

Wisconsin Veterans Museum
Research Center

Transcript of an
Oral History Interview with
Capt. Farrington Daniels, Jr.
Medical Officer, Army, World War II.

1995

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Daniels, Farrington Jr., (1918-2002). Oral History Interview, 1995.

User Copy: 4 sound cassette (ca. 287 min.); analog, 1 7/8 ips, mono.

Master Copy: 4 sound cassette (ca. 287 min.); analog, 1 7/8 ips, mono.

Transcript: 0.1 linear ft. (1 folder)

Military Papers: 0.1 linear ft. (1 folder)

Abstract:

Daniels, a Madison, Wisconsin resident, discusses his service as an Army Medical Officer during World War II and as a civilian researcher for the Army Quartermaster during the Korean War. Daniels was born in Worcester (Massachusetts). His father, Farrington Daniels Sr., a well-known chemist, worked in the Chemical Warfare Service in Worcester developing gas masks. Daniels also reveals his father worked for the Manhattan Project as the head of the Metallurgy Lab in Chicago. In 1922, Daniels reports his family moved to Nakoma (Wisconsin) because his father joined the Chemistry Department at the University of Wisconsin-Madison. Daniels graduated from Wisconsin High School and attended the University of Wisconsin, majoring in anthropology. He explains he went to medical school because "Hitler had just won at Munich, and I figured there was a war coming on and I would rather be a doctor than an artilleryman." Daniels attended the University of Wisconsin Medical School for two years, but in 1943, he was drafted into the Medical Service Corps and finished his medical training through an Army Specialized Training Program at Harvard Medical School. Daniels comments briefly on watching Harvard "go military." Next, Daniels discusses his internship at New York Hospital (New York City) before he went on active duty in the Army in October 1944. He describes his intensive six weeks medical officer training at Carlisle Barracks (Pennsylvania) and praises the military's teaching strategies. After graduating Army Medical School in December 1943, Daniels was assigned to Lawson General Hospital in Atlanta (Georgia) to treat wounded veterans returning from overseas. Daniels tells how he worked weekends and holidays at this 3,000-bed hospital (because he was unmarried) and eventually became Senior Surgical Officer of the Day. At Lawson, he practiced internal medicine with the neurosurgery unit, diagnosing head injuries and assisting with brain surgeries. Daniels also treated soldiers with paralysis, Brown Secord Syndrome, and spinal chord injuries. Daniels illustrates soldiers' attitudes towards their disabilities: some wanted to return to the front after major injuries, while others abused the system by claiming disability for minor injuries. Daniels compares wounded soldiers from the European front versus the Pacific front, remarking casualties from the Pacific were more run down and "had been through an ordeal." During World War II, Daniels also served on the Civilians Disability Board and as a witness for the Officers Retirement Board. In addition, Daniels touches upon life outside the military hospital and dating women in Atlanta. In From April 1946 to November 1946, Daniels was deployed to the Philippines. He vividly describes his arrival in Manila Harbor: the harbor was littered with sunken ships and the city was flattened. At the Army Hospital in Batangas (Philippines), Daniels

served as the Venereal Disease Control Officer. He reports there was a high rate of gonorrhea among soldiers and reveals sex was a common pastime in the Philippines. He mentions Rosie's Bar, a Manila brothel, was "the center of activity" for the troops. Daniels tells how, to reduce VD cases, he convinced his commanding officer to restrict all soldiers to base until the Army could set up prophylactic stations. Daniels suggests restricting GIs to base under these conditions was against Army rules but that it solved the VD problem. Daniels tells how a Colonel offered him steaks and helped him resolve some administrative difficulties because Daniels cured the Colonel's gonorrhea. Daniels also treated other illnesses like malaria, ear infections, pneumonia, yaws and typhoid. He notes that "most of what you see in the tropics is not tropical diseases; it's what you see everywhere." Additionally, Daniels briefly comments on the service of African-Americans soldiers during the War and states they were essential to the war effort. Next, Daniels discusses important celebrations: he recalls Philippine Independence Day on July 4, 1946 and describes spending V-J Day at Lawson Hospital in 1945. Daniels discusses interactions between soldiers and Filipino civilians including women, houseboys, and hospital technicians. Daniels explains the Army asked Medical Officers to collaborate with local doctors, and he praises Dr. Sixto Yarosa, a Filipino doctor who shared a private practice with a female doctor in Batangas. In November 1946, Daniels returned to the U.S.; he reports treating soldiers with malaria on the troop ship back to the States. After leaving the military in 1947, Daniels used the G.I. Bill to continue his medical residency at New York Hospital through Cornell Medical School. In 1948, he describes meeting his future wife, Alice Monroe, who was the nurse in charge of the metabolism ward "which was the nearest coffee pot" to his office. Daniels comments further on the professional relationship between doctors and nurses; praising Nurse Kelly, "a tough lady" and competent professional at Lawson Hospital. Daniels also mentions Captain Fairbanks, his commander at Harvard Medical School, ordered soldiers not to fraternize with the Women's Army Corps cadets. In 1950, Daniels was hired as a civilian by the Army Quartermaster and the Department of Defense to do medical research for the Army. He states he was working as a physiologist at a Climatic Research Lab in Lawrence (Massachusetts) when the Korean War began. As a researcher, Daniels served on the Pentagon's Advisory Committee on Applied Physiology. He describes various research projects including: studying soldiers' reactions in extreme climates; testing footwear to see if synthetic materials were better than leather boots at keeping soldiers' feet dry and warm; examining a Chinese technique of using hot pepper to prevent frostbite; measuring sunlight and UV absorption in the skin; and optimizing weight distribution and energy efficiency in backpacks. Daniels discusses at length the cold-weather tests he performed on soldiers at Camp Churchill in Northern Manitoba (Canada), and he tells detailed stories of surviving the extreme winter weather. He also comments on soldiers' morale in cold temperatures: the longer troops stayed in Camp Churchill without a break, the more edgy, irritable, sluggish and accident-prone they became. Because of his research, Daniels states the Army "more or less decided you can't fight in the Arctic." Next, Daniels describes hot-weather and "human engineering" testing in Yuma (Arizona). He compared sunlight absorption in white and Black soldiers' skin, and he tested different backpack designs to see which was the most efficient for soldiers to carry. Daniels states he was sent to Japan and Korea in 1954 to follow up on his research. Marines in Korea reported

