

Jack R. Harlan Expedition No. 3: April 18 – Sept. 1, 1964
Europe, Israel, Turkey and Europe

Continue checking [] may 21

TRANSCRIPT OF JRH NOTES FOR 1964 EXPEDITION

[NOTES: This document has been enhanced in the following ways:

1. The document contains Adi Damania's additions & corrections of summer, 2014.
2. My additions and comments are enclosed by **[brackets]**.
3. Jack Harlan's comments will be set aside with (parentheses), usually not bold.
4. Very many footnotes and Hyperlinks have been added to navigate within this document and to take the reader to Internet websites which illustrate or explain certain terms.
5. Maps are also provided to aid the reader. To activate a Hyperlink or Map, place your cursor on the [blue underlined](#) word or phrase, hold down the Control key and left-click. Website tabs may accumulate if you do not delete them; so, it is recommended that you delete Websites tabs as you interact with the document.
6. I have organized the expedition by placing subtitles **[Bold in brackets]** to designate the various phases of the operation, usually with dates and duration of each phase.
7. In many cases actual place names were developed from the Notes using Google. The **[Google versions are given in bold brackets]**.
8. The means of designating scientific names seems to vary in the notes. I tried to follow the Notes, but generally names are either *italicized* or underlined, with no rhyme or reason, except for the Notes.
9. I have **bolded** words which I still cannot decipher.
10. I have placed in **[bold brackets]**, at the end of each entry, the city or location where he spent the night that night.
11. In the section at the Turkish Archaeological site, I **bolded** the diary notes referencing the "Wild Wheat Harvest" [activities](#) [This link will take you to that section, in case you want to have a peak at these now.]
12. I found a man named Ibo, from the area of Turkey where Harlan operated in 1964, and he helped me with the Turkish place names.

Jack R. Harlan Expedition No. 3: April 18 – Sept. 1, 1964
Europe, Israel, Turkey and Europe

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[BEGINNING PAGES]

[On inside cover of Notebook a note was written:] Gary Wright can work in France this summer & has support.

[On next page at bottom it was written:]

1. Threshing studies. – Send material home.
2. Sickle sheen – need new blades & old blades w & w/o sheen
 - a. put on sheen
 - b. make thin sections & examine.
3. Distribution studies – recheck Kew – check w. Zohary; check at Edinburgh – Flora of Turkey

[On the next page it was written:] Countries visited: 30-33 **[and then it lists them in a long column]**

United States, France, England, Monaco, Italy, Mexico, Canada, Panama, Honduras, El Salvador, Guatemala, Turkey, Syria, Iraq, Lebanon, Belgium, Ireland*, Denmark*, Germany*, Austria*, Greece, Iran, Soviet Union, Afghanistan, Pakistan, India, Aden, French Somaliland*, Ethiopia, Sudan*, Egypt, Jordan, Israel, Bulgaria, Yugoslavia, Netherlands, (Scotland), (Wales) * Airport transit only

[Note: this list has to be the countries JRH has visited thus far, not just on this expedition.]

[On the next page we have the following:]

Zavod Za Kermno Bilje¹

Kruševac, Yugoslavia

Director Br Tasić

Eng. Miloš Ranković (my guide German)

Institut za poljoprivredna Istrazi vanja ([Institut za poljoprivredna istrazivanja])

Novi Sad, Yugoslavia

Director Petar Drezgić (English)

Ing Zorka Lazić man & wife

Ing Milenko Lazić which is which? Fr. & German

Maksima Gorkog 30

Ing Bošković Momčilo

Dr. Borojević

Poljoprivredni Fakultet

(Faculty of Agronomy)

Maksimir, Zagreb, Yugoslavia

Prof. Dr. Ing. Karlo Šoštarić German & English

Dr. Ing. Jan Čížek (English)

Agronomski Fakultet

Universia, Ljubljana

Krekov, Ljubljana

¹ The names throughout this transcript were given accents by putting them on Google and copying their accents and spelling. [HVVH2]

Jack R. Harlan Expedition No. 3: April 18 – Sept. 1, 1964
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Prof. Vinko Sadar

Ing Joze Spanring

also

Dr. Strelec in Banja Luka

Prof. Ernest Mejer, Botanist, Filozofska Fakultet

U. of Ljubljana

Prof. Batinica or Ing Šarić at Faculty of Agronomy at Sarajevo

(Poljoprivredni Fakultet)

[Continuing on next page:]

Dr. Mladen Piper, Director

Institut za Kukuruz

Zemun – Polje

Man at Embassy in Agr. Attache' office is:

Milosav Samurović

Also see text.

[On next page it was written:]

Send publications to: Naomi Feinbrun PhD Assoc. Prof in Botany, Hebrew University,
Jerusalem, Israel.

[On the next page we see:]

Fri 14 August Grasses Exhibits at Kew.

Addresses: Miss Barrett

109 Warrender Park Road

Edinburgh 9

First Floor

Tel. No. FOU4506

Jack R. Harlan Expedition No. 3: April 18 – Sept. 1, 1964
Europe, Israel, Turkey and Europe

2nd Aug to morning 12th August

c/o U.S. Embassy Belgrade

c/o U.S. Embassy Zagreb.

[Finally we have the beginning of the field notes: Total duration of Exp # 3 April 18-August 31, 1964 or 136 days or 4 months & 13 days or approx. 4 ½ months. HVH2]

[America (April 18-27, 1964: 9 days). [Return to Index](#)]

April 18, 1964² Left eightish in morning with Cliff Elder & [Wayne Huffine](#) and drove leisurely to Shreveport, La. Visited briefly [Musgrave](#) and Heavener Stations. Uneventful.
[Shreveport, La.]

April 19 Shreveport to Pensacola, Fla. – a very long day with much Sunday traffic after Baton Rouge. The day made longer by a \$37.00 speed trap at Bunkie, La justice. **[Pensacola, Fla.]**

April 20 Arrived at Gainesville about 4:00 PM, too late for meeting. Edwin & Mildred [Jean's parents] waiting at Motel. Had brief visit & they left. Nothing much that evening.
[Gainesville, Fla.]

April 21 Met with S-46. Looks like it will close out. Discussion of orchardgrass. Gave report on bluestems. Committee work finished by early afternoon. **[Gainesville]**

April 22 Southern Forage & Pasture Impr. Conf. opened with long, general talks – very formal. I talked to Dr. Hull about Doug Owen. Afternoon field trip also very general & saw little grass. Got a drink off of Gus & went to banquet. Entertaining enough. **[Gainesville]**

April 23 Morning session w. the conference. Wayne went to see turf plots. Symposium on quality of forage – rather good, best part of meeting. After noon drove off to Jacksonville. Dumped me at a hotel where I caught limousine to airport & got in to Wash. DC on schedule. Stayed at Lafayette. Downtown Wash. doesn't seem to have changed much. **[Washington DC]**

April 24 Walked to NSF building – a beautiful part of city. Cherry blossoms out, many other flowering trees & shrubs, tulips ablaze, etc. Saw Walter Hodges about grant renewal and

² Classes at OSU had just ended, or Harlan had his classes covered by Dr. deWet.

a Jack (J.T.?) Spencer in charge of facilities division. He wants to get in on a dig. Business finished, walked up to Corcoran Art Gallery & browsed for a bit. Back to hotel, out to airport & off to N. Y. Came in at Kennedy – to east side terminal then to Grand Central & Hotel Commodore. Arranged for rooms. The kids came in while I was out for supper & I didn't know it so didn't see Sue until after 9:00. **[New York]**

April 25 A BIG day at the fair³! The kids had breakfast in bed. We met at 8:30 & took subway to Queens. The fair opens at 9:00 & we were there by 9:10. Saw IBM, Bell Telephone, Parker Pen, Clairol, Shaefer Beer, G. E., G. M., Greece, Pakistan, Sweden, Vatican, Oklahoma, New York, Independent Power & Light, Du Pont, the fireworks & much more. Ate supper at Greek pavilion & took some cheese home. Left after 10:00 pm. A long day, but lots of fun. The kids are real cute. What a wonderful age 19 is! **[New York]**

April 26 Slept late & had brunch about noon. Met Lynne Larson's parents at the Commodore. He bought me a couple scotches & they put us on the train. A little over 3 hours to Kingston (RI). The kids eating most of the way. As Mr. Lason said. 'Everyone of them is on a diet.' Tour of the campus⁴. Then took Sue to Larchwood Inn for supper & I stayed for the night. Sent her back in cab. **[Kingston, RI]**

April 27 Mon Took cab to campus & met Sue. Had cup of coffee & met Bob Hughes at 8:30. A very nice looking lad who sort of twinkles. We didn't talk about anything much, but he made a big impression on me. He had class at 9:00, so Sue & I called at Irene's⁵ office, found her out & I called a cab to catch the 9:50 train. Only the 9:50 runs on Saturday so I waited for the 11:30. Got to Penn Sta. about 3:00 & decided to skip the Rockefeller Foundation. Cab to East Side Terminal & checked in there boarding pass, passport check & all & special visa for flight 2. So, all went smoothly. Got a window seat but very crowded anyway. 6 abreast 3 on each side of aisle. Dinner was good, the wine cheap, etc. But still crowded. **[Airplane flight NY to London]**

[EUROPE (April 27-May 2: 5 Days). [Return to Index](#)]

April 28 Tue Arrived [London] about 2:30 N.Y. time. cleared customs, took BOAC bus across terminal to bus stop. Got on No 81 & rode to Hounslow Garage, took No 117 to Kew Bridge, lugged the luggage across the bridge to **Coneth and Horala**. It was now being around 4:30 am N. Y. time, but 8:30 London time. I sacked out until 1:00 pm local time, then went to the herbarium. Saw Dr. Hubbard and settled down to work on the barleys. Saw several typical weed types & a few that looked rather wild. The fixed intermedium

³ [1964 New York World's Fair](#).

⁴ Univ. of Rhode Island, Sue will start as a sophomore in the fall.

⁵ Irene Stuckey of the Stuckey's roadside convenience store chain. She was a professor at the Univ. of Rhode Island and that is how Jack Harlan got to know her.

of Cyprus is apparently characteristic of Cyprus. The general feeling I had is rather confirmed by specimens. Supper at the snack bar of Star & Garter on north end of Kew Bridge. Early to bed & caught up on sleep. **[London]**

April 29 Wed Tea in bed at 7:45. Breakfast in the Hotel bar at 8:30. Very good indeed. Took shirts to laundry then to work in herbarium. Finished the barleys & did the wild wheats. At noon a pint of ale at the King's Arms & a sandwich and dashed into the garden to take pictures & see the plants. A tremendous place. Worked in the Herbarium until 5:30 closing. Saw Schultes from Harvard, S. T. Blake from Australia, Mr. Clayton & Mr. Kennedy O'Byrne in the grass section. Took underground to Piccadilly & had supper, wandered around alone & back by 11:30. Pretty hopeless to see a city like this in 2 evenings so gave up. **[London]**

April 30 Thu Same arrangement in morning. Worked on *Cynodon*. The Asian stuff is a mess. *C. barberi* looks real, but there is very little of it. *C. arcuatus* is scattered through the *C. dactylon* & vice versa. We need to start all over here. The East African stuff makes more sense. The big diploid '*dactylon*' has a definite center in Kenya, Ethiopia, Tanganyika & Uganda. It grades off into Nyasaland, So. Rhodesia, Angola, Mozambique & occurs in the Congo – and probably Nigeria according to Clayton, who lived there. It becomes subdued as it moves away from the center. It is generally distinct from the type *C. plectostachyus* but evidently introgresses with it. The South African stuff is fairly orderly. Supper in restaurant at Kew. Wrote letters to Jean, Bill & Sue & to bed. **[London]**

May 1 Fr. The last day at the Kew. Up early, packed had breakfast & checked out. A very reasonable plane £ 4-2-6 for 3 nights & 4 breakfasts. Comfortable too. Morning in the herbarium. Saw the *Brachyachne*'s⁶. Some do have a strong resemblance to *Cynodon*, but most do not. We should look into it a little. An Austro-Malayan group. Discovered I had left my hotel receipt after I had left. Quick sandwich & bitter at King's Ann. Lugged luggage across Kew Bridge & return busses as before 117 to Hounslow, 81B to Airport. The usual long wait & the bar was closed. Finally loaded the Alitalia Caravelle – a fine little jet, but tourist is still crowded. Arrived at Rome after an hour or so layover in Milan. Very long bus ride in to terminal. Lugged bags to Nord. No message from Enlaws. Took bath, changed, looked up Enlaws old number & called. No answer. Went out for glass of wine and to enjoy the Roman air. Soft but a little cool. Lighted fountains beautiful. Old guy who spoke French did a sketch of me which I bought mostly because it must be a tough way to make a living. To bed by midnight. **[Rome]**

May 2 Sat. A hard day, but a good one. Up by 7:00 rolls & coffee at Hotel. Tried again for Enlaws. Central says the No. is correct. Called it again. No answer. No message. So

⁶ The genus *Brachyachne* is in the family *Poaceae*. It is not *Cynodon*.

got my camera, walked to terminal & got a taxi to the Vatican. Went to St. Peter's first. A tremendous basilica indeed. Crowded with thousands of people – a great many Germans this day. Wander in groups with guides or like myself alone. Masses celebrated all over in different chapels & before different altars. One large group celebrating mass in main section. Sound of boy's choir under great cupola magnificent. The constant stream of people snaking through the great halls and chapels gives one cause to reflect on the spiritual nature of man and the things upon which he relies. Spent about 2 hours wandering about & photographing outside. Too dark inside. Bought some interior views from a peddler (who overcharged me of course). Then to Vatican museum. This was a mess. Thousands were trying to get in & buy tickets. One ticket seller. The crush was tremendous. I got into the stream & was carried along like flotsam. It probably did not last as long as it seemed, but I've never been in such a crush before. Finally literally carried to the window, got my ticket & suddenly could breathe again. Had to check camera at the entrance, so later bought some more slides. The main thing was the Sistine Chapel, of course. There was so much to see I just skipped most of it & went directly. The palace itself was a bore – ostentatious, almost frivolous & irresponsible. Who would build such a thing? Not for religious reasons & an impossible place to live. But the Sistine Chapel was all it should have been. Larger than I had thought & darker. The painting more cracked faded than I had expected. There must have been 2000 people on the floor, all talking & pointing out different things on the ceiling to each other. The babel & milling made it rather difficult to reflect & meditate as I would have liked to do but like the continuous shuffling lines in St. Peters. How can you separate a religion from the people? The people constitute the religion. The conception of the paintings was the most tremendous thing. [The Last Judgment](#) covered the whole wall at the one end. [It was full of drama & motion](#). People streaming from top to bottom – [a cascade of the damned falling, falling to Charon](#) & his boat at the bottom. The saved soaring up on the other side. And the unjudged showed every agony of anxiety. The symbolism was magnificently caught, but one had the feeling this was done more for art's sake than for religion's sake. Was this not Renaissance humanism? The figures on the ceiling were smaller & farther away, but the familiar scenes were splendid. The great brooding figure of Jeremiah seemed to be looking down on the crowds below with the thought of repeating his original prophesies. It was all pretty tremendous & gives some insight into Renaissance man who set the trend for Western Civilization. Saw some other things in the museum but left by noon. **[For an interesting and informative video on The Last Judgment, see [Video](#). Once you have viewed the Video, please click the following to read my [commentary](#).]** Thirsty & tired so had a couple of beers, then a taxi to the [Foro Romano](#)⁷ to pay my respects to ancient Rome. There was not quite as much there as I had expected, but I found that Piranesi⁸ had not exaggerated very

⁷ Roman Forum

⁸ Giovanni Battista [Giambattista] Piranesi [1720-1778] was an Italian artist known for his etchings of Rome

much. The arches & columns were tremendous and the Christians had bricked up between the columns of pagan temples to make Christian churches. Furthermore modern Roman buildings are simply laid over the old Roman ones. How symbolic of the whole Western world. Christianity is chiseled in around the old pagan cultures & the modern world stands upon the ancient. Found the [Arch of Titus](#) with the Roman soldiers looting the candelabra from the Temple at Jerusalem. An historic moment caught in marble almost 2000 years ago. Took picture & bought one just in case. Climbed all the way to the top, but was really pooped & foot sore. Came down, took taxi to Nord Hotel. Soaked my feet, rested & went out for a pizza & a beer. Came back & tried Enlaws again. No luck. Napped. Went out & had a real Italian dinner which tasted about like Italian dinners at home except the spaghetti with clams was delicious – also the veal scaloppini Bologna stile, and the Chianti. Walked around some more & to bed. Saw all I wanted to see in Rome except the Enlaws. It is a city one could learn to like. **[Rome]**

[ISRAEL (May 2 – 8: 6 days). [Return to Index](#)]

May 3 Sun Didn't wake 'til 8:00 when maid started making her first rounds. Breakfast at hotel. Packed & brought diary up to date. Checked out about 11:00 & lugged baggage to [Stazione Termini](#) & checked it at BEA. Another long wait Bus to airport & wait some more. Short hop to Athens & another hour in an airport. Short hop to [Tel Aviv](#). About 2 hours flying time and 6 hours waiting time. Customs clearance one of the best so far. Bus (they said) did not go to Sheraton so took Taxi for ca \$4.00. Sheraton just like any other Sheraton. The 11.00 rooms turns out to be 14.00. Then there is a taxi, maid service charge, Social Security & a mess of other charges. Why would anybody go half way around the world to stay at a place like the Sheraton. He could do that in Oklahoma City. I had eaten plenty on the plane so did not have supper, but went into the bar. The same layout as in Oklahoma City. The same corny canned music, etc. Went for walk & didn't see much – too far from downtown. **[Tel Aviv]**

May 4 Mon Found out why the room so expensive. Sheraton is on the beach & I had top floor looking out over the Mediterranean with balcony & all. Big deal. I got a room with a view & get in after dark & leave first thing in morning. Checked out & glad to leave the joint. Taxi to some place uptown where shuttle taxi's leave for Jerusalem. Bought R. T. for 11-5 & took off with 4 other passengers. This was more like travelling. An interesting drive of about 1 ½ hours to Jerusalem, then President Hotel. Not quite so 1st class & I like it better. After unpacked & did a laundry, got message from [Zohary](#). He came over & we laid some plans. Quick lunch & changed to field clothes & we took a field trip in aft. getting back at 8:00 pm, cold & dark. He took me first to a hill side near Beit Meir some 12 miles W. Jerusalem. Great quantities of *H. spont* (weed type). Then a little farther to a south-facing slope with much *T. dicoccoides*⁹, *H. spont*, *Avena sterilis*¹⁰

⁹ *T. dicoccoides* is wild emmer

(a little *A. barbata*¹¹). The emmer very spotty. Wild einkorn does not occur in Israel and emmer is at south end of its range here. Then we went down to lower foothills at Netiv HaLamed-Heh where *H. spont.* introgresses w. *H. vulgare*¹² producing hybrid swarms & ‘*H. aquiocrithom*’. This is the valley where David fought Goliath with the Israelites on one hillside & the Philistines on the hills on the other side. Zohary took me to one of the hill slopes – he didn’t say if it was the Israeli side or the Philistine & tried to convince me this was a wild habitat. We seem to be using different terminology. He does insist that the large stemmed, broad-leaved, large-seeded type is typical of the habitats of the western slopes of Judean Hills & that small, slender types are found in Galilee & the Negev. Introgression with cult. Barley in all locations. He may convince me yet.

[Jerusalem]

Tue 5V Ora Horowitz (sp?) came about 8:00 a.m. & we toured the city while D. Zohary had a committee meeting. Not much to see on this side of the wall. Got some nice views of the old city & [Mount of Olives](#) on the other side. Went to tomb of King David. People kiss the Mizpah or whatever it is on the door post & enter the vault & kiss a cloth over the ‘tomb’. It is as if King David died last week. Above in the same structure is the ‘upper room’ for the Christian pilgrims. Apparently a crusader church rebuilt into a mosque by the Turks. At 11:00 met D. Zohary & Aliza somebody & after a few delays started for the Galilee. Down to the coastal plain past the airport at Lod & up across the [Plain of Sharon](#). Climbed low pass in Carmel ridge & out on to two fault-blocks one lower than the other which border the rift. This is truly beautiful farmland here. I had not expected so much rainfall & this had been a good year. Really lovely. Nazareth already seen on a nearby hill top. Then down into the rift to Tiberius on the Sea of Galilee. The sea rather larger than I imagined & very blue & beautiful with steeper cliffs all around than I had thought. Really set in a deep rift valley. About 600 ft below sea level. Climbing up the northwest slope at the sea level bench marker we stopped & collected *T. dicoccoides* & *H. spont.*, as well as *Cynodon* & *Avena*. Then 200 M above sea level & 300 M, again at 600 M. I never imagined such a lush growth & abundance of *T. dicoccoides*. Wild oats I have seen this abundant & this large, but never the wheats & barleys. Tremendous seed size on all of them. Very impressive indeed. By the time we got to [Safed](#) it was too dark to collect anymore, but by car light we got a last *H. spont.* which Zohary thinks is a small type (I think it is just a smaller weed type). So, on to [Nazareth](#) which we reached about 8:00 pm & had dinner & walked to the church of the Annunciation now being rebuilt. Then the long ride home in the dark. Reached hotel about 12:30am. A very good day.

[Jerusalem]

¹⁰ *Avena sterilis* [Animated oat, Sterile oat, Wild oat, Wild red oat, Winter wild oat, etc.] [Wikipedia]

¹¹ *Avena barbata* is a species of wild oat known by the common name slender wild oat. [Wikipedia]

¹² The wild ancestor of domesticated barley, *Hordeum vulgare* subsp. *spontaneum*, is abundant in grasslands and woodlands throughout the [Fertile Crescent](#) [Wikipedia].

