Oral History Interview of
Frank Yancey

Interviewed by: David Marshall
July 16, 2014
Lubbock, Texas

Part of the:
Natural History Project

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Interview Series Background:

The Natural History oral history collection includes interviews with individuals involved in biological field research, especially in mammalogy and ornithology. Most of the interviewees are faculty members in biological sciences at research universities. The collection focuses on academic studies in botanical and zoological taxonomy, ecology, conservation, and animal behavior.

Transcript Overview:

Frank Yancey discusses his ties to Clyde Jones and Texas Tech University. He recalls how he became interested in biology, experiences in teaching, and changes in field biology education and fieldwork.

Length of Interview: 00:52:27

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NSRL, Clyde Jones, Mammals, Bats, Big Bend, Raptors, Evolution, Field work

David Marshall (DM):
The date is July 16, 2014; this is David Marshall interviewing Frank Yancey at the home of Clyde Jones, Clyde and Mary Ann Jones, and Clyde Jones is here also, and this is in Lubbock, Texas. And we've got to begin with your name, that's interesting, give me your full name if you don't mind?

Frank Yancey (FY):
Full name is Franklin Delano Yancey, II.

DM:
Okay, can you explain how you got that name please?

FY:
My father was born during the Roosevelt, Franklin Delano Roosevelt administration, and he was named after the president, so I'm named after my father.

DM:
Okay, that's pretty cool, pretty cool. Okay, and when were you born?

FY:
January 19, 1960.

DM:
1960, okay, we're about the same age, how come you look so much younger than me? The most important question I'll ask today, I was late '59, October of '59.

FY:
Oh yeah, very close.

DM:
Some of the last of the baby boomers.

FY:
Yeah.

DM:
Where were you born?

FY:

Torrance, California.
DM:
Oh okay, so you returned home?

FY:
Yeah.

DM:
I'm not sure where Torrance is?

FY:
It's a little south of Los Angeles.

DM:
Oh yeah, okay.

FY:
It's the coast.

DM:
Now you're farther north, a little wetter up in that country, or should be—the country you are in.

FY:
Yeah it should be.

DM:
Yeah, okay, and went to public schools in California?

FY:
Went to public school, graduated from Torrance High School.

DM:
Oh okay, and went where after graduation?

FY:
I got my bachelor's degree at California State University, Long Beach.

DM:
Okay.

FY:
Master's degree at California State University, Fresno.

DM:
Okay.

FY:
And then I came here to work with Clyde Jones at Texas Tech.

DM:
And your bachelors and masters were in what?

FY:
My bachelor's was actually in microbiology.

DM:
Okay.

FY:
And my master's was invertebrate biology.

DM:
Right, okay.

FY:
Did a little flipping there.

DM:
Where did the interest begin—did it begin in high school, or even earlier?

FY:
No it began when I took a non-science major's biology course. I knew nothing about biology, took this course as a fulfillment for laboratory science for general education, and just loved it. And so I changed my major.

DM:
What did you love about it, what is it that really appealed to you?

FY:
Well, it's things like looking at microscopic life in pond water.

DM:
Yeah.

FY:
And that sort of thing, and learning about the different ways that organisms were classified.

DM:
Right.

FY:
I found that intriguing.

DM:
Now that's interesting, because I read an article that I pulled up this morning about one of your students, who had a similar experience.

FY:
You saw that? She did, and I read that and I said that's the same exact way that I became a biology major.

DM:
So it was the pond water, and the world within a world kind of thing.

FY:
Yes, and that's funny you brought that up, because I was telling Clyde—and I didn't mention that specifically—but I was telling Clyde and Mary Ann in general about that, because I was kind of griping about some of the students that we have and that they don't put that effort in, and sometimes we get a little frustrated. And then I remembered that article, because she emailed me that article, I didn't know anything about it. And she emailed it to me, and I read it, and I thought well you do get through to some of them.

DM:
Isn't that cool?

FY:
It was, I've saved that myself, it's just a highlight of my teaching career.

DM:
And now you know to show them all pond water.

FY:
Worked for me.

DM:
They end up getting NSF [National Science Foundation] grants.

FY:
Yeah, right?

DM:
Like she did I think.

FY:
Yes, yeah

DM:
That's cool.

FY:
Yeah.

DM:
So this turned you onto biology, and you stayed with it through bachelor and masters. Now where did the Clyde Jones thing come in, was it bats that you were in to?

FY:
It was bats, yeah.

DM:
Okay.

FY:
Mammals in general, but bats specifically. And I hadn't met Clyde, but I'd heard about Clyde's reputation working with bats, as well as some other mammologists here, and I was lucky enough that they took me on as a student.

DM:
Well how did you get interested in mammalogy, and then more specifically bats?

