a present" and what I want to say is I need some news from you. I think I told you in my last, dont spend any more 56 cents on a registered letter; I think it is worth while from this end but not from yours. Just send a few more ten cent airmails.

The American Pomological Society was almost extinct for many yrs. Seems now it has come back to life. I have just re-joined and have a good letter from the Secy-Treasurer, Dr Kessler of East Lansing, Mich. They have, as in those dear dead days beyond recall, a number of standing committees. I used to stand as Chairman of the one on tropical fruits. The main function is information re fruit varieties. I am going to suggest they create the tropical fruit committee anew and make John chairman. I believe I can get away with it.

I brought back some more buckram from Zamorano (sh!\$hh\$!) and am getting a lot of books bound. It only costs 75 cents each, you know, when we furnish the buckram. The more I look over this little library the more I realise that there are a lot of items which can never be obtained again.

I am telling the people in Nicaragua that I can probably come down for the ten desired days, in June; believing that our Peruvian safari will be in July. Pls let me know about the latter. I think Helen has written Kitty re a suitable date. Let's get things lined up.

I suppose Sal has written you - or maybe I did - that she expected to leave the Clinic on 1 April and move to a trailer which Ed has hired at Tahoe, for \$50 a month, taking little Mary with her and leaving the other three with the sernior Halleys in Stockton until such time as Ed finishes the house and gets a job. I suspect it will take Ed a long time to finish the house. And what sort of a job and future can he have at Tahoe? I dont know. Sally says they will need continued financial assistance from me until such time as the house is finished and Ed gets a job. Boy, that situation is really discouraging.

Advice to youngmen interested in girls: Do right, dont write. This is not your situation, as of yet (as they say in Texas) so let me hear from you. Did you get the report I made for Chris about our trip to the Polochic? I havent seen Chris since we came back from Honduras. Chico de Sola has got me enthused about pilli nuts. I believe we can beat those Hawaiians with their madadamias. I am going to work on this. I think areas like Chicacao and San Antonio Such and Retalhuleu will be fine for them, and probably the Polochic too. Chico is not worried about the market. He says we can consume a lot right here in tropical America, to start with. Bob Armour says the tree is hard to graft, wh I believe to be true, but it can be done.

Ever yr devoted

April 19, 1960

Dear Mom and Dad,

How [^]admire you for being able to keep up with your correspondence while doing much work elsewhere. Every time [^]become involved in a few projects my correspondence suffers accordingly. I hope to become a better letter-writer but so far I have failed miserably. However, I have been quite thankful for the letters you have written and to know that everything is going well in Antigua.

Congratulations on the awards you received in Zamorano. I have heard many reports of the events and everyone says that you gave a magnificent speech. I bet your old friends were most happy to see you and I'm glad that you may go back from time to time in the future.

Incidentally, Paddock offered me Paco Terras job at Zamorano and I am enclosing Bill's letter to that effect. Of course, I refused the offer but I suggested the name of Fernando Fernandez here, who has done a very fine job, and I think that he may get the ~~100%~~ position.

The Nixon^{smiles} came here for a few days and we had a very good visit together. I took them to Cedar Key one night and they enjoyed the place very much--called it the highlight of their trip. Nixon and I talked over the possibilities of helping you more in your writing. You said that Pelén will be able to give you some help. Another suggestion might be to put it on a dictaphone. We have a lot of secretaries here who don't have much to do and I'm sure if you could send me some tapes or disks, I could easily have them transposed and sent back to you for proof-reading. This might help a lot in the preparation of various books and will at least assure us that much of your invaluable information will be down on paper. The important thing is to use an instrument that has a local agency ^{for servicing}. There are several very good machines on the market. This might be a good solution and wouldn't take too much more time. Furthermore, much of the typing effort will be done by some of these cute southern girls here.

Incidentally, I have a note here from our wonderful trip together that you wanted to send Mrs. Fairchild the biography of L.H. Bailey. No doubt, you have probably already put the book in the mail.

We had Dick Dijkman up here to give a seminar to the Botany Dept. He didn't do the best job, because very much bogged down in details, but he did help spread the gospel for more work in the tropics. I hope the orchids he gave you turned out better than you suspected.

I have finally been able to obtain an Italian cypress. It is about two years old, two feet high, and slightly pot-bound. Do you think I ought to ship it down, and if so, how? I could bring it down with me this summer but the tree should be transplanted soon. Otherwise we will have a good example of the Japanese art of Bonsai trees. It has a nice columnar shape, or as you prefer to call it, funereal. It was given me by one of the horticulturists here in the University.

I am glad that you have made a good start on the Marimba situation and that so far, we have a good one for ourselves. Now [^]will have to transfer my talents from the harmonica to the marimba. The Pritchetts still want their marimba and maybe I can put it on my customs declaration when I come back this summer. They will take the

large marimba if it can be played by just one person as well as two. Otherwise they would prefer the small marimba which can be handled easily by one person.

I never did get a copy of our photo which was taken with the Prexy on that very memorable occasion. So far, I haven't asked anyone because I thought they might send you a copy direct. If you write the President you might mention the fact. Otherwise, I can ask him about them. We certainly don't want to lose those photos.

This summer I may bring down some more copies of my dissertation for binding. I am still hoping I may get the book published in which case we won't need many more of the copies. Furthermore the copies will turn brown and fade some which is not too desirable. Keep my bound copy for now and I will pick it up this summer.

I think July might be the best month for Peru. I have already written my good friend down there and told him we might see him this summer. That will be a wonderful trip. I plan to see a lot of good country and get some of the best advice on good eating places. Kitty hasn't written since the first letter, but judging from her enthusiasm she must still be ready to go. That trip will be a lot of fun-- a good vacation all the way around.

I think it is wonderful that you are going to buy me a doctoral gown for my hood. However, I suspect that the true motive might be that you are tired of wearing robes rented by the President's office every time you come here for official functions and want to be able to depend on having the best waiting for you here. Nevertheless, I think it is a fine idea and will be happy to wear it when you are not here and won't be needing it to make a good impression on all the coeds sitting in the front rows when you are up on the platform. Since we take about the same size robe, we can use my measurements, and the robe will be easily transferable back and forth.

Plans for the Tropical Resources Center are coming along nicely. The presidential committee under my direction will have the final draft of the proposal finished this week, at which time I will send you a copy. My name was suggested for directing the Center in future years, but I declined on the basis that I want to do more research and teaching in the next few years and less administration. My chances at administration may come in five or ten years when I have already established a reputation for honest research in the tropics, and not just a reputation for being able to direct other people in what I should be doing.

Thank you very much for the long report on Murcielago. I am afraid that Chris really gave you a workout in that climate. However by now, I suppose that the Hempsteads are suitably impressed that you are still a man of iron. I know that you left that impression with them forty years ago but I just wanted them to see that it still holds true. I am sorry that the soils turned out to be so heavy but I still think the place has possibilities, especially the fine piece of river levee, which is much too limited in extent. I hope this next summer I can go there for several weeks to make an intensive survey of the place and get some of the area mapped out. I have two motives: (1) I want to put future planning on a sound basis, and (2) I hope to start some research work in the area. I have drafted the Handbook for Botanical Documentation long-range experiments, and what Water Unleashed, then Surge, PA that one owns. I hope that we may get some grants and graduate students to start some intensive ecological studies there. Since the area is in a rain forest climate,

Digitalized by E. H. Thurnher for Botanical Documentation
Carnegie Museum of Natural History, Pittsburgh, PA

we are working in an environment, which needs more basic research. Results from Murcielago will have wide application. Too, there is the possibility that once long-range research is established at Murcielago that the government will not be too eager to nationalize the land should more intensive land reforms come in the future. Also, I will be able to spend more time in Guatemala. Let me know what you think about this line of reasoning which might be slightly unorthodox? One of the main studies I want to start is on plant successions from cleared fields to rain forest. This would include concurrent studies on the microclimate, soils and biotic populations. This would take a long time but at present I can think of no better place ^{where} it can be done. At the same time, I might be studying the climax rain forest at Lancetilla to determine rain forest parameters under climax vegetation.

I have been making some more headway on my syllabus on tropical soil management. I found a woman on campus that can make good line drawings from some of my colored slides. I was able to get a \$100 grant from the University to pay her and now have her at work. If the syllabus is well illustrated, it will probably have much more value to people that don't learn much from heavy text but do get a lot from pictures (subscribers to Life and National Geographic). I have also been spending quite a lot of time in the Lab and in trying to get grants for next year's work.

I hope to keep you more closely posted on developments here.

With much love,

Hugh

Antigua 22 April 1960

Hubo:

That paper of yours from the Pro~~g~~ 9th Pacific Sc Congress 1957 is really good. Makes more sense (or maybe it is easier reading) to a layman like myself that your doctoral dissertation. I am making a few comments below, not from the technical standpoint:

You sign the paper "Hugh Popenoe". Stick to that. I think you have no intention of changing. I started out signing F W Popenoe and Paul started out signing Paul B Popenoe. David Fairchild started out signing D G Fairchild. Uncle Barbour Lathrop straightened out DF and he straightened out Paul and myself. Hugh Popenoe is dignified and simple and you dont need anything more. I especially dislike E. Earle Jones and J. MacComber Perkins and such-kike.

I assume "Permain" is a typographical error. Is it not "Permian"?

You say "Volcanos, (you spell it volcanoes, with which I do not agree any more than I agree with avocados and mangoes though I am nit sure we can do much about that, any more than we can about the pronunciation of cafeteria) further to the south - and so on. When speaking of distances you say farther - more far; I believe I am right about this; you can say further, I believe I have always questioned the paternity of Fulano, and so on.

You say "vegetative growth is extremely rapid through out the valley". Is it not Throughout. I believe Mr Wrbster hyphenates it, thus: through-out.

You say 10-20 bushel/acre. I assume this another typographical error for I can not see why it should not be 10/20 bushels/acre, but I believe I would go futher and say 10 to 20 bushels per acre. Doesnt cost you any more money. And where you say depths of 0-2", 2-8" and 8-16" I would certainly say 0 to 2 inches, 2 to 8 inches and so on, for the benefit of foreigners who may not always understand our usages. And ~~initially~~, Paul taught me years ago to write out numerals from one to nine, use numbers from 10 up; in the case just mentioned you would not want to do this, but for example you would say "in four out of five ~~instanves~~ we found that water is composed of carbon and oxygen" but in 32 out of 41 cases it is composed of gaseous elements.