- May 6 Wed They called for me about 10:00 & Zohary took me on a tour of the Aegilipa¹³ introgression on the campus¹⁴. Lots of newly disturbed soils and on every one introgressing populations of *Ae. variabilis*, *Ae. Triuncialis* & *Ae. Ovota*. Showed me some crossing works, etc. Then met his father [M. Zohary](#). Went to late lunch in student cafeteria & met Evenori. Had long talk with D. Zohary on distribution & went to a roadside afforestation project west of city to collect a few legumes. A wild lens & a wild Cicer among them. Also an *Oryzopsis holciformis* which looks rather nice & is now grown commercially here. To hotel and a little rest; then to Zohary's home for dinner w. Michael & Mrs. A. (Deborah). A very nice evening & to hotel by 11:00. **[Jerusalem]**
- May 7 Th. Brought up notes. They came for me at 10:00. D. Zohary is in Tel Aviv today. Met first with Dr. Naomi Feinbruke, who works in cytotaxonomy and interested in our work. At something after 11:00 held a seminar on *Bothriochloa*. Very well received by the staff – students probably did not get too much out of it. Then to lunch with Dr. Kolar and M. Negbi who is interested in developmental physiology of range grasses. Visit too brief. At 2:00 to the herbarium & went through nearly all of *H. spontaneum* collection. The distribution is very clear here & very consistent. My impressions were right insofar as race patterns go. There is a desert race with small seeds, short awnes, narrow leaves & slender stalks. There is a very robust race with large seeds, very long awns, broad leaves & thick stalks centered from Jerusalem to the Galilee. There is a medium-sized Mediterranean race on the west side of the mts. & extending into Syria, Iraq & Turkey, etc. The large one grades by intermediates to the desert race in the Negev. The pattern is there. What to make of it? Also looked at some Triticum & Aegilops. At 3:30 ?? Morav came & we had a very good visit on carp breeding and tobacco genetics. The carps are a very interesting story. A few fish of the single spawn get the jump on the rest & many get ten times as large as the others, but it is not inherited. This makes selection for growth rate difficult. Some good work here. Tobacco work also interesting – looks like genetic control of chromosomal stability – leaf spot work. After 5:00 he took me near the house of Efrath Yeivin – a lady archeologist. We talked over site of the time range of domestication. It seems to be Natufian here, but surveys very spotty. Finally to hotel by 7:00. Dining room full at 8:00 so went out & found a café with a cold plate & bottle of beer. Then much rearrangement & sorting of luggage. The Negev tomorrow & must take all with me, wear field clothes & pack both suits. **[Jerusalem]**
- May 8 Fri Up before 6:00. Got it all packed & checked out & even some breakfast by 7:00. Off to the Negev. Country gets dried very rapidly & by [Beer Sheba](#) looks pretty arid. Beyond over a series of anticlines we climbed to Avdat & Evenari's Farm. Byzantine town on hilltop restored. Every wadi & every branch had terraces of Nabatean –

¹³ Aegilops is a genus of grass known as goat grass. Not sure what Aegilipa is.

¹⁴ Hebrew University, Jerusalem.

Byzantine period or older ones of 1st Temple times. Long ditches intercepting water & let it to the irrigation benches. Ratio of about 25:1 to 45:1 catchment area to crop area. Experiments based on old terraces with carefully measured water applied. Various crops tested and various amounts of water applied. Another project on loessal bench used 1 dunom¹⁵/tree down to ¼ dunom/tree catchment area – water drained to a corner to leach out salts, then trees planted. Experiments showed it can be done but probably not practical now. Proceeded up to top of last anticline & erosion cirque at Mitzpe Ramon. Spectacular break to descent below. Went down looking for Eremopyrum¹⁶ but didn't find the species desired. Plenty of *H. spontall* the way with desert race predominating in drier parts. Also of few collections of Cynodon. As usual it was dark before Dani gave up & I got to the Avis hotel after 10:00 pm. Big party going on. Everyone dressed up so we pull up at the awning in a dust-covered jeep & I got out in my field clothes, etc. Bed by 11:00. **[Beersheba]**

[EUROPE (May 8-10: 2 days). [Return to Index](#)]

May 9, 2013 (Sabbath) Up before 6:00 again. Got it packed & all the usual & off to Athens. Was pretty well pooped for lack of sleep the last week & didn't try to sight-see. Sacked out in aft & went up-town & had a meal at a Greek Restaurant. Very good, but not cheap. Back to bed fairly early. **[Athens]**

May 10 Was up well before 6:00. It was my plan to hike out to the [Acropolis](#) & take pictures with the early morning light. It didn't work too well. The joint is fenced off & not opened until 10:00 am on Sundays & it was a cloudy day. Also, a pretty fair hike from hotel. So, I worked slowly around the base of it. Old Athens still leans on a slope & I wandered through the ancient slums. Crowded little shacks with narrow, twisty alleys between but everywhere were (1) churches & (2) taverns. Even the shacks were painted gay colors & every house grew flowers to brighten the environment. Worked around to Temple of Olympian Zeus – actually of Roman times. Bought a guide book to see what I was seeing & sat & read it over coffee. Then to theater of Dionysus both the Greek, Roman and restored versions & finally to the Acropolis. Big mob. Spent quite a while trying to take it all in with all the distractions. Then down to the excavated Agora & restored Stoa which now serves as a museum. One of the most interesting features were the Ostraka of the Ostracism of 482 [482¹⁷?] BC. Aristides & several others ostracized at that time. Finally walked back to hotel dog tired about 1:30 having walked from about 6:00. On the way stopped at Greek sidewalk café & had prawns, potato salad, bread & beer. Sacked out again in aft, after soaking the feet. Tried a different restaurant – Muscles & stuffed grape leaves & wine. Again good but not cheap & to bed. **[Athens]**

¹⁵ A dunom is 1000 square meters

¹⁶ If this is the word: [Eremopyrum] that Harlan wrote, it is wheat grass.

¹⁷ An historic Ostracism of Aristides, son of Lysimachus occurred in AD 482, <http://en.wikipedia.org/wiki/Ostracism>.

[TURKEY (May 10 – July 7: 58 days). Note that this is Harlan's second trip to Turkey, the first being in 1948, when he visited every Vilayet (province) in Turkey. [Return to Index](#)]

[Arrival at Istanbul and getting started (May 11 – 13: 2 days)]

May 11 Mon. Tea arrived at 7:00 (which I missed yesterday) got up feeling better. Continental breakfast & went shopping. Sat. aft. I had seen a pin in a window I liked very much. It was a golden owl (symbol of Athena) on a thin quasi-oval ball. The store was closed & also on Sunday – so I went back & found the store. It was a little dandy alright & solid gold. Price about \$70. So I didn't get it & spent most of morning working the old section shops. Did not see anything I wanted much. Lots of charms for bracelets, but the nice ones are all sold & very expensive. They don't seem to work with silver much. Then it drizzled & I came back to hotel. It stopped after awhile & I went out & mailed letters & ate at a very Greek restaurant. Good, but pretty dirty, fairly cheap. Have a good set of bites by now. Mosquitoes, fleas or bedbugs? The usual at airports at Athens & Istanbul. But, my how Istanbul has changed! High river appts all over, 4 lane blvds through the old walls of Byzantium & the aqueduct etc. Checked in at Istanbul Palace & wandered around [Beyoğlu](#) [\[in 1964\]](#). This part about the same as before – a few night clubs & dives, more neon lights, otherwise about same. **[Istanbul]**

May 12 Tues. Tried to find Mark Glazer by phone book & U.S. consulate to general's office. No go, so bought ticket to Anatolia & went hiking down across bridge to through vegetable wholesale area to Egyptian bazaar & up to [Süleymaniye Mosque](#) [\[in 1964\]](#). Took some pictures, had tea & went on to [\[Istanbul\] University](#) [\[in 1964\]](#).¹⁸ After much asking found [Halet Çambel](#)'s office. Talked with one assistant on phone & then to Mark Glazer on phone. General impression that all was O.K. but should check with Nail Calairhan (Halet's husband). Went by taxi to [Mosque of Sultan Ahmed](#) [\[in 1964\]](#) & Aya Safia [\[Hagia Sophia\]](#) [\[in 1964\]](#). Took taxi home & had a bath & nap. Fairly tired. Lots of walking. Went to Adullah's for supper with all the trimmings. Very good & early to bed. **[Istanbul]**

May 13 Wed. Up before 6:00, checked out & to THY¹⁹ before 7:00. The usual & in to Ankara in good season. Airport bus terminal close to [Cihan Palas](#). Got room & walked all the way to U.S. Embassy & Aid Mission. A long way but saw what is happening in Ankara. Tremendous amount of building. Could not locate Nail, but had a chat with Mission director Gleason & a Jones. Walked downtown to nearest side walk café. Had lunch & took bus back. Met [Agricultural Attaché Gordon Schlubatis](#). Had nice visit checked again & got Nail's headquarters at University. Took bus, but lots of inquiries before

¹⁸ Istanbul University is next door to Süleymaniye Mosque

¹⁹ THY Turkish Airlines

found him. Much folderall about nothing & went back to hotel. Called after 7:00 & Nail had the word. Go straight to the site; all is taken care of. Meanwhile had bought ticket but no sure reservations. Had to go back at 5:00. Then back at 7:30 etc., etc. Tried eating at Karpez's for old time's sake. Old Papa would have turned in his grave!

[Ankara]

[Sets out for Archaeological site (May 14-15: 2 days)]

May 14 Thurs. Checked out & down to THY terminal by 9:00 as directed. Waited until bus left with the people & manifest. Two of us left over. So, checked bags & made inquiries. Next plane Saturday & next train late Friday night. Bus takes 15 hrs to [Elâzığ](#), **[zoom this map out to get an idea of where we are in Turkey]** **[1964]** Then heard of mail train that goes every day at 3:00 pm. Better than nothing in Ankara two days. So, killed some time at local amusement park. Took cab to station & little porter took charge. Bought ticket & he got me into 1st class compartment on the night train. It pulled out promptly at 3:00 pm & we were off. Lovely scenes passed the window. It grew dark & I stretched out on seats & slept. I could watch the stars. We were going generally southeast. All was well except much too hot & very sooty. About 1:30 am we had only reached Kayseri. **[Night train from Ankara to Ergani, Turkey, day 1; See [Map](#).]**

May 15 Fri After Kayseri I could see by the stars we were going northeast so must be on our way to Sivas. Dawn came and the scenes from the window were sometimes so lovely as to make you gasp. How beautiful Anatolia is; so bleak and bare and utterly lovely. Shepherds in great square shouldered coats huddled over their fires in early morning. The pollarded willows just leafing out. Snow on the distant mountains. Still going northeast & I began to get uneasy. 7:30 still northeast. Finally made much inquiry & we just hadn't gotten to Sivas yet. Finally Sivas about 9:00. **[Map]** Train remade & we took off southeast again for Malatya. Incredible though it may seem, it was 7:00 pm when we got to Malatya! **[Map]** Remade the train again and set off for [Diyarbakır](#). Now I had a Turkish passenger with me. Efforts at conversation pretty pathetic. Slept some more. He got off at Moden & I two stops later at [Ergani](#). It was 1:30 am.²⁰ **[Night train from Ankara to Ergani, Turkey day 2; See [Map](#).]**

[With [Braidwood](#) at [Çayönü Arch. Site](#)²¹ (May 16 – June 22: 38 days), See [Area Map](#)]
[Return to Narr.] [Return to Chapter 6]

May 16 Sat. Station agent directed an assistant to take me to the school. There someone passed me on to a guard & he took me to the camp. Turkish students directed me to someone's

²⁰ He seems to have spent two nights on the train, or 1 ½ nights, arriving at 1:30 am on May 15, 1964.

²¹ This site is about 150 km east of the newly discovered [Göbeklitepe site](#), which is much older and more advanced than Çayönü.

tent & I sacked out. All up before 6:00 & the Braidwoods found me washing at the faucet. Breakfast & visit. Then a bath & shave. Felt like a new person. Went to town to check in with Karmakhan Bey & a few errands. Then to site²². Looks very interesting. Large mounds if not very tall. Stone wall bases, lots of mawos & metotes, sickle blades, much obsidian, very little pottery so far. But they have just started Tuesday. Bobby Stewart still marooned at Elagin. Walked back over fields with Braidwoods. Lots of visiting to so. Nice luncheon with a beer. Then catch up on notes. Napped a little. Hard wind & shower. Went to sleep with rain coming down. Hard on the dig. [**Çayönü Camp**]

May 17 Sun. Up at 5:30 new time (late). Much putting off to Elâzığ [[map](#)] when nearly 8:00 AM. Took Marvin Mikesell (Geography man) along and dropped him at a large (& [very beautiful](#)) lake²³ [near Sivrice](#) to study the trees. Met Bob Stewart & Jesse Robertson ([Barbara Lawrence's](#) assistant) at the Divan Hotel. They seemed in fairly good spirits. Ran out the tarpaulin & saw their work room. Had fine lunch at Lokanta, drove back picking up Mike on the way. A very beautiful drive. The lake is lovely. RR goes right by it, but of course it was night when I came in. Moden is a copper mining town. More showers in aft & eve so won't dig in morning. Barbara took off for [Urfa](#)²⁴ where Bruce & Halet are working some sites. May go down Wed. Have stomach cramps. [**Çayönü Camp**]

May 18 Mon. Up at 5:20. Breakfast. Everything very gooey. Most will work on improvements for the camp & dig. I went for hike south over limestone ridge! In a big boulder field where animals graze less; at least found [H. spontaneum](#) [**barley**], *T. aegilopides* [**wheat**] and *T. dicoccoides* [**Emmer**] – all three, also *Avena* [oats] & great gobs of *Aegilops* [goat grass] as well as *H. bulbosum* [**Barley**] [[Images](#)]. The next ridge south is topped by a cemetery with lovely old oak trees. A truly beautiful place. In a swale on north side of 1st ridge is a remnant of an oak woodland. It has *Craetegus* [**Hawthorn**] *Pistacia*, [*Pistacia*], *Prunus* [**fruit tree**], *Quercus* [**Oak**], *Ficus* [*Ficus*] and some other things I don't know. Also *Vitis* [**grapes**], asparagus, *onobrachis*, *Vicia* [**Vetch**], *Lathyrus* [**sweet pea or Vetchling**] & many other items of interest. After noon worked on collections & wrote Zohary & family. Some dissention in camp over long hours & etc. Not much fun & games. Everybody rushed because of late start. [**Çayönü Camp**]

May 19 Tues. Dr. Mikesell (Mike) & I took the land rover & went out Diyarbakir Road to Saddle Said to be end of oaks. Found *H. spont* abundant. No *Triticum*. Went back & took [Cermik Road](#). Climbed limestone ridge twice. *H. spont* abundant; no *Triticum*. At

²² See: 1980 With H. Çambel, eds. *The Joint Istanbul-Chicago Universities' Prehistoric Research Project in Southeastern Anatolia I: Comprehensive View; the Work to Date, 1963-1972*. Istanbul: Istanbul Üniversitesi Edebiyat Fakültesi Yayınları.

²³ Google: Lake Hazar Gölü [See [map](#)]

²⁴ Today Urfa is called Şanlıurfa.

Çernik decided to come back as no benzene. Walked through town, had tea, watched a part of youth day festival, drove back to Elâzığ, climbing limestone ridge at a third place. *H. spont*, no *Triticum*. At [Ergani](#) got benzene & went on to Tigris R. toward [Dicle](#)²⁵ (Tigris). *H. spont*, no *Triticum*. Oaks well developed & plentiful here. Also a [Juniperus](#)²⁶. Back to camp & out to site. *H. spont* all around the site. No *Triticum*. To bed early. Mike & I learned two Turkish words today. We asked some boys the name of *H. spont*. They said OT. We pointed to wheat & they said Bugdry & to barley & they said Arpa & to *H. spont* & they said OT. But it turns out OT means plant! The other word was Bagka means another kind! Some seeds in red clay lumps – real or brought in by rodents? [**Çayönü Camp**]

May 20 Wed. Not much in morning. Breakfast at 4:45, looked at some of the material. Couldn't make much of it. Chaplain came out with some Radar Base man & toured the site. The red stuff now looks like fired plano convex bricks²⁷, but no pottery! Early lunch & off to [Bozova](#). Stopped briefly at [Diyarbakir](#) to buy some ass cans. How that town has changed!²⁸ Really booming – mostly military, but with large set of grain elevators, too. On up over [Karacadağ](#). South slope absolutely covered with *T. aegilopoides* [**Durum wheat**] and *T. dicoccoides* [**Emmer**]. Thousands of acres could be harvested with a combine. Basaltic rubble fields. Unplowable & not too heavily settled. The barley continuous strip along the roadside from Ergani to Bozova, but not out in the wild wheat. The Barley is a weed. Bozova a nice & comfortable site near a small lake. Met Bruce & Barbara, Bill Fisher & the Bessedigts, Sargon & Haluk, the local Turks: the first an archaeology student, the second, zoology & Barbara's helper. We had brought Diray Guğ (girl arch student). Later Halet came. Lunch, walk, slept on terrace of the 'Chai House'²⁹ [**Bozova?**]

May 21 Thur. Up before dawn & out to site. Late Uruk³⁰ at this phase ca 3000 B.C. Bob looked at one pot handle & said "Phase G". Pretty diagnostic. I hiked the hills. No wheat here, but very heavy pressure. The barley invades all the fields & crosses with the cult barley as expected. It is a little taller & earlier & looks like some heterosis³¹ in the cross. However the wild may get an earlier start. Got some *Aegilops* spp. for Zohary. After delays by accounts & etc. got off after lunch & came back to Diyarbakır, stopping briefly to show Halet the wild wheat & barley on Karacadağ. At Diyarbakır composed a long

²⁵ Dicle means Tigris in Turkish

²⁶ Juniper

²⁷ Plano-convex mud bricks [pcb] were made and used in the Middle East at certain places & times. [Model of pcb](#). Harlan had done his homework and recognized, or at least raised the question as to the identity of the object found in the dig.

²⁸ He first visited this town in 1948, 16 years previously.

²⁹ This is a Turkish tea house. Not sure where he stopped for night, maybe Bozova.

³⁰ The Uruk civilization was centered in southern Iraq. [See Uruk](#).

³¹ Hybrid vigor

telegram about Bob & Jesse & sent it. Then home & the usual. Feeling pretty tired out.
[Çayönü Camp]

May 22 Fri. Decided I had better rest. The 4:30 rising beginning to show. Went out to site to watch them break up the 'brick' rubble floor. Walked back, loafed a little & spent most of day composing a little opus about evolution of wheat & barley for Halet & the rest. Plan to illustrate it with specimens. Halet spent the day on the telephone trying to reach Ankara & get some action on Bob & Jesse. No go. **[Çayönü Camp]**

May 23 Sat. Half work day & pay day on Sat. Went out to site. Hiked the west ridge & found both wheats plus barley. Talked to an old farmer who gave directions for a small mound with blades & had a very pretty backed obsidian blade as sample. Got back for the payoff & rode to camp. News of a telegram for Halet so we all rushed off to Ergani. Telegram about something else. So Halet called Ankar. It took only half hour. The news was hopeless, so she called Divan Hotel in Elâziğ & left word all is hopeless & we are coming up Sunday. Snoozed a little in aft. Two cars went off to Diyarbakır but I wasn't in mood. Made a small plant press for the specimens. Halet gave me all the gory details on the political aspects of the whole operation to justify the Stewart-Robertson mess. It's pretty wild and too bad for Turkey. The gang came back with interesting things – must go shopping some day. Easy day & feel rested. **[Çayönü Camp]**

May 24 Sun Up late – 5:15! Leisurely breakfast, shave, etc. Bob, [Linda](#) & 2 drove to Elâziğ to see Bob Stewart off. On way saw U. S. Air Forces tents at concession area on the lake & Linda got the idea that Jesse might feel better there instead of all alone in Elâziğ. We put it to him & he was very happy with the idea. So, drove back to lake, made arrangement & back to Elâziğ. Had late lunch packed up Jesse & his things said goodbye to Bob & drove to lake. Set up Jesse & going on 4:00 pm drove back arriving sixish. A full day & little done. Too bad about Stewart; got his equipment, but he found nothing in the stuff we gave him. **[Çayönü Camp]**

May 25 Mon. Woke today by cook playing flute instead of blowing whistle. Very nice. It rained. Didn't think it would, but it did. Had to come back from dig. Wrote Rich & Sherry & the U. Hawaii. Set up microscope in Barbara's tent, and couldn't find anything either. Very strange stuff. Herb Wright & Wilhen Van Zeist arrived in eve. Showed Wilhem the microscope set up, etc. **[Çayönü Camp]**

[First Turkish Collection Trip to other Archaeological sites (May 26-28: 3 days)]

May 26 Tues. Got off in the yellow about 7:00ish with Yüksel (Turkish Archaeology student) & Mikesell, to Diyarbakır to check in with police. Nobody there so toured the bazaar a little

& bought a pen knife made in Bursa³². Got checked with police & drove to Urfa with stops to collect & photograph on Karacabey. Checked w. police at Urfa, got room in Ipek Palas & went out to Bozova. They had finished for the day, but showed us the site³³ & we stayed for supper. Kabobs again. Back to hotel & after a short walk to bed. **[Ipek Palas Hotel in Urfa; See [Map](#).]**

May 27 Wed. Let 'em sleep clear through to 5:00, then got them up, breakfast & away. Drove to Akçakale, with stop at rock quarry on west slope south of Urfa. Saw only the *Ae speltoides*. All farmed and looks good. Checked with police at Akçakale & decided to make the loop to Ceylanpınar. Drove it without difficulty. Found *Ae crossa*? Saw many gazelles. Annual cover rather bush w. controlled grazing. A good many stops but saw now wild Triticum. Much heavy farming on Akçakale side. At Ceylanpınar had lunch of hard cheese, cucumbers & tea. Took road to Viranşehir & in 15 km hit *T. aegilopoides*. Very thick along roadsides & tremendous length of buds, beautiful development. Also great green gobs of *Ae speltoides*. Black forms of *T. aegilopoides* present. No *T. dicoccoides* at all! But heavy farming & disturbance. Followed the diploid west from Viranşehir to perhaps 40 km from Urfa. Locally very abundant along with *Ae speltoides* but no sign of *T. dicoccoides*. Back around 4:00. Bath at Barnyo. Very hot, felt clean. Got shave at barber shop & hiked down to city park to see the fish. Bought some chick peas for them. Sat & drank a [cool ayran](#) & hiked back. Dinner at [Asmir Lokantasi](#), short walk to bed. A good day. **[Urfa; [See Map](#).]**

May 28 Thurs Up 5:00ish & out to Bozova site^{prev. footnote}. *T. aegilopoides* now showing conspicuously from Urfa almost to Bozova. Stopped at last high saddle before going down into Bozova pocket & climbed up to cemetery on top. Hit the jackpot. Very large trees of *Quercus Aegilops* (Palamuk) [*Valonia* oak]. One Hawthorne heavily laden with strings, ribbons, rags, etc. And a long cut altar stone covered with blood & chicken feathers. Three holes in stone to collect blood. The view tremendous and the trees very impressive. Return to site & watched the dig a while. Got off about 12:30 with Sargon. Met Herb, Wilhem & the Walens near radar bases. Short talk & on to Big D³⁴. where we checked in, had tea while Sargon wrote a wire & came on in. The showers were fixed & really felt great. Two vermouth's & supper. **[Diyarbakır]**

[End of Collection Trip; Return to Çayönü Camp]

May 29 Fri Out to the [site](#) first thing. There had been sabotage Wed. night. A mad workman had knocked over some walls, cut guys to photo tower, slashed tarp & torn down some

³² Bursa is a city in Turkey, located in northwestern Anatolia, within the Marmara Region

³³ There are numerous archaeological sites in this area. To see a lengthy report on a site near here which references Robert Braidwood extensively, see: <http://oi.uchicago.edu/sites/oi.uchicago.edu/files/uploads/shared/docs/oip109.pdf>.