FY:
Well, I started—I did my master's work on raptors—hawks and owls. And most of my research was pulling apart owl pellets and trying to figure out what rodent this skull comes from, and rodent this bone comes from. And so I became more interested in the mammals that the raptors were eating than the raptors themselves.

DM:
You were sure learning the anatomy, huh?

FY:
Yeah, and then I had taken a mammalogy class, and I was really interested in it. And I talked to my major advisor at Fresno State, Dave Chesmore, and he says, "Well you know, they're doing some really neat stuff at Texas Tech on mammals."

DM:
And you said, "Texas Tech. Wait, where is that?"

FY:
I'd heard of Texas Tech, mostly because of my interest in college football and that kind of thing.

DM:
Right.

FY:
And so I knew of it a little bit, but then I started looking into Clyde and what he'd been doing in Africa.

DM:
Right.

FY:
In especially the Big Bend area.

DM:
Yeah.

FY:
And so I applied and to my surprise, they accepted me.

DM:
And it was bats in general, or specifically Mexican free-tailed, or any particular—

FY:
No, it was really mammals in general.

DM:
I see.

FY:
It was mammals, but I was especially intrigued about bats. And it wasn't until when I first got here, we went out on some local field trips collecting, it was mostly rodents, rodents and small mammals. And then—I can't remember when it—I think it was a while, I can't remember exactly, but it was a little while after I'd been here that finally got to go out and net some bats. Then I decided I really wanted to work with bats, and when I first started here, I was working with both Clyde Jones and Knox Jones. And Knox had this project on deer mice, on *peromyscus*, [a genus of rodents] that he wanted a graduate student to do. And I was thrilled about doing anything, but I was kind of disappointed that I wasn't going to get to work with bats. And then Knox ultimately passed away, and I was working with Clyde real close on several projects, and then I came in one day and I real hesitantly approached him and asked if it would be alright if I made a change in my program. And he looked at me and says, "What exactly are you thinking of?" "I'd like two things—I'd really like to work with bats, and I'd really like to work at Big Bend, in the Big Bend area." He scratches his chin and goes "Hmm." And then the rest is history; he really pushed to get this project down at Big Bend Ranch.

DM:
So you came in with a strong *peromyscus* background?

FY:
No.

DM:
Oh, no?

FY:
No, no, I didn't.

DM:
But you had done some work with Knox Jones with *peromyscus*, or?

FY:
Yes, we had gone out trapping *peromyscus* extensively up in the Caprock Canyon area. He had a project on a particular subspecies of *peromyscus truei* [Pinyon Mouse] up there, which was fun, and I enjoyed it, and I still do. And Clyde and I worked on several projects involving *peromyscus*. The project at Big Bend Ranch turned out to be not just on bats, it was on all small mammals, so there was a lot of *peromyscus* involved still.

DM:
Right, right.

FY:
But yeah I got to do a lot of bat work along the way.

DM:
So you'd set traps for small rodents a little before dark and then go batting all night and pick up the traps in the morning?

FY:
Yeah, oh yeah, yeah, that was rough.

DM:
Skin them all day?

FY:
Yeah. Yeah once in a while I would just do bats and maybe come in at early morning, sleep for a little bit, and work on the bats. I was there full-time, so I could alternate the different groups that I worked on—bats versus rats, and trapping versus netting—and so I'd squeeze in a little bit of sleep.

DM:
Yeah. Well you were at least somewhat used to a dry climate I guess, you were down in the Southern California area for a while before you went up to Fresno.

FY:
Yeah.

DM:
And I mean but a lot of people would say, "You went in to the Chihuahuan Desert to do field work?" Was there an adjustment there?

FY:
No, I loved it. It was great. I don't know; I just really adapted to it. Sometimes it would be a couple of weeks where I wouldn't see another human, and Clyde and Mary Ann would show up periodically with supplies. And no, the heat didn't seem to bother me too much.

DM:
Or the lack of human contact?

FY:
No, it was great to see them when they came, and I would drive into Presidio once in a while.

DM:
I mean, I completely understand that. I like that too, but I think that—you tell me—would most students these days starting a graduate program go, "Cool, I love this."

FY:
I don't know, probably most not, but I think several would jump at the opportunity. And it was interesting, there was a lot of things going on along the border that a lot of people were questioning, they'd go, "Oh you really want to work down there, it's dangerous and there's drugs, and—"

DM:
Oh, on the border.

FY:
Yeah, yeah.

DM:
I see.

FY:
But it was never— and we ran into a lot of people coming across, but it was never anything that was—

DM:
Never felt any danger?

FY:
No.

DM:
Okay. Well something I read said that you were focused on bat ecology, and human impact on bats—is that correct?

FY:
Well, bat ecology to some extent, bat ecology and systematics and distribution. I did a lot of work with the distribution of bats, especially within the park. But then first thing you've got to figure out, if you're going to figure out the distribution, is trying to figure out what they are first.