You say "bulk densisties of soils under second growth indicate a gradual trend towards restoration" etc. Should it not be toward?

I dont like "Future Outlook" Outlook itself involkes the future doesnt it? I remember I got balled out yrs ago for saying "presntt status". The word status means "present position of affairs, or of a person. And I dont understand "extrapolating data from one tropical ~~are to another~~ what is it?"

Antigua, 1 May 1960

Dear Hugh:

Mighty fine letter, that of yours dated 19 April. Lots of pertinent data. Now, this being Sunday and half an hour until I work on a magnificent 1 lb sirloin which I bought in town yesterday, I will write you. I got two of those magnificent 1 lb sirloins, just hoping you might drop in. But to be more exact, they are not 1 lb sirloins; two of them weighed $3\frac{1}{2}$ lbs. Just about your size. I have been sorry we did not get a bigger one that night we ate at John's house. I think for guys like you and John we have to figure on 2 lbs per capita. You lose a little grass in the cooking, you know.

I was interested in the copy of Bill Paddock's letter wh you sent. Especially where he says Zamorano must become the principle (I would spell that word differently, in this connection) agricultural university in Latin America. I guess they will go ahead and do it. Though I don't think Doris is altogether in favor but Bill is cut out for a job as President of some University of other and he might as well start right down here. I believe you did well to recommend Fernando Fernandez; I am sure he is adequate for the Zamorano job as things stack up at present. Tell me a little more about him. I always knew he was bright; no dumb bell at all. What has been his special interest at Gainesville?

Yes, I ordered from Stechert the book "Liberty Hyde Bailey" for Mrs Fairchild and it has probably been sent ere now. But I have a vague recollection that I once saw that book at the Kampong. It doesn't matter. There should by all means be a copy at the FTG - perhaps there is one. I am preparing a number of books for the library of the FTG which you will take up there when you come down this summer.

Better hang onto that Italian cypress until you come down. I am afraid we would have a tough time with it in the aduana, and besides, if it is one of those funeral ones it isn't the kind for our patio. Is it one of the very tall slender ones, or the kind we saw up around Orlando?

Guy just came in an hour ago selling little toy marimbas. I asked him to play me a couple tunes on the one I have bought - it is small and only for a boy, but he knocked out Alli en el Rancho Grande and Madrid and a couple of others and told me it is good. So we will keep it until you come; I think for the Prichetts it is the right thing, for one or two boys (they could play together) up to about 12 or 14 yrs. But we can get a larger one made in a couple of weeks, one which stands higher off the floor, and I would suggest you take any one they want back with you this summer, as baggage; it will be the simplest way.

I don't like to write Prexy for that photo of us in our academic regalia. If you see him and have an opportunity, mention the matter. Otherwise we will just let it go; or maybe you could find out (and this is by far the best idea) who was the professional who took the fotos and go cross his palm with two or three bucks and get as many copies as you want. That is the idea. If nobody else knows who he was, ask that man in charge of the gym, dean of athletics or something, who was there that night at the Octane.

Before long I will send you the formularios for that doctoral gown and cap business, plus \$75 check to pay. We have picked out a material we like but you can change it if you wish. What I don't like is material so thin that it gets all messed up and looks like Hell. Have a good sound material. As for wearing it when I am not there, I am afraid that won't constitute much of a problem. I doubt that I shall ever again wear academic regalia. But if I ever do, I'll borrow yours and lend you four bucks to hire a cotton outfit.

That Tropical Resources Center sounds swell, and I want you to know how proud I feel that you are not going to stay, I am going to be the Director. You are dead right. Let some older man have the authority at the start and you just do most of the work. How about Ray Crist? You may have better ideas but of the ones I know at Gainesville he would be my choice unless Prexy Reitz would accept it, and because of his position and prestige this might not be a bad idea. But all in all, I would be for Crist. Archie Carr would be my second choice but Crist first because Archie's field has been almost wholly biological. But you will figure all this out soundly I am sure.

When you come down this summer we will go up to Murgielago together. As an agricultural investment I would not put any of my own money into the land. For experimental purposes it has real possibilities, but hombre, that clay is heavy. The more I think of it the more I feel the possibilities are first, just what Chris and I figured, coconuts wide apart with pasture beneath; then live stock in the pastures; then maybe sugar cane; then I would think of African oil palms if the continue to develop as a commercial crop in this neck of the woods; then I would take a fling at Pili nuts and see what happens.

I am glad you had a good visit with Nixon Smiley et ux. That lad is going places and doing a very useful work. When you come down here we will talk about the possibility of tape or wire recorders and a little cutie to do the copying, but she better do the latter up there much as I would prefer to have it done down here. You will understand the underlying reasons.

And now as to plans for the summer. You come down just as soon as you can get away. You have plenty of work to do here in Guatemala. I am hoping to have Pelen here during June and July, to take dictation for my Spanish manual of tropical fruit cultivation. I cannot count on this altogether - my interests at Zamorano don't weigh too heavily these days. But if Pelen can be here in June and July (he rates two months vacation, accumulated time) then what we would do would be to plan Peru for August, and advise Kitty accordingly. It will be about a two weeks trip, don't you think? We could make it three, if both you and Kitty have time. I would like to make the trip, and I would like to have a week in Ecuador if possible.

By the way, you say you have someone on the campus who can make good line drawings. I was counting on Dorothy Allen for mine but she is over in Asia and I doubt that she will be able to do much. Can you send me a sample of the work of your draftswoman so I can see if they are better than the ones I used in my Manual of Trop and Subtrop Frts. They were done by Rose Gamble who worked for the USDA in Washn and they really are not good - not a patch on Dorothy Allens. Do send me a sample of what you can get there. I would pay decently for good drawings.

Ever yr devoted

May 3, 1960

Dear Mom and Dad,

I hope you received the three-page letter that I wrote last week. There won't be too many of those in the mail because I can't turn them out at the same speed that Dad uses when He settles down to the typewriter.

I am enclosing a copy of the latest proposal for the Tropical Resources Center. This has been sent to President Reitz and we are awaiting his word on the final outcome. The organizing committee is prepared to begin functioning as an interim Center until some formal action has been taken. I think we can start requesting grants and start some graduate students on some sound basic research. The Rockefeller Foundation has already indicated that they will be interested in supporting some of the educational program. This will be a big help since obtaining grant money for basic research will probably be somewhat easier.

Uncle Knowles should be retiring soon and will have to face some of the readjustments in his way of life that you have already faced. I believe the important thing is to reorient the nature of ones work but not to stop working. I feel that you are contributing much to tropical agriculture now even though you do not feel the burden of administrative responsibilities. I sent a letter to Uncle Knowles on his retirement which will be bound in a book and presented to him. Much the same as you received but I doubt that there will be a letter from the President of the United States in his.

I hear that Guatemala has been picking on Cuba -- now that is a shame. A big country like Guatemala picking on a poor defenceless country like Cuba.

My plans remain the same. I hope to come down in July for a wonderful trip to Peru and another look at Murciélago. Another letter from Kitty indicates that she is all packed and almost there. That trip will be lots of fun. We will have to find a good substitute for the churros and cañes of Spain.

Research work here is continuing and showing lots of progress. I am having drawings made from some of my slides which will be used to illustrate the syllabus on tropical land management. They are coming along nicely.

No news from Sal, but I do hope she is making out all right. We seem to be too far away to offer much help or advice. Uncle Paul will probably write if anything really bad happens.

With much love to you both,

Antigua G, 6 May 1960

Dear Hugh:

Yrs of rd recd and contents noted, also contents of that very excellent memo on the Tropical Resources Center. I will make a few comments on the latter. It is very comprehensive, could not be more so, except that you dont mention encouraging the raising of jutes for your table and mine, nor propagation of Sequoia gigantea for timber 3000 yrs from now. Very good timber, so I hear. (And speaking of timber, I am getting to think highly and more highly of this Guatemalan cypress, Cupressus benthami). And I am tired of hearing about challenges and key men (I dont think you mention the latter, but there seem to be an awful lot of them these days. I wish I were one). I am glad to see you are dodging that horrid word underdeveloped; nothing wrong with undeveloped or relatively undeveloped or less developed.

You have laid out a program good for a century at least. Your problem will be to start with the best projects. I used to tell Mr Rowe, our job is to pick out some projects on which we can get results in five years; go after them hard; and at the same time start work on some projects which wont show results for 25 years but dont talk about them too much in the public press. In your case, I think you can make a killing in 5 yrs on your shifting cultivations project. I think beef cattle have a big future down here; they are getting scarce all over the world and you and I like those 1- $\frac{1}{2}$ lb beefsteaks pretty well and some other folks do also. Problem; breeds of beef cattle for various climates, range management including pasture grasses. Another one: increased production of edible oils. We dont have enough in this part of the world. Another one, plant nutrition; we simply must have more fertilizers and we cant ~~give~~ them out of our cows. And so on. Sorry I dont understand the scientific jabbawocky of today; what in hell are ecosystems?

Dont let any of the above discourage you; I know it wont for it isnt intended to do so. The Proposal is tops, and I would sit tight and just, Okay, let us start with a few major projects or immediate importance - I mean those which will give prompt results - and then grow. I remember years ago Dr Orton who organized the Foundation for Tropical Research I believe it was called, and got a sugar experiment station started at Central Baraguá in Cuba, told me he was trying to organize a station in Colombia, and the first thing he asked for was \$125,000 for buildings. When I started Lancetilla I asked for \$10,000 and they said, Dont you need more? And I answered not how, when we begin to show you some results we will hit you hard.

Guatemala has just severed diplomatic relations with Cuba. Our president is alright, and he wont take much back talk/ Mighty glad to t at you will be here in July. We are telling Kitty we will make the Peruvian trip any time from the first of August forward. I want to go to Murcielago with you. We wont need curros in Peru; we will eat papas a la Huancaína. Hot as the hinges of hell and much better eating. Dont forget to send me an example of the line drawings you can get done there; I would be able to use quite a few if they meet our needs. We had our first letter from Sal, address is Box 705, Al Tahoe, California. She is there with Ed in a trailer; hasnt taken the baby up yet. Ed is going to build another house when he finishes the present one, "to sell, I guess" says Sal. Will we ever get Ed settled down to working on a job like other folks, and supporting his family?