³⁴ From the way the term Big D is used here, the best explanation is that it means Diyarbakır.

fence. Big to-do with Kaymakam etc. & two soldiers last night on guard. The site is looking crazier than ever. Big riverside wall, to roundish towards tall upright [menhirs](#) out front & very nice large stone paving. Inside two menhirs & one circular ‘altar’ stone, large area paved with small stones with fired brick floor over it. Another melted obsidian blade & other evidence of great heat but no ash, etc. Started working on display for Halet. Got most of stuff mounted & typed out text. When out with plant press & collected rest of stuff for mounts. Hot day. Some progress on busywork. [**Çayönü Camp**]

May 30 Sat. Out to site again & watched a while, looking very impressive. Back & got the green for the day, the digging crew will go swimming at the lake. Mike just up, but we got off 8:00ish, took road to [Eğil](#). Very interesting & scenic trip. Got disturbed feeling *T. aegilopoides* is the dominant large seeded annual on the basalt & it is replaced by *H. sprout* on the limestone. Eğil on [spectacular side](#) over Tigris (Dicle) Canyon. The limestone ridges here all were undoubtedly oak woodland, but what were the valleys? Got back before 2:00 & saw Halet off for Istanbul. Busywork, etc. [**Çayönü Camp**]

May 31 Sun. Out to site with Bob & Art. Some discussion made as to what to do next. A little microscope work & turned out a very hot & muggy day. [**Çayönü Camp**]

June 1 Mon. Wind during night & a much better day. To site. Got letter off to Jean. Left with Mike in green across valley to south³⁵. Stopped at [Bervan](#) & climbed to a [relict](#)³⁶ [oak stand](#) in large cemetery area. Quite impressive. Mostly Quercus Aegilops. Then across basalt plain as far as road went. Could see volcanic ridges in distance with trees on them, so decided to go to them another way, ate lunch & got back by noon. Had coffee, looked at map & set off for [Çernik](#). There we took road toward [Sivechek](#). Very interesting drive. Much oak. Found Emmer (wild) in the expected sites. Einkorn & barley (wild) everywhere as expected. The pattern is emerging. Reached end of volcanic ridges seen in morning. Oak forest party intact. A good day. Got back 5:30ish. Herb, Wilhem, Barbara & Haluk back. Tired & to bed. [**Çayönü Camp**]

June 2 Tue. To the site for a little while & brought car back. Followed the hunters into Big D. Went to Radar Base & after much shunting about got a whole box of acetate loose leaf sheath keepers. Just what I wanted for the display. In town left passports for grey cards. Saw the copper bazaar but not too impressed. They are cheap enough, but very plain, or else sort of corny. Decided to wait. Luncheon at the new Demir Oteli then Mike & I drove to border of Mardin Vilayet³⁷ – as far as permitted. Saw the same oak scrub & the barley & einkorn. Plain sizes rather rapidly S. Diyarbakır & we got to edge of Mardin

³⁵ Google places Bervan 87 miles to the north of Çayönü Köyü, Çayönü/Mardin.

³⁶ Relict: a thing that has survived from an earlier period or in a primitive form.

³⁷ The Mardin Vilayet is just to the south of the Diyarbakır Vilayet.

highlands. Back to town & found the grey card business hopeless. Took Hunters in & picked up the groceries & came back. Very hard rain on way. Great consternation - a copper artifact had been found in the site. [**Çayönü Camp**]

[**The beginning of Harlan's famous experiment harvesting wild wheat with stone sickle. I have highlighted all references to this activity in bold + Italics; but, the words are still from his notes. HVH2**]

June 3 Wed. Herb & Wilhen off to [Siirt](#). The blue is in the shop. Another party to Bozova & on to İskenderun & Adana includes the Braidwoods & Mikesell with Gary Wright going to Bozova. They are to bring back Halet & Bill Fisher. Did a little microscope work & found bricks of upper room much better than other tower bricks as far as tissue content is concerned. ***Made up two sickles out of Jelinek blade industry³⁸. Look like they might work.*** More fussing with Halet's exhibit. Rain showers continue. Now they have a stone 'bell clapper' to match a clay one & a piece of copper ore. Also a decorated stone bowl rim. What next? [**Çayönü Camp**] [Note: Details of the Wild Wheat Harvest continue (in bold) until June 18.]

June 4 Th. Grounded by car shortage. Raining in A. M. Went to site, cold & wet. They have found end of paving & parallel stone walls under the cobble floor. Microscope in aft, etc. Uneventful day. [**Çayönü Camp**]

June 5 Fri. Went to Big D with Hunters to pick up the blue. Air Base first for coffee & cinnamon toast & some fiddle-faddle with refrig. Then to Mobil. The blue not ready. To town & shopping at bazaar. Had shoes mended, copper pot tinned, groceries, etc. Got all & packed off the hunters a little after noon. Went to Denier & had a fine Turkish luncheon with fried eggplant & all. Walked to citadel. Got haircut. Took buggy to Mobil Evi where Ziyah Bey called the garage. Car "ready" & mechanic came & got me, but more repairs needed. Finally, got off long before the promised time & home in time for beer. A whole day killed. [**Çayönü Camp**]

June 6 Sat. Walked to site with Barbara Lawrence. They now have eight parallel walls. We took the blue & drove to Çermik. Wandered about town, saw the flower mill at edge, bought a cup for Barbara & a sickle for me. Took road to Siverek. Ate lunch at the ford where Mike & I quit. Drove up long ridge. Found wild rye at about 3,000 ft. The emmer and einkorn is ripening in the area. Got to Siverek with two hitchhikers, had a [Gazoz](#) & on to Diyarbakır & back. A flat tire on the way, but very fine day. About diner

³⁸ Arthur J. Jelinek was an anthropologist who was working on a [similar project in Istanbul in 1964](#). I am not sure what Harlan meant by "Jelinek blade industry". According to *A Wild Wheat Harvest*, 1967, Harlan manufactured hand sickles from some of the stone tools that had been uncovered by Dr. Braidwood at the Jarmo site some years earlier. Now, there was also a member of the Çayönü team named Jeleneck, (see entry, June 6) but it is very doubtful that this person was the same as Arthur J. Jelinek. HVH2.

time a Mr. & Mrs. Robins & Mr. Parsons came. First head of Mobil production in Turkey and second head of Mobil Exploration. They came to see the site. Much talk but not very much communication. To Jelenek's tent later & more talk with much more communication improved by gin & lemon juice. To bed late. [Çayönü Camp]

June 7 Sun. Somebody had looked up my birthday & [bruted it about](#)³⁹. Barb & Wilhem off again. Jelenek took the oil people to the site. Spent most of the day chipping through 'bricks' & found one seed. Birthday cake for me and a bottle of Rushing (split 27 ways) but all very nice & thoughtful. Braidwoods, Mikesell, Halet & all came back in aft. I gave Halet her exhibition. She liked it. [Çayönü Camp]

June 8 Mon. Out to site to watch Bob's expression. Jelenek took a picture of it. Bob says the 8 walls remind him of something similar in **Touf** at Jarmo. Took some pictures because it will be different when I get back. Took off about 9:00ish by myself to get wild wheat harvest. Mark went in with me to start the grey cards again. Seems we had the wrong forms & must start all over. They will try to trace my 1948 card. Had lunch with Mark at Demir Palas upstairs where you can get beer. Very good food. Drove on to Bozova – very hot ride. Only Bruce there. Delivered mail & stuff I took off again. Checked in w police for a letter from Halet. The poor guy didn't know what to do for me & finally took me to hotel & got me a single. Dinner at Azrur⁴⁰ unappetizing will try another shave and to bed. [Bozova]

June 9 Tue Up & out by 5:00. Drove to Viranşehir & then south. They had trimmed all the fields with a plow before combining & in addition a road grader had taken the fine roadside stands. Very patchy and disappointing, but **hand stripped several paper sacks of head material**. Very hot & desiccating. Quit about 12:30 and went back to Viranşehir for a couple of lemonades & then to Urfa. Splashed in sink, went to Istanbul Lokantasi. Liked it much better. The beer was cold. Sacked out 3:00ish and around 4:00 the Benedicts called. Dressed & had tea with them. Then 4:30 drove out to find Mike's trees on the Viranşehir ridge. Wound between villages & found tracks that led almost to them. They are Pistacea. Collected some specimens. Back by 7:00. Dinner w. rakı – also bought a small bottle & to bed. Found ice here has an incredible amount of crap in it. [Bozova]

June 10 Wed Up early again **& repeated except that this time a better spot. A wheat field w. a very poor stand & strips of einkorn. Hand stripped 5 half hour samples & sickled a 6th half hour sample for**

³⁹ Jack and Jean Harlan were long time crossword puzzlers and that may be how he expanded his vocabulary to include obscure terms. This may mean to spread rumors about it.

⁴⁰ Is this the hotel he got?

comparison. Hot dusty & tiring, but should have enough to do something with. Lemon aid at V. & return to Urfa & beer w lunch as before. The water here is pretty dirty & this is not the healthiest town. I can see why Mike got sick here. Better increase the ralis & ayran & lay off water & certain foods. Splashed in sink. Got a shave. Sacked out for couple hours. Hot w. flies. Had a rakı, washed out sox & shirt & brought up notes. [Bozova]

June 11 Thu Slept until 6:00 because Ismara police wouldn't be up early. Had breakfast & checked out. Got to police about 7:00. They called him on phone I got a 'Taman'. Drove to Bozova. Not much going on, so came on to Big D & checked in w. police. Went to hotel for lunch & drove to Ergani. Weighed up samples at PTT⁴¹ that eve – see back [At the end of this journal is a list of collections.] [Ergani]

June 12 Fri Out to site. It hasn't changed much since I saw it last, as things have gone slowly. Not a city wall & parallel walls. May be surrounded by a rectangle if outside wall?
Tried threshing the einkorn by various means. Grinders grind it. Mortard [Mortar?] grind it. Beating in a rock not too bad. Most of day occupied by fiddling w. ways of threshing - not too successful. [Çayönü Camp]

June 13 Sat **Kay Shepherd? Sheppard? Shaperd? Shepand? & I drove up Karacadağ to take pictures of harvesting wild einkorn⁴² with a stone sickle. Found a good stand but very short. I cut with one sickle for 1 hour & 20 min. with the other. Looked like good sheen checked light meter & found I have been 1 ½ stops too high all along. May not have any good pictures at all!** Took Kay to lunch at Demir Hotel & got back to Ergani 2:30. Took shower, changed & everyone (almost) went back to the base for eve. Stomach cramped. Had 4 Tom Collins & it helped. Braidwood gave a talk & we all answered questions for quite a while. Got back 10:00ish & found a windstorm had blown over privy, ripped Art's tent & covered everything with dirt. Feeling a bit rocky. Slept well. [Çayönü Camp]

June 14 Sun **Checked old blades with sheen w. alcohol. Believe a little came off, but does not seem soluble. May really be a polish pattern.** Righted the privy. Wrote home. Tried to rest. Not very successful & took hike across valley to limestone ridge. The country is still beautiful & the shepherd's

⁴¹ PTT is Post Office

⁴² See [story](#) for more recent findings on Mt. Karacadağ.

pipes lovely & haunting. It's about time to collect reference material. ***Did some thinking about the general problem.*** [Çayönü Camp]

June 15 Mon Art, Halet & others off to Bozova. Packed up the *T. aegilopoides* harvested to go home. Will continue study there. Spent morning sorting & arranging collections & specimens. All up to date and ready to pack. Started to get materials for identification should anything turn up in site. Not much else. [Çayönü Camp]

June 16 Tue Hiked out across valley & into relict woodland near Hilar. There is *Quercus*, 3 spp?, *Acar*, *Franinus*, *creategus*, *Prunus* 2 spp?, *Ficus*, *Puitices*, 2 spp? – a richer woodland than I had a thought. *Prunus*? seed looks like what I had got out of the bricks. Got a good start on collections. Worked on maps in aft. Laid plans for the windup. The Benedicts, Mehmet & the others arrived from Bozova, Reazan from Istanbul a big crowd again & Mike moved in with me. [Çayönü Camp]

June 17 Wed Braidwoods, Mike & Halet off to Siirt. I collected again but took it pretty easy. Looked at wheat fields but didn't see too much. Probably don't know what to look for. Started packing up. [Çayönü Camp]

June 18 Thur. Final collections and pictures. ***Kay & I hiked over to Hilar vineyard area to get black & whites of wild einkorn in wheat fields.*** Packed & sorted some more. JESSE RELEASED! [Çayönü Camp]

June 19 Fri. Barbara has been negotiating sheep & goat skeletons. Goat party at Hilar & sheep to school. The tragedy about Jesse – the telegram to Halet came on Tues. But got stuffed behind books & Irma Hunter accidently found it Thurs AM. I went up & got Jesse Thurs aft & brought him down. The goat party went off at Hilar. What a prehistoric scene! A white haired woman (Barbara) and a youth (Jesse) cutting up meat from a roasted goat. The crowd milling about, squatting, eating, huge mouthfuls of rice, bread & goat meat, all set among the weird limestone rocks & [rock shelters of Hilar](#) [please read this]. Goat cooked over cow dung. The old Billy was very good & tasty. Not strong at all & rather beef-like than sheep-like. A fine wild village party. Halet & the Walens stayed & recorded folk songs. Wish I could have stayed too. A fine experience Oh, yes! The helicopter came to take pictures & I got a ride back to D. a real experience & he took us over the walled city for a terrific view. This is the way to travel. [Diyarbakir]

June 20 Sat. The closing of the dig. Went out with Art & watched dirt being thrown down into lower part. Much dissention about top part. Photos & drawing went on all day & the road grader called off. Tail water from irrigated cotton fields made road impassible & Kay got stuck. 10 men pushed her out. Took Irene out for pay day. Then crew worked all day on drawings & photos. I labeled for some time. Party at school. Refreshments at 7:30. Speeches, Musical and records & basket ball by boys. A little corny but sort of

nice. I enjoyed it, but most wouldn't admit they did. Anyway TAMAM⁴³.
[Diyarbakir?]

June 21 Sun Couldn't sleep after 5:00 although Sunday. Finally got up & packed suitcases while Mike slept? Took it easy & got all (?) together in the blue [scout](#), breakfasted & got off with Barbara before 9:00. Had a flat tire on spare. Took Dave Tagert into Big D. Mobil Evi all quiet, so took Dave out to Mobil garages & after a little fiddle-faddle swapped our flat for a good spare off the yellow. Dave will drive the Land Rover back & the church crowd will pick up the yellow. So transportation is picking up. Barbara & I went on to Siirt via Batman & Kurtalan. *T. aegilopoides* very abundant from Batman on & spotted all the way. *H. spont* spotted all the way, but no *T. discaccides* seen even in likely spots. It's great to be on the road again. [Siirt]

[Harlan Departs Braidwood's Arch. Site and travels around Turkey (June 22 – July 7, 1964: 16 days, inclusive) Traveling with a group in 3 cars, Barbara Lawrence is riding with Harlan in the Blue.]

June 22 Mon. Got off at 5:30 down road to Şırnak. Only drove an hour, wonderful canyons, great scenery, very rugged. Came back, breakfasted, checked out, saw the Valic & did the formalities. Then off to Muş & out of the military zone. Got to Silvan again for lunch at the Bathis Losata Very good. Took road to Hazro & found it yalı from there to Kulp, so came back & took road toward Lice. *T. aegilopoides* & *Ae. Spottoides* everywhere in big plain & desiccated plain of Siirt to Silvan to Diyarbakır. Emmer seen only 9 km S. of Lice. Turnoff in rather thick oaks. From Lice turnoff to the Murat [Murat Nehri = river?] very rough country with scrub oak & virtually No annual or herbaceous cover of any kind. At the Murat, picked up the einkorn & speltoides & thence all the way to Bingöl and Muş. It rained hard after we got out of the hills & we were lucky because that road from Lice to the Murat in a rain would be a ditty. Arrived Muş at dark 8:00 PM. Located at the Beladin Oteli which looked pretty grim. A quick rakı & good dinner & to bed. A very hard day. [WRITTEN IN THE MARGIN:] A little past Dergalip Köprüsü past high water mark of trip. From now on I'm going home – slowly, but home. [Muş] See [Map](#).

June 23 Tue. Breakfast at 5:30 & off by 6:00. An easy day this time. A Secale probably montanum appeared in the highest point. Targelopoides up to 1800 meters and Respeltoides right with it. When we dropped down from pass west of Elâzığ lost the wheats but picked up a collection of wild einkorn in a wheat field 31 km E. of Malatya. Elev. 2750 ft. Most of way from Elâzığ to Malatya not suited to the wheats & especially not wild emmer. Ate lunch at nice Lokauta at Elâzığ & coasted into Malatya by 4:00.

⁴³ Taman means OK in Turkish.

Will try to catch up. Supper in a garden Lokauta very nice. **[Written on Margin:]**
Belediye⁴⁴ turned out to be quite nice in daylight **[Malatya]**

June 24 Wed. Off by 5:30 up road to [Elbistan](#). Saw *T. aegilopoides* on first pass at same elevation. It seems not to be in Malatya pocket proper. Very abundant along w. Secales on both the passes, but not in dry Elbistan. Elbistan has changed tremendously. Both valleys now irrigated & booming! Toured the town, saw the 13th Century [Seljuk Mosque](#) **[Google: Anatolian Seljuk Mosque, or Seljuk Mosque Elbistan]** & climbed the [minaret](#). Back to highway & went to Darende. It has lost its isolation, but not all its charm, yet. A real oasis. Came back w. no specimens but can rule out the area as of interest to the study. Got oil on my shirt & a flat tire. Will deal with it in morning. Supper in same Lokauta – a very nice day. **[Malatya]?** See [Map](#).

June 25 Th. The tire wasn't completely down but had to change it. The gas station nearby would not fix it so after some inquiry found a place. The phrase goes something like: PATLAK LASTİQİ YE(R)MAH MISİNİZ⁴⁵. It works like magic. A boy worked on it for an hour or so while we had tea. He didn't pump it up & test it but we could do that at a filling station. He charged an outrageous price of 15 TL & I paid him. We checked out of hotel & went out towards **Gantep**. Stopped at first station & filled w. air. The tube leaked. The boys took it apart & found 5 holes & no new patch at all. Finally went back to town & bought a new tube. The boys put it in & didn't charge anything. There was a small brad buried in the casing. I gave them each a pack of chesterfield & they seemed to be pleased. It was now 10:0 AM. Out of town about 30 km picked up einkorn & *Ae. speltoides*. Lost it again for quite a while. Picked it up again near Golbast **[Google: Gölbaşı]**, lost it again. From 45 km to 30 km before *G. antep* [Gaziantep] we crossed a high basalt ridge a maqui growth⁴⁶ & einkorn, emmer & *H. spont.* in abundance. Also some intermediate looking things. A student problem here. On the limestone *H. spont.* tends to take over as expected. Got to *G. antep* about 5:00. I got a room w. bath – bathed went out for a shave while Barbara bathed. Got some roasted corn & pistachios. Drank rakı & worked on notes. Word of the expedition came after supper. They got in late & pooped with one car in front wheel drive only. Stayed at different hotel (**YILDIZ**) because our (GÜL) was full. **[Gaziantep]**

June 26 Fri Got late start waiting on the others. Finally agreed to go on ahead. Picked up einkorn shortly after leaving town. Some of it has that emery look we noted yesterday, but this time I think it is all *T. aegilopoides*. This continued across the ridge before the right but dropped out immediately as we dropped into the rift. Nor did we ever see H.

⁴⁴ Belediye here means municipality.

⁴⁵ This was Harlan's spelling in his notebook. According to my Turkish friend, Ibrahim Aba, the expression was probably more like Patlak lastipinizle yerdeminsiniz, which means something, like "the tire is flat". HVH2

⁴⁶ maqui growth is a dense community of several kinds of plants. See <http://en.wikipedia.org/wiki/Garrigue>.

spont there. Up [the big pass](#)⁴⁷ west of rift things looked very Mediterranean. No wheat or barleys except *H. bulbosum*. Down west slope picked up *B. ish* & *H. hirta*^{48??} in quantity. We went on to Islecuderun [**Google: İncirlikuyu, near Mersin**] & had a fish lunch on seaside, climbed the pass to the ‘Amouy & saw no wheats or barleys, came back up over the pass & on to **Mersin**. No wheats or barleys (wild) in the Cilician plain. Located in fine new TOROS hotel⁴⁹ w. showers & Matre D. spoke French & another fish dinner. Pretty luxurious by standards of Eastern Turkey and the price matches. We are spending 2-3 times what we were on food & lodging. [**Mersin**] [Map](#)

June 27 Sat. Got off to a good start. It had been hot & sultry all night. The [road to Silifke](#) was amazing considering what it used to be. Lots of developments for tourists, beach cabins & etc. Fine road & many gas stations etc. At [Silifke](#) we bought melons & climbed all over the [castle](#). Drove on to Mut for lunch, stopped to look at water wheels, etc. Excellent road all the way & got to [Konya](#) ca. 2:30. Barbara admitting to being sick & not eating. The expedition showed up later & I ate with them. Saw shop where Tribuli⁵⁰ are made & they had sacks of real blades. Got a handful from Bob Walen. The sleds were beautifully made w. very uniform & neat bits of blade set in evenly. The stay in Konya pleasant but went to bed instead of sitting up drinking w. the students. The old man is tired & dull. [**Konya**] See [Map](#).