DM:
Right.

FY:
Bats can be a challenge.

DM:
Oh yeah.

FY:
Lot of time was focused on that.

DM:
Okay.

FY:
Still is, we were just at the museum today.

DM:
Yeah.

FY:
Well we were looking at rats today, but maybe we'll look at some bats tomorrow.

DM:
So do you have some ambiguous specimens there, that aren't really very well classified, you go "I don't know if this is a such and such, or a so and so."?

FY:
Yes.

DM:
Are they kept separate, or are they put into a group with a question mark, or how is that done?

FY:
They're in a big museum case, says, "C. Jones", and in big, block letters "Keep out", along with some other of his specimens.

DM:
Okay. And how about the NSRL, the Natural Science Research Lab, what other collections have you seen that compare, and how?

FY:
The collection at the Smithsonian, the California Academy of Science, and several smaller collections along the way. [Fly begins buzzing around] But I'll tell you, I just love that NSRL, because today—I hadn't been there in a couple of years—and just walking in—literally that was my home for a while. Because when I was staying in the desert, I didn't have a place here, I stayed with Clyde quite a bit, but for address purposes, that was my—it was even the address on my driver's license.

DM:
Oh is that right?

FY:
Yeah.

DM:
What did you do specifically at the NSRL?

FY:
Well I had my graduate student office there.

DM:
Oh did you?

FY:
Yeah.

DM:
Okay.

FY:
And we'd bring the specimens in, and depending on the project that we were working on—from the Big Bend project, the specimens that we brought in were already prepared, but some of these other projects like up at Caprock Canyon State Park, we'd bring the specimens back here live, and then prepare them here.

DM:
Right.

FY:
And so a lot of it was preparation, and then a lot of it involved examining the specimens. Once you have the specimens back and prepared and the skulls are clean, you can take a closer look and make sure that what you called it, is really what you ultimately think that it really is. And so a lot of time was spent on it, a lot of time was spent writing. My graduate student office is where Clyde's office is now.

DM:
Is that right?

FY:
Yeah.

DM:
Okay.

FY:
Yeah.

DM:
You still have your turf there then, huh? Oh right, with the "keep out" sign? By the way, how are you cleaning those skulls and skeletons—are you using dermestids [flesh eating beetles used to clean bones], or?

FY:
Yeah, we use dermestids, there's a dermestid colony that's maintained in the museum.

DM:
Okay.

FY:
And we submit the skulls and/or entire skeleton to a collections manager, and they run them through the bug room. And then they'll match them with the skins that are in the cases, and then you're ready to look at them.

DM:
Okay. When you were in the U.K., did you look at any collections there, natural history collections?

FY:
I looked at some of the specimens at the British Museum of Natural History. They weren't really their scientific collections, more public exhibit type things, but they had some scientific collections out. Manchester, I went through their natural history museum, so.

DM:
Having seen a number of other natural history collections, what can the NSRL do better? I mean, have you been able to make any comparisons, and go, "Yeah, I wish they did that."? Or is the NSRL doing well?

FY:
I think the NSRL's doing well. Obviously, just like probably everywhere they could use more staffing to get things run through the process faster, get the skulls and skins matched. I know they put a lot of time into the frozen tissue collection now as well. And then curating them, getting everything catalogued, and in place, it just takes a lot of time, and I think if they were staffed a little bit better, things might get pushed through a little faster, but it's a great facility.

DM:
Okay, are they—?

FY:
We're very lucky to have that.

DM:
Are they loaning out—do you know if they're loaning out on a large scale, like tissues and things like that?

FY:
Well they were when I was here. Going back to your earlier question, I guess I didn't answer it completely, but I spent a lot of time as—what did they call me—assistant collections manager or

something like that. I worked a lot in the collections, and at that time, yeah, we were sending out skins and skulls for examination, and a lot of tissues went out.

DM:
Okay.

FY:
And I'm guessing, I don't know for certain, but I imagine it's the same today.

DM:
Yeah, okay good.

FY:
I know they keep a record of that, how many, and I read about it, you know *The Muse* [*Muse News*], the museum publication that Texas Tech sends out, they document and send out those figures.

DM:
Yeah.

FY:
I can't recall what they are.

DM:
Okay. Before you came to Texas, when you were doing your masters work for example, did you do any field work at that time?

FY:
Yeah, I did a lot of field work, it was mostly—I did a little small mammal trapping, but it was mostly observation of raptors, and collecting pellets.

DM:
That's right, you did mention raptors.

FY:
And then bringing the pellets in—

DM:
Okay.

FY:
And analyzing them in the lab.

DM:
Okay, how do you trap, or harvest, or catch raptors?