Ever yr devoted

PROPOSAL FOR A TROPICAL RESOURCES CENTER

This is a proposal concerning the establishment of a Tropical Resources Center at the University of Florida. The Center is designed to take advantage of the unique location, scientific facilities, personnel and background of the University to carry out programs of research and education centered upon tropical regions.

The project discussed herein is broad and general in scope to indicate the type of programs that may be included. Once the Center is established, however, concentration will be on intensive research and experimental activity in selected areas of knowledge for which the faculty and resources of the University of Florida are best fitted.

The tropics are a great natural frontier for intensive human settlement and, in terms of turnover of biological energy, the world's most productive environment. In spite of the interest tropical regions have held for men, they remain very poorly known, and a beginning has barely been made in the complex and fundamental field of tropical ecology. The University of Florida, with its excellent facilities for research and education, with a staff broadly grounded in tropical experience and with its strategic location at the door to the western tropics, is exceptionally well qualified for significant research and service in the low latitudes of the world.

Over and above the unending obligations of a great university to increase the store of human knowledge and to apply results of research toward human betterment, two trends in the modern world make this a propitious time for creating a Tropical Resources Center at the University of Florida: (1) the increasing drain on world productivity that the growth of human populations is imposing and (2) the critical need of the United States to promote relations that will spread real good will in the developing tropical countries.

While a by-product of the main functions of the Center, this potential for good will is an important dividend that should not be overlooked. The wise development and management of tropical resources, based on thorough studies, add to the importance of developing nations and increase their stability in the community of the free world. Furthermore, sound field work can be expected to promote international respect and amity. The field scientist, if professionally sound and sincerely interested in the culture and people of the country in which he works, has a unique opportunity to become an agent of good will worth more than many of those now participating in the conventional roles of formal internationalism.

Therefore, for several valid reasons -- the extension of its own effectiveness as a center of learning, the promotion of the emergence of developing nations, and the fostering of a new regard for the United States among peoples of the tropics -- the University of Florida can assume a role in tropical research with confidence that the years not far ahead will show the wisdom of the creation of a Tropical Resources Center.

THE UNIVERSITY OF FLORIDA AS A SITE FOR A CENTER

That the University of Florida is already well established in its contacts with tropical areas, especially in Latin America and the Caribbean, is evidenced by:

1. The School of Inter-American Studies, with a broad Area Study Program.
2. Aid contracts with Costa Rica, Venezuela and Burma.
3. The annual conferences on the Caribbean, which are attended by outstanding leaders from all over the Americas.
4. An exceptionally good tropical library collection.
5. Orientation of the Biology Department and the State Museum to problems of the Caribbean.

7. Participation in international short courses, during which groups of selected Latin American students and professors study aspects of the culture of the United States on the University of Florida Campus.

These activities constitute a solid foundation for a Tropical Resources Center. Further, the staff of the University includes a surprisingly large number of men with many years of training in the tropics of the Americas and the Far East. These men are equipped both professionally and culturally to carry out and direct basic research, to teach students who will in ever increasing numbers come to Florida from tropical countries, and to challenge and train North Americans considering scientific and other professional careers in tropical areas.

RESEARCH PROGRAM

The Center will develop and promote a coordinated and continuing, ecologically oriented program of tropical research, into which much of the work of its staff, visiting investigators, and graduate students can be channeled. Competent workers who can contribute toward a solution of any of the many tropical problems will be solicited and welcomed. Research carried on by the Center will be integrated with the instructional programs.

Provision will be made for laboratory and field research by graduate students under skilled guidance. Student projects of some magnitude will often result in graduate theses for advanced degrees.

The research program of the Center will include the following areas of study:

/

A. Analysis of the Physical Environment.

Knowledge of the climate, topography, geology, hydrography, and soils in tropical areas is fundamental to the entire ecological program. With respect to the first three a good many published reports already exist, although a great deal remains to be done. Studies on microclimates, soils, and other aspects of the physical environment of selected areas will be undertaken as soon as possible.

B. Biological Inventory.

A knowledge of the identities of the plants and animals that live within tropical regions is as essential to an ecological program as a knowledge of the physical environments. The inhabitants are so varied, the number of kinds so great, and the available specialists relatively so few that the task of inventory constitutes in itself a continuing research program with its own priorities and objectives in terms of the needs of the overall Center Program. Disease and pest surveys can be expected to yield valuable data for improving agriculture and living conditions in many areas, now uninhabited.

C. Basic Research on Tropical Plants.

Detailed basic research on the many problems relating to biochemistry, nutrition, growth and metabolism of tropical plants must be carried out to better understand the fundamental problems of economic crop production. The University of Florida has adequate facilities and highly trained personnel who can carry out such studies. The Tropical Resources Center could provide a focal point for bringing additional well-qualified investigators and research funds together to work on these problems. At the present time there are plans being made for a Life Science Center at the University of Florida. Facilities in this Center would provide research space for work of this nature.

The University has been invited to use the facilities of the Fairchild Tropical Garden in Miami for establishing and carrying out basic research on tropical plants. A laboratory will be built for use by qualified members of the staff. Facilities of the Subtropical Experiment Station at Homestead and the U.S.D.A. Plant Introduction Station in Miami can also be used by investigators from the University of Florida.

D. Ecological Studies.

The possibilities for valuable ecological investigations, utilizing an interdisciplinary approach, are very numerous. Studies will be undertaken as soon as possible on those communities in greatest

danger of destruction or drastic alteration -- in particular the rain and cloud forests. The following investigations are examples of problems which will constitute continuing research interest by the Center:

- (a) Studies on the plant ecology of local communities including successional studies, rates and cycles of growth of tropical trees, structure of rain forest vegetation, life-form and leaf-size relations in plants, differential mineral accumulation by plants.
- (b) Studies on the animal ecology of local communities and of selected groups, with particular reference to population dynamics, food relations, physiological and other adaptations to environment, effects of human activities on local biotic communities, marsh and lake ecology with special reference to waterfowl life histories and ecology, tropical aquatic ecology with special reference to food chains and fish production, and comparisons with similar studies in mid-latitudes.
- (c) Processes and rates of soil formation under various tropical conditions, relationship of changes in soil and microclimate to vegetation successions, soil microbiological processes and seasonal fluctuations, and effects of fire on ecosystems.
- (d) Studies in applied ecology as water and forest economics and competition among uses, nutritional and disease problems of livestock in the humid tropics, effects of controlled burning in forestry, range management, land clearing and land use problems.

Two sites have already been offered the Center for use in these investigations: one on Lake Izabal, Guatemala, and one at Lancetilla, Honduras. In addition, field research facilities are available for University personnel at the Instituto Interamericano de Ciencias Agrícolas in Costa Rica, at the Dunlap Tropical Research Laboratory and Escuela Agrícola Panamericana in Honduras, at the Centro Nacional de Investigaciones de Cafe in Columbia, and at the Sociedad de Ciencias Naturales La Salle in Venezuela. These facilities are good operating bases for investigators while working within the tropics.

E. Cultural Resources Studies

From the standpoint of the social scientist, the tropics are of extraordinary interest, and have received a considerable amount of attention. There is not only an unusually great diversity of existing societies, some very primitive, but this is an area that has been occupied by some of the greatest historical cultures -- the Mayas and Incas. The cultural resources studies will be oriented around the relation of culture to environment. A unique approach to the study of man in the tropics would be through the collaboration of social scientists and ecologists mutually working on the same problem.

Although it would be premature to outline a detailed prospectus of social science research there are several areas that can yield results of great importance.

- (a) Anthropology - Relationships between primitive cultures and environment, distribution of cultural patterns, archeological studies to derive a time perspective for dynamics of human populations and local ecology, nutrition and health of primitive cultures.
- (b) Economics - Income distribution, industrialization, financial and fiscal policies, guidance in the selection of areas for basic research in other fields.
- (c) Geography - Systems of land tenure and their influence on land use practices, land-man ratio studies, introduction of modern technology, influence of improved transportation in the development of isolated areas, the small holder in tropical export and subsistence crop production.
- (d) Sociology - Social change, demography, community structure and function, etc.

F. Engineering Studies.

Solution of the pressing problems of production of food and raw materials in the tropics involve consideration of engineering and environmental health aspects. Transportation, power, public and industrial water supply, drainage, irrigation, sanitation, housing, and ports are all involved. However informative may be the basic studies on physical environment, biological inventory, and ecology, they remain only potentially useful until these other factors are resolved. Effective food production is a chimera unless fertilizers, insecticides, and machinery can be transported to the place of use, and food products transported to processing establishments or markets. Workers must be housed, environmental diseases such as malaria must be controlled, water supply for domestic use and irrigation must be provided, and appropriate sanitation measures instituted.

The amenities which the people of the developing tropical countries desire are perhaps more dependent upon power than anything else. Power from solar heat warrants greater investigation. Conversion of saline water to fresh water in arid regions by solar stills may be more economical than fresh water from other sources.

The engineering and environmental health problems of the tropics outside of the major cities require special consideration. Simple and relatively cheap but effective measures are needed.

Engineers and sanitation experts on the faculty of the University of Florida are familiar with problems of tropical countries. Students from such countries would be assured of learning not only the conventional practices involved in the engineering aspects of resources development, but those special procedures which are applicable to tropical conditions.

THE RESEARCH STAFF

Some of the key men needed to plan and carry out the research program are on the staff of the University of Florida. Qualified scientists with experience in the tropics are not numerous, however, and the Center must be able to attract those needed regardless of institutional affiliations. Visiting investigators can contribute to special phases of the program, but the men responsible for its accomplishment must have a strong interest and a fairly long-term commitment to it. It will be these key men who attract graduate students and visiting investigators, do much of the basic research, recruit specialists to handle special problems, obtain grants-in-aid, and insure proper timing and continuity of effort in their particular fields.

Such key men must be given liberal support. They might be given appointments to the staff of the University of Florida for specified terms, or might be paid from grant funds administered by the Center, or might be supported wholly or in part by their own institution or by some organization having interest in the Center Program. These men must be assured of adequate working facilities, a generous travel allowance, and the usual benefits incidental to academic employment. In order to obtain staff members with the necessary qualifications salaries may have to be set higher than for comparable positions elsewhere.