June 28 Sun Barbara & I up for breakfast by 6:00, Mike still sacked out. He joined us later at the PASTAHANE⁵¹ & we got off in due course. Easy drive to Ankara. Saw a little *T. aegilopoides* among the rye. No barley seen. Got rooms at the Yulasal Palas which is well situated. In aft. had car washed, polished, greased, oil changed, air filter cleaned, etc. All for a pretty fancy price. In evening invited to the Gene Northrup’s, Ford Foundation for dinner. She has had a lot of fun decorating the apartment with Turkish things ranging from antiques to dog collar spikes. A nice evening, but had to get back into liking the city ways and trivial chit-chat. [**Ankara**] See [Map](#).

June 29 Mon. Up at 6:30 – can’t seem to sleep late. Missed Barbara at breakfast (Supposed to deliver her mail.) Went to travel agency re. flights to Tblizi (Tbilizi). They thought I meant Tabriz & it was rather confused, so went to PAN AM & they looked it up. The only flights are though Moscow or Tashkent, so chopped the whole plan. Then went to Bulgarian & Jugoslav Embassies. Long line at Bulgarian, picked up cards & went to Indonesian, left passport for “9:00 tomorrow”. Got back & found Barbara had been

⁴⁷ The big pass was probably the [Cilician Gates](#), or Gülek Pass, through many have come, including Alexander the Great and the Apostle Paul.

⁴⁸ I cannot find a species name anything like the word that Harlan has in his notes.

⁴⁹ Toros Hotel, Mersin, constructed about 1961. See: <http://www.amazon.com/Blood-Dark-Track-Family-History-Vintage/dp/product-description/0307472957>, and search for Toros Hotel.

⁵⁰ Tribuli, also known as Caltrops are [spiked weapons](#) from the Roman times.

⁵¹pastery shop

looking for her mail & left with Baktiye. Rendezvoused with the Braidwoods, Hunters, Halet & all that's left of the gang at the very sevimli⁵² BULVAR PALAS. An elegant lunch & all that but the food not really as good as in the little Bitlis Lokantasi in Silvan or perhaps cleaner but not as tasty. In aft. Mike sacked out as usual & I climbed all over [the old citadel](#) & old Angora⁵³ & went through the copper bazaar. The new trays all made in Marez & only one since old one in sight & the men didn't own it. Looked at old coins & dagger. The guy wanted too much for the coins, I thought. Finally left without buying anything & walked to station to see off Braidwoods & pick up the blue. Then Barbara & I went out to Haluk's house. Not a large house & small rooms but Kilile & his wife & small daughter, his sister & her husband & two children, an uncle a nephew, at least one mother – Halik all live, together in it. We finally sat down to eat after 10:00. Ralsh w. dinner & champagne after – a real feast. It was all very nice, but I was tired after hiking all aft. & by midnight was really getting stupid, so managed to get us off. You can't run very long on both time schedules. **[Ankara]**

June 30 Tu. Slept until 8:00. Showered & down to breakfast w. Mike. Took him out to Meteorology & then Barbara & I went to Jugoslavia & picked up my passport, then to Bulgaria & left both of ours for 'tomorrow at 10:00'. So, back to hotel to catch up a little on notes, expense accounts & collections. Little activity worth of note. Got some stamps for Wayne Metz. Dysentery getting worse. Halet came & we located the tray & bought it. Very pleased with it except for buffing marks. **[Ankara]**

July 1 Wed. Went to Bulgarian Consulate half hour early & found them open & took Barbara's passport to Indonesian & left it. I was supposed to have the car at the hotel at noon for someone to look at & Barbara had cooked up some sort of luncheon with Baklitya & her husband & a picnic with Haluk & his family in eve. I was feeling pretty rocky & had started medication for dysentery. Fortunately Barbara didn't show before 1:00 so I cut out & had lunch at the TURAN, good, and went back to the bazaar. Bought some more old coins for Rich & a Kurdish cummerbund for who knows? Got the car back to Barbara at 3:30 & sacked out for a while, then packed, ate out with Mike at a good place up the Bulvar. Dysentery improving somewhat already. **[Ankara]**

July 2 Th Paid bill & checked out. Got to Jugoslavia consulate a little after 8:30 & it was open. We were on the road by 9:00. Roads good. A fine day. Dysentery nearly cured. Ate at Boln & came on to USKUDAN ferry & up to Talasin Park. Located the hotel on second try. In time for drinks & dinner at the [ugh] hotel. It is not a very nice drive through beautiful country from Ankara to Istanbul. Saw T. aegilopoides & weed rye on the plateau, but lost it as we got into higher rainfall. **[Istanbul]**

⁵² sevimli means cute

⁵³ Old Ankara

July 3 Fri Stole a day for myself. Left early & hiked over to the Bazaar. Bought Jean's gold chain after much hesitation as to whether it would do. Then bought a brass pitcher which I wasn't sure I would except I liked the shape⁵⁴. Hiked back to hotel & went out to Abdullah's. Then down to waterfront to take a ferry ride. Finally got one to Beykoz. It was beautiful & fun but it was after 5:00 when I got to Beykoz & I had promised Barbara to take her to Abdullah's. So, I got off took a bus to Üsküdar; took ferry to European side & caught a bus to Talkeim & got to hotel at 6:30. We went to Abdullah's & ate up a storm – about \$8.00 worth for the two of us & that's a lot of eating in Turkey. Home & to bed. **[Istanbul]**

July 4 Sat Beat it out alone again. Tried to find grain bazaar. Not much luck. Went on up to covered bazaar & finally bought Rich his knife. The same blade as on the fancy ones, but a plain scabbard. Sat in Lokanta⁵⁵ in the bazaar & wrote Lou Adams, had lunch, got back to hotel & sacked out a while. Peter & Bob W. came in for showers & we all piled into a minibus dolmuş & went out to Halet's place – a fine, old YALA on the Bosphorus⁵⁶. The first time I had been in one. Grand staircase, two very large rooms upstairs & much more we didn't see. It must have been really something in the horse & carriage days. Drinks & eats very filling. Back to hotel & more talk in Braidwood's balcony over beer & to bed. A nice 4th. **[Istanbul]**

July 5 Sun. I got up at 5:00 & tried to sneak out. Bruce awake anyway. Took the green & no roadmap. Made out O. K. anyway. Went to Gelibolu [**Google: Gallipoli**] & back – a lot of hours in the saddle for the green, but a good day. Beautiful scenery & a beautiful day & good to get in the field again. T. villosum showed up early & wild einkorn pretty well all the way except in the lush Mediterranean hills where there was maqui & pine. Found it almost at Galibolu [Gallipoli] so it probably goes the whole way. The fun was in the cultivated einkorn. Thousands of acres of it - KAPLICA⁵⁷. What do they do with it? Wild & tame often together. May or may not have hybrid swarms. Back in time for supper at hotel – damnit. **[Istanbul]**

July 6 Mon. A day too horrible to remember & best forgotten, but will relate order of activity for future reference. Went to IHSAN Bay's office. He is an 'expeditor'. Waited 40 minutes before he ever showed. He & Mark took the Carnets to customs & got them extended. Went back to hotel & Don took me out to garage which is almost in Greece. Waited for car & got in a little after 1:00 back to Hotel & called Bob B. Mark, Cordelia & I met at customs. Forms were filled & Mark trudged from one office to another up 7 flights & down 4 flights. By 3:30 we had turned in Turkish plates & gotten the British ones back.

⁵⁴ I think I have that pitcher now, HVH2, 2014

⁵⁵ Note: Lokanta is an eating place in Turkey.

⁵⁶ Also called the Dardanelles, is part of the border between Asia and Europe.

⁵⁷ Not sure what KAPLICA means in this context.

Got to Touring Club at 4:00 & had me endorsed on the Carnet. Back to customs to get the car off Cordelia's passport & on to mine. They threw a last curve. You can't do it that way & business was closed for the day. Must show again tomorrow at 9:00. Got back to hotel a beer, a bath, a couple drinks & Barbara & I went out & the rest ate hotel food. A little Lakante under Galata Bridge. Fish & then lobster, wine & the works. Very nice & for Turkey terribly expensive (TL 80) **[Istanbul]**

July 7 Tue Up before 6:00 & packed ready to go. Went to customs w high hopes, but I should have known better. Cordelia was over ½ hour late because she tried to get a car ferry from Usklauder **[Google: Üsküdar]**. This set us back enough that we couldn't finish before 12:00 & the Touring Club didn't open again until 2:00. The reason we had to go back to the Touring club was that we had to put the car in customs to get it out & customs complete the Carnet & tore out all endorsements. Anyway I finally got a paper demanding that the car be out of the country in 48 hours. Then I took car to a service station & had it serviced while I waited. Then back to Touring club. Carnet all in order back to hotel, loaded up & took off. We stopped at University to say goodbye & Gretel called from hotel saying hold everything she had papers on shipping the car. So we waited again. Finally got off & Halet gave me a copy of the tape she had made at Hilar & very nice. So on to [Erdirna](#). The scenery lovely, the road good. Saw wild einkorn scattered along the way & quite abundant between 60 & 7 km E. of Erdirne. Haynaldia also. Found a new hotel & stopped there. Dinner at 9:00 & late to bed. **[Erdirna, see [Map.](#)]**

[EUROPE July 8 – August 31: 55 days. [Return to Index](#)]

[First, he enters Yugoslavia (July 8 – 11: 4 days); Barbara is traveling with Harlan in the Blue.]

July 8 Wed. We were under the [Great Mosque of Sinan](#) & the Anzan woke me about 4:30. Got up shortly after & wrote Jean the plans. Had an altercation with the Maitre D about an overcharge & he might not mail my letter. Must write again. Crossing the border was rather easy. A little standing in line, but no one used the Carnet⁵⁸ at all. Bought Bulgarian insurance for \$3.00 & changed 300 T. L. for 45 reb. Drove on to Sofia – over 300 km. The road good to excellent the whole way with only one short, dusty detour. The einkorn scattered between HARMANLI and HASKOVO & then seen no more although Haynaldia continued on some distance. No cult einkorn at all. Tobacco was king first, then grapes, then fruits. The country looked dry but attractive. At Sophia the Grand Hotel Balkan was full & they found an apartment in the city for us. We had a time getting two rooms out of it & I'm afraid Barbara had a poor bed. The city very attractive

⁵⁸ A Carnet is a document that allows a traveler to bring into a country [import] some merchandise with no taxes with the promise and intent of bringing it out of [export] the country within in limited time.

& seemingly gay⁵⁹. Went to Berliner restaurant but the food not much, the beer wonderful. Nice apartment & nice people. Prices not as cheap as Turkey generally. [Sofia, see [Map.](#)]

July 9 Th. Sneaked out early so hosts could have their kitchen. Left note in very bad French and looked at several of the churches. The [cathedral of Alexander Nevsky](#) dominates the downtown hill & is a magnificent structure. Paintings inside seem all of one style & a unity – saints & scenes from the life of Christ. Mass was being sung w. a few people attending. Marble quite remarkable & all in excellent condition. It must have been something when it was full & a complete choir singing. Nearby was a small church dating from 6th C. ca. 526-546? But destroyed & rebuilt at least twice – once in 1837 after earthquake of 1818 etc.⁶⁰ An interesting study in styles. Also the Russian church w. onion domes etc. Very small but beautiful. We saw some of the people in colorful costumes dancing in the street & learned of the festival going on in opera house so went. A lot of fun & [excellent dancing & brilliant costumes](#). Took a couple of picts. Went shopping but didn't care too much for what one saw. Sort of cute but nothing authentic that people use. Had an early lunch & got out of town before 2:00. Drove to border & crossed w. no trouble. Not only didn't use Carnet – we didn't use the green card either. Picked up a hitch hiker who spoke German & learned a little from him. He doesn't seem much for collecting. One stretch of road rather bad but got into Niš early, got rooms, saw the old Turkish fort now a park. Had a late supper because of time change. Altogether a very nice & easy day. [Niš, Serbia, see [Map.](#)]

July 10 Fri They pushed the bill up higher than I thought they could & I had to get more money changed, \$60 so far. Got off to good start anyway and found the road excellent all the way. Got to Belgrade by 11:00 or so & found the Hotel Belgrade right off. Rooms are w/o bath but OK. This is a class 'C' Hotel. Lunch & then I went to Embassy. Everybody nice but no help. A Mr. Penny of commercial section helped me. The Agr. attaché brand new & tied up w. Washingtonians KEATINGE ? All Yugoslav offices close at 2:00 pm & never open Sat. or Sunday. So, it's wait until Monday. We then took a drive around the city - saw zoo & drove across bridge over Danube. Hiked to Orthodox Cathedral, sat at sidewalk café & drank a beer, started looking for a good restaurant & it rained. Stood in doorway & watched sheets of water drifting in front of street lamps – very nice. Finally got to car rather wet & wound up at the Metropol. Dinner & wine good. Back by 11:30 – they eat late here. [Belgrade]

⁵⁹ I assure you this word is used in the traditional sense of being relatively free of encumbrances, rather than in its current use in our more “enlightened” and homophobic day. HVH2

⁶⁰ Harlan must be getting his information from some kind of brochure, or someone told him this; however, he usually discloses his sources of information and he does not here and throughout his tour of Europe.

**[Barbara departs by plane and Harlan begins to travel by himself across Eastern Europe.
(July 11 – 28: 18 days, inclusive)]**

July 11 Sat. Belly growling enough to start medication. Got Barbara up to the airlines bus terminal. She found she had to pay excess baggage in dollars. I gave her \$30 which is all I had on me. After she left I dropped into St. Marks which was right there. Came back for breakfast. Went uptown again and found Jugoexport closed alright. Bought some sulfonamide. Hope it clears up the guts. Rained or drizzled all day. Found some of the restaurants we were looking for right under our noses. Went to the fish place & it was nice, but I chose the wrong fish – it was mostly fish head. Slept a bit & pretty weak.
[Belgrade]

July 12 Sun. Still raining. Hiked up to an Orthodox Cathedral to hear mass but ½ hour late so walked into park, in the rain. Lovely park which includes old fortress Belgrade The French poop under one of the Turkish arches in the wall says the hill at the confluence of the Sava and the Dunav⁶¹ has been fortified since prehistoric times. History records that the Celts built a fortress called [Singiduhum](#) which was taken by the Romans near the end of the 1st century. The Roman fort was called Castrum. This was taken by the Huns, Gepids, Avars & others & then by Byzantium. From the 9th c. it was called by the Slavic name Beograd = white city. It was occupied by the Bulgars, Slavs, Byzantines & Hungarians. In the 13th c. it was taken for the first time by the Serbs & became capital of Serbia in 1403. The Turks came in 1521 & left finally in 1867, but their rule was interrupted twice by Austria & once by Serbia. The double ramparts, as now seen, date from the Austrian Occupation of 1717-1739⁶². # Had lunch at the Prag – pretty bad, slept. Went out for dinner but didn't find much open. Wound up at an express eating sausage and beer. **[Belgrade]**

July 13 Mon. Went to bank & changed \$200 on letter of credit. Went to Embassy & got list of people & institutes working in Yugoslavia⁶³. Got some encouragement on car shipment & left. Went out to Corn research & visited with Dr. Piper, the director. Had lunch at a very good place near where Barbara & I had plotted the location of restaurants. Went to Botanical Gardens. Run down. No labels, green house closed, etc. Coming back stopped at St. Marks. Mass was being sung. Absolutely magnificent music – a thrilling experience & I, one lone protestant Presbyterian, was the only one there. I wept. It finally cleared in aft. Still fighting dysentery & very weak. **[Belgrade]**

July 14 Tue. Finally I got off. Up at 4:00 & packed & out by a little after 5:00. Drove all the way to Zagreb for lunch. The Danube & Sava valleys show much more collectivization.

⁶¹ Dunav: Croatian for Danube

⁶² How does he know all this? HVH2

⁶³ Note, Harlan starts spelling Yugoslavia with a Y.

The corn looks very good. Fertilizers evidently used. Sunflower fields good, too. Evidence of much rain & wheat harvest a problem. Picked up a couple of college boys & took them to Zagreb. They directed me to Consul's office but no mail. Didn't try very hard to see anyone at Zagreb. It was getting near Yugoslav closing time. So I saw the [cathedral](#)⁶⁴ instead. A fine Gothic. Some work started in 1094 but this destroyed. Part of the 13th Century work is still there. That suffered heavy damage by the Mongols in the early 13th c. Most of the church is late Gothic with elaborate ribbed columns & vaults. Fine glass windows very impressive⁶⁵. Part of the old city stands nearby, very picturesque. New city swallowing it up. A factory town. Saw edge of oil field. Petro Chemical plant. Super phosphate plant & much else. Zagreb is really in Europe. From there on to Ljubljana⁶⁶. It looks very Austrian with castles on the hills. Big landowner because huge farm stands, etc. A lot of it uncollectonized yet. Fiper said only 15% of land is in collectives so far. From Zagreb the land gets hilly & the soil thin. Ljubljana is still on the Sava, but a small valley. The old town is being swallowed by the new also. Vast stretches of forest & much wet land as you go up the Sava. [**Ljubljana**, see [Map](#).]

July 15 Wed. Woke up to heavy fog. Found Prof. Sodar's office about 7:00. He showed about 9:30 & claimed to know nothing & shipped me off to see his assistant Ing. Spanering who is supposed to speak English & had sister – 1 in the U. S. A student one FRANC KLOBASA, KRIMSKA 12, Ljubljana guided me out to the station⁶⁷. Spanering nowhere to be found & nobody knew anything. We walked around the plots some & a student showed me over the corn breeding work. Then a JOSE ZUNKOVIC, POSKURIN CENTER JABLE P. MENGES, SLOVENIA, Yugoslavia showed me around & around. Rather routine testing & screening of everything from potatoes to clover, mostly special crops & wheat, forage clipping plots etc. Survival main thing in both red clover & alfalfa. The adapted things mostly from the north. The Director Ing LOJSE AUSIĆ, KMETIJSKI POSKSNI center Jabje P. Menges. Yugoslavia – turned up & toured with us. Had lunch about 3:00 pm at the farm house. Then Franc & I went up to the arboretum & browsed for an hour, then to Botanic Gardens where the Director, a M. La Ša ? showed us around. Finally back to hotel. The whole day in German & rather exhausting. Spanering never showed & got very few seeds. However made some contacts. Others are:

⁶⁴ You may need to translate this website; but it gives a history of this cathedral to compare with Harlan's history.

⁶⁵ How in God's name does he know all this? Did he study up on it before leaving on this trip? That would take a far amount of fore-planning, but I simply do know how he could walk in a strange cathedral and start seeing all these phases of its history. Was there a plaque or a brochure about it? He would have mentioned this, I think.

⁶⁶ Modern day Slovenia

⁶⁷ It is not certain which facility Harlan is visiting, but most likely it is the University of Zagreb.

Prof. Ernest Maijer

Filosofija Fakultet

Aškerčeva 12, Ljubljana

Prof. StRELEĆ in BANJA LUKA

Prof. Lazić in Nove Sad. **[Ljubljana]**

July 16 Th. Aušić met me at hotel at 700 & took me to the Farming Institute. There visited with the director & a young chap who gave me a few seed samples. Got away early enough & drove to Zagreb. After several inquiries found Maksimir and finally the Fakultet⁶⁸. There I first met Dr. Ing. (Docent) Jancized, Poljoprivredni Fakultet⁶⁹ – who speaks English well & who works on the animal end of forages in vitro & nylon bag digestion, fistulated animals⁷⁰ etc. Problems with varieties of sorghum & sudangrass & stages of cut, etc. Pretty good. He was showing me around when Prof. Dr. Ing Agr. KARLO ŠOŠTARIĆ – PISAĆIĆ. Faculty of Agronomy, Maksimir P.O.B. 95, Zagreb, Yugoslavia showed up & we toured together spacing studies on sorghum & variety trials. He then took me to his flat in a lovely 17 C. house in the old city. Mrs. ŠOŠTARIĆ cooked up a luncheon & we had a nice visit. It has been a comedown for him. He lost a farm & much property in the war & revolution, but seems resigned. The two rooms very large & nice but they must share the bath & perhaps the kitchen w. another family. Formerly a Baron's house it now is occupied by 70 people. Still the flat was very nice & the view of the old city & cathedral lovely. Didn't get off till 3:00 because the old fellow kept planning my route. Still I'm glad I took the time & he gave me a good steer about going to PLITVICE to see the lakes & good hotel which was not full. One other contact:

Dr. MILOVINIC JOSIP.

Aquicultural Fakultet Zagreb

Who worked with vetches – must write him.

Also, Prof. BATINICA or Ing SARIĆ

at SARAJEVO, FACULTY of Agronomy

⁶⁸ College

⁶⁹ Google: [University of Novi Sad - Faculty of Agriculture](#) in Serbia

⁷⁰ An animal with a hole in it to observe digestion, etc.