FY:
Oh no, I didn't catch any raptors.

DM:
They were specimens?

FY:
That was all just by observation.

DM:
Right, oh I see, okay.

FY:
We did a pre-determined course, ran it periodically—

DM:
Okay.

FY:
And did counts, to basically get comparative data for the fluctuating numbers during the different seasons and in different habitats, and things like that.

DM:
I see, that's right, you said pellets, you didn't say studying stomach contents.

FY:
Right, right.

DM:
Okay.

FY:
I think getting permits to study raptors, and to actually capture and handle raptors is—pretty difficult.

DM:
Okay, yeah, yeah. How about, just tell me about—if you don't mind—some of the memorable faculty, or fellow students that you encountered at Texas Tech, for better or worse, whatever you can say, and want to say? Close your ears Clyde. (laughter)

FY:
Clyde—can I tell him?

DM:
No prompting.

FY:
I have to ask Clyde this first—can I tell him the Art story, with your permission?

Clyde Jones (CJ):
Sure, of course.

FY:
Okay, well Clyde of course, you'll run out of batteries before I could finish talking about Clyde, and the stories we have with all the time we spent together. And I had some great, great times and trips with Rick Manning, Jim Goetze, who I shared the office with in the NSRL. A little bit with Larry Choate, but he was finishing up as I got—Rick Manning was finishing up also, but he came back and served as a member of my graduate committee, so I spent a lot of time with him. But when I first started, there was another graduate student that was starting at the same time, and a very bright guy, very smart guy, but he wasn't all that field-seasoned I guess, is that a good way to put it? He was good in the lab, good with the books, and he liked the thought of going out in the field, but he just didn't really liked bugs biting him.

DM:
Sunburns, and—

FY:
Needed to freshen up, as he put it on occasion, things like that. And so I remember one time, Clyde was having some trouble getting him to do his field work, and he'd given him one last chance. And I was really new here at the time, and I was sitting in on Clyde's lecture, and he says, "Oh why don't you stick around for a little bit after class." I said, "Okay." He goes, "You're going to witness the lighter side of class." And anyway, he had Art come in there, and I don't remember the exact words, but anyway he had some words with Art, and turned out—to make a long story short—it just turned out that Art wasn't really going to work out as Clyde's student. And so Art—I guess between the two of them, they decided he would work with

somebody else. But in the meantime he had had a rather extensive field camp set up at his study site near Justiceburg.

DM:
Clyde did?

FY:
Well no Art did.

DM:
Art did, okay.

FY:
And it had been neglected, because he hadn't been going out there. You sure you want me to finish this?

CJ:
You have to finish now.

FY:
And so Clyde got me and Jim Goetze together, he said, "I don't want to know the details, I just want this problem with—" we called it "Camp [inaudible]"—"His field camp, I want it cleaned up and settled, don't give me any details." And so me and Jim, we took off in my Jeep—I went by and picked Jim up, and he had with him two of those big five gallon jerry cans. And I said what do you got in there? And he goes, "You'll find out." And so we drove up there, he had a tent up there, and we just took the whole camp, which was pretty large, just dumped it all in the tent, zipped up the tent, strapped it to my jeep, drove to a little ravine, and Jim Goetze pulls out his jerry cans full of gasoline, and we sat there and drank several beers while the whole camp went up in flames, and evaporated. It was a while before we actually told him the whole details.

DM:
Anyway, you took care of the problem.

FY:
We took care of the problem. It wasn't Clyde's idea, Clyde just wanted the problem taken care of, and we—

DM:
Oh boy, that's funny, oh golly.

FY:
Yeah Jim and I, we joke about that quite a bit.

DM:
Well we were just talking about, I mean this is something that a lot of people wouldn't be cut out for, this kind of life.

FY:
Yeah, yeah, I mean there's a lot of physical activity involved—climbing mountains, and being out in the hot sun.

DM:
And I would just think that some people wouldn't have a clue to what all is involved, until they were actually out there trying to—like maybe a female saying, "What about my makeup kit?" or something like that.

FY:
Yeah, yeah, yeah, and this guy was a great guy, and very, very smart like I said—and I found out a little bit later he finished a masters here, and then went on somewhere and did a really nice doctoral program in statistical modeling or something like that.

DM:
He found his niche.

FY:
Yeah.

DM:
It just wasn't out at Justiceburg.

FY:
Yeah, right, yeah.

DM:
Well when you graduated with your Ph.D. here, what year was that?

FY:
1996.

DM:
Okay. You went back to Orange County then?

FY:
Yeah.

DM:
You became a forensic scientist?

FY:
Yeah, yeah, I went back and worked as a forensic scientist at Orange County Sheriff's Department.

DM:
And how long did you do that?

FY:
I did that for a bit over a year.

DM:
Okay, and that really wasn't your niche, I guess?