TRAINING PROGRAM

One of the basic functions of the proposed Center is the Education of scholars beyond what is obtainable in undergraduate programs. Stronger curricula in subjects related to tropical problems at the undergraduate level provide only a stepping-stone. Good basic training in the sciences is another step but even that does not insure the ability to apply knowledge to the solution of tropical problems. The Center bridges the gap by offering training in methods of investigation, both through graduate research projects and graduate level courses in areas of tropical interest. At the same time that adequately trained scientists are being prepared, more and better teachers for tropical institutions of higher learning will be produced. The research performed both by students and the staff of the Center on the basic problems of tropical areas will compensate fully the costs of the training program.

The demand for American personnel in overseas jobs is becoming greater. Many Americans, currently employed in tropical regions have neither the technical nor cultural training oriented to the needs of the area in which they are contributing their technology and way-of-life. The "Ugly American" by W.J. Lederer and E. Burdick illustrates some of the worst effects of poorly-trained personnel operating in remote areas. The increase in effectiveness of students from this Center will contribute much more to international understanding and good will than large gifts of equipment and supplies.

Courses of the highest quality can be assured by not limiting the selection of a staff to the University of Florida. Staff appointments will involve a commitment of a sufficient length of time to enable a staff

member to initiate and develop a long-term research program in which advanced students participate. The teaching and research sponsored by the Center will be through the present existing departments with added support from various sources available to the Center. Funds are obtainable from outside organizations to support graduate research in tropical areas. Foreign graduate students are frequently supported by organizations with interests in the countries from which the students originate.

Instruction in Florida parallels instruction in tropical areas in a number of fields. For example, animal breeds and crops are frequently the same, making Florida a logical place for agricultural students seeking further training. Graduate students of tropical origin are found in ever-increasing numbers in almost all departments of the College of Agriculture. In fact, approximately one-fourth of the total enrollment in this college is from outside the United States. Foreign students are also found in almost all other colleges of the University. The orientation of the existing courses, fits the needs of foreign students and is responsible for their large attendance. The graduate program could be strengthened considerably by adding new courses on tropical subjects to the graduate curricula, securing outstanding speakers on tropical problems, and offering non-credit courses and field trips as summer workshops to students with tropical interests as well as to institutional and government personnel selected for careers in tropical areas.

ORGANIZATION AND ADMINISTRATION

Administration of the Center would be through the agency of a Director, and an Advisory Board, having responsibilities and duties as follows:

Director: A member of the faculty of the University of Florida, responsible to the Dean of Academic Affairs of that institution. (The exact relation of the Center to the Colleges of the University, and hence the mode of appointment of the Director, remain to be determined, but in any event the Advisory Board of the Center and the chairman of the interested departments of the University should have a voice in his selection). The Director should be appointed for three to five years, the longer period preferable after the Center is in operation. The appointment should automatically be reviewed at the end of this period, and at any other time at the request of the Director or the Advisory Board.

The duties of the Director are to administer and coordinate the activities of the Center, prepare a budget, arrange for the employment of professional and service personnel, administer the **instructional** programs offered at the Center, facilitate the work of visiting investigators, and in general do all that is needed for the successful management and operation of the Center. The Director will remove much of the administrative load from research leaders in the areas of project preparation and fund requests. His salary, paid by the University, should be commensurate with his academic rank and administrative responsibilities. The Director should be provided with funds for travel and subsistence while away on University business for the Center.

Advisory Board -To consist of perhaps ten academic staff members, selected to represent the principal fields of study emphasized at the Center. The members of this Advisory Board should serve without pay, but should receive expenses and a per diem allowance during attendance at meeting of the Board or on official visits from the Center.

The duties of the Advisory Board are to make recommendations to the Dean of Academic Affairs and Dean of Graduate School (through channels to be established) concerning selection of the Director; to recommend policies and procedures for the effective use of the Center; and to serve as a board of review in matters of concern to the sponsoring institutions.

Special Graduate Faculty -To consist of faculty members, nominated by the Director of the Center and appointed by the Dean of Graduate School. The duties of the Graduate Faculty are to teach courses related to tropical areas; direct student work leading to graduate theses or dissertations; approve candidates for graduate degrees; and meet to discuss new courses, to award grants and assistantships, and hold special seminars.

Initially a Center could start research activities on a modest scale using resources currently available and eventually expand as it proves its value and as the needs arise. One man with secretarial help could perform the following functions:

1. Research with tropical implications by University staff members could be coordinated and strengthened.
2. Guidance, encouragement and counseling could be provided to scientists interested in tropical problems.
3. Grants and contracts could be solicited and accepted for tropical research. The Center could also help individuals in their requests for funds.
4. Team or group projects could be solicited and accepted for tropical research. Since a Center would not be limited to the usual disciplinary boundaries, it could handle team projects involving several colleges.

5. Personnel unavailable in the University for studying a specific tropical problem could be hired by the Center from outside sources.
6. The University's contracts with Costa Rica, Venezuela, and Burma could be evaluated for possible benefits to other areas.

The position of organizations on the University campus which have interest in tropical areas will be strengthened by a Center. The Director of the School of Inter-American Studies has indicated that a Center will cause no conflict of interests and would be well received. Similarly, if a School of Tropical Medicine is established, a Tropical Resources Center would greatly aid rather than hinder its growth.

The purpose of this report has been to show the need for a Tropical Resources Center and to indicate how such a Center could be organized.

This report has been submitted by the organizing committee for a Tropical Resources Center.

Antigua G, 8 May 1960

Dr H. Llywelyn Popenoe
Gainesville, Fla

Dear Doctor:

Item: Pascual seems to have gone blind in one eye. La Vejez

Item: First good shower of the season came last night. Previous to that by a couple of hours, a strong wind which blew into the patio of Helen's house two complete laminas offn the school for Normal Girls next door.

Item. I am going into town in Wednesday and am going to get some figures on airplane cost Miami to Lima via TAN with stop over at Guail and trip up to Quito on return, por si acaso. Did you tell me the Hotel Maury in Lima is no more? I am afraid you did. I wont be really happy anywhere else, but I guess I can stand the Bolivar if I have to. Maybe I can find another old dump like the Maury, maybe not. I believe you said you stopped at the Bolivar. Maybe the Claridge - I hope not. I have written Kitty suggesting you and she climb Tungurahua if we stop in Ecuador. That is really an experience and not too tough. Altitude 16,300 ft, probably the highest she would ever go. You leave Baños and get up to 13,000, about the timber line. Next day you go up over the volcanic ash until you hit the snowfields, then you walk over the snow crust ~~or~~ which lets you down every little while, well above the knees. You get to the crater, stick your heads over the side, look down into that cauldron of fumes and smoke and roaring, then hustle back down to Baños.

Item. Herewith the dope on that academic regalia, and maybe if you take prompt action you can get yours in time for June commencement. Maybe not. It isnt too important. But you will have occasion to use the outfit many times in the years to come, and I want you to have a good outfit, because I want you to look dignified and even distinguished up to the point where you would have to grow whiskers which fortunately you cannot do. Helen and I have gone over the gown samples: we rather like 122 because we think the material should have body so it wont wrinl too much like those \$4 rented ones do; so it will hang well. And I want you to note the letter from Cottrell and Leonard (I suspect they are tops in this business) where they say there is a new style which can be worn open or closed. I would be inclined to favor this. I would get the new closed type. I assume the color facing should be black but you can check up. I feel pretty sure black. As for cap and tassel, if you get anything less than that \$4 two button gold tassel I will never borrow nor wear your cap. Go ahead and get this job under way/ Send your measurements and choose the material you yourself want; we are just giving you a suggestion: not too thick material so it will hang well and not look too wrinkled. The bars on your sleeves I think are standard, arent they? Three velvet bars for the doctorate? Check up on this. That is what I have always worn, throughout the years. (Twice)

Just when do you expect to arrive in Guatemala? I told Kitty we would plan to go to Peru around the first of August, but could go earlier or later; believe I wrote you this already. If Kitty has time, I hope she can spend a week with us here going or coming.

May 13, 1960

Dear Mom and Dad,

I am enclosing a couple of fruit illustrations that were made by our enterprising artist. The pictures were copied from photographs on pages 68 and 350 of your eighty cent manual (F.O.B. Rio de Janeiro). The illustrations are not as good as Dorothy Allen's but they might serve your purpose. The girl responds very well to suggestions and could make good use of any constructive criticism you may offer. If you are interested in her work, send the photographs (and money) and we will put her to work. It took her approximately three hours to make each of the drawings. I would give her the work now as she may not be with us next fall. Incidentally, she wonders if you know Jim Le Cron. Apparently Jim worked for you in the company and speaks very highly of you.

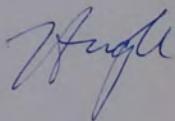
Many thanks for comments on the Tropical Resources Center proposal. Of course we don't believe we can cover all of the fields indicated but merely wanted to show what fields could be included. You are perfectly right that we ought to start with a few good projects and nail those down.

Re the Peru trip, I have one major obligation in August. I will be in Wisconsin between August 14th and 25th, to present a paper at the International Society of Soil Science. I can probably go to Peru before or after that date. I am also hoping to spend a little time at Muncielago with you when I come down. The unfortunate thing is that I need more time for all the activities. However, I guess this is a better state of affairs than having time to kill.

Fernando Fernandez has decided not to go to Zamorano for the teaching job with Bill. He has decided to stay here and work on his Ph.D. in soils under me. He received a grant from the O.A.S. which ought to carry him for a couple of years. I might give him some field work in Central America for one semester. He is a very bright boy and has done very well here. He is getting an M.S. in soils this summer. He has always been very much interested in my work and should make a useful addition to the project. However, Bill will now have to look elsewhere for a soils professor. He is going to find that a University needs money and personnel.

Those beef steaks you are eating down there sound mighty good. Save a few steers for Betty and myself.

Best of love,



Antigua G, 30 May 1960

Great & Good Friend (as Pres Roosevelt used to say when he addressed the Shah of Persia or the Amir of Afghanistan):

On getting back from Managua Nicaragua, a wonderful spot as you know but that climate really is hot, I found yrs of 13th with the two drawings. Now, these are fully good enough for use in my book; in fact they better than those you see in most Spanish books. Within a week I will send up a batch for your expert to tackle. I will send the most important ones first; and if they dont turn out to be too expensive I will send another batch. I will of course leave the price to her and to you. Will you give me an idea of what drawings of the size of the two you sent will cost me?

