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PREFACE

What you have before you is a book about Dr. Jack Rodney Harlan, a plant scientist, seed collector, archaeologist, geneticist, world traveler, writer, thinker, philosopher, pioneer, husband, father, teacher and friend to many people around the world. It is the greatest privilege to be his son and an even greater privilege to write his biography. My father passed away in 1998 and for a year or so prior to that he was bedridden. He had retired to New Orleans, where I lived and where my brother, Dr. Richard E. Harlan, was also living at the time. We got to see him on a regular basis and Rich has written the last chapter of this biography containing a lot of Jack Harlan's exploits while in New Orleans, of which I had no knowledge before reading what Rich had written.

First a word about this author. My name is Harry Vaughn Harlan. I am the eldest son of Jack R. Harlan and Jean Y. Harlan, and named after my paternal grandfather, Harry V. Harlan the barley man. I was born in Woodward, Oklahoma in 1946 (see Chapter 4) and raised in Stillwater Oklahoma (see Chapter 5). I was inspired by my father and wanted to go into science. Certain things happened which prohibited me from pursuing a career in science and I ended up as a Civil Engineer, living in New Orleans, Louisiana with a wife and two sons. Some other things happened, I heard the Gospel of Jesus Christ, that He died for our sins and was raised from the dead and I became a born-again Christian in a Black Baptist church not far from our house. I was called to preach and became an ordained Black Baptist preacher. Then some other things happened, and my first marriage ended. After seven years of trial, I married a sister from that same Black Baptist church and we moved to New Orleans East, a predominately African American part of New Orleans. Two years later (2005) Hurricane Katrina struck and everything changed again. Things changed for the better, however. When I retired from Civil Engineering in 2012, I began to work on my father's biography and have been doing that fairly steadily since then. It is now 2020 and the book has its own website, ascholarapilgrim.net.

In about 1996, after it was more or less determined that I would be the one to write Jack Harlan's biography, I sat down with him in his apartment on St. Charles Avenue in New Orleans, and interviewed him, recording our conversations on cassette tape. After we completed that phase, he sent the tapes to his friend in Memphis, the late Dr. Margaret (Meg) Brooks, and she transcribed the tapes. I have used these transcripts to some extent in writing the subject volume and I am grateful for her work; however, I found that there was much more out there to put into the book than I knew about when I made the tapes.

After I retired from my job as a Civil Engineer and began spending considerable time working on the book, the Internet revolution came along and changed everything. I learned how to use hyperlinks and employed them throughout the book, especially in Chapters 6 and 7. Chapter 6 is about Jack Harlan's work at Oklahoma State University and Chapter 7 is about his work at the University of Illinois. Chapter 7 has become "enormous" as my father would say. I thought about breaking it down into smaller chapters but could not figure out how to do that. It now has two internal Indices with links which will help the reader navigate through it. Chapter 6 has an internal index also. At one point I emailed the chapters to a real writer and asked him to review it and make comments (I paid him some money). He said that a book like this should have about 22 chapters. I thought about that for a while but could not come up with a breakdown other than the 8 chapters I have. I may have broken every rule in the Writers Handbook, but it is what it is.

The way the book is now organized, the reader can just read through Chapters 1 through 5 as an ordinary book, except for a few links to other websites. As you get into Chapter 6 and especially Chapter 7, you will find a lot of options to go off and read transcripts or narratives of his various expeditions. Dr. Harlan conducted some 18 expeditions to various parts of the world in his professional career. He was primarily collecting seeds on his expeditions, but he was also an agri-tourist, visiting the local museums and buying a few souvenirs in the markets. He also went on about 11 extended trips during this time. To count as an “expedition”, he needed to do some seed collecting. If he just attended meetings, it was called a “trip”. Dr. Harlan left very little of a paper trail for many of the trips. On several of them this author had nothing to go on but his pocket notebook, or calendar, on which could be found clues to his activities. For example, an entry for Monday, April 13, 1970 “Arr. Rome” and then under each date from then until Saturday, April 18 the word “Rome”. Then, under Sunday, April 19, 1970 it had “Home”. A little investigation on-line showed that there was a meeting of the FAO “Panel of Experts” in Rome on those dates. It was concluded that Jack Harlan attended this meeting and it was called “Trip 4”. One could then explore what was documented about this FAO Panel of Experts meeting and go from there. There are many links which lead to other documents, such as Jack Harlan’s expeditions and trips. If these do not work the referenced documents can be found in the Appendix.

As I got into the writing of this book it became obvious that there was just too much material to put into one book. As a writer it is my job to decide what to leave in and to summarize and what to leave out. But I kept finding real gems, real nuggets of gold, buried down deep in the journal transcripts. Who am I to decide that this or that is of no interest to the reader? So, I decided to be as inclusive as I could, following in my father’s footsteps. I will try to make the travel journal notes available to the readers and let them follow the leads that seem good to him or her and let the reader find the nuggets of gold buried deep in the transcripts.