FY:
Not really. I'd done a lot of lab work before, clinical lab work.

DM:
Yeah.

FY:
And I did that—when I went back, following my graduation here I did a year post-doc with Robert Baker and Robert Bradley.

DM:
Right, okay, yeah.

FY:
And so I was here a year beyond that.

DM:
Okay.

FY:
And then I had some family issues back home and a brother-in-law that passed away.

DM:
Okay.

FY:
My sister was not doing well, and I just wanted to go back home a little bit I guess. I guess I don't know if homesick is the right word, but it's something like that.

DM:
Yeah.

FY:
And so I took that job, and left and then I did it. And it was interesting, but it wasn't outdoor field biology, and so then from there I moved on and did a consulting job for, I only did that I think for six months before I got my current job. And I've really been fortunate, I really like my job now.

DM:
Okay.

FY:
I teach in a small satellite campus of Reedley College, just outside of the southern boundary of Yosemite National Park.

DM:
That's incredible, what a great spot.

FY:
Yeah.

DM:
You're there between Yosemite, and Sequoia, and Kings Canyon, that area.

FY:
Yes, yeah.

DM:
Are you actually on the slope, I mean or right down in the valley?

FY:
I'm on the western slope of the Sierras, and the southern gate to Yosemite National Park is, I think, sixteen miles up the road.

DM:
Incredible.

FY:
And I go—after work I'll go skiing in Yosemite for a couple of hours, it's great.

DM:
You poor thing. (laughter)

FY:
So it's the location that drew me to that position.

DM:
Do you take students on field trips up there?

FY:
Yeah.

DM:
Do you do any field work with them locally?

FY:
No, most field work—well, I've done some work, I've done a little bit of field work locally, little bit of collecting, not a whole lot. I'm starting a plant collection in our lab there, I've started a small mammal collection from the local area, and I've acquired a pretty good large mammal collection from donations—

DM:
Is that right?

FY:
As well. Yes, I've got—

DM:
What kind of large—

FY:
Yeah, some North American stuff, I've got a real nice collection from Africa that was donated also.

DM:
Is that right?

FY:
Yeah.

DM:
So people are hearing about this I guess—

FY:
Yeah.

DM:
Or saying, "Hey."

FY:
Yeah, so I'm trying to get a mammal collection going, and plant collection, and I'm—

DM:
That's really nice.

FY:
Been doing some going out on bird observations with the California Academy of Science—

DM:
Yeah.

FY:
And trying to learn the bird fauna there as well, a little bit better. I get a lot of questions from local—

DM:
Oh I'm sure a lot of enthusiasm from bird watchers.

FY:
That's right, and so yeah I take them out and I work with the STEM students, the science, technology, engineering and math students.

DM:
Uh-huh.

FY:
Got a lot there.

DM:
It's undergrad, right?

FY:
It's undergrad, but they send me on some study abroad trips.

DM:
Yeah, well we were talking earlier about Costa Rica as part of the curriculum at this university.

FY:
Yeah, taught a class of our students down in Costa Rica.

DM:
This was field work?

FY:
It was a field biology class, yeah.

DM:
What were you targeting?

FY:
Anything—everything was new to them.

DM:
Right.

FY:
Mostly it was new to me.

DM:
Right, right.

FY:
And so yeah, and a lot of it was all pre-arranged with local guides and so on.

DM:
Cool, yeah.

FY:
It was a really neat program.

DM:
Gosh that's great.

FY:
And I taught a field biology class in the former Soviet Union, in Armenia, and we went down along the Iranian border in Azerbaijan collecting specimens.

DM:
When was this?

FY:
This was 2001.

DM:
Okay.

FY:
2001.

DM:
Alright.

FY:
Yeah.

DM:
That's great.

FY:
Yeah.

DM:
And how many students get to go on something like this?

FY:
Well the Costa Rica we took I think it was close to twenty, yeah, and the course in Armenia was actually Armenian students.

DM:
Oh I see.

FY:
So I was a visiting professor there.

DM:
Oh, how neat, that's neat, okay.

FY:
And that was unique, because they were quite a bit different.

DM:
Were you finding these opportunities, or does your university find these opportunities for you?

FY:
The college has a study abroad program.

DM:
Yeah, yeah.

FY:
And they advertise for soliciting interest from instructors.

DM:
Okay.

FY:
The other one I hooked up with, it was the American University of Armenia, is affiliated with

UC [University of California] Berkeley, and I hooked up with the professor there that was working over there, and he invited me there to teach the class, I was a visiting professor.

DM:
Okay, well tell me about teaching—what is your *forte*? You could teach, you could do field work, you could do research and publication, lab work—what do you like best, or is there a best?