As for knowing Jim LeCron, you tell your artist that I know him very well; he never worked with UFCo but when he was one of Henry Wallace's ayudantes, he came to Honduras in connection with the Institute of Inter-American Affairs we went to the Jamastran together.

I am delighted that El Gran Capitan has got a break and will be able to stay on for two yrs more, sitting at your feet. I think Helen sent you my letter to her, saying that the pretty gal who fixed up my Pan Am ticket in Managua turned out to be Frank Bendana's sister in law. I dont see how that girl has escaped matrimony so long - maybe she hasnt. I didnt ask her is she is conjugated.

I wrote you about the Peru trip. I will know in two or three days if Pelen is going to be here during all of June and July; if he is, I will have to stick right here and work on the book with him. If he cant get more than a month (and I am afraid Bill is going to tell him he will have to postpone part of his vacation: then I could go to Peru in July. I will let you and Kitty know as soon as we get lined up. Maybe we could go after your trip to Wisconsin. I believe Kitty will be free. I have promised, ever since Paris, to take her to Machu Picchu and I would like to fulfill.

I suspect Bill Paddock will probably fall back on Facussé again, the lad whp works for STICA in Teguci and came out to give classes while Paco Sierra was away. Guess I told you Peruga has resigned and will probably go to Nicaragua; the Spanish veterinarian who has been with the Ministerio in that country may go to Zamorano, they tell me. Peruga will get at least \$450 a month in Nicaragua against his \$375 at Zamorano; but I cant see much else in favor of the move. I asked Curriel why he thought Peruga had quit Zamorano and he said he thot it was because he didnt get along well with Bill.

I guess you know Morcillo has been pretty sick. Perhaps still is. He is on leave of absence. Pelen wrote that he had some sort of a fungus parasite in his lungs but Rosa Margarita couldnt remember the name of it. One of the boys in Nicaragua says it is a species of Monilia. I thought this genus was confined to plant life. Seems to me a species is responsible for the witches broom disease of cacao. Julio Pineda has been running and is running the school in the absence of Bill who is due back there June 7, I hear. From what Julio writes I think he is finding the job is not quite as simple as he thought it was when he watched me run it and commented freely on my inefficiency.

Antigua G, 21 June 1960

Dear Hubo:

What's all this I hear about your staying at the Hilton-Whitman Hotel in NY, without my even having know that you had went up there? I suspect you thought and perhaps still think you were/are going to raise a lot of money up in that neck of the woods, I just hope you were/are right.

But el objeto de la presentes, deseando que se encuentre bien de salud, en union con sus respectivas novias, tell me about your plans for coming down here, as definitely as possible. We've got to make some plans of our own. A Mr Wooley came in yesterday, from Nicaragua, some yrs in Tingo Maria and Lima; says the Maury is rebuilt and very good. Where shall we stay in Lima? I never cared much for the Bolivar; the old Maury was perfect but I am not sure about any remodeled hotel. Mary and wife came in yesterday, name Furnas, says you always attended his father's church in Davis every Sunday, sat right in the front row.

I am getting together some drawings to send that gal who does your work. --Just got a very nice folleto about the Institute of Inter-American Studies; a really pretty job. I note Archie Carr and Ray Crist and Bert Muller among the staff; you and J W Miller Jr still missing.

Raining almost steadily here for 3 weeks. Books all moulding and shoes growing whiskers.

Ever yr devoted

Antigua G, 1 July 1960

Dear Hugh:

Los viejos damos buenos consejos cuando ya no podemos dar malos ejemplos. At least that is one one of the old Spanish proverbs. I have today read Bull 801 of the Agrl Research Service wh you have so kindly sent me. I am mighty glad you keep me in mind. If you hadnt, in this case, I would probably have read this bulletin third edition in 1974. This is a good bulletin, very much worth while. There is only one point I want to make because I am always thinking of your future It has never cost me a centavo to mention people's names when I was writing about - anything I wrote about. It makes you a LOT OF FRIENDS. The only objection I have to Prof Chandler's book "Evergreen Orchards" is that instead of saying "Dr R A Hamilton who has done much work on the macadamia nut in Hawaii says you have to crack them with a sledge hammer," he says "the macadamia nut has a thick and hard shell 832-738-289". Now I realise it might cost the publishing company a little more to say that Doc Hamilton tells you how to crack madamia nuts, but let the publishing company worry about that. Which reminds me, I have just read proof of my article on hycchee for the new edition of the Encyclopedia Britannica. Obviously, to avoid resetting type from the previous edition, they have slaughtered my MS; I am telling them so. And I am telling them if they don't ^{want} information up to date for new editions, then just scratch my name offn the list and re-write my stuff any way they want to but not over my signature.

Hombre, just to think you will be down here in a couple of weeks. Of course I understand you will be up there on Izabal with Chris but when you arrive you better come over here and eat a couple of good T-boneys before you fly up to that hard clay soil on the Lake. I am writing Kitty about Lima; If we cant all meet here then it will be simple to meet in Lima - because she will probably want to fly by the most direct route from NY to Lima anyway - but in things work out thataway as Shamel use to say, lets have a rendezvous in Lima and we can get together there. I asked you about the Maury. If you dont think it is the place, then tell us right away where we should meet; I suppose you will say the Bolivar but maybe you know of some small hotel where we can get papas a la Huancaina and dont have to put on coats for dinner.

Amade is in town today trying to keep out of jail. His permisio to drive his Honduras car in Guatemala expired yesterday but he couldnt do anything about it as tit was a feriado, anniversary of the end of the revolution of 1871. Just had word that Morcillo's trouble seems to be a small tumor in the lower lobe of his left lung. Cornejo has been away from EAP for ten days account his mother's death; Morcillo at Johns Hopkind; Juan Fernandez in Spain; Amado here; and the account ^{at} Dixon on vacation/ I would dislike to handle the school with that situation. Julio Pineda is Decane Interino.

Oh how happ we will be to see you step offn that Aviateca plane (or any other) and bring you over to put your foot on one of those big T-boneys and growl.

Antigua, Guatemala, 4 July 1960

Dr don Hugo Popenoe
Gainesville Fla

Dear Hugo:

I am sorry to have been a little slow in sending up some more material for drawings, but I hope the nice gal that did the samples is still there and wants to work. All nice gals want to work, of course.

Now here is the story: The two most important plates are the two sets of avocado varieties, one of the principal ones from Florida and the other idem from California. Each of these groups will have to make a plate each, in my forthcoming book. These plates do not have to show too much detail; in fact too much detail might be a disadvantage, and I shall have to explain in the legends the differences in size by saying x 3/5 and so on. That need not worry the artist. But these avocado plates represent the most important varieties, commercially, in the world today and I am sure we need them in the book. I have cut the pictures out of bulletins and have tried to lay them out in a satisfactory manner, showing the entire fruit in each case and enough of the half fruit to show the size of the seed, which is very important. It doesn't matter what size the gal makes the drawings; they will be cut down to fit the page in the book.

The rest of the job is simple. And if there are any pictures which are not good enough or which the artist does not want to do, just send them back. The main thing is, to get those avocado varieties it good shape; the entire fruit showing, with no overlying line between it and the cut portion (some of the pictures show a dividing line but of course this obviously is just because I have not cut the pictures closely enough).

If your artist would like to sign her drawings I think it would be a good idea - your mother always signed DHP; the pictures I had made for my Manual by Mrs Gamble in Washington were always signed R E Gamble and they were not very good pictures; I would suggest your artist initial her pictures as your mother did. Dorothy Allen who is absolutely tops in botanical illustrating initials here as a rule.

There will be eight plates from this batch of pictures, if I figure correctly. If your artist keeps interested I think I will have another eight or more, but I am not sure. I am using a lot of halftones and quite a few pen-and-ink drawings from my Manual and other sources. I greatly prefer pen-and-ink illustrations to halftones for most purposes.

Ever yr devoted

UNIVERSITY RESIDENCE HALLS

UNIVERSITY OF WISCONSIN
MADISON 10, WISCONSIN

Wed. Aug. 17, 1960

Dearest Mom, Dad, and Kitty (if she is still there),
no new litches developed and I arrived at
the conference right on time. I had a day in
Dainessville to clean up some of the works and
start some new laboratory projects. I should
be back there in another ten days.

The drawings were all finished and I sent
them down airmail. They look very good to
my unprofessional eye. The girl will be ready
any time that you send some more. She agreed
to the price of \$5.00 a picture.

The conference has been most interesting and
very helpful. I feel more at home here than I
do ~~at~~ ⁱⁿ the conferences at the national level for
I know many more people here. I have
heard some interesting papers and have made
copies of some of the slides to be used later
for teaching purposes.

The trip to Fern seems like a dream now—
~~it~~ it was very wonderful. I hope we take
another trip soon because they are lots of
fun. Next time we'll stay away from the
higher elevations.

I hope Kitty enjoyed (or is enjoying) herself
in Antigua. I know she had lots of fun
strolling through the town and the surrounding
with much love,
Angler

Antigua, 3 Sept 1960

Dear Hubo:

Matilda Gray came in a couple of nights ago with the Homely Ladies Journal for Sept. in which is a swell article on the life history of Paul Popenoe. If you havent seen it, better ask one of your girl friends - of whom there are quite a number - to get it for you.

Main purpose of the present epistle is to ask you what to do about this marimba business. Lencho is fixing up the four-man job which you liked and it will be ready to ship in a couple of weeks, if the weather clears up, he says. Did you put it on your customs declaration and if so what do I say on making out the papers here? I am quite sure Aviateca will carry it (looks like they may stop other lines from carrying here to Miami; I wouldn't blame them if they did). The marimba is going to cost 75 bucks over the counter; I suppose the crating will cost about \$10 or \$12 and I suppose the air freight will be about \$50. I may stick the little marimba in under the big one - the little one you saw in our house and consider it el Tenor; and I suspect the Pritchett-kids would have a good time with it. The big marimba, remember, is professional, and should be treated with care. And I have just realised that when you play any marimba, you hold two vaguetas in each hand, and you hold them far enough apart so that they skip one key and play two out of three keys. Try it. I brot in the cross-eyed professional the other day, who used to play here 25 yrs ago, and he taught me several things.