So, if you, honored reader, just want to read a book then just go ahead and read the book, ignoring the hyperlinks. If you are a student of Agronomy and want to find out how one of the old-timers and pioneers did things, then help yourself: follow the links and read from the notebooks of one of the great seed collectors of the 20th Century. You may be a student of history and want to get a first-hand look at various countries as they were in the 1940’s through 1980’s. You may even be a relative of Jack Harlan and want to find out more about him and what he did. Go ahead, follow the leads as they take you and enjoy the ride. If you are a relative, you may find your name in the text.

In trying to put this together for on-line publication I ran across some problems with the links, especially when I converted the documents to pdf format. If the links do not work, the various documents of interest can be found in the Appendix, under [Expeditions](#), [Trips](#) or [Misc](#).

One note of caution. As I labored to transcribe Jack Harlan’s field notes I ran across many names which were unfamiliar to me. Many of the villages could be located on Google and I got their “correct” spelling. Some of the people could be found using the Internet and the spellings corrected. Many people and places, however, could not be found and I had to leave the spelling in a questionable state. You, dear reader, must excuse me for this. I believe I have made a reasonable effort to get the names right, but a number of them will have to remain a mystery. I found a man from Turkey to help me with the Turkish names and a man from Pakistan to help me with the Pakistani names and also someone from India to help me with those names, but I am afraid, a lot is still not perfected. There are also some areas, particularly in the Expedition notes where the subject matter got too technical for me. I have tried to get some help and Dr.

Adi Damania and Dr. Cal Qualset, both of the University of California at Davis helped me quite a bit; but there are still some areas which I simply gave up and called them “Tech Talk”. I will try to get them all corrected and resubmit my text. Until then, simply enjoy the journey of a man who led a most interesting and extra-ordinary life, Dr. Jack Rodney Harlan.

Harry Vaughn Harlan (HVH2)

A Scientist and a Pilgrim – FOREWORD by Ardeshir (“Adi”) B. Damania PhD

Jack Harlan was a man of many parts. Plant explorer, world traveler, an expert on the grass family, a great teacher, botanist, agronomist, germplasm collector, campaigner for crop plant biodiversity conservation, a great teacher, and a connoisseur of fine spirits. He had plans to go to Russia and study under the great Nikolai I. Vavilov, but political events in Russia overtook his plans, and he landed up at University of California, Berkeley and studied under G. Ledyard Stebbins. From there he launched into a career of travel and exploration to about 80 countries. Harlan was a pioneer in Crop Biodiversity.

The first Harlan Symposium on “*The Origins of Agriculture and Crop Domestication*” was held at the research station of The International Center for Agricultural Research in the Dry Areas (ICARDA) in 1997. The second Harlan Symposium on “*Biodiversity in Agriculture – Domestication, Evolution, and Sustainability*” was held at the campus of University of California, Davis in 2008. The present effort is a eBook created by his son, Harry Harlan who lives in New Orleans. It is written from a perspective of a son, and keeper of Jack Harlan’s manuscripts and diaries. It is to be included as a part of the proceedings of the third Harlan Symposium on “*Origins of Agriculture and the Domestication, Evolution, and Utilization of Genetic Resources*”.

The evolution of crop populations, species and communities under human-imposed selection pressures and artificialized environments, is marked by dramatic changes in landscapes and by tensions in governance systems. Agriculture is a strong driver of anthropogenic global change. It must also be an important part of solutions to minimize human impact on the biosphere. With increasing recognition of the necessity for ways of farming that preserve biodiversity and ecosystem functioning and genetic resources—collectively termed agrobiodiversity—have taken on new functions.

Since the second Harlan Symposium in 2008, we know more about agricultural trajectories of past and contemporaneous societies, the diversity and adaptive potential of genetic resources and their management in its technical, social and political dimensions. Owing both to this progress and to the changing expectations of farmers and consumers, our research questions on these themes have evolved. The third Harlan symposium in Montpellier will highlight the major advances in knowledge on these themes and draw attention to emerging issues in the history of

agriculture and the evolution, conservation and use of genetic resources. It will maintain the originality of the Harlan symposium series by emphasizing the multidisciplinary aspects of the science (from archeobotany to genetics and agroecology), the variety of biological models (plants, animals, microorganisms) and the broad temporal scale (from the origin of agriculture to the current problems of use of genetic resources in the face of climate change).

We are extremely fortunate in archiving the original hand-written diaries of every exploration and collection mission that Jack Harlan conducted almost single-handedly. The countries he traveled to and the regions he explored are all listed in this book. It would be impossible to duplicate these journeys and visit the places that Jack Harlan went today! In fact, permission to send the samples he collected to be dispatched to his departments in the U.S. would be impossible to obtain. In that sense, Jack Harlan's work will remain a unique adventure of a dedicated plant explorer. His diaries make very interesting reading and like a non-fiction novel, almost impossible to put down once you start. The summaries of his lifetime's work was seen in the two books he left us "*Crops and Man – Second Edition 1992*" and "*The Living Fields – Our agricultural Heritage 1995*". Note: "*Crops and Man*" has been revised and updated in 2019. (HVH2)

Considering the advances that have been made and new discoveries unearthed around the world, it will be very interesting to hear the authors' presentation at the third Harlan Symposium, at SupAgro Montpellier, France, 3-7 June 2019. This author did not attend the Harlan III Symposium, but a Harlan IV Symposium has been planned for 2021 in Australia and he might be able to attend. (HVH2)