FY:
You know, field work I would say I like best, but I really enjoy lab work. I like sitting down with specimens and examining them closely, trying to learn something from that. As far as teaching—I was talking with Clyde and Mary Ann about this earlier—it was a little frustrating at first, because I thought that I was going to reach all the students and get them all enthused and interested, like the gal you read about. I found out real quick that was not going to happen, and so I modified my curriculum a little bit, and I pretty much got to the point where I can be happy focusing on the fifteen, twenty percent of the students that are there to do real well, and are very enthusiastic, and are going to move on and achieve their goals—and with the understanding that the others are just there for other reasons.

DM:
I think that's a healthy approach.

FY:
Well you almost have to, because you can't—

DM:
It'd be hard to survive without getting that fulfilment that you get from those twenty percent of good students. So, good for you!

FY:
Yeah.

DM:
And these are some of the core courses, or are some of them upper-level?

FY:
No, they're all—well, a course that I teach every semester is a lower-division general education laboratory science course. So that's where I get a lot of students that have no interest in biology.

DM:
Right, okay.

FY:
It's tough to get their interest sometimes.

DM:
Right.

FY:
And I have taught—it's been put on hold for that last couple of years—but biology sequence for biology majors, where you can really do some neat stuff. We went on some neat field trips to Yosemite and some local wildlife refuges and such. But a lot of the courses that I teach are for allied health profession majors—nursing majors, and x-ray tech majors—because there's a high demand for these students, they're good paying jobs, and they can get it in two, three years of college work, and so there's a high demand for that, and they fill up, and that's what they have me teaching a lot of.

DM:
At least they're likely to do well in your courses.

FY:
And they're likely—and yes—even though they're not my favorite subjects—I teach human anatomy. Not my favorite subject—but I really like teaching the class, because the students are very attentive, they're enthusiastic, and they're there to do well, and sometimes it's almost like you don't even really have to teach that much, they're very self-motivated. So even though it's not my favorite topic, I enjoy doing the class.

DM:
But you're getting something, you're getting some reward from teaching.

FY:
Yeah, and I've learned from the students a lot too.

DM:
Oh sure.

FY:
Yeah.

DM:
No better way to learn than to teach—

FY:
Yeah.

DM:
Seems like. But in some parts of the country, biology professors have a challenge because of religious beliefs.

FY:
Right, yeah.

DM:
You know, evolution vs. creationism, do you have any of that in California?

FY:
A lot of it, yeah, you think of California as being the big blue state, and it is because of Los Angeles, San Francisco, primarily where most of the population is. But in some of the rural areas, there's a lot of that, and yeah that's challenging.

DM:
How do you handle it?

FY:
I've had students that I give a test, and one section that covered evolution, and a gal on the exam she crossed out the word "evolution" on the exam wherever it occurred, she couldn't look at the word I think.

DM:
The "e" word.

FY:
The "e" word, and I have students come in and ask me, "You don't really believe in that evolution stuff do you?" And so I—

DM:
Do they challenge you in class?

FY:
Sometimes they have, and you have to be very, very sensitive, because I don't want to sit there and tell them they're wrong. So I tell them we're talking about two different things that don't intersect, and what I'm saying is not contrary to anybody's belief, I'm not saying that anybody's

belief is wrong or anything like that, they're just two separate things, and let's treat them as that, and that works most of the time.

DM:
Does it?

FY:
Yeah

DM:
Okay.

FY:
I've had a couple students that have walked out, not much you can do about that.

DM:
I knew a biology professor that would sometimes tell them, "Well we'll use the word adaptation if you'd prefer."

FY:
Well that's what I do.

DM:
And they'd go "Well okay." That takes care of them.

FY:
That's exactly what I use, I use the term adaptation, and they're as happy as can be.

DM:
It's just that "e" word is so hard.

FY:
Because they've been taught evolution is the work of the devil or something like that. Yeah I do do that.

DM:
You've been in this career for long enough I think you can probably ponder some of these questions, and give some insight—since you've been doing field work, and you were doing field work when you were a masters student—have you seen any major changes in field techniques, technology used?

FY:
Well, yeah, I guess the biggest technological advance that I started using, and I started using when it was first available, and I got questioned about using it a lot, and that was the use of GPS [Global Positioning System] for localities. The traditional localities for mammal specimens especially were based upon locations of cities, and towns, and place names of—

DM:
Landmark locations.

FY:
Landmark locations—one mile east of Lubbock, one mile east of—two miles south of wherever. And it really didn't pinpoint the spot.

DM:
Right.