Just had word from Nancy that Bob is leaving USGS and going to work with a commercial firm in Sta Barbara, Calif/ Sounds pretty good to me. Might even pay for a one-room addition to their house, if they buy one in Sta Barbara, and figure on spending a week or two up there once in a while. I have always said if I had your money I would have a house in Sta Barbara, just for the fun of it.

I have heard that Bert Muller has just been at Zamorano. Since you eats grits and gravy with him almost every day, please ask him and write me what he thinks about the new academic program of EAP. He probably wont say anything if I wrote him direct. In his last news letter Bill says they will this yr take in any boy from Point Barrow, Alaska to Tierra del Fuego provided he is a bacjiller and passes a good exam and speaks Spanish. I am not in favor of taking in the Eskimos even tho they speak Spanish, but I realise that mu views are completely obselete and am going to stay completely out of the picture. For example, Bill is going to send one of the young teachers to Iquitos to give the exam to candidates. I do not think we need to be much interested in Iquitos. But do get some of Bert's ideas without making him think I am nosey and write me. You know there is to be meeting of the Board of Trustees in NY in Nov, but I am afraid I shall not be able to go. The old crowd with which I worked, Jeff Coolidge, Mr Zemurray, Walter Turnbull and others are out; the new crowd should have a free hand to re-vamp the school and I do not want to interfere. Tempora mutantur et nos mutamur in illis, which reminds me of the lady who went to Thomas Carlyle (spelling) in London after having heard a number of his lectures, and said "Doctor, I accept the Universe" and he replied "Definitely, and I can do a better". Ask Archie Carr if he has heard that one.

I hope you will instruct me promptly in re the marimba. Dont worry

Sept. 13, 1960

Dear Mom and Dad,

First of all, thank you for the Guatemalan shirts. They came through in fine shape from Kitty immediately after she had returned to the U.S. I was sorry that I missed her in New England. Somehow she didn't seem very strong about a visit from me to her environment -- maybe too many old beaus or maybe she was afraid the aristocracy would send me running to the hills. At any rate I thought it would be better not to visit her in Magnolia.

I am glad that the fruit drawings came out all right. The girl says that there are fifteen drawings at five dollars apiece which comes to \$75 in my way of doing mathematics. You can either send a check made out to me or made out to Sylvia Drummond. I will see that she gets it either way. She says that she is ready to do ~~14~~ more drawings any time you see fit.

Sorry to hear that Salvat Editores backed down on their bargain but this will give you more time to turn out the book. I still hope that you will finish it and let some other publishing house print it for you. I know it will have a good market and will be able to help a lot of people that need some advice along these lines.

My coloredslides came back from the trip and really are beautiful. The developing company lost one box and are still looking for it. Unfortunately it is the last box with the slides from Cuzco to Arequipa. I considered that one of my best rolls for it had some nice pictures of llamas and foot-plows. I sent Kitty a batch of slides as a remembrance of the trip. She didn't take too many pictures.

My academic robe came through in fine shape complete with gold bullion tassel. And just in time too -- our scholarship convocation is scheduled soon and I want to be right up in front. It fits very well and I know that you will be proud to wear it any time you are in town.

I sent for the property literature in British Honduras and have forwarded it to you regular mail. They are selling five acre lots near Cayo (not too near) for 245 dollars. After you send the money they will tell you where your property is located. Itsure sounds like a racket.

Glad to hear that the Marimba is almost on its way. I filed a written customs declaration for the marimba when I came through Miami. We shouldn't have to pay any duty. Dr. Pritchett will be in Miami on Oct. 12th. If you can ship the marimba so that it lands in Miami around Oct. ~~12th~~ 10th, he should be able to take care of all formalities for releasing it from customs. After the marimba arrives, Dr. Pritchett can send you a check to reimburse you for all expenses.

Bert Muller is quite enthusiastic about his trip to Zamorano -- has nothing but praise. He thinks they have a pretty fine looking plant that looks good. He apparently has a few more to make.

Two Zamoranos showed up in the office today, one bearing a note from you. Gunderson looks like a very bright lad but I don't believe that Gainesville is the best place to study irrigation and drainage. However we ought to instruct him in tropical soils while he is here. The other fellow (Rivera from Honduras) is going to major in soils. We might be able to make a disciple out of him. He looks pretty bright. They both will be taking my tropical soils course this fall.

Which reminds me. The boss came in a couple of days ago and told me to teach the basic course in Soils this fall too. That ought to keep me more than busy. It will be good experience for me since it is the first time that I have taught from a text-book-- the other times have been the presentation of my own material. If I can get the boys off to a good fast start in basic soils maybe we can channel more of them into some of the important tropical problems.

I am going to join Chris in the Izabal venture. If you can still find that bond it would come in mighty handy (as we say in Florida).

Archie Carr says that Bill Paddock offered him the job of biologist in Zamorano and offered to pay higher than his present salary. Either Bill doesn't know how much Archie makes or else he has tapped a gold mine for revenue. At any rate Archie turned the job down.

I hope you planted the new cypress tree in the patio. It won't stay in that pot much longer.

I am enclosing a couple of Paul's circular letters as you requested.

Best of love,

Hugh

Tu casa, 28 Sept 1960

Dear Hubo:

Mighty glad to get your letter of the 13th, which of course came some days ago and would have come earlier if we hadn't been engrossed with the drum majorettes. Best processions or parades we have ever had.

Yes, the drawings are OK, tho those of the aguacates not quite what I had in mind. But I can use them allright. I ~~am~~ send up some other fotos before long. I think her price is fair and I enclose my check in the amount of \$75, payable to you, and you can pay her. She may think it a little more satisfactory if she can depend on you for her money. I am rather relieved that I don't have to fulfill the contract with Salvat; I was going to lose money on it. They were going to pay a total of \$450 as I think I have told you and I have already spent about \$300 on the job. We will get the book out in English, first, and then get it translated. Of course I am not really interested in the financial, or royalty, side. It doesn't matter. What I want to do is to get the information which I have been assembling during half a century in a usable form.

Tell your colleague Doc Pritchett not to look for the Marimba in Miami on 10 October. In the first place, that old rascal Lencho who has told me 3 times that he would deliver it tomorrow, hasn't even touched it yet and it lacks four keeps - and others here tell me you can never get a job done by Lencho on time. And in the second place, there is serious talk about Aviateca stopping its flights to Miami as of this week or next week. The line is losing a lot of money. So before you come down in Decbr you check up. If you can't come on Aviateca I suppose you can come via Belice and San Pedro Sula on TAN which is OK.

Of course I like the idea that you are going to teach the basic course in Soils. Is that the one that Prof Caldwell was teaching? As you say, the experience will be mighty good for you. Follow the advice of the British Minister to Honduras, a great friend of ours, who used to say to his six year old son "Think, Andrew, think".

Archie Carr could hardly afford to come back to Zamorano with all those kids to educate, even tho Bill could pay him a higher salary than he is getting at Gainesville - which I doubt; but Bill has a very free hand at EAP, including the new program of students anywhere from Point Barrow to Tierra del Fuego. I just wonder if you talk a couple of your Eskimo friends to speak Spanish. They would qualify for the exam if under 22 yrs of age and bachilleres from the Univ of Alaska - I assume there is one.

The cypress tree is planted but not in the exact center of the patio which would have put it 4 ft under the old tree which may live for 25 years more. It is between the cherimoya and the Fuerte. I will look up that bond and see how it stands; it hasn't matured yet but can probably be cashed and yield at least \$3500. I think perhaps you were right in not going to Magnolia; Kitty was afraid you would be overwhelmed, but I was not. You have told me how girls' money scares young chaps. That's all wrong. I wish Helen had a million dollars. It isn't a matter of having money, it is a matter of what money has done to a girl, and it has done nothing to Kitty. I hope you can use those shirts I sent you via Kitty. They are the best I have seen here in a long time. You may prefer to wear them down here or in southern Florida, so the boys won't whistle at you as you go by.

Antigua, 27 Oct 1960

Dear Hugh:

Just in case I do not see you in the City today, I am leaving a carton with 12 varieties of cannas. Seven of these, I believe, are labelled with variety names; the rest are just as good but we have lost the names. If you break up the small clumps I think you can get three good planting rhizomes of each variety; and if you want more or have a friend who would like some, let me know. I am staging a campaign to get cannas more widely grown here in Guatemala, and the best varieties!

There is a plant of Marica caerulea. You asked about exposure for this plant. Looking back I remember we had ours at Zamorano on the north side of the plant house, where they got some shade of course, and they did beautifully. But I think the main requirement is a warmer climate than that of Antigua.

Ever ours,

Antigua, 28 Oct 1960

Dear Hubo:

Tell, Oh tell, about your plans for coming down at Xmas time. And if you come, dont forget to bring some Vinylafilm about which I wrote you in my last. And if you come, you will come thru Miami of course, and I wish you would talk with Johnny and if possible with Bill Krome about the ASHS meeting scheduled for southern Fla next Easter week. I am all for a mtg in Florida. I think some of the lads are afraid of the expense. I have told Ernesto Casserss that you and I would do it, gladly, on the following basis: room for 2 at Hotel Seminole, five bucks. Bkfst at the drug store, 40 centavos. Luncheon at the Cafeteria not more than \$1.25; supper ditto at \$1.00 or with a couple of beers and some pistachio nuts, 50 cents. Add it up. Ernesto says the cost will be \$12 to \$15 per diem. This is going to scare away 2/3 of the Latin American lads. there is absolutely no need for anyone to budget more than \$7.50 per diem if he doesnt have delusions of grandeur or a \$15 per diem allowance wh I believe the ICA is now giving, confound them.

I have news re Wiland Gundersen and I think he is up against it. I have never been in favor of letting our grads get a B S degree at Florida in one yr, because of these factors: There are so many excellent courses in the agrl sciences they ought to take, in order to have the right preparation for work down here. Florida has to require certain subjects not exactly in the agrl field, to give a B S. Florida should not and I am sure will not alter its standards in this respect. Gundersen wants to get good preparation in certain agrl subjects. He cannot get all the agrl subjects he wants if he has to conform to Florida standards re the "humanities" or whatever they call them. I think Florida is right and I have never been in favor of rushing our boys thru Florida just to get that degree. I know they are nearly all crazy to have the degree, but a few like Gundersen apparently are not, and we ought to protect the rest anyhow. I wonder if Bert has discussed this whole matter with Prexy. I know you birds say that degrees are the big thing in life these days; but I stand out for good preparation as well, and I think you do also, because you sure took a long enough time to get that PhD and the \$75 suit of dress clothes I bought for you. Let's dont go over the side, either side. Talk this over with Bert and tell me how he feels about it.