[Added on facing page with double lines to indicate it goes in the July 16 entry somewhere:] Also Šoštraić wants genuine Sumac & sugar drip seed & sent publs. **[prob. Zagreb]**

July 17 Fri Up early and packed, checked out & went back up road to collect. Legumes very abundant as roadside plants include: red cl.⁷¹ white cl. yellow **sevctel**. hop cl., crown vetch, several small leaved vetches & Lathyrus, a black medic, a yellow flowered perennial Medicago⁷² endemic in Yugoslavia, birdsfoot trefoil, a Lespedeza and some I don't know. But all in bloom & hardly any seed. Tried several times & quit. Came back, saw the limestone canyon & drove on via Tita K ... to [Gospić](#). Found a lot of cult. Emmer there but no one spoke German & I couldn't find out how they used it. It was the only wheat of the region. Mostly barley, then oats & rye & some emmer. Why? Got gas at Gospić, thank goodness & climbed up & over to [Karlobag](#). It's a little jewel & the raw limestone dropping to the sea is something but a very hazy day as usual & bad for pictures. Rolled on down the coast. Stopped at a Buffet & had salami, cheese & beer – no bread & on to [Zadar](#). Took the time to walk though the old city inside the walls – perfectly charming & to visit the IXth Century church, Rush, rush, rush. Tore on to [Šibenik](#), where I thought I would stop, but the ferry boat & a detour threw me out of hotel now & I went on toward [Split](#). Bad roads for a while, then fine. Wound up at a motel type place before Split. A long day & two more long ones to [Beograd](#) [Belgrade]. Yet passed by many interesting & lovely places w/o stopping even for a picture. Time, time, time. **[Split, see [Map](#).]**

July 18 Sat. Up before 5:00 & on the road by 5:30. Picked up a little *Haynaldia villosa* near Split – generally a bad day for collections. Legumes first in bloom, orchardgrass green, etc. No emmer & no spelt. Lots of the 2-rowed barley, rye & wheat mix & oats. Road from [Sinj](#) to [Livno](#) slow & rough, but picked up after that except for a stretch they are working on before [Travnik](#). About 9:00 after having stopped at a wayside tavern & had a beer & salami sandwich. At Travnik a real lunch about 1:30 & on into [Sarajevo](#) by 5:00 with some rain. Hazy day & poor for pictures although scene lovely. Livno looked interesting but didn't stop. I should have. Travnik is old Bosnian Capital of Turkish days & covered with Mosques! Bought a pair of peasant slippers there from a man who makes them. They will need shaping up. [Peasant costumes are home spun, home woven white wool robes with red vests](#). Rather colorful. Biggest need, as I see it so far, is a strong forage crop program & much more fertilizer. Sarajevo is full of Mosques, too. The hotel EUROPA looks like the one Archduke Ferdinand stayed in before he was shot but it had a room – two others did not. Stood through most of a mass at the Cathedral – rather well attended, I thought. Many of the Muslims wear fez's here – although in Turkey over 30

⁷¹ cl. means clover

⁷² Alfalfa

years ago but still worn in ‘Communist’ Yugoslavia! Folk singing at the hotel that night. Costumes colorful; the talent not professional & authentic. [**Sarajevo**, see [Map](#).]

July 19 Sun Got off to a good start by skipping breakfast. Coming out of Sarajevo to the east was a bit of a surprise. Very rough canyon country in the limestone. Picked up a gang of youngsters going to some sort of doings at [Rogatica](#). Also an [old fellow](#) who was going a few miles up the mountain to harvest wheat & had his scythe with him. Turned out to be a long hard day & very little collecting. Saw the yellow flowered alfalfa again, but no seed. Got maybe a little very green seed of a clover that looks something like red clover with narrow leaflets. Country got pretty high just before [Višegrad](#) & then the bottom dropped out. A very steep descent into the [Drina](#), where, to my surprise, I find a fine new hotel swarming with German & French tourists, kayaking on the river & all that. Had a beer & a sandwich & went on. By Titovo [Užice](#) the country opened up. Corn became common, the road got good. The towns industrial & the fun was over – nothing left but a long boring & hot ride into Beograd where I stopped at the Metropol a) because I was sure there would be a room w. bath I didn’t want to shop for one and b) because they have parking. I found out the bar tender can make a martini but it costs over \$1.00. [**Belgrade**, see [Map](#).]

July 20 Mon. Tried to sort out a few things, then walked to US embassy and just missed Mr. Samardžić. Visited a little in the Agr. Attaché’s office & checked mail – none. Walked back to hotel & found Samardžić had called, so we set up a date at 12:30 by phone. Couldn’t do much until the car business was settled. So, at 12:30 I arrived but no Samardžić. He came about 1:30; had been at customs. All seemed to be in order except the insurance part. So, I called on him. He wasn’t in so I set up a date at 5:00. Then I went to JAT & made reservations on a flight to London the 29th. Wrote a letter home & sorted some more. At 5:00 went to see Milosivic & he felt he couldn’t do anything at least without more details so we rushed to the American Embassy & talked to a friend of his in the economics section & decided to talk it over with Samardžić in the morning. This sort of killed the plan to leave for the south. Hope it clears up. Bought my ticket to London. Had thought about going by train & it probably could be cheaper but a lot more bother & I could use the time. Serbian food seems to hit the bottom of the stomach pretty hard. [**Belgrade**]

July 21 Tue Decided to stay another day & use it to [go out to Novi Sad](#). As usual no Samardžić, so waited a while & wrote him a note. He said he would get all the info & leave it with receptionists at the Embassy. This sounded O.K. so took off for Novi Sad. Found the [institute](#) with remarkably little trouble. Had visit with the Director in English & he got the forage man – one Lazić & is he a character! Lots of fun, half in French and half in German, but he kept eating up the time & [I] kept trying to spur him on. I think he had something cooking with his wife to bring me to his house. I finally convinced him I

really had to get back to the embassy. At 3:30 he insisted on a sandwich & tomatoes. I finally got off a little before 4:00 & drove like mad - got to the embassy before closing and - no word. I might as well have stayed & enjoyed the Lazić hospitality. No way to get Samardžić, so will just have to hope. Work at the Agris Institute seems fairly good - lots of land, lots of screening, not much breeding except corn. Mass selection & screening. Seed multiplication big item. I should get from Lazić seed of *Cynodon dactylon*. He says it makes seed -- also tall fescue, orchardgrass, red clover white clover, birdsfoot trefoil and alfalfa. I have some of it now & must wait for the rest. **[Belgrade]**

July 22 Wed Up early, packed, checked out and on the road by 6:00. The [autoput](#) good & made fine time until the turnoff to [Kruševac](#). Very rugged for about 30 km because of detour. Asked for the station office at the filling station & they relayed directions perfectly. But nobody home who could tell anything except Serbo-Croatian & Russian. After much delay decided to come back Saturday & see the people. It might be important. So tried to go on as per map & lost a whole hour on road work & had to come back & go out the way I came in. Still a very rugged 30 km. Got loose on the autoput & barreled on into [Skopje](#). *T. aegilopoides* showed up 7 km N. of Davidovic [Serbia] **[Google: Davidovićevo]** or 84 km N. Skopje. About 40 km N. Skopje quite abundant. The city still an appalling mess after [1 year of work](#).⁷³ Stopped at a motel which is also tourist bureau & they sent me to the Hotel Makendonja which I had a heck of a time finding because it had been completely razed & a small wooden one put in its place. I was overlooking it. There has been a lot done, but there are still hundreds, if not thousands, of buildings that must be torn down & replaced. [A very sad thing..](#) Some of the occupied buildings look dangerous & there are many evacuated that are dangerous to be near. The fine old Turkish bridge as well as many baths, mosques & others suffered severe damage. **[Skopje]**

July 23Th. Mosquitoes in night gave considerable trouble. I finally turned on the light & it helped. Up before 5:00 as usual, checked out. Took some pictures of the damage & ready to go but killed nearly an hour trying to find the damned Benzene pumps. Eventually off & a fine time over mostly rough & dusty roads to **Kacanik** **[Google: Kačanik or Kaçanik]** [Prizren](#), **Dakovica** **[Google: Gjakova]**, Pec **[Google: Peć or Pejë]** to [Kosovska Mirovica](#) **[Google: Mitrovica]**. [Prizran](#) looked interesting, covered with old mosques etc. Nice new hotel where I had a beer & sandwich. Pec would have been fun if I had more time – very rugged mts behind it with a high pass. 30 km from Kosovaka Mitrovica found *T. aegilopoides* & collected a *Cynodon* veg. material. For some km the wild einkorn very abundant. [Map](#). Hotel at K. M.⁷⁴ not impressive, but I'm sure I've been in worse. No bath again. A Frenchman named M. Emile BAROYER who

⁷³ Skopje was near the epicenter of a magnitude 6.1 earthquake on July 26, 1963 and there was much destruction and misery still evident when Dr. Harlan visited the city in July 22, 1964. [Images](#).

⁷⁴ Kosovaka Mitrovica

works for Air France. Showed up to share my room. I didn't mind & he was pleasant enough & my French improved slightly. [**Kosovska Mitrovica**]

July 24 Fri Didn't have far to go, so set out with no plans to let things happen to me. As usual it turned out well. The Frenchman was up at 4:00, so I got up at 4:30 & took off up the road. 10 km from [Raška](#) I turned off on a side road that was surprisingly good & new straight up the mountain (well not straight exactly) In no time I was up in the spruce forest & out of nowhere came a couple of ski lodges & the usual terrace with gay chairs & tables. I had coffee, bread & cheese. The pass was nearby & had an enclosure with some grass trails in it – plots orchardgrass, [sheep's fescues](#), timothy, etc. replicated & recently clipped. The road just dropped down the other side & then wound down the valley through little villages & past clusters of water mills over the stream. Very charming. At **Olehandovec** [**Google: Aleksandrovac, Serbia**] there was a detour & again it was a good choice: the road isn't on the map at all, but fairly smooth & not very dusty & through the same pretty villages. Couldn't find the Motel I was told about at **Kraticure** as went up to a Spa, VRNJNCKA BANJ. [**Google: Vrnjačka Banja**] It was an old spa of the grand tradition of absolutely loaded with people – no tourists this time. Fine old trees line the streets – parks with orchestra playing schmaltz – old date hotels & large houses of the former – rich. People thronging to the springs to drink the (ugh) mineral water. It must have been real posh in the carriage days. Had a dinner in the open with musical entertainment. Altogether a very nice day except the stomach is growling again. [**Vrnjačka Banja**]

July 25 Sat Gray & rainy. Checked out & drove to the *Kruševac*.⁷⁵ The Russian speaking man met me & soon a Ing. Milos Rankovec showed up & he spoke German. It was raining so we talked a while & had coffee & vinyak. Finally it stopped & we went out to the field. Rather small scale alfalfa program w. a polycross. No testing for specific combining abilities. Mostly persistence, disease & eye-balling. Battery of girls under a straw stack separating leaves & stems. A lot of measurements taken, but small amount of material. About same with red clover & smaller scale ones with orchard grass, perennial ryegrass I just plain mass selection of red fescue, Ky bluegrass, timothy, bromegrass, etc. back to office & out to a small irrigation study – the 'conveyor' business with Kale, ripe, beets, corn, sorghum, sunflowers, etc. all for green fodder. Fertilizer & plant density study on corn silage P & K don't do a thing without N. On way back asked for seeds. This took quite a while but got some & left ca 1:00. Raining still so decided to go back to Boegrad and work from there as time permits. Drove in rain most of way but it had not rained at

⁷⁵ Visited INSTITUT ZA **KRMNO BILJE – Krusevac**, on-line and emailed Dr Zoran Lusic at zoran.lusic@ikbks.com on Oct. 2, 2013 to see if this might be the place Jack visited in 1964. He returned my email on Oct. 5, to confirm they grew alfalfa, but had nothing to say about JRH. Facility is now called: INSTITUT ZA KRMNO BILJE.

Beograd. To the Metropol & its beginning to look good, so I've about had it. Time to move on. They said my visa expired 2 weeks ago⁷⁶. Ha! **[Belgrade]** **[See [Map](#)]**

July 26 Sun A long, dull & hard day packing & sorting. Had to work up all the seeds & expense receipts & etc. Threw away everything I could. Finally made one small box of printed matter & one cubic foot box with seeds & specimens, flint blades, sickle, blue beads. Sherry's saddle blanket, the cummerbund, the altimeter, the light meter, a sack of coins from countries I'm not going to, old field clothes, etc. It's pretty heavy & hope it gets through O.K. then repacked the tray in a fairly satisfactory way. The coffee pitcher will go in the briefcase. The total will still be somewhat over weight, I suppose. Got car greased & washed, battery ground is broken & may cause trouble. Must check oil yet. Suppose I'll have to do something about it. Altogether a long day but things are shaping up. If only the car business comes off o.k. **[Belgrade]**

July 27 Mon Set out on the rounds. First confirmed my seat for Wed. Then went to see about visa, but could mean to find the spot & time was getting on, so hiked to embassy. Had a visit with the Attache', Mr. Keaton, while waiting on Samardzic. He came & we made arrangements to turn car over to him at 9:00 O'clock at the Jugosped Office where I would pay the bill. The bill is impressive & will come to about \$300. Hope they don't mind. Went & got visa straightened out & everything seemed to be going well. Had discouraging report about postal system so thought I would test it on the box of printed matter. Took it to post office & with little trouble opened it for inspection. They passed it & it got mailed registered. Back to hotel, had a beer & then went to take car & fill it & maybe go out to Zernum & take the big package to the P. O. No go. Battery completely dead. Got mechanic from garage. He said battery k-put & muß Neu haben. But, its 1:30 & all shops in Yugoslavia shut at 2:00. Nothing to be done until tomorrow at 7:00. So, lugged the big package to P. O. Also no go. It would have to go through customs at RY station P.O. There was nothing dutiable in it but there was no anyway, so lugged it all the way back again. Decided I had better quit for the day & it came up a shower anyway; took a nap. The shower cooled things off & it was a very pleasant evening except now I've got to fret about the damned car some more. **[Belgrade]**

July 28 Tue. Laid in bed until 5:00. Went to garage a little early to maybe urge some speed! They said '10 minutes', a stock phrase like the Biblical '40'. By 7:30 we were in a cab & started calling at auto supply stores. We called on 10 of them & gave up. No battery in Beograd. Would he repair the old one? Yes, but it would take 2-3 days. I left it like that & went to keep my appointments at Jugosped. The car was not needed to complete the arrangements so I went ahead & paid for the handling and shipping & insurance. Then Samardzic & I went to hotel garage & the mechanic said it was just run down because of the ground shorting it & that he would have it charged up by 1:00 pm. This sounded

⁷⁶ Does this qualify him to be a illegal alien? HVH2

good & sure enough at 1:00 he fixed it up very nicely & it ran beautifully. I had decided to take all my stuff & pay x5 rather than fight the customs. So took car & drove out to Zemin to see Dr. Piper. Turns out they work the 7:00 to 2:00 hours, too & he wasn't there. So drove toward Novi Sad to get Bish seed. No Bish seed everything in bloom. No cynodon seed either. Finally dug a few rhizomes & came back. Filled the car with gas & put in 2 qts [yikes] of oil. Took car to Embassy & then followed Samardzic to the embassy garage & turned over the keys. I'll keep my fingers crossed, but I think it will be handled O.K. Calculated the money pretty close & charged \$20 more. The last time. That makes \$714.50 dropped in Yugoslavia in 20 days. They need more tourists like me. Figured the money so close in fact I had beer instead of gin before dinner & ate at the cheap joint as well. Packed. **[Belgrade]**

[Departs Yugoslavia for London, where he drives to Edinburg, Scotland, for the Xth Botanical Congress (July 29-Aug. 1: 4 days)]

July 29 Wed. Up before 5:00 as usual. Cleaned up the packing, paid my bill. Took taxi to JAT terminal. Weighed up the baggage & to my surprise it was only 25 kilo. I was guessing about 30 kg. Bought bus ticket & paid tax. Had coffee while waiting for bus. At airport paid the XS⁷⁷ \$7.25, cleared passport & customs control in a breeze & had enough dinars for 2 [ШЉИВОВИЊ](#) at the bar. [Caravelle](#) – smooth flight to Zagreb & then on to London – also smooth. Struggled through customs with the four pieces of luggage & looked for a car rental. No point in fighting the bus with all this stuff & need a car anyway sooner or later. Hertz didn't have one at the time so took a hired car in toward town. The driver persuaded me there were cheaper & even better places to see & took me to Autohall Self-drive service in Hammersmith. The rent was less than Hertz & the selection large reliable & knew the business So I rented an Austin Mini for 4 weeks. The rent is \$1 plus 5¢ per mile after the first 400 mi. Then there is a deposit I get back if there is no damage to the car. £ 10 and I took out comprehensive insurance at £ 2/10/-. The transaction completed by 3:00 pm & I was loose with a strange car with right hand drive, driving on the left in London traffic without the foggiest where I was or how to get out. Slowly I worked out of town going north & followed A-1 until well out of it & then looked for a place to stop. The name [Biggleswade](#) appeared on the road signs & had a nice ring to it, so I turned off at **Biggleswade** & sure enough there was a nice, comfortable English country hotel – the Swan. Several rooms. The usual pub & saloon & restaurant. During dinner I heard the Church bells ringing what I suppose is change ringing an intricate pattern. So I wandered into the churchyard & browsed through the tombstones while the bells rang – which they did for at least 1 ½ hours. One tombstone seemed so poignant I copied it down as follows:

⁷⁷ Not sure what this is: xs, x5? What is it about? HVH2

Jack R. Harlan Expedition No. 3: April 18 – Sept. 1, 1964
Europe, Israel, Turkey and Europe

In memory of Emma Jane, the beloved wife of James Crouch who died July 23, 1855 aged 41 years.

Also of Fanny Charlotte daughter of the above who died Nov. 10, 1849 9 months.

Also of Seling Ellen died June 25, 1856 aged 10 years 6 months.

Also of Rose Sarah died June 26, 1856 aged 5 years 6 months

Also of Mary Emma died July 18, 1850 aged 12 years

Also of Charles Thomas, their son, died July 27, 1956 aged 3 years

[Biggleswade, Bedfordshire, England]

July 30 Th The earliest I could get tea was 7:30 & breakfast at 8:00. Well, I have to get used to the change in hours sooner or later anyway. Got off in due time & found Cambridge was on the way to Eby. For over 20 years I had wanted to see the Cathedral at Eby. So, stopped at Cambridge for a little. Didn't call on anyone. Just roamed about the 'campus'. Mailed the Bermudagrass from Yugoslavia & then on to Ely. Somehow just a little disappointing. Climbed to the top of the high tomes & found I was not in as good shape as I thought. Still I'm glad I went. Drove on to Lincoln for the night. Stayed at the White Hart, a fine old English Hotel in every way, just a block from the Cathedral. This one more impressive to me than Ely. The hotel courts in which tie & trials in Excellent dinner scotch smoked salmon, grilled mushrooms lobster thermidor 1 Chablis. The bill matches. **[Lincoln]**

July 31 Fri Trying to get used to the late morning hours. Toured the Cathedral before breakfast. Checked out & drove vaguely towards York. Passed [Selby Abby](#) & stopped. Here is a real jewel! Not as large as the Cathedrals of Ely, Lincoln & York but a simply magnificent structure. Norman, Early English, Late English & all the rest. Simply tremendous. York was more than I had expected, too. Much of city wall still standing – narrow crooked streets & very very old English look about it. The Cathedral tremendous in size & impressive. A plaque in the chapel of the King's own light Infantry is to them who died on the Norwest Frontier of the time of the Chitral uprising. Drove on to Southerland – Newcastle area & finally found a 'Private' Hotel at Gasforth. The Western Hotel. **[Gasforth, UK]**

Aug 1 Sat. Loafed along towards the Border Country which suddenly became very empty. Crossed the Chaviot Hills & into Hawick, then sort of blundered into Abbotsford. Home of [Sir Walter Scott](#) & Melrose Abbey. Some difficulty again finding a room & only on 5th try at Peebles got a very tiny room. A nice hotel for all that & a sumptuous dinner at 'The' Hotel in town. Saw old Cross Church (ruins) of 9th c. church. **[Abbotsford, UK]**

[Arrives at Edinburgh: Botanical Congress (Aug. 2 – 11: 10 days)]

Aug 2 Sun Breakfast in morning, then put me at a little table with “Old Glory”. Very homey atmosphere. Loafed on in to Edinburgh⁷⁸ and found Warrender Park Rd. with no trouble. Met Miss Barrett, a very fine, shy, elderly spinster. Went up to Union to register⁷⁹ & get program. Ran into Merton Love right off & had lunch with him & his wife. Saw some others I knew. Aaskel Love, the Reesers, Ervine Sears & Lotti, Frank Gould, etc. Got all stuff back to the room. Another botanist is staying with Miss Barrett – a Dr. Chinars from Almetchad. **[Edinburgh, Scotland]**

Aug 3 Mon. Not much going doing on Monday - went out to Herbarium & ran into S. T. Blake, who had some serious criticism of our work, some of which will be useful when we get to the monograph. Peter Davis not there & virtually no wild wheat and barley from Turkey in Herbarium. **[Edinburgh]**

Aug 4 Tue My 25th Wedding Anniversary, Couldn't celebrate much⁸⁰. Attended symposium on manipulation of chromosomes which I thought very good. **[Edinburgh]**

Aug 5 Wed 'My' day, spent the whole thing on symposium on the origin & evolution of crop plants. Some good spots in it. Met G. D. H. Bell & had lunch with him. Met Bob Pickett. & had supper with him & his family. They were on their way back from India. **[Edinburgh]**

Aug 6 Th. More genetics & stuff. The evening was the Scottish Entertainment which was very nice indeed. Saw Peter Davis. He knows nothing of the wheat & barley problem. **[Edinburgh]**

Aug 7 Fri Filled in for Jan deWet & attended rest of symposium on hybridization in evolution. Out to Bot Gardens & saw the gardens this time. **[Edinburgh]**

Aug 8 Sat Headed Heslop – Harrison open remarks on Morphogenetics. etc. See program & notes for details of the Congress. Went shopping & bought the girls some Tartans, scarves & ties. They ain't cheap. The green one is Gordon, the bright red & blue Anderson & the dark one is Logan – McClermon. Now need something for Harry. **[Edinburgh]**

Aug 9 Sun Dull & rainy. Took Chinoy & 2 of his friends to herbarium & then went to church at Sl. Giles Cathedral. Rather impressive & stayed for communion afterwards. Had a small lunch & toured the castle. Went for a drive out toward end of Firth of Fourth. Felt a chill

⁷⁸ Edinburgh is a modern city on the south of Scotland, which in 1964 was firmly in the UK along with England, Northern Ireland and Wales.