FY:
For example, the Justiceburg site, we were working on this big site, and all the localities were the same, because you couldn't really pinpoint it any closer. I forget what it was, but it was so many miles from Justiceburg, and so that GPS was just becoming available back in the early nineties for public use, mostly for boaters and mariners and such. And I started using it on—I'd heard about it, and there was a guy that had gotten lost in Big Bend—and they were quite expensive at the time, these units—and he'd gotten lost, and he almost died. One of the trackers there found him and literally saved his life, and so he bought one of these so he wouldn't get lost again. And I thought that'd be really cool to use for mammal locations. And at the same time Texas Parks and Wildlife was getting their GIS [Geographic Information Systems] system set-up to take the GPS coordinates, and then plot them. And so I talked to Clyde about it, he said, "Yeah that's a good idea." And we spent a little bit of our grant money buying this big—compared to what they are now—GPS unit. The whole time I was taking these coordinates, and using them, putting on the labels, I was a little bit skeptical myself. And it had been about—it wasn't quite a year, maybe three or four months, about maybe six months into the project, and I brought these coordinates. Clyde and I went down to Austin and we gave the coordinates to the GIS technician there, and she was going to plot them out for us on this map, and I'm just thinking, okay, half of them are going to end up in Mexico—this is still back when they had what was called selective availability, where they threw in that random error, so that it wouldn't be too pinpoint for defense purposes.

DM:
Right, right.

FY:
And they've since eliminated that.

DM:
Right.

FY:
So I was thinking okay, I'm going to be…. And she plotted it out, and they were right on, because I could tell on the map where some of the localities were, and it came out right on, and I thought wow, it worked.

DM:
Getting to see it plotted would be—

FY:
Yeah, and Clyde's been using it ever since. The whole NSRL—I think all of the—

DM:
You were innovative on that, you launched something there.

FY:
Well just fell into it, that's just—

DM:
That's neat.

FY:
About the time that it became available.

DM:
Did you ever hear any grumbling, "Well, we've never done it this way."

FY:
Oh yeah.

DM:
Really.

FY:
Yeah. Yeah, and like I said, I wasn't convinced either until that first map came out, then I knew this is—yeah, this was going to be probably the way to do it.

DM:
That is neat, so there's a very big change right there.

FY:
There is a big change—

DM:
In technology.

FY:
Yeah, and then that technology's been advanced upon. I haven't been a part of it, but they use it now for tracking, and monitoring, and all kinds of things, so it's a great tool.

DM:
Have you ever come against somebody who was in opposition to field work in general, taking specimens?

FY:
Yes, yeah. Not so much field work, but collecting specimens, yeah. You get that quite a bit.

DM:
Yeah. In California—I mean you don't do that much field work.

FY:
I don't do much collecting, I do some, but not that much in California. But even here, yeah, yeah, there would be those that—

DM:
What about the fact that you have specimens in your classroom, or your lab—do you ever hear anything about that?

FY:
Yeah.

DM:
Do you?

FY:
Yeah, occasionally.

DM:
What will you hear?

FY:
It's mixed really.

DM:
Yeah.

FY:
Some—especially with the large African collections—

DM:
Right.

FY:
A lot of people think they're just beautiful. I've even had art classes ask to come in and sketch them and such.

DM:
Oh multidisciplinary, huh?

FY:
Right, right. (laughter) But then there were the others that just, "How can anybody collect something like that." And I explained to them that they were donated as they are, they're a good teaching tool, and that's what they're here for.

DM:
"I didn't shoot them, I promise."

FY:
Yeah, yeah, and I have mixed feelings about it myself. I don't particularly like killing things for any reason, but I see it as a necessity for the kind of field work that we do, and what we learn from it, and what will be learned from it in the future.

DM:
Right, right.

FY:
And things that we don't even realize we'll—when the hantavirus outbreak occurred in the early nineties, mid-nineties, scientists from all over, CDC [Centers for Disease Control] and all over, went back into these collections, and started pulling out specimens and tissues that were collected for other reasons, and now they're being used to understand the epidemiology of a disease that nobody knew existed, and nobody knew that we'd need these specimens for. So it's—Yeah, so you just don't know. And you explain it, and most people get it, but a few don't.

DM:
Now was it frozen tissues mostly that they were using in the hantavirus.

FY:
It was, yeah.

DM:
Okay.

FY:
Yeah.

DM:
Right. By the way, when you were in the U.K. looking at some of the collections, were there some really, really old collections there? I'm sure they have some really, really old specimens.

FY:
Yeah, I didn't get to see the research collections so much.

DM:
Okay.

FY:
Most of what we were looking at was a scientific apparatus that Fleming used to culture his penicillium when he isolated penicillin.

DM:
Is that right?

FY:
And so it was that kind of thing, yeah.

DM:
That's neat—this is what you'd let the public see often, or were you—

FY:
Both. A lot of it we got to go back and see what was stored, and [it] virtually looked like a giant warehouse, and they asked us what we wanted to see, and they were so accommodating, they'd bring out whatever we wanted.