Hugh, what is the matter with Alan Hempstead? You must know thru Chris. Tell me what you do know. All we hear is that his health is pretty bad. I dont like to ask too many questions here.

Now come thru with some letters or even postcards, not only to us but to others; I dont want you to force me to sing that song which you dont remember because we used to sing in at Pasadena High about 1908: "You look like nuthin, you act like nuthin, you talk like nuthin too. You aint got nuthin, you neverhad nuthin, nuthin from nuthin leaves you."

Nov. 12, 1960

Dear Mom and Dad,

Well, today is homecoming with lots of the old grads wandering around. Gainesville really gets crowded at this time of the year, with perhaps 40,000 people coming into town. It makes one want to head for the high hills.

This year they are having special recognition of the faculty and as part of their program they are making special awards to five of the outstanding faculty members. Dr. R. Crist, whom you know very well, will be one of the five who merit this special attention.

By now you have probably received the photos from Pres. Reitz of our mutual graduation. He sent me a set too. If yours do not arrive, you can have some of mine. Again, I believe the whole occasion showed much thoughtfulness on his part. It was really quite an experience.

I believe I told you that I was able to use my clerical robes in an academic profession. Many of my peers were well impressed with the genuine gold bullion tassel and are now going to order one for themselves. The blue trimming is also quite effective. When you come up I will rent you my robes at the same price (no more) that that charged by the student center. Mine are much higher quality and will set you apart from the rest of the distinguished company. In the meantime I will use them for any occasion that presents itself.

The trip to Peru is still a very vivid impression on my mind. How I enjoyed that trip! It still seems very much like a dream but I have a fine bunch of slides to bring back old memories. However the finest roll with the foot plover and the lilies on the lake is still missing. Haven't heard much from Kitty, but then I haven't had much of a chance to write her. As a matter-of-fact I haven't had much of a chance to write anyone. This has been one of the busiest semesters ever. The two courses really keep me hopping plus my full research load. I have also been continuing with my syllabus and with the plans for a tropical resources center.

In respect to this last project, it appears that there is the possibility that the University of Florida might get a big hunk of money from the federal government (about \$10,000 a year) to set up a large Inter-American Institute here. The idea is similar to the one which was just established in Hawaii for promoting relations and cultural interchange with Asia. Rumors have just started coming through but of course it has resulted in an increased interest in my Tropical Center. Maybe we will see it become a reality in one form or another some day.

Mario asks what Dr. Caldwell is doing now that I am teaching basic soils. There are actually three lecture sections. He handles one, I handle one, and the third is handled by another professor. Each section has approximately 25 students.

I hope to go to Washington for a day or two during Thanksgiving. I haven't seen Pete there for nine years. It is too bad that I will miss the girls who have recently departed for new abodes. However, it will still be nice to see Edith, Chuck and Pete. It will be interesting to see how Chuck is fitting in. Pete will probably be asking me how I see the future. That leaves one unmarried Ponce of our generation, and I don't see any possibilities soon. However, I haven't given up the search.

Of course I will be coming down at Christmas, but I don't know the exact dates now. I was planning to spend a little time in British Honduras but the University has turned down their magnanimous offer. I/ will probably be persona non grata there now. I will probably want to spend some time in Izabal. I am still very much interested in that project and want to move ahead with the idea, both the research and practical aspects.

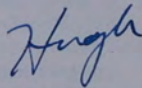
I haven't heard anything about Alan Hempstead. My communications with Chris have been just as poor as they have with the rest of the world. I hope there is nothing seriously wrong in that family since they are such a fine bunch of people.

I still hope we can get a marimba from Antigua. We will be patient and wait for Lencho to put in the glue when he is sure the climate is just right. In the meantime, it might be worthwhile to keep our eyes open should any other opportunity happen along. This marimba business is a lot of fun. We don't want to finish the negotiations too soon.

The first week in December I will be going to Chicago to present a paper on our work on the effects of radiation on soils. I think this is a good piece of research but far away from the things which are closer to my heart such as the effects of soil management practices on tropical soils. We might have a better opportunity to work on this last problem next year.

The Caribbean Conference will be coming along soon. I accepted an appointment as chairman of the welcoming committee. I felt that I have never done enough for Wilgus's group or had any association with it. Since the subject this year is more interesting to me than colonial policies, I thought it would be a good opportunity to show my support. The title welcoming committee is just to make me feel good. I think the name could more appropriately be transportation committee.

Best of love to you both,



Antigua, 18 Novbr 1960

Dear Hugo:

Yrs of 12th recd and contents noted. It was about time you let me have some news. In fact the Statute of Limitations would have had you in the hoosegow in another couple of weeks. Its alright to give special awards to five faculty members but dont you get an award for your high-class cap and gown? --I have not recd the fotos you mention, but I am glad to know you have them; mine will probably come along eventually as they were doubtless sent by surface mail, and surface mail right now is not working too fast. Prexy is a good guy; a good friend; and I appreciate his thoughtfulness. I wonder if he is going to attend the mtg of the Board of Trustees of EAP at New York next week? I have not been informed that my expenses would be paid so of course I cannot attend - the trip for Helen and myself would cost a thousand bucks, even eating at those drug stores you an I like so much.

I am not too disappointed that the U of Fla has turned down the Belize offer. I want to see you carry out that excellent program of yours here in the Polochic, so you can get back to Antigua more frequently for a 1-1/4 inch beefsteak. The other day I was buying three steaks at the Supermercado and told the guy an inch and a quarter; and he said, No, that's too thick, so he cut off one of an inch and I said No, that's too thin. Keep this fact in mind; a good steak must be an inch and a quarter. And we get them at Coto Escobar for fifty cents a libbit, as your Uncle Herb used to put it.

Gosh, how you get around. Washn for Thanksgiving and now to Chicago in early Decbr. Incidentally, we had a mtg here in our house yesterday of the FAO and UNICEF folks from all over tropical America including New York City. About 20 people. It was very interesting. They are a good crowd - I guess they represented about 7 countries and they talked about nutrition and school gardening mainly. I am afraid I stuck my neck out by saying when they called on me for comments, "Give the kids a good piece of soil and some water and a machete and a hoe and a lot of good seeds of vegetable varieties which will grow where they are at - as Doc Williams used to say.

So you have become a Greeter! Fine business. Tell them the story of the chap from Costa Rica who went into the hotel in New York and signed the register - Jesus Maria Jimenez. And the clerk swung the big book around and said "Oh now, stop your kidding and sign your real name." I am glad you are getting involved in the Caribbean Conference business. We ought to help. I am afraid I got myself in Dutch, a little bit, by telling Wayne Reitz that I thought the Conference ought to dodge anything which had political aspects. Such as the petroleum business. Stick with this project; you can probably be useful, if you dont tell anybody that your pa has the decoration Ruben Dario which Tacho Somosa gave him, saying at the same time "It gives me great pleasure to confer this decoration; you are the third to receive it, the first two being Juan B Peron and Generalissimo Trujillo." Dont you dare mention that to anybody. But I want to tell you that old Tacho was a mighty simpatico guy and in many ways did a lot for his country.

I dont know just where we heard that Alan Hempsteeac has not been well. When we go into town again I will check up. We dont go to town very often and dont take an active part in social life, I am afraid. We could do so, if we wished, but it seems to me I can spend

my time more usefully trying to advance the production of good fruit in this part of the world. So few years are left to me! And there are so many politico-social angles which I do not feel I can profitably face - profitable from the standpoint of human nutrition and happiness. Not to mention radioactivity. I am still in the horse and buggy days, I fear. Just give me a good piece of sandy loam, some water, and all the nitrogen I want and I wont worry about magnesium and boron - unless I am in Florida or Hawaii. You can do the worrying for me.

And now lets get down to the agua en el coco. Nothing could please-us more than to have you say "Of course I will be coming down ^{at} Christmas". This shows thinking along the right line. Travel from Miami here is so inexpensive that you should come twice a year as a regular policy. There are a lot of things to discuss, apart from the fun we will have if you can spare enough time to run around the country with me abit, and just not sit on the wharf up there at Chris'es place waiting for the bass to take the bait. I really want to look over some of those Pacific coast soils with you. That area is going to see the next big agricultural developments in Guatemala. I think a three day trip for us is in order. If you can have the time. I know you will want to fly right up to The Polechic with Chris which is allright also. I cant tell you how enthusiastic I am about your study of tropical soil management. And if I am not wrong, it is going to land you, within ten years, in the most important job you will ever have in your puerca vida. So far, I think we have just simply missed the boat. Of course, I got into a jam yesterday with these FAO folks when talking of school gardens and they told me they had put in for 300 tons of 15-15-15 for their schoolgardens, and I said, Where are those kids going to get money to buy 15-15-15 when they leave school and go to growing garden crops on their own land, and how do we know that they wouldnt do just as well with 16-0-0? I guess I am all wrong as usual.

When you come down thru Miami, if you can do so, drop in on Mrs Fairchild; dont stay overnight because I think with the family (Helene's) and Mrs F's age it would not be wise. You can stay with Johnny of course. But please bring us news of Mrs F if you can. I wrote Nick Smiley about her; just had a letter from him saying she is not yet back from Canada. But she probably will be by the time you come down. If you see her, tell her we will be coming up for the mtg of the ASHS Caribbean Region about 25 March; we will not stay with her (dont tell her this) because we think it may be too much of a load; we will probably stay at the Seminoles in Homestead, in the next room to you. But we sure are looking forward to that mtg next March.

You mention not having heard much from Kitty. We havent either, but if you could bring her down here with you at Christmas - I dont know that she can get away - it would please Helen greatly, and me too, as we always love to have her with us. And as you know, we have plenty of room. I am saving your room in the shack for you - I have reached the point now where I refer to it as "Hugh's room". Oh, and dont forget to bring some Vinyl film with you - I think I suggested five yards. They are making plastics here and they are cheap but I do not think they are nearly as good as Vinyl.