⁷⁹ Harlan registered at the X Intl. Botanical Congress, 3-12 Aug. 1964 at Edinburg, Scotland.

⁸⁰ Other men seem to be bringing their wives on these trips. HVH2

coming on. Went back to St. Giles at 6:00 & heard a Glasgow orchestra & a soloist from BBC. Scotch Symphonic Orch. & another from Scottish Nat'l Orch. playing Mozart w. service in between. Very nice. Went home for hot tea & bath, but Miss Barret not in so went out to eat & came back for bath. Felt much better anyway. **[Edinburgh]**

Aug 10 Mon Started w. Dodson on orchid pollination. Real crazy. Drifted from one meeting to another – saw symposium later. Aft at regulation of gene action symposium. Got \$200 changed. Called on Dr. R. R. Stewart in eve; saw Martha & Jim Walters at dinner.

[Congress Presentations and Participants. This is a whose-who of botany for 1964. I have tracked down some of them, but not all. HVH2]

Leonidas Liacos, Din Nacademia & Thraee Forest Research St. 106 M. Alexandrou St. Salonilea, Greece. [IN MARGIN:] Write to: Re: *H. spont* & *T. aegilopoides*

Dr. Robert J. Rodin (Gretum & Wellwitcher) Biological Science Dept Calif State Polytechnic Coll. San Luis Obispo, Calif. [MARGIN:] Met at St. Giles was at Lahore & knows Stewart.

S. T. Blake Wants some mature grains of *Andropogon distactyus* – will be at Kew until April 1965 [MARGIN:] Send seeds (don't have to be viable)

A. E. Apinis (Dr.) Dept. Botany, Univ. Nottingham, Nottingham (Met at dinner in Congress Club w. his wife – Lithuanians)

A. W. Simmonds John Innes London phone (HE(RTFORD) 3-31-91)

Dr. A. Doyle, Univ. Library Durham. Knows all about Durham Cathedral [MARGIN] a contact

Dr. J. J. Chinoy Professor of Botany & Director University School of Sciences, Gujrat University, Ahmedabad 9, India. [MARGIN:] At Miss Barrett's Physiol & mad about ascorbic acid.

Dr. K H. Rechinger, (Vienna) 'Flora of Lowland Iraq'

Verlq Von J. Cramer 694 Wein Heim / Germany P. O. Box 166

[GAASTRA, P.](#) Laboratory of Plant Wageningen, Net'n⁸¹

WALTER, H. Botanischs Institut, Stuttgart – Hohenheim, Germany (grazing management & savannas) rainfall are anthropogenic

BUNTING, A. H. - U of Reading, U. K.

⁸¹ The Netherlands

COOPER, J. P - Welsh Plant Breeding Station Aberystwyth, U. K.

[KRUCKEBERG, A. G.](#) U. of Wash. Seattle, the tall guy growing things on serpentine.

MAHABALE, T. S. Poona U. India, the iddy biddy one glossopteris - Gondwana

HEIM, R. Muséum Nationale d'Historie Naturelle, Paris, Fr. The gargeons TUX. & toxins & hallucinogens of mushrooms

DUNN, D. B. U of Missouri, Columbia Mo. display on Lupinus & work in genetics of leaf morphology in conianellimieceae shutters

Davis, P. H. U. of Edinburg Flora of Turkey & phy. to geography stutters

HARTLEY⁸², W. Australian Scientific Liaison Office. London, U. K. the grass tribe man-now-moved to O.K.

ROLLINS, R. C. Gray Herbarium, Harvard U. Cambridge, Mass.

[PURSEGLOVE, J. W. -](#) U. of the West Indies, TRINIDAD – Cult. Tropical tree crops & pretty good too.

[Manglesdorf, P. C.](#) Harvard U. Cambridge, Mass.

Halbaeck, H. Nationalmuseet, Copenhagen

SAUER, C. U. Calif. Berkeley

[HEISSER, C. B.](#) Indiana U. Bloomington Ind.

[EHRENDORFER, F.](#) Natural History Museum and University, Viena, Austria.
Differentiation – Hybridization cycles. [in margin: Look up this stuff for evaluation]

CHURCH, G. L. Brown U. Providence, R. I. – Hysterix X Elymus introgression

[GAJEWSKI, W.](#) Dept. Genetics, Warsaw, Poland. Agueligia – Bird, Bee & Moth; types & modified accordingly.

[LEWIS, HARLAN,](#) U. of Calif. L. A.

[BAKER, H. G.,](#) U. of Calif. Berkeley – Hybridization & evaluation of weeds. [in margin: contact re: weeds]

⁸² I can find W. Hartley referenced and esp. "The distribution of the grasses. C. Barnard ed. Grasses and Grasslands", MacMillan, London 1964, but I cannot track down his bio. HVH2

[BRIEGER, F. G.](#), Sao Paulo U. Brazil – Undisturbed tropical orchids; don't cross much - he says.

SKALINSKA, MARIA, Inst. of Plant Anatomy & Cytology Krakow, Poland. Tall, lean & elderly.

HARA, H., U. of Tokyo, Japan – Flora of Japan & **phylogtogi**

[Löve, Askel.](#) Montreal, Canada, the usual.

ANDREWS, H. N. Wash. U. St. Louis

NYGREN, A. Agr. College of Sweden & U. of Uppasla, Sweden.

[RAVEN, Peter H.](#) Stanford U. Onagraceae

VARGAS, C. U. of CUZCO, Peru.

[YAMAMOTO, YUKIO](#) Nagoya, U. Japan

[Hendricks, S. B.](#) etc.

[R. R. Stewart](#)⁸³, U. Michigan, Ann Arbor

[HAMMER, K. C.](#), U. Calif. L. S. Circadian rhythms.

[Schwabe, W. W.](#), Wye College, Kent, U. K. – light & dark reactions

LINCOLN R. C.⁸⁴ Long Beach State College, Calif. – extracts from Xanthiums induce flowering.

Cameron, D. R. [Brown Meta S.](#)

[Rick, C. M., Sears E. R.](#)

[PELOQUIN, S. J.](#), U. of Wisc. Madison – hybrid potato breeding, etc. good stuff

[Srb, A. M.](#)

[Stebbins, G. L., Jr.](#)

[Allard, R. W.](#) (not there)

[BREESE, E. L.](#) Welsh Plant Breeding Station, Aberystwyth. *Lolium perenne* breeding.

[REES, H. U.](#) College of Wales, Aberystwyth – genetic control of meiosis

⁸³ Search [cntrl f] this website for R. R. Stewart.

⁸⁴ I found R. G. Lincoln referenced many times by other authors, but could not find anything by him. [HVH2]

Jack R. Harlan Expedition No. 3: April 18 – Sept. 1, 1964
Europe, Israel, Turkey and Europe

[SAGER, RUTH](#), Colombia U. N. Y.

[GAREN, A.](#) Yale U. New Haven, Conn. – ‘Regulator Enzymes’

[BRINK, R. A.](#) U. Wisc. Madison – R. Locus

[BOYKO, H.](#) World Academy of Arts & Sciences, Rehovot, Israel – Now returned to Beersheba.

J. Heslop – Harrison, U. Birmingham, U. K.

Bell, Geo. Dougl. Hutton. – Plant Breeding Inst. Cambridge

BOND, C. U. Glasgow, U. K. – Non-;egume root – nodule plants some fix N in the nodules.

(Alnus, Myrica, Casuarina, Coriaria – Hippophae, Shepherdia, Eleagnus, Ceanothus, D. Scaria.)

DAVIES, ALISON, Welsh Plant Breed. Sta. Aberystwyth.

FLORY, W. S. Wake Forest College Winston Salem, N. C.

HASKELL, G. Scottish Horticultural Research Inst. INVERGOWRIE DUNDEE, U. K. – had worked on Rhubarb & apomixes.

[Top of last page of participants:]

Love, R. M.

R. C. Packett

Snyder W. C.

Yarwood, C.

Walters, Jim & Martha (Still on Peonies & Bromus)

MEHRA P. N. Punjab U. Chandigarh, India – ferns & liverworts, etc.

RUSANOV, F. N. Acad. Sci. Uzbek, SSR – Taskent – was he there?

HnHHH wheat, Elymus, Agropyron Crosses

Dressler, K. Costa Rica on orchids, very good presentation

*ILNS, HIGH (Dr.) Bot. Edpt. U. Wisc. Madison, Wisc. – wants on mailing list.

Consprenoise, talkative opinionated type.

Jack R. Harlan Expedition No. 3: April 18 – Sept. 1, 1964
Europe, Israel, Turkey and Europe

ANDERSON, Dennis – Dept. Biological Sci. Humbolt State College, Arcata, Calif. – working on Chloris – keep in touch.

(Ernie Sears) + Late

BERGER, Wm, Alamaya, Ethiopia

FRANKEL O.H. CSIRO, Canberra, Australia

SANTAPAU, FR. BOT. Survey, Calcutta, India (Did not see, but Stewart says he was there)

FEINBRUN, Dr. NAOMI (W. Mike Dohery)

ZOHARY, M.

KIMBER, Dr. Gordan, Pl. Breed Inst. Cambridge

RILEY, D. Ralph, Pl. Bead Inst. Cambridge

Silberschmidt, Kark. SeaPool, Brazil.

Summary of X Int. Bot. Congress

Registration very efficient. Much material handed out. Bank available to change money, etc. All done in a few minutes on Sunday 2 VIII. Some visiting on Monday morning & out to Bot. Gardens & long series talk w. S. T. Blake. He may make us sharpen up our work, which will be good. Garden party in aft. at [Lauriston Castle](#). Beautiful day & lovely view of [Frith of Forth](#) but didn't think to bring camera. Served tea – not like Montreal – had Scotch pipe band etc. Very colorful & all that. Castle interesting. Saw only a few people I knew & felt a little left out. Plenary session that night at [Usher Hall](#). Great pomp and ceremony ending with God Save the Queen. The Secretary of State for Scotland wore kilts. The Lord Provost crimson robes trimmed with ermine, Prof. Roger Heim a magnificent dinner jacket, embroidered like a matador (almost). He replied to the Lord Provost, the University & the Royal Society of Edinburgh in French & very flowery at that. Practically everyone mentioned Scottish Botany & how it got started as a branch of medicine in Edinburgh, etc. Nobody mentioned Robert Burns.

Tups was symposium on chromosome manipulation, Charlie Rick has one clear case of nonhomologous pairing in tomato. The potato man, S. J. Peloquin, had some very interesting material. He obtained haploids by pollinating 4x Plants w 2x pollen. Some specific courses give much more than others & by selecting 'parents' a good many 2x plants obtained. In the 'superior' crosses he gets 6x endosperm apparently 2 ♂ gametes

fertilize the pollens & none the egg. Pairing in haploids very regular & the 'genomes' identical ∴ autotetraploid Should look up more about this work. Meta Brown making some (slow) progress by using both translocations & monosomics shortage of marker genes. Don Cameron finding non-random assortment of markers in tobacco also. Most of marker genes appear on a relatively fewer chromosomes. [McGinnis](#) has tough going w. Avena, but slowly establishing a monosomic series there. Sears' stuff very good as usual. Some tetrasomics compensate very well for their homologous nullasomic & some do only so-so. Altogether a very good symposium.

That evening Calvin spoke on more work on the origin of life, attempted to give the impression that everything works out automatically. Energy supplied in a reducing atmosphere gives rise automatically to adenosine amino acids, etc. These are polymerized by taking out the water etc. The polymers orient in spirals. Both DNA & RNA and proteins. The sequences of bases & amino acids become non random automatically etc. A lot of work needs doing here but he has shown that experimental attack is feasible to some extent.

Wed. was symposium on origin & evolution of cultivated plants. Zukovsky did not show up but HnHnH did & his interpreter read an English version of his paper. Much work with wide crosses wheat & agropyron, wheat x Elymus and Secale x Agropyron great claims made for disease resistance, lodging & shattering resistance, earliness & perennial type that can be used for 3 years giving the same yield of grain as wheat, but in addition two hay crops in the 3 years. High protein (25%) claimed. Some high **amphiploids** made, 2n=56, 70, 84, 98, mostly in perennial types, etc.

[Riley](#) In wheat you get 2 II when chrom. [5B](#) is present, poor pairing when absent.
When 5B is present!

Tues Aug. 11 *T. aestivum* X ~~*Ae. longissima*~~ ca. 21II

T. aestivum X ~~*Ae. speltoides*~~ ca. 17II

[But *Ae. longissima* X ~~*Ae. speltoides*~~ 7II

When 5B is absent:

T. aestivum X *Ae. longissima* ⇔ ca. 7II

T. aestivum X ~~*Ae. speltoides*~~ ca. 5.7II

Law 21 substitution lines were used to show what each chrom. does in a given variety. By growing all 21 lines one can estimate sum of additive effects & the chromosome interaction – a new approach, but a bit shaky.

Ae. speltoides & *Ae. mutica* are **outbreeders** & both suppress chron. 5B effect, while *Ae. longissima* does no effect the 5B activity

[Kihara](#)'s paper was read by **Yamashita** It is more or less as in the abstract. He has a gene in *Ae. caudata* that controls pairing – should check up on this.

[Purseglove](#) – (**Richhouse** did not show up, as) Purseglove took the rest of the morning talking about tropical tree crops. Told story of New World coffee is descended from a single plant grown at The Botanical Gardens in Amsterdam in 1706. Similarly, almost all Far Eastern rubber descended from seeds gathered by [Wickham](#) in 1876 & rushed by chartered ship to Liverpool where he took the night train to Kew, etc. Only 4% of the seeds sprouted. 1919 seedlings were sent to Ceylon, and a few to Singapore where they died because no one would pay the freight. Later Ceylonese material came to Singapore & started the Malayan rubber industry. Other examples given. Vavilovian centers do not work in tropical tree crops. No movement of crops by man from O. W. to N. W. or vice versa before 1492. But sweet potatoes might have floated across as well as the coconut.

[Manglesdorf](#) – gave the expected lecture with special reference to the McNish materials. Fairly convincing, but **Iltis** objected that even the 1 inch long cobs were **fasciated** & therefore domesticated. It's a good point.

[Helbaek](#), H [Hans]. gave an almost inaudible talk, but I think these dates are the ones he gave:

5800 B.C. Earliest haploid

6200 B.C. 6 rowed naked barley

7000 B.C. 2 rowed hulled barley

5600 B.C. 6 rowed hulled barley

Spelt very late, emmer very early, did not get details – he must publish this stuff. Got the impression we are not looking early enough.

[Sauer, C.](#) Did much better than expected. Got off his fire kick right away. Made the play for the tropical horticulture being older than seed farming but no new evidence.

Wed. [Aug. 5, 1964] Harlan I did mine off the cuff & forgot a few points as usual but it seemed to get general agreement.

Bob picket had showed up so had dinner with him & his family, then Bob & I had a couple until closing – which is 10:00 pm. Good to see him & they must have had quite a year in India.

Thurs. [Aug 6] Went out to Bot. Gardens. Tried to get hold of Peter Davis w/o luck. Looked at some specimens & made a date to come back in aft. Went back in, had lunch, Merton Love & I went to hear Stebbins, then we both went to Bot. Gardens. Turned out Davis didn't know a thing about the wild whets & barley. So, toured the gardens, saw the Museum of Modern Art – some nice Picasso's & a Matisse; the rest I didn't care for. Gardens are very well tended & the greenhouses full of interesting things. That eve was Scottish Entertainment & it was very good indeed. Country dancing, highland dancing, pipes, accordion & Rory Mc Elven, a charming T. V. personality who happens to be an extraordinarily gifted artist & botanical illustrator.

Fri. [Aug. 7] I gave deWet's paper off the cuff & left out some things, but it seemed to go well anyway.

Heiser gave some numerical taxonomic data on potatoes & potato cross. Sometimes it works very well & some time not worth a damn. We may still need taxonomists.

[Ehrendorfer](#) gave a list of stuff – see summary. The general idea is a cycle of different **iation** – hybridization repeated over & over. Should look up a little more of this for evolution class.

Church⁸⁵ – *Hystrix* x *Elymus* introgression follows the microcenter pattern.

Gajewski⁸⁶ – work on *aquilegia*. One of chief isolating mechanisms – differences in pollinators – one bees, some moths & some hummingbirds & different structures accordingly. But they can be hybridized & intermediates obtained.

Harlan Lewis – see summary

Stebbins – reported on his artificial amphiploids that have survived in nature for 16 years. Erhorta was it?

H. G. Bakir – gave a very good talk on weeds parents & when it crosses with *H. bolongeri*. It makes a real weed of it. *Ageratrum chroidrosoides* is a weed with non-weedy relatives. The weed radish has become a more serious weed in Calif. after crossing with another *Raphanus*. *Ae. candicans* x *Ae. umbellulata* → *Ae. trimeia* alis *Poa annua* is an allopolyploid weed. The weedy *Aenotheres* are translocation heterozygotes. Weeds have a “general purpose” genotype & tend to perpetuate the general utility of it by self fertilization, apomixes or balanced systems – good stuff, should contact him.

⁸⁵ Probably G. L. Church, but cannot find a bio on the Internet.

⁸⁶ There appear to be several geneticists from this period with the last name Gajewski and I am not able to find one of them who dealt with *aquilegia*. (HVH2)

Brieger – of Brazil tried to make a point that tropical orchids don't hybridize very much – at least in undistinguished situations. He cited one group that has changed its habits completely after the forest was cut. They ceased to be epiphytes & grow in the soil. The roots have changed, the pollinators have changed, the barriers have broken down and hybrid swarms are produced. Considerable discussion over how common must hybrids be to be common and/or imported. Most people left with the impression that orchids DO TOO cross in the tropics.

J. Heslop – Harrison – went to hear him start off symposium on cell & tissue differentiation. A general talk, but good. The microtubules of Porter seem to be exciting the morpho-geneticists. They show up in electron microscopy because of electron concentrations – are they perhaps only ascorbic acid electron donors?

Skipped out at coffee & went shopping. Bought the tartans for the girls, browsed in book store. Went to Botanical Gardens again & looked at the *Bothriochloa*, etc.
[Edinburgh]

Sunday⁸⁷ was dull & rainy, took a ride in aft through the countryside east of Edinburgh, felt a little rocky. At 11:00 went to worship service at St. Giles Cathedral, stayed for communion. Had a sausage roll & tea & did the castles – mostly a military museum. Rt. 6:00 pm came back to St. Giles to hear the music. An orchestra from Glasgow & violins & cello soloists from BBC & Scottish National Orch. respectively. They played Mozart & it lasted longer than anticipated, so they had their 6:30 worship service after the 2nd movement & continued very nice indeed. Met the Rodin's will browse the cathedral afterwards. They know D. Stewart & gave me his Edinburgh address. Took my "cold" home to bed. [Edinburgh]

Monday [Aug. 10], feeling much better went first to hear [Dr. R. Dressler](#) substituting for [C. H. Dodson](#) on orchidaceae. It's pretty fantastic, alright. Most of his observations in Costa Rica & Honduras. Pollinators are birds, bees, insects & flies. Some territorial bees & got a pair of pollinator planted on the forehead for their pains. Cases of pseudocopulation in American orchids as well. In many cases the ♂ only pollinates & the ♀ pays no attention to the flowers. In some cases no food is involved but some "intoxicating" substance is secreted by the flower & gathered with the legs. The same bee may pollinate several species, and the pollinators are placed in different spots on the bee: the head, the thorax, back or sides, etc. so isolation is presumed. Some species of orchids are dioecious, the whole flowers varying environmentally but the ♀ flowers about the same. The very complicated flowers often more successful than the very simple ones. The plants are adapted to bee visits may alter flowers as well. Some of the bees specific very fast flying

⁸⁷ Possible recess from meetings for Sunday.

& hard to observe. In fact when the bee suddenly appears out of nowhere & hovers in front of the eyes & disappears again it is hard to tell which is the observer.

K. C. Hammer⁸⁸ – reached from orchids to flower induction. Hammer made about circadian rhythms. He says radical ideas & theories go through three phases: a) it isn't true, b) it isn't important and c) I discovered it. First circadian rhythms over 30 yrs old is our explanation for day length behavior. We are finally getting beyond stage 2. In Biloxi soybeans with 8-hour light varying dark periods you get rhythms. It's a short day plant & long day prevents flowering, but note:

[Sketch of a sinusoidal graph with “flowering” on the Y-axis and “8 hrs light & hrs/dark” on the x-axis. With increasing length of dark between 8 hr periods of light and 72 hrs dark.]

gonads of house finch do same. Interrupting long (72 hours) dark periods gives rhythmic responses alternatively increasing & inhibiting flowering ∴ photoperiod is not a response to dark period as often stated (me included) but to the rhythm. Circadian = circa (about) dia (day). Such rhythms are temperature independent. The light period sets up one rhythm & the dark period sets up another – they can mesh or conflict. This is not controlled by phytochrome.

Lincoln, R. G.⁸⁹ Some extracts replace neutralization in rye, hollyhock & radish. Extracts of Xanthium on short day crosses. Xanthium (SD), Helianthus (DN) & Radish (LD) to flower as well as Perilla. It's an acid – is it florigen? Or maybe ascorbic?

Garen, A. (Yale) discussion of a ‘regulator’ gene, a regulator protein is produced which in turn is regulated by the substrate. The case is not unequivocal.

Brink, R. A. (W. Cse) R locus again but interesting discourse? Of evolution from primitive locus w. lines that are paramutagenesis & increases or decreases by association with other alleles in heterozygotes etc. Very good stuff – see notes & read up.

Went to hear Zohary, Davis & others on plant geography – decided their problems are merely universal to taxonomy – IGNORANCE & WTER MEDIATUS – that's all. There were others too, but these are the highlights of the congress. **[Edinburgh]**

[End of Botanical Congress; Harlan begins a tour of Scotland and down to London, visiting several breeding institutes (Aug. 12 – 20: 9 days, inc.)]