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A SCHOLAR AND A PILGRIM

PROLOGUE: CONVERSATIONS ON THE NIGER

by Jack R. Harlan

The following was transcribed from a tape-recorded conversation I had with my father, Jack R. Harlan in the last years of his life. He wanted it to be placed at the beginning of his biography. (HVV2)

At Gao I was standing on the bank of the river looking for a pirogue. There were many about, but they were heavily laden with produce: great slabs of purple salt mined in the desert; goods for trade for people going from one place to another. It was a colorful scene. In due time, a pirogue came by paddled by a young man, but it was empty. I made a sweeping gesture with my arm ending up pointing at my feet. The lad, with a thrust of an oar, skimmed to the shore. He partially beached the pirogue to see what I wanted. What follows is a liberal translation from the French. "Is your pirogue for hire?" I asked. "Where do you want to go?" "See those green plants in the water on the other side of the river?" "Yes." "I want to go look at them." "For how long?" "For one hour." "Three hundred Francs," he said. I'm sure he thought the price exorbitant. But these are not French Francs. They were the currency of several former French colonies of West Africa. The price was cheap. So, I agreed. "Let's go," I said. "First I have to tell my father and get a pole. I'll be back." And he disappeared down a sandy street. Before long he had returned with his pole and I got in the pirogue with my back facing him and we set out on the swollen Niger – the Niger in flood is impressive. He paddled in a circular route because of the current. "Are you German?", he asked. "No." "Russian?" "No." "English?" "No." "What then?" "American." "Oou!" It sounded like he did not think much of Americans. But I soon learned that the word "Oou" is one of approval. "America must be prettier than Gao," he said. "Well its very large," I said. "I am sure it is prettier than Gao." "Gao isn't so bad." "Not bad but there's not much to it." "Well you have a point." "Have you heard of France?" he asked. I did not point out that we were speaking French. "Have you heard of Gen. De Gall?" "Yes." "He's the big general." "He's big, alright." "My father soldiered with Gen. De Gall." (evident pride here.) "Very good," I replied. "Many people soldiered with the general." "Yes, and the general's side won." "That is true," I said. I am sure he had little idea of the sweep of World War II. "The general came to Gao once. There was a big parade." "That must have been before you were born." "Yes, my father told me about it." "How old are you?" "Fifteen." "You speak French very well."

“Yes I am a scholar in school.” (some satisfaction in his voice) “Very good. Many boys of 15 have quit school.” “I know, but there is so much to learn.” “Oh yes. I am a professor at a university and old enough to be your grandfather and still learning.” “You too?” “Yes, indeed.” “There’s no end to it,” he mused. I changed the subject. “Are there hippopotami in the river?” I asked. “Not here. It’s too deep; but there are some on the other side.” “And crocodiles?” “Ruhmm, too many.” From the sound he made I got the impression that one would be too many. We soon approached the first strip of green. It was a grass not flowering or fruiting yet. I thought it was probably *ekinochloa* (?) of ecological interest, but not what I came for. I suggested that we go on further. He stopped paddling and started poling. The second strip of green I could see familiar panicles rising above the water. “Yes,” I said. “This is what I came for.” “What is it?” he asked. “It’s a wild rice.” He took a panicle and looked at it. “Well, it looks a little like rice,” he said. “It’s a perennial form,” I told him. “There’s another annual form that grows in water that is a progenitor of the African cultivated rice. Most of the rice grown in Africa today is of the Asian kind. But Africans at one time had domesticated their own kind from the annual form from the waterholes.”

“You must know a lot about rice,” he said. “No, but I am just learning.” “But, you have come all the way from America for this and I have lived here all my life and I did not know about it.” “Well, sadly that is true. This material is too green. Let’s go on. I think I see riper ones on ahead.” There, sure enough, I could see panicles with black spikelets indicating mature seed. I pointed out to him that the green ones were empty but the black ones had seed in them. He checked me out by pinching the spikelets carefully. “Yes,” he agreed. “The green ones are empty. The black ones have seed.” “Let us collect some,” I said, and took out from my collection sacks two manila envelopes. I gave him one and we set about gathering wild rice seed. I said “Get as many black ones as you can. If you get some green ones it doesn’t matter.” We stuffed the two packets slowly and then turned around to go back. “Do you have plants like that in America?” he asked. “In Central America and South America there are similar plants.” “Central America and South America,” he mused. “Is there no North America?” “Yes, Canada, United States and most of Mexico is North America.” “Oh, yes. I had forgotten.” On the way back I gave some thought to this young man. He was a potential scholar, bright and inquisitive. Yet he didn’t take my word for everything. He checked me out. The green ones were empty. The black ones had seed. But what potential could be developed? Probably the library of his school could sit in the back seat of my Volkswagen Beetle. What opportunities did he have to develop this potential? There are young people like that all over the world with great talent but very little opportunity. When we reached the shore

instead of 300 Francs I gave him 400. We were both happy. After all, our conversation on the Niger was surely worth 60 cents.