DM:
Okay. Well how do you see your future, are you going to stay at the college and continue to teach for the foreseeable future, or?

FY:
Yeah, I think so. I've no plans to move on.

DM:
More study abroad opportunities?

FY:
Yeah.

DM:
More field work opportunities?

FY:
Yeah, I'd like to continue in affiliation with Texas Tech and do some more work with Clyde. So it's kind of the best of both worlds I think.

DM:
He was telling me there's a camp down at Justiceburg that needs to be taken care of. (laughs)

FY:
Well we ultimately finished that project.

DM:
Okay.

FY:
And we published the results on it.

DM:
Okay.

FY:
And so it did get completed.

DM:
Perfect, was that a bat project?

FY:
That was a small mammals project.

DM:
Okay.

FY:
Yeah, we did bats as well, but we didn't get a whole lot of bats down there. But we got a few—and I take that back, it was reptiles and amphibians as well.

DM:
Okay.

FY:
So we published on both I believe.

DM:
Was it a survey thing?

FY:
Yeah.

DM:
Okay.

FY:
Well it was the site that they put in the dam for Lake Alan Henry.

DM:
Right, right.

FY:
And so it was previous to the building—in fact, we were doing our survey while they were constructing the dam, so it was concurrent with that. So it was a survey to ascertain any potential endangered species, effects of what building the dam might have on mammal populations, and *herp* [*Herpetology*: a branch of zoology concerning reptiles and amphibians] populations.

DM:
What was your conclusion on that? That's a very interesting study—what does happen downstream from the dam?

FY:
Clyde's other grad student was going to do population studies, and we did put that together, we submitted that to the City of Lubbock, but our publications ultimately were on the mammalian survey of the area.

DM:
Yeah.

FY:
And the *herp* survey of the area.

DM:
Okay.

FY:
So there were no endangered species that were of any concern.

DM:
I see, okay.

FY:
Mm-hm.

DM:
Well that is an interesting topic, I'll bring that up again sometime about what happens below. And I don't know if enough studies have been done to really see, but that seems like it would be catastrophic, but I don't know.

FY:
Yeah, yeah, I don't know.

DM:
Okay. Clyde do you have any questions?

CJ:
No I don't.

DM:
What did I miss? What should we be looking for, what should historians be looking for and documenting with field biologists in particular? What will future field biologists want to know about? I know they'll have their studies, their published studies for example, is there anything we should be collecting besides those studies, published and field notes?

FY:
Well, I would say documents like *Going Afield* [a 2005 publication by the Museum of Texas Tech], that goes way beyond the scientific part of the field work, and more the comradery and—

DM:
Right, the human element.

FY:
The human element—

DM:
It's wonderful.

FY:
Of field work.

DM:
And that's what we're really into at the archives of course.

FY:
Yeah, that document is—

DM:
Okay.

FY:
I don't know of another one like that really.

DM:
Okay.

FY:
That's a good example to start with.

DM:
Well you know we exist now, and if there's anything that we can do to help that effort, and help people in the future to know more about this, let me know.

FY:
I definitely will.

DM:
Have I left any gaps, anything else we need to talk about?

FY:
I don't think so.

DM:
There are all the anecdotes.

FY:
Yeah.

DM:
But we'll have to—

FY:
Oh we could go on forever about that, I just told you the one.

CJ:
Can I say something?

DM:
Yes please.

CJ:
Okay, following up on his comments about *Going Afield*—I would hope that you would take a

role in helping pursue that, and make that happen over again. That happened with a given generation, and I would hope you would make it happen with the next generation.

DM:
Yeah.

CJ:
And the next, and the next. And the other thing—there have been numerous people in other disciplines write to me, who saw that book, and write to me and say they really thought that was good, and they wish they could do it in their discipline. And I said, "Well why don't you?"

DM:
Right.

CJ:
Well they couldn't get their people organized to do it. It's not scientific.

DM:
But there is a certain comradery?

CJ:
There is a certain—

DM:
Among field biologists, I mean, no doubt about it.

CJ:
There's a certain amount of science in there too.

DM:
Yeah.

FY:
Yeah.

DM:
I mean y'all do draw together more than people in other disciplines tend to do.

FY:
I think so, and just—I could list hundreds of benefits of being Clyde's student, but one of the

most important ones is the people that he's introduced me to, and told me stories about. And at meetings he'll bring me into their group, and I can just sit down and listen to them talk and tell stories forever, and they're humorous and real, they're real—they really did that, like "wow," they really rafted the Grand Canyon and collected—and things like that.

DM:
Yeah, it's amazing, and by the way I'm glad to hear you tell stories about other people, because they sure tell a lot of stories about you Clyde.

CJ:
Okay.

DM:
Okay I'm going to turn this off.

FY:
Okay, then we can talk about the real stuff.

End of interview