Aug 12 Wed. Checked out and took **Chinoy** to Congress Club. Enquired about tour to Scottish Plant Breeding station. Found it was booked up so started out towards the north. The

⁸⁸ In 1938 K. C. Hammer and J. Bonner published a landmark study in day/night length. I cannot find this article, nor much on Hammer.

⁸⁹ Can't find anything on R. G. Lincoln

Queensferry Bridge was not open, but not one sign to show it until you got to the end of it. A half lime of cars was lined up at the ferry so drove on & crossed at Kincardine.⁹⁰ Then by way of Crieff [Perth and Kinross Co.⁹¹], Dunkeld [Perth and Kinross Co.], Pitlochry [Perth and Kinross Co.], Roybridge, [Highland Co.], Spean Bridge, Glengarry to Fort Augustus at the south end of Loch Ness. Very pretty country, rather empty, not especially rugged. [Loch Locky](#) is perfectly beautiful. Had the usual trouble finding a place. Wound up in a nice bed & breakfast house newly done over & ample in every way. [**Loch Locky**; see [Map](#).]

Aug 13 Thur. The usual late breakfast & off up the Loch. Dull & foggy & no good for pictures. Took some anyway. Went on through Governess [**Google: Glengarry Castle Hotel**] which was absolutely jammed. At Glengarry got car serviced, mileage 14455. Then took the route Garve, Achnasheen, Lochcarron, Stone Ferry [**Google: Stromeferry**] & back to Invergarry [**See Map**.] Thence south to [Kinlochleven](#). This was a really beautiful sight & got more & more rugged. The [Loch Cluanie](#) must be one of the most beautiful in Scotland. The lochs look like fjords & some of them are. It cleared up late in the day & I should have a few good pictures. Again trouble getting anyplace to stay. Singles are especially bad. Finally, routed by the village tourist enterprise to a Mrs. Brown who had a midget room, & both the bed & I got in it. A tiny village, but a huge aluminum plant. Very scenic. Rain showers in late aft. [**Loch Cluanie**]

Aug. 14 Fri. Started heading south in earnest. Glencoe, Tyndrun, the west side of [Loch Lomond](#) (which really is bonnie, but dull & foggy), Dumbarton, Glasgow, then down the pike to Carlisle. The traffic absolutely maddening & a long hard day to get very little distance. About noon stopped at a little post office at the edge of Glasgow & mailed 3 packages – 2 books & the big parcel. Hope it all goes through. The day mostly fighting traffic although the morning was moderately clear & got a few pictures. Leaving Carlisle I saw a little roadside hotel & jerked the car out of the traffic line. It was a good choice. She had a single (first time on the first try since Lincoln). Nice little garret room & dandy little bar, but trucks & cars roared by the window all night. Went into town for supper at the Crown & Mitre – very **seriously** & very expensive, but learned a little about the town & decided to look into it further. [**Carlisle**]

Aug. 15 Sat. The usual 8:00 arise. Breakfast & then back into town. I asked the girl who lives there & waits table about the roman [Wall](#)⁹². She had heard of it in school but had never been there. I also asked some guests at the hotel who seemed to know the country with same results. At the cathedral I got more info. The cathedral is pretty disappointing on the outside & I almost didn't go in. Inside it is much more interesting. One striking

⁹⁰ Harlan is crossing the River Forth Perth and Kinross county of Scotland [UK].

⁹¹ Counties given by Google; not in original manuscript.

⁹² If you view this (Hadrian's Wall) website, search for Carlisle. The wall went through there. HVH2

feature is the extremely deformed Norman arch, due to settling – they built over some Roman walls & didn't know it. The arches are holding up perfectly. The early English, decorated – all the rest, some with carving, too. Then up to see the wall. Stopped at Brampton for instructions & got lots from a filling station attendant who has poetry in his soul. At his suggestion I stopped at [Lanercost Priory](#) (ruins with a functioning church attached). So-so & it was raining. Also a fine Roman bridge over the [Irthing](#) there. Then up along the wall. Actually well removed from building stones over great stretches, but earthworks clearly visible. A few good pieces of wall left, but raining & chill so after seeing a Roman camp & getting pretty wet headed south again. Absolutely maddening traffic. The [M6](#), where in use, very good. Got off at second Warrington turnoff & drove to [Chester](#) where on the 8th – count 'em 8th - try I got a single in the Bull & Shrimp. No hot & cold – not even in the toilet, but it's a bed. Chester is absolutely packed, but looks very interesting indeed. So does bar downstairs. [**Chester**]

Aug. 16 Sun. Managed to get breakfast at 7:30; checked out – parked car near cathedral. This one also had some of the old Norman work left, but much of it is later. The Lady Chapel at the end of the choir is 13th C. but restored in the 1860's & redecorated in 1960 until it almost looks fake. The [Triforium](#) in the choir is very nice & I like it better than the 15th Nave. Carving in the choir are very nice – some are 14h C. & others later. The Cloister, refectory & chapter house very nice & unusual. Booklet explains all. It cleared up while I was browsing so went & got camera & hiked the entire distance around the [city walls](#). Took a few pictures & got off by 10:30 or so. Entered Wales almost immediately & drove on to [Aberystwyth](#). Very beautiful countryside & a few rather rugged looking mountains near the sea. Got in by 2:30 & got a room; the first try – however, booked up for six days. Strolled around the boardwalk in eve. Rainy & dull. A corny band playing pops. Called Dr. Cooper & found he had worked on notes & to bed. [**Aberystwyth**]

[Harlan visits the Welsh Plant Breeding Station at Aberystwyth (Aug. 17: 1 day)]

Aug. 17 Mon. Aberystwyth

Got the earliest breakfast I could, paid bill & moved to the Cambrian Hotel – at least left my bag there & went out to the Welsh Plant Breeding Station – once the Mecca of grass breeding in the world. First met Llewellyn Phillips, Liaison Officer, who introduced me to Dr. E. L. BREESE (Les). He discussed the grass breeding program a little & introduced me to IEVAN DAVIES (Mr.), who is studying growth habits w. respect to apical meristems (like **Trale**). Timothy is unique in that 5 weeks after clipping it would produce 100% stem tubers (not all fertile by any means), but regrowth very slow. Cocksfoot, at the other end of the scale, stem tillers to not support the vegetative shoots so much & regrowth faster. In Timothy, if you cut 3 weeks before heading you remove all apices, but in other grasses you must wait until first heading to do this ... you cannot

compare these species directly. He gets results similar to Cliff's on Cola. Where high N stimulates fast growth & you cut off apices & get a flower yield the next cut.

[written in margin:] Also met: Mr. L. L. FORWERTH JONES (who was at Grassland Congress in 1952 + came to Woodward with Henry Freiborg this tour.)

Next (I think) was Fr. M. D. HAYWARD working with F. ar. X L. mult. also hybrids within Far. Materials from N. Africa are winter active, but frost tender. Hybrids with S170 came through [severe winter of 1962-63](#). But many are sterile. Xt with Portuguese material fairly fertile so a break in differentiating somewhere between there and N. Africa. Pairing is bad – sometimes $14_{II} + 1.4_I$. The idea is to extend growing season especially in the fall.

The same approach in cocksfoot A 2X from Portugal is winter active. Plants to double it & cross with local 4X. Rogers at Cambridge is also working w. N. Afr. material. Mr. ALFRED J. LEWIS studying. Far⁹³. finds $2n = 28, 42, 56, 70$. The 28 from France & N. Afr. the 70 from N. Afr. & the 56 may be a hybrid in N Afr. Again, the main effort is towards winter active forms. The Lolium spp. are all 2x & mostly outcrosses. He has: L. mult 14 X Far 42 \rightleftharpoons 28 \rightleftharpoons 56

cold.

L. mult. 14 X F. prat. 14

L. per. 14 X Far 42 \rightleftharpoons 28

L. per. 14 X F. prat. 14

In all cases the F_1 is completely sterile. Crosses are easier when ♀ is 2X. Large No. F_1 seeds possible. But he gets along faster by doubling the ♀ & fertile F_1 obtained directly. Palatability & rapid establishment are the main goals (L. mult cross often be grazed 6-8 wks after sowing). Selection now in C_2 fertility generally good. Simultaneous selection in C_0, C_1, C_2 & C_3 & max put on hodge podge – on the market early & do a more thorough job later. Mr. W. ELLIS DAVIES studies clover & lucerne. T. repens spread from Asia Minor & in the process lost some of its glucocyanogenic properties & got smaller leaves. At low temp the double dominant that release HCN kills the plant ∴ strong selection pressure against the glucoside and/or the enzyme. He wants tall, large leaved types to keep up w. grass & avoid shading. Again fall activity a goal. They seem to be sold on this. Ladino has little cynogenetic properties & is ∴ very susceptible to slugs & hares. Crosses of Lodino X local looks good.

⁹³ A great deal of difficulty was encountered in attempting to transcribe the notes in the following paragraph due to the orthographic nature of the original text. Please check this transcript against the original diary to determine the correct meaning.

[at top of both pages:] Aberystwyth

Dr. (Miss) Alice M. Evans is doing autopolyploid breeding in wh. & red clovers. She has the following hybrids:

[T. repens](#) X *T. occidentalis*

T. repens X [T. nigrescens](#)

T. repens X *T. uniflorum*

[T. hybridum](#) X [T. ambiguum](#)

T. ambiguum there are 2x, 4x & 6x races. She grafted *T. hybridum* scion onto *T. ambiguum* stock & got the *T. ambiguum* to accept *T. hybridum innoculatum*. A race of *innoculatum* developed that uses embryo culture for her hybrids. Transfer is at a 5 day interval when pods look like they might dry up. Stains pollen tubes w. cotton blue. She grafts one species on to another as a check on sexual compatibility. If grafts are successful crosses are more likely to occur. Grafting does not enhance crossing. It merely indicates compatibility.

Mr. J. D. Hayes cereal breeder gave me the following locations of *H. spontaneum*. Ruins at Lower Ephesus: Kemalpaşa, 28 km E of Izmir; ½ km from Urla (W. Izmir); 1 km W. Urla; St. Titus Church yard near town of **Phaesotus [Google: Phaestos]** (Ruins) on Crete! Ruins of Knosis [**Google: Knossos**] on Crete. The first known site in Europe that I have. Next met a man in Dr. Cooper's dept, whose name I failed to get – trained under Mather. Works on genetics of leaf & tiller development. Leaf area most important correlate with growth (i.e. more important than efficiency). Introduced me to Malcolm Calder – works with control of flowering winter dormancy & developmental patterns. Showed me the growth chamber & mentioned Dr. Colin F. Eagles several times, who works on photosynthesis rates (efficiency) gas analysis – ryegrass & fescues of different origins.

Leaf area studies based on 6th leaf of seedlings. Selecting for large leaf resulted in fewer leaves. In Malcom Calder's studies he found Mediterranean races of ryegrass seeded very little if any [vernalization](#) & very little L. D. to bloom. No European races need heavy vernalization & a long period of L. D. *Dactylis*⁹⁴ does not need any vernalization, but has a juvenile stage where nothing works. Then it needs a SD (which can be as long as 17 hours!) & the dark period is short as 7 hrs but it will not bloom under continuous light & is ∴ SD. Next, Dr. G. ap Griffith in Chemistry. Very enthusiastic about new double digestion [in vitro](#) procedure. This publ. in June. Sci. Food & Agr. He has now

⁹⁴ **Cat grass** [*Dactylis glomerata*] is more commonly known as orchard grass, and it is unusually attractive to cats. [Wikipedia]

excellent correlations between this & new double digestion fiber method. First a pepsin digestion followed by acid digestion. Soon to be published in same journal. Saves all his N samples for a whole year & runs them at once. He does 200 in vitro samples / week. Soluble carbohydrates are important as dig & correlated with it. The fiber – in vitro dry. relationship is curvilinear & flattens out for mature “hays” – so may need one method for grazing grass & another for hay. All very, very encouraging. Finally Mr. Roy HUGHES, head of Grassland Agronomy & a long lecture on various aspects. [Dr. Arthur TROUGHTON](#) – root-shoot relationships. MISS ALISON G. DAVIES – growth habits & components of growth for varietal evaluation. A. MR. ALLAN SHILES ?? population & persistency studies. Hill lands range from pH 4.8 to 3.8. On upland peat 3 tons lime needed & you can't do this by air. The best materials are lowland varieties like S23 ryegrass but they require lowland management regular topdressing, cattle grazing part of year (instead of sheep), etc. So advice tends to be to upgrade what is there & that's damn poor. The summer undergrazing is due to lack of wintering capacity. Need more stock flexibility. Mixtures of early and late varieties too tricky to manage better sow them separately. All in all a long day. [Aberystwyth]

[Drives to Oxford to visit Oxford University (Aug. 18: 1 day)]

Aug 18 Tue. Got off in the rain in due time & drove toward Oxford. Went through Hereford but still raining & did not stop. Learned later Herford has a fine cathedral. By the time I reached Tewkesbury, it had cleared fairly well. The Abbey certainly ranks with Selby but is different from all the others in being not least $\frac{3}{4}$ Norman & you can really get the feel of what the new Norman cathedral would have been like before they were destroyed by attrition. Got to Oxford in early aft but found that Darlington had had coronary the night before last (during the congress) & was in the hospital w/o visitors. I visited with 2 of his students, one a Mr. Finch. The other an Italian whose name I didn't get. They are on caryotypes [karyotypes] chiasmata localization, etc., etc. Same old Darlington. Finally got loose & reserved a room at the Randolph, then went to see the cathedral. It is part of Christ's College & was closed. The Randolph was pretty fancy & accordingly expensive! [Oxford]

[On to visit the Grassland Research Institute at Hurley, Berkshire: lots of notes for one day, Aug. 19]

Aug 19 Wed. The cathedral didn't open until 9:00 so had the usual late breakfast & went on down. It is different from the others & seems to be fragmented – apparently a piece of the old cathedral incorporated into the college building. Parts of it 12 C & many columns & arches apparently Norman. The rest patched on at various times, but the general effect is rather later. Drove on to [Hurley](#) & got there by 10:30. First person I met was Dale

Smith (Wiser). He had been there 6 mos. The rounds began with [T. E. Williams](#)⁹⁵ in charge of Ley Agronomy Dept., Dr. Barber of McDonalds College, Montreal listened, too. The general objective of the Ley studies is to see what effect the **lev** has on the soil, both nutrition & physical properties. Changes in physical properties do not seem especially important & the only important effects on the nutritive levels is on nitrogen status. Incubation of soil samples & release of Nit_4^+ & is best measure of N status – not directly related to organic matter nor to total N. Organic matter in old sods up to 6% & build up in a 3-4 yr old. ley is 0.2 to 0.3%. This takes place in the top inch & then moves down . In irrigation studies yields incr. markedly even though the deficit of rainfall to need is only 7-8". 60% of England has <28 rainfall. Water extracted by perennial ryegrass down to 3' but very little at 4". When water layers dry extraction at lower depths about as rapid as upper, but as no or upper layers wet, extraction is from them & not deeper. Water removed at same rate during drouth⁹⁶ as not during drouth, but plants stopped growing anyway & this thought due to lack of N in the zone of water extraction. The advantage of Lucerne over grass in a drouth is that Lucerne is N independent & grass isn't (Extension trick – use soil monolith & sow with seeds to show dist. fert.)

Jewis ?? Head Physiology Dept. (Former Head Langer). Ca. 75% of the work on leaf growth & tillering & 25% on flowering & seed production. Life histories of individual tillers. In DL studies the same radiant energy used 8 hrs plus extra hours of low light. Differences in assimilations of assimilates in growth studies. Work on the winter – active forms shows the difference between S170 & the N₀ Afr. tall fescue is mostly a temperature variance. Also studying position of apices & food reserves at different stages. Position of apices more important than reserves for regrowth. Feeding radioactive CO₂ to various leaves & tillers shows how & where assimilable re-transported. Working on nutrition of legumes & N fixation. Seed yield & components of seed yield. Effects of fertility, irrigation, plant density. In timothy, 90% of the fertile tillers for next year did dawn in the fall. Too much N causes lodging & decrease in seed yield.

J. O. Greene – Herbage Agronomy – the same old winter active stuff from N. Africa. It winterkills when pushed w. N., fairly hardy when clipped & no fertilizer added. All of the grasses have about the same growth curves. The wides & spread is narrow & he says that the one “sailing with their sheets close to the wind” on this minutes active stuff. I think he is right.

[At top of page:] ROGERS is the grass breeder at Cambridge.

⁹⁵ T. E Williams is mentioned on page 4. The Grassland Research Institute at Hurley is this place Harlan visited. Not much has been put on the Internet about the GRI, and it looks like it gradually [withered](#) over the years.

⁹⁶ Note: JRH spells drought as drouth, the old version of that word.

Dr. J. M. A. Tilley. Dept. Biochemistry & Animal Nutrition (A. McFrank Raymond also in dept.) Tilly not so enthusiastic as Griffith on the new fiber analyses. Crude fiber still the best method. Likes Beltsville's detergent **deprotermization** method but they need freeze-drying. Use the double digestion method for in vitro work & thinks it pretty good but needs more improvement. Breeding for leafiness reduces fiber intake alright but makes for very high N intake which is wasteful. Breeding for high reliable carbohydrates a good approach but this is very susceptible to the weather. Digestion studies do not give satisfactory answers to forage quality & more work will be done on intake. Wilted silage seems to be a bit better than nonwilted. Feeding equal amount of TDN of different varieties & species of grass to lambs is difficult to do accurately because of varied intake, but some do seem to give better animal performance than others. No apparent correlation of performance w. U.F.A. distribution. But, the better grasses like ryegrass have relatively more proprionic. Study repeated on same grass w. different rate of N. The digestibility the same but the high N rate had high protein ∴ low soluble carbohydrate content & relatively lower proprionic, but animal performance the same ∴ VFA is not a sensitive indication of quality. Chromic oxide fed once/day & Styrofoam chips of different colors added so that each pad of manure is individually marked. Each pat is sampled within 24hours. Paper on the technique in Jan. British Grassland Society.

Dr. Davies: Met the director & had a nice chat. There people seem to have read my book⁹⁷ & had checked up on some of the things I said in it. After 10 years they seemed to think it was not too much out of date but wondered why I had written it. I wonder myself. [Hurley]

[Then back to London (Aug. 20 – 22: 3 days)]

Aug 20, Th. Dale Smitty left early to catch a train for London. I left later to the station & saw Greene Davies & Tilley as per above & got off by 12:30⁹⁸. Went to airport & got reservations home & bought ticket to Holland. Then drove to Kew. Coach & Horses full up. Spent an hour trying to find a hotel near there. Spent 2 more hours trying to find a hotel on the West End. Out as far as Slough, 3 hotels all full up. Finally looped by the airport & got a room at the Fortes Airport hotel. Nice but expensive. Had a real bath, did the laundry. Will try again for a cheaper hotel tomorrow, maybe down town. [London]

Aug 21, Fri. Had trouble starting car – It gets worse every day. Hope I can get through to Tues with it. Came down to Kew & checked the H. spont. Only about 3 locations from Turkey so didn't learn anything there. Did find a few from N. Africa, however. Browsed through the legumes w/o finding anything very new. Looked up a little of the literature & got a few more locations in **Mano & Parsa** altogether not a very fruitful effort. Visited briefly

⁹⁷ *Theory and dynamics of grassland agriculture*, 1956.