Antigua G, 30 Nov 1960

Dear Hubo:

Since tomorrow is the first of December it is about time we began to get things lined up, verdad? But first of all, let me mention that I assume this is the first day of the Caribbean Conf and that you are starting to ferry the visiting firemen back and forth from the White House to the Univ and saying "pleased to meetcher" and saying "sure, I will stop and let you buy a package of cigarets". You might save time by handling the matter the way they used to handle the lik in prohibition days; Ames and I got to New Orleans once and took a taxi and Ames said to the chofer, "where can a chap get a bottle of likker in this town?" And without a moment's hesitation the chofer replied "Under the seat; six fifty".

Just recd from Prexy Reitz two fotos of three doctores; one of them is a good sized one and is excellent, especially of you. I shall have it framed and hold it until you inherit it some day and say to your kids, that's your granddad; isn't he quaint? I wonder if Wayne went to the mtg of the Escuela board of trustees at NY last week. I am writing Chico de Sola to give me the news; I shall receive an official report some day but perhaps not for a couple of weeks or more.

Yesterday I recd program of the Caribbean Conf. Looks good, and I am especially glad to see Marston Bates and Ray Crist and Archie Carr among those present. I hope you met Pepe Figueres. An interesting character. And I hope you were able to take an active part in the mtgs. It wouldnt do you any harm. I note that Bert handled the agricultural end. Fine business. When you come down, I want you to tell me all about the Conf and especially about what Bert had to say.

And that brings me to the point. I hope you wont have to knock on the door this time and have Toye go and open it and come back and say "Aqui hay un pobrecito que esta pidiendo limosna". Get your reservation in time so I can meet you at the airport; Chris can meet you also if you wish, but I would like to get in touch with you on arrival and know your plans. I, cidentally, Hugh Craggs has a piece of land in El Peten, near Yaxcabnal, which he would like us to see; and I would sure like to see it and some more or Peten too, because it is about time I knew that country and could stop listening to folks who say it is no good or that it is the future grain basket of the world. Chris might fly us up to see Craggs' land. I wouldnt push the matter, but he might.

So let me know your plans. Make your reservation in advance. Tell me when to meet you if you can. Bring Kitty with you if you can. It would do Helen a lot of good; she is a bit low because that ankle does not get well and bothers her a lot. And before you leave, go down to Woolworth's or Kresge's and get two pounds of chocolate caramels at 49 cents a libbit, and bring them to me. I will give you a fine boiling pint thermometer for them. Stay here as long as you can; I will have some cohetes con luces de colores ready for you to quemar.

Antigua G, 10 December 1960

Dear Hubo:

Reminds me of the day, back about 1910, when your Uncle Herb and I went to one of the daily auction sales at the Japanese store in Pasadena; and the little Jap put up a bill fold, jennywine monkey skin; the bids got up to 15 cents and then the happy jappy said Last Call and Herb piped up "twenty cents!" Too late. Herb didnt get the jennywine monkey skin bill fold.

I mention this because it is about the last call before you step on Aviateca - and Oh say, before I forget it again, I went up and bawled out old Lencho three days ago about that marimba for Doc Pritchett, and intold him, you have been four months finishing that job and if it isnt done soon I cant consider it, because it has to go up to Florida right after Noche Buena, if it goes at all; and it will only go at all if you bring it down to my house and I get a couple of reada artistas to try it out. So last night about nine oclock he came to the door and said, Here is the marimba. And I said, bring it back tomorrow morning, which is right now. If it comes - no guarantee express or implied - I will have it thoroughly checked by the cross-eyed artista Rafael and a compa^ñero, and if it is allright I will get Luis the carpenter to commence work on a good crate for it. The agreed price is \$75 as you know. I suspect the crate will cost about \$15 more. Then you will have to arrange to get the item into the airport and onto the plane for Miami. I suspect the landed cost will be close to \$150 because I dont know what the weight will be; but you can tell Doc Pritchett that we are doing our best; we aint promising nothing but I rather think he will get a good two to four man marimba at a very reasonable cost.

Now here is el agua en el coco: Helen has just come in to tell me that we need a new receptacle for our Waring Blender. It is one of those which Bob Harris of MIT sent down when we were preparing food samples to send to Cambridge. It is a legitimo Waring Blender; so see if you can pick up a new receptacle - the body of the outfit, and bring it down with you. Helen says it would be better if could be of metal but I doubt if they come that away, as you crackers say. But by all means bring one if you can get it locally. C O D.

Another little matter: Don Luis no sé cuantos is today making a frame for that picture of Prexy and yourself and myself, which is one of the best pictures of youall I have ever saw, and it just occurred to me that you might like to have one framed also, so if you will bring your copy down here with you, there will be time for Luis to frame it for you. No extra charge - that will be a temptation to you!

Yesterday in town I bought three beefsteaks, T-bonies, the three weighing a total of 5 libbits. Look pretty good. I shall have a couple in the ice box when you arrive, if you get away from your habit of arriving unannounced.

Ever your devoted

Dec. 12, 1960

Dear Mom and Dad,

Now comes the bad news. I won't be able to go to Guatemala for Christmas. I really regret this because I had been anticipating the trip so much. However, I do plan to come about the first of February so that it won't be much longer before I will be biting into some of those thick T-bones.

There are several reasons I won't be able to get away for Christmas. First and foremost is the tremendous amount of work I have piled up on my desk. I don't think I have ever worked so hard in my life yet I still seem so far behind. The main difficulty is that I am doing two jobs at once. Another reason I won't be able to go is that our vacation time is so short. I would only be able to stay in Guatemala eight days and four of those days would be on annual leave (we are only allowed thirty days of leave a year). This business of coming to Guatemala often is fine with me but doesn't seem to fit well into the work schedule we have around here. Thirty days of leave a year isn't much and I used up more than that last year when we went on our wonderful trip. The last reason is expense. It seems that I can hardly justify the cost of the trip for eight days when I will be seeing you in another month. If my grant comes through I should see quite a bit of you during the coming year.

I am enclosing a copy of Uncle Paul's latest family letter. I think you will enjoy the contents.

The trip to Chicago was fine. My paper on radiation was well received. I got several offers of jobs including one from the ICA. It seems that they really want to expand their program especially in Africa. They make a strong point that their tecnicos are only to advise, not to work. I find this a difficult situation for I would much rather do the work myself than to sit around all day on my can handing out advice. I have noticed that one problem with technical aid programs where the fellows merely advise is that they have no control over the way the program goes-- they merely hand out suggestions.

Just finished writing up another proposal for a Latin American research center. The University thinks that there is a possibility that the State Department will set up a North-South Center here to the tune of ten million dollars a year. It will be to train Latin American students and for research in the area. Even if the North-South Center is not established here (there is a strong possibility it will be in Puerto Rico) the University thinks that much more aid money for Latin America will be released in the next few years. By putting ourselves on record now as wanting to help, there is a good chance that some projects in the ~~1961/1962~~ future will be assigned to the University.

The Caribbean Conference went off very well. I have copies of the papers presented by Muller and Crist and will send them to you. I think Christ's especially is very good.

Haven't been able to find out what happened at the Board meeting in New York. I do know that it ran into several extra sessions. Paddock came through here and wants me to go to Honduras for a little advisory work this spring. We'll see.

Of course one reason that I regret not going to Antigua for Christmas is that I will miss Kitty. She might interpret my actions wrongly. Make sure that she knows that I am not coming for other reasons for I would like to see her very much. I am sending Grandma's package to her to take down for Christmas. I hope Kitty gets it in time.
I will miss you all.

Much love,

Tringle

Antigua, 19 Dec 1960

Dear Hugo:

Dont talk to me about bad news. You remind me of the story I heard from my mother some 60 years ago in Topeka. Seems that a guy died and they sent one of his fellow-workers to break the news gently to Mrs McCarthy. The guy rang the door bell, and the lady came. "Does the widow McCarthy live here?" To which she replied "I am Mrs McCarthy". "You are mistaken; there is his corpse coming around the corner now".

That is about the way your letter hit this camp; and then an hour later came a radiogram from Kitty saying she could not come. But what pulled us together again was a second radiogram saying she will be here "for sure" on Sat the 24th, via Taca, which leaves N O at 2.45 a m, of all hours. That poor gal wont get much sleep that night but we will meet here and bring her over here for a good lunch and let her rest until 6 p m, and at 7.30 we will shoot the skyrockets I have ordered, and which are to be delivered today, and then we will go up to La Merced and see all the toritos and roman candles and so on, and then take in the Misa del Gallo. What a shame you wont be here!

Helen met Chris on the street about 4 days ago; she told him you were coming for Xmas. The whole Hemsptwad tribe is to be in Coban for Xmas, so I sent a telegram to DoñaLulu, asking her to advise Chris that you could not come down until Feb.

You say you have never worked so hard in your life as at present. That means something, for you are a pretty hard worker. I assume you start in the morning after your plate of scrambled eggs and grits, stops at noon for more scrambled eggs and grits, and stop again at 6 p m for more scrambled eggs and grits, and then work until just about midnight. You mention an offer from ICA. I dont need to discuss this with you. You would make some money, but what else? Ernest Mortensen that good old Texas horticulturist now in Salvador, told me he was called to Washn for a period of indoctrination, and he was told in effect: "Now dont start anything; just let them ask you for advice". Hugo; you and I dont much care for that sort of life. We like to start things; some of those things we finish; but in the meantime we work like Hell.

I have the report of the Sec-Treas of EAP. (Now invariably referred to, whenever he can by Bill Paddock as "The College" - it appeared 6 times in one paragraph in his last circular) from which it appears that the NY meeting was concerned principally with finances, but is also appears (and I think Doris is responsible) that Bill's program of taking the Eskimo from Point Barrow and the Fuegians from the Straits of Magellan was cut down to "give preference to students from Spanish speaking countries of tropical America" pretty much the same as we had it in my day, because I dont believe those dog sleds would get down from Point Barrows, and if they did, the Eskimo might run out of smoked salmon on the way. And apparently the idea of the Tri-semester instead of Semester program was not approved. Bill says however that honor students from EAP enter U of Fla as seniors. I hope this will work out but I have my doubts. I think maybe Bert Muller has also.

Thanks for Paul's news letter. Now; if you really want to get in financial difficulties you just go along with Chuck and Pete on that round the world earn as you go tour; but dont me a radiogram from your first stop, Bermuda, saying "Boat taking water fast. Please cable me two hundred bucks to get back to New York!" Nor one like this, "Boat fine. Personal problems on board. No food, no money. What shall I do?