⁹⁸ Drove to London, about 35 miles to the east of Hurley.

with Clayton & Bos, saw Hubbard briefly. Left ca 2:00 pm & drove downtown trying to find a hotel somewhere near the things to see. First problem was a parking place so I could ask at hotels. After much effort & much driving, found a meter spot & then hiked about Piccadilly Circus area looking for a hotel. Finally got one at Brown's. Don't know what it costs, but it will be enough. Usual country style – no bath. Went out & had dinner at a Chinese restaurant. Crowds around the Circus thick & mostly tourists. Something like Times Square, but not quite. **[London]**

Aug 22 Sat. Went shopping for Harry. After much indecision finally bought him a quilted Parka (Anarak). Maybe a bum buy. We shall see. On way back to Hotel stopped at bank & changed \$100 off my letter of credit. Then at another bank changed my Turkish Liras T. L. 520 into pounds £ 15-15-1, which is quite a loss but better than I thought I could do. At hotel left package, took the camera & hiked down to Westminster Abbey. Browsed for nearly 2 hours. It is later than many. The only Norman part is in the cloister & part of that is even pre-Norman. It is mostly Henry III with a later choir & chapel added. Tremendous height & very impressive. Some of the names on tombs or tablets include the 3 Brontë's [[Google: Brontë's?](#)] girls, Ben Johnson, Keats, Shelly (d. Italy), Burns, Byron, Oliver Goldsmith, C. Dickens, Macaulay, Browning, Channer, Dryden, Tennyson, Longfellow (Amer. Best), among the poets. Geo Fred. Handel, among musicians. Pitt, Disraeli, Gladstone, Peale & FDR among politicians & Newton, Darwin, Watt, Thomson, Rutherford & Kelvin among scientists. Many more. Got a booklet & purchased the book on English Cathedrals to be sent home. Then went to Parliament & followed the crowd through House of Lords, & House of Commons. Westminster Hall, the most impressive. Tremendous gothic room built first by Wm II, 1095. Here King & statesmen lie in state, Charles I received the death sentence, Joint sessions of Parliament meet, etc. A very impressive hall indeed. H. Commons all new since the war when it was completely obliterated. Then hiked over to Buckingham Palace & watched the red coats march up & down – then across St. James to the Royal Academy building & an exhibit of Hittite & Anatolian art. Really rushed by that time. Managed to wait until the bars opened & had a couple, then to hotel & a rest. But to an Indian – Pakistan restaurant in eve. The crowds around Piccadilly Circus very dense in eve. Didn't feel quite up to a show so to bed. **[London]**

[Drove to the University of Cambridge and the Plant Breeding Institute (Aug. 23 – 24: 2 days)]

Aug 23 Sun. Knowing nothing moves here on Sunday, tried to sleep late – dawdled, wrote notes etc. Finally breakfasted 9:00 ish & checked out. A big luncheon & some drinks charged to my room on the 21st. She grudgingly corrected the bill & neither of us felt good about it. Car didn't start but the garage man pushed it & it went off O.K. Drove out to St. Paul's & had a look. Sir Christopher Wren's masterpiece, rather neoclassical & in a way

reminding one of Roman baths. Tremendous structure of good proportions & all that, but to me not in the same class as Tewkesbury Abby. Did not stay for services as I thought I was in a hurry. Drove out to the Tower of London & found they don't open until 2:00 pm on Sundays, so all kinds of time. Took a boat ride down to Greenwich & got off. Stomach acting up & felt very uncomfortable. Saw Cutty Sark in dry dock, had a beer & sandwich & came back. Tower now open but very crowded. Followed a guide for a while & felt very ill indeed & dropped out to find a gentleman's. Finally saw most of the things except the crown jewels for which there was an absolute mob there waiting. Got out & drove up to Cambridge. Feeling much better & a glorious afternoon – a lovely ride. After some hiking about found a hotel – University Arms. Dinner very expensive – probably the rooms are, too. **[Cambridge]**

Aug 24 Mon. For some reason went to National Institute Agricultural Botany & found it was the wrong place, so went to the [Plant Breeding Institute](#). Was met by Gordon Kimber who took me to Bell & a program was arranged. The first:

H. H. Rogers: the grass breeder. According to him the 1st Generation of grass breeders, Stapleton & Jenkins had done such a good job a sort of ceiling was reached & what is needed next was a special purpose grass quite different from things now available. He went into cemeteries, national monuments & the like & got ungrazed types, etc. that had not entered into the earlier breeding work. Found they yielded well in spaced nurseries & did nothing in [swards](#). Then the Australian collections of Mediterranean material attracted attention. Wm Davies was very enthusiastic & pressure put on to take short cuts. Some quick synthetics thrown together for trial w/o real breeding work. The guides to quality being used now are a) [in vitro](#) dig somewhat modified, b) soluble carbohydrates, c) leaf structure & anatomy w. lignin distribution, etc. But, the old problems remain. How do you take a sample? Stage of growth, time of day, moisture stress, etc. All affect these properties. Still up in the air. Series of studies methodologically laid out 1) Logarithmically graded populations of ryegrass S24 laid out in small plots with & without irrigation. Tillering, tiller weights & no, fertile & sterile height & etc. measured. There is considerable effect of stand. 2) The work repeated with 4 genotypes. 2 early & erect, 2 late & prostrate with or without water. There is a genotype – strand interaction. 3) the work repeated with genotype plus N variable w & w/o water. There is a genotype – N – spacing interaction. 4) The work repeated with genotypes, plus N & plus chipping, internal variables with & w/o water. Everything interacts. On the whole differences are much smaller at the close spacings & there may be order reversal between 27” and 9” spacing. Below 9” not likely to be much change in rank but differences smaller. ∴ 9” is not a bad spacing for selection work.

Next visited Gordon Kinder & saw his layout. Some nice techniques in greed houses with spastic pots, etc. Root tips smears beautifully. Went out w. Bell for luncheon & he

showed me around the farm somewhat. Then took me to FYFE, the [lucerne](#) breeder. [Verticillium wilt](#) one of chief problems & for first time bacterial wilt has appeared this year. [M. gaetuleum](#) & [M. hemicycla](#) show some resistance. Work slow but it looks like a variety could be developed with somewhat lower yield than Du Puits that would stay in 1 – 2 year longer. That's w. 4 degrees of inbreeding as well as a number of individual gene tests show *M. sativa* is an "auto tetraploid". Saw some of the material in the field. Much land to be plowed out because of bacterial wilt infestation.

LUPTON: Wheat breeder. No permission for quality & some pressure against very low quality. Holland is offering a prize for the private breeder who develops a quality wheat, the German theater penalties for those who don't. The Belgians think they can make a good loaf out of anything. The Institute has released a new variety w. excellent quality ([Widgean](#)) & good yield. In search for good parents he crosses 8 – 10 selected vars each year on to 5 commercial tests. Working on some physiological measurements. Assimilation rates. Photosynthesis in the ease & movement of assimilates. Radio study shows tillers become autonomies at an early age & unless they are fertile they are parasites. Technique of feeding is to enclose organ in glass chamber w. measured amount radioactive Na_3CO_3 & add excess of lactic acid to release the CO_2 . We must do some of this with Bermudagrass.

See paper by BORRILL M. in Jan. Linn. Soc. Vol. 56 on species of *Dactylis* based on epidermal character along others.

Kimber & Bell came & I went to the Kimber's for supper. Wife is Yvonne & little girl is Sara almost 3. After dinner to Bell's for drinks & to hotel about midnight. A very nice evening. [Cambridge]

[End Cambridge Univ. visit; back to London for one day: Aug. 25]

Aug 25 Tue. Caught up notes, breakfast & checked out. Car wouldn't start⁹⁹. After some fussing got a couple of lads to push it & it went off o.k. Drove to Hertford & called John **Inrres**. Simmons was out of town & I didn't want to see it very bad anyway, so went on. After fighting the traffic & losing my way several times pulled out at the skyway instead of the Fortes, but they had a room & said they would hold my luggage while I went to Holland. So, checked in & took the car back to Auto Hall. Managed to find it O.K. The balance there was £ 15-14-3, which wasn't bad. The mileage 20823 & not a scratch on it, but I was glad to give it up. The traffic is no fun. Bought a pipe to replace the lost one & took the bus back to hotel. Washed shirts, shorts & sox & started sorting out. Will go light to Holland. Restaurant & bar extremely expensive at Skyway. Better to sleep at Skyway & eat at Fortes. Will do when I get back Sunday. [London]

⁹⁹ He got the car on July 29 for 4 weeks and it is all ready dead.

[Flew to Holland to visit several Research Institutes (Aug. 26 – 29: 4 days)]

Aug 26 Wed. Up at 5:05 for a change. Shirts finally dry. Packed, checked everything, had little plastic folder & caught hotel bus to airport. Nice easy flight to Amsterdam. Took airport bus to Terminal, took taxi to American Express office, which is near the R.R. station. Changed \$50 from the letter of credit (& \$10 green at airport). Walked to station & bought ticket to Wageningen. Only a little over 1 hour, but then had to take a bus from station – some 7 hours very hot day & hiked about quite a bit before finding a hotel. It seems since luncheon delicious & the beer magnificent. Met a

KARL A. SILBERSCMIDT

[Instituto Biológico, São Paulo, Brazil](#)

P.O. 7119

at lunch. He is member of Research Council in Brazil & a plant pathologist (viruses). The weather very hot indeed, felt tired & run down so sacked out after lunch. The town is absolutely dead after 5 pm, in summer at least. [**Wageningen, Holland**]

Aug 27 Th. After a false start or two found that there is an International Agricultural Center whose function is to show people around. A young lad named Ir. (Engineer) R. T. IJSERINKNULJSEN took me in tow & took me out to the IVP ([Instituut voor Plantenveredeling](#)). Prof. Dr. Ir. [J. Sneep](#) is head of it. The town is loaded with institutes & even this activity is divided up. Dr. Sneep passed here on to the SVP ([Stichting voor Plantenveredeling](#)) or foundation for Agricultural Plant Breeding. This one works with the big crops only & includes herbage plants. Dr. H. LAMBERTS, Deputy Director SVP took me in tow & drove me some miles out to a small farm where the grass nurseries are. There me found Ir. G. E. van Dijk & went over plots with him. Selecting timothy in stands of ryegrass trying to get a more aggressive timothy. Ir. J. Dijkstra is doing the same with clovers. He showed me material of Festuca X Lolium that was mostly Octaploid. Dr. F. Wit is working on it. I gather most of the Octaploid material came this way: $4_x \times 2_x \rightleftharpoons 3_x \rightleftharpoons 6_x$;

$6_x \times 2_x \rightleftharpoons 4_x \rightleftharpoons \text{colch}^{100} 8_x$. Some looked a good deal like tall fescue but had soft leaves. Heads more like Lolium – sterility a problem. Van Dijk also selecting for turf type timothy & a Dactylis without barbs on the left margins & news. Tetraploidal ryegrasses one of child contributors of late. They never produce varieties but turn over their material to private plant breeders. Van Dijk is a world champion checker player¹⁰¹.

¹⁰⁰ Not sure what he means by this, but it might have to do with colchicine,, which is known to double chromosomes in some plants HVH2

¹⁰¹ Websites with world Checkers champions show that van Dijk was very competitive, but never [world champion](#).

After lunch Mr. Ijserinkhuijsen took me out to IURO (Instituut voor Rassenonderzoek van Landbouwgewassen) or Inst. for Research on Varieties of Field Crops. The head of the registration section Dr. F. M. van der Vaact, explained the system to me. By natural law there is a Plant Breeder's Decree which gives Breeder's Knights. To get them a variety must be sufficiently stable and distinct enough to be identified. If the variety meets these requirements it is registered, weather good or not. Once on the register it is to be tested by the IVRO & is put on the list which describes the variety and its good & bad points. At present the register has only cereals, potatoes, peas, beans, flax & apomictic varieties of grasses. Fodder beets, grasses & clover not registered because not identified. Farmers must plant only certified seed. The breeder has complete monopoly on basic seed & gets royalty on certified seed. Any farmer approved by certification services can produce certified seed. In grains, clovers & fodder beets the breeder produces & sells basic seed. The certificating service will certify these crops as to kind & seed quality only to verify names not used because they cannot be recognized. Marion bluegrass is an exception because it can be identified by phenol tests. Then went to field with Ir. W. Sceygrond, Head of Research on the agricultural value of forage & pasture crops. A large area devoted to turfgrasses – chipped a 3 heights & read for persistence, disease, texture, etc. Large grazing layout with twin mild cows stripped of various classes with many varieties within a class. e.g. perennial ryegrass divided into early, hay, late hay and pasture types. The varieties to be tested in each planted in plots within the strip. With & w/o white clover & grazed for 4 years. Persisting, aggressiveness, yield (by mower strips) etc. tested. Other kind as a whole measured by milk yields. Rotation grazing ca 5 days on & 4-5 days off. Ca. 14 sets of twin cows. A layout planted somewhere every year. They are taking out the tetraploid ryegrass & putting in separate trials because they are too different from others. Correct for clover by a regression obtained from other studies. 1% clover \underline{Q} 1% total dry matter. Same vars think out quickly & others stay in well. Differences considerable. Mostly [ryegrass](#), [timothy](#) & [orchardgrass](#). Other trials are chipping plants. **Timfs** also tested on athletic fields (3) and canal banks & remediation (2) chemical analysis **relater** standard. No digestibility. Got back 5:30ish still very hot rested a little & went out to dinner at the Wageningse Berg Hotel. Very fancy, extremely expensive very hot & no better than my hotel, I am sure. Hot, long walk on a sultry night. Found out later this was the hottest place in Europe this date ca 34⁰C. Cooled off some during the night. [**Wageningen**]

Aug 28, Fri. So, this time out to PAW (Proefstation voor de Akker – en Weidebouw) translated as Research and Advisory Institute for Field Crop and Grassland Husbandry. Ir. H. De GROOT, deputy director gave me the poop: [Permanent pastures](#) very widely used in North. Some are several hundred years old, but give excellent yields. **Leys** are only 3-4% of total produce & these mostly on sandy areas. ∴ breeding products are used on only a small scale. High first levels & close grazing and/or frequent mowing encourage perennial ryegrass. Very little clover in old swards. N is added. The national average is

about 100 kg/ha N. On peat soils yields go up with more N & break at about 200-250 kg/ha. Sandy lands start lower, but keep going up longer & clayey soils in between. Actually, the area beyond 200 kg/ha N just now being explored you get roughly 7 kg starch equivalent (SE) per kg N. Farmers apply heavier doses in spring than later, e.g. in experiments now in progress, they are applying N in doses as follows: 70-40-20-20=150; 120-70-40-40-30=300; 160-70-70-60-60-30=450. Nearly all soils poor in P & only the clays have enough K. When N is doubled you do not need to double P & K if animals are grazing because of return in manure & urine. High K gives [grass tetany](#) problems, especially if Mg is low. As many as 40,000 cases / year & up to 8,000 deaths. The K/Mg ratio more important on the sandy soils, but it is easier to drop K levels than on clay soils. One problem is night pasture or near pasture w. supplemental feeding from other fields. The conc. dung & urine increases K to dangerous levels. The more the K, the less Mg, Na & Ca. Also, with high K the retention of Mg in the animal is less. The same with high N. At low N, 25% of Mg may be retained but at high N, only 10% may be retained & this may be more important in tetany than actual content. No tetany when Mg in dry matter 0.21% or more. Same Mg fertilization on some soils & some formulae are 20-0-0-10 MgO. One kg pure N costs about a gilder. Three plants making it & supplies are ample. Some N is expected. 100 kg milk sells for 32 guilders (to the farmer) w. 3.7% fat – some subsidy from gov't. Many farms have all grassland with no arable land. Research on zero growing vs. grazing only vs cut & graze. Few farmers can practice strip grazing – to exacting. 99% of farmers rotation graze. With fattening cattle you can have more animals because you can use more N. Lots of silage used – stocks, pits & silos. They like to turn the cattle in when there is 1 ton DM/acre on the ground & graze it off in 5 days – wait 4-5 weeks before coming back. They like to cut when 2 tons DM on the ground. We went out to see the grazing trials. Quite extensive. Use dairy cattle & measure milk. On cutting vs. grazing on different levels of N the cutting is yielding more & the curve rises with incr. N for a longer time. Study is brand new & we must wait to see. Some of high N paddocks looked bad (weedy). Manure strip & cages used. Looks like solid work & this only a fraction of total.

In aft went to IVT (Instituut voor de Veredeling van Tuinbouwgewassen) or Institute for Horticultural Plant Breeding. The contact was a Mr. D. Komen whose job it is to show visitors around. He did an excellent job & acted like a director. At any rate it is a large Institute w some 20 professionals & 130 technicians & workers. Among the chief problems are disease resistances. Showed me a bean field of x3 or 4 irradiated. Lots of freaks not too much good, yet. Much work on techniques for infections w. diseases. Interspecific hybrids w. tomatoes. Use of flies for pollination on [Umbelliferae](#) & [Cruciferae](#). One very hot house after another. Non bitters **cuees**¹⁰² hybrid crassular, grafted cacti, cactus & succulent collection great attention to controlled environment for

¹⁰² Don't know what this word is. HVH2

crossing, for flowering or for inoculation w. diseases. [Phytotron](#) - new expressive environment control 20,000 Kw/mo & increase in winter. 250,000 kw/year. They think it's worth it. Nematodes resist. Big problem. Interspecific crosses in [Phaseolus made by embryos culture](#). They have an embryologist, a cytologist & rafts of other professionals. See the catalogue. An impressive show got some publs & a list of publs. They want what we have in horticulture – which ain't much. Got back to Hotel Hof van Gelderland after 5:00 & pooped. Brought up notes but couldn't remember too much about the horticulture – see above - getting a bit groggy of it all. Guess I'll quit here. The stores are open on Friday nights – so at long last I got a cake of soap, a roll of film, some cigars & since I had been given so much literature I couldn't carry it, I got a small cloth & plastic satchel. Stomach growling so skipped supper. **[Wageningen]**

Aug 29 Sat. A really wild night. Couldn't sleep. Stomach really on the rampage, my “bursitis” in left shoulder extremely painful. Dropped off and on. Got up 7:00ish, packed, breakfasted & checked out. Caught bus for station & after I got off at station realized I had left the raincoat on the on overhead rack of bus. Debated a little weather to kill the morning getting the coat or to go on & try it long distance. Decided to go on – so caught next train, changed at Utrecht & caught next one to Amsterdam. Walked to American Express & asked for a hotel room. She called 4 hotels before she found a room (w/o bath). The town is really full. Then she got another girl on the phone to Wagenlingen & Ede & finally ran down the coat. Cost of phone 2⁵⁰ G. I should go to bus station about 3:00 & just pick it up & pay the charges. So hiked all the way to hotel, for no reason except you see a town better by walking. Got there about 12:00 tired, hot & shoulder giving much trouble. Rested for an hour & headed for bus terminal. Had a lunch there, but it was till only 2:20 or so. Walked past an office & saw my coat so went in & claimed it. The charges were 30¢ G or < 10¢ American! I gave him a gilder anyway & was very glad to get it. [Written in the left-hand margin:] Called bus people and she asked me to describe the coat & was much amused when I told her there was 1) a label inside saying London fog, 2) another saying Bates Bros, Stillwater, OK and 3) and in each pocket a pair of black, wet socks – no other coat like it the Netherlands. [Back to text:] Took taxi to the Rjksmuseum & spent two lovely hours looking at Dutch Masters, Hals, Rembrandt, Van Dijk & many others. There was also an El Greco, some Veronese, Timosetto, Carryio & the like. A smallish but superb collection. Ordinarily these galleries make me very tired & I had been hiking all over town anyway. But suddenly I left much refreshed. The shoulder stopped bothering, the stomach began behaving, etc. Maybe Chinoy is right & the ascorbic acid had gotten low. Back to hotel & took bath in the Badhamer¹⁰³ the first in Holland. Put on clean shirt & went to find a bar. The nearest at this end of town was the Hilton & I used up the rest of my Dutch money with no trouble. **[Amsterdam]**

¹⁰³ I believe this is a Dutch sink.

[Back to London (Aug. 30 – 31: 2 days)]

Aug 30 Sun. Everything very quiet on Sunday morning. Rather rainy & squally. Wandered down through the canals & took a boat ride around the city & through the harbor. A delightful trip. The guide pointed out a few things of interest I had not noticed or known about so after the trip I walked back over part of the route & took a few pictures. A lot of the canal-side buildings are 17th C. & have sagged in all sorts of directions, yet seem to be holding up well. Cranes from the ridgepoles built in because stories too narrow to bring up furniture drifted back to terminal building & took up to airport. The airport trip is 4 G & I had 3 ½ left. If I hadn't tipped the guide on the boat I would have come out right. So changed a 2 dollar bill & drank up the change at the bar. Bought a box of cigars at the duty-free shop. At London the usual. Reconfirm ticket & called Skyway Hotel. The bus promised in 10 minutes, didn't show in 45, so I walked – no doubt – good for me. A couple at the pub & a light supper in Fortes coffee shop. **[London]**

Aug 31 Mon. Wrapped up all the bulletins, brochures etc. & took to airport P. O. It was slightly over the 6 1/2lb weight limit for book rate & I had to unwrap it, take out the Inst Bot Congress Program & wrap it up again. Decided to go downtown from there. Went first to National Portrait Gallery. Quite a show of important Englishmen & women. King, Queens, generals & etc. A probably original Shakespeare, Sir Walters, Chas I, Cromwell. The Richards & Henrys & all the rest. Of special note were John Ray, Isaac Walton, Sir Christopher Wren, John Locke, Sir Isaac Newton, Robert Boyle Thomas Hobbs, John Milton, John Bunyan & many others. Next door is the National Gallery with some tremendous things in it. Leonardo's Virgin of the Roche & a large black & white sketch of his same fine El Greco's Goya, Velazquez, Rembrandts, Van Dyke, **Bregada**, Hale, etc. Lots of Fra Lippo Lippi & a fair set of Correggis, Veronese, Titan & **interolto**, Batticelli & the like. Renoir, Degas, Cezanne & other French were there & oddles of Gainsborough & Turner, not much Hogarth. All very exciting. Debated along time over buying slides & finally decided not to. Originals are expensive & didn't know if I would use them much. If I change my mind I can write for a list. National Gallery Publications Department London, W. C. 2. Original set of 25 for £ 5.5.0 or 5' each. Duplicate 2/6 each. Then went to British Museum. Asked about the herbarium & found it is in South Kensington so skipped it. The museum mostly ethnographical & ethnological. The largest & best collections are Egyptian & Assyrian as would be expected. Egyptian relists as a whole give one an impression of a tremendous preoccupation with death & resurrection – Death & nondeath. They seemed to be trying to abolish death. The Assyrians seemed to be preoccupied with kings & victories & Royal conquests. Their victories were over other people not over death. Other impressions: Jewelry of the Middle Kingdom magnificent. The bread is from extremely coarsely ground material with a fair amount of chaff in it. A leather ball was stuffed with what appeared to be barley lemmas & paleas. How did they pull this off? Soak it?

Pound it? It was not ground up much – long pieces. There may be a clue here. By this time I was nearly coked, so quit & came back to hotel – took bath, did a laundry, watched T.V. Went to pub for a whisky & found they served dinner of a sort and ordered a steak; had 1 pint bitter with it & a Drambuie after. A very fitting end to my stay in England & for less than a hamburger without drinks at the Skyway. Watched pieces of Edinburgh festival on T. V. until sleepy. Sounds like some exciting things there.

[London]

[Return to US: September 1, 1964. [Return to Index](#)]

Sept 1 Tue. Caught up notes. Packed, sorted, messed around until almost noon & checked out & over to airport. The Pan Am flight delayed 2 hours so I would miss my N. Y. connection. Persuaded them to put me on TWA, but had to wait until last minute to know if I had a seat or not. So missed the Duty-free shop. 5 1/5th Scotch for 12.00! – but couldn't get any. Probably couldn't have carried it anyway. The suitcase & tray came to 20 1/2 kgm & I had at best 10 more tied up in the little Dutch satchel, camera, things stuffed in the top coat pockets etc. & a book carried in the hand. Anyway we got off & 7 1/2 hours & two double Scotches on the rocks, 1 Champaign & a meal later arrived at N. Y. They had a movie which, mercifully, I didn't have to watch so read the "Facts of Life." At N. Y. it was 86^o C [F?] & felt like 180 & I had to lug the stuff through customs, over to TWA & here & there. Really worked up & sweat but caught the flight & got to Tulsa at 9:35. The central flight had taken off at 9:25. Tried to call home. Rich on the phone, of course. So rented a car from National which has a Stillwater pickup & drove it in. Arrived 12:00 midnight.

[Finis]