that the insulated boots Daniels tested had solved the frostbite problem, although a few soldiers found the boots too hot or uncomfortable to wear. Daniels also studied the ergonomic A-Frame backpack used by Koreans to carry very heavy loads. In Japan, he visited several technical universities and met Yas Kuno, the leading researcher on sweat glands at that time. Daniels praises Kuno's research and characterizes him as "a fine gentleman." Daniels also recalls being sent on a special trip to Nevada by the Quartermaster to test clothing thought to protect against radiation burns. Daniels witnessed a test of the atomic cannon and performed autopsies on pigs to determine the effects of radiation on skin. Although he enjoyed solving problems in applied medicine and the regular funding he received from the military, Daniels discusses the administrative difficulties of working for the Army Quartermaster. According to Daniels, researchers had to "lock onto" a particular topic because the Army's priorities changed constantly and they would cancel funding for a project with little notice. Daniels also describes standing up to the Quartermaster, Dr. Steven Kennedy, who demanded recommendations from the advisory panel before the scientists had completed their experiments. In 1955, Daniels ended his career with the Department of Defense and was hired as a professor of dermatology at the University of Oregon Medical School. He mentions he spent five years teaching in Oregon, one at the University of Illinois, and twenty-two years at Cornell University Medical School. In 1984, Daniels retired and moved back to Madison.

Biographical Sketch:

Daniels Jr. (1918-2002) was born in Worcester (Massachusetts) and grew up in Nakoma (Wisconsin). The son of a well-known chemist at the University of Wisconsin, Daniels received his B.A. from UW-Madison in 1940. He attended the University of Wisconsin Medical School for two years before transferring to Harvard Medical School, graduating with the accelerated wartime medical class of 1943B. After an internship at the New York Hospital, Daniels was commissioned first lieutenant in the Army Medical Corps. He spent the war years treating wounded servicemen at Lawson Hospital in Atlanta (Georgia). In 1946, he served as a medical officer in the Philippines. Daniels left the service in 1947 with the rank of Captain. After the war, he finished his medical residency through Cornell University. Daniels married Alice Monroe, a nurse, in 1948 and received a Nutrition Fellowship at Harvard School of Public Health in 1949. From 1950 to 1955, he worked as a civilian researcher for the Army Quartermaster doing human engineering and applied medical research. During and after the Korean War, Daniels researched extreme heat and cold tolerance, the impact of UV radiation on skin, impermeable boots, and backpack weight distribution. The boots he tested dramatically reduced cases of frostbite among soldiers serving in Korea. After his service with the Quartermaster, Daniels taught dermatology at the University of Oregon (1955-1961) and the University of Illinois Medical College (1961) before becoming head of the Dermatology Division at Cornell University Medical College (1962-1984). In 1984, Daniels retired to Madison (Wisconsin) and was appointed a visiting emeritus professor at the University of Wisconsin. Daniels was also an avid photographer and amateur filmmaker; home-movies from his service during World War II and the Korean War are available at the Wisconsin Historical Society.

Interviewed by Mark Van Ells, 1995.

Transcribed by Joanna D. Glen, WDVA Staff, 1998.

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Interview Transcript:

- Mark: OK. Today's date is August the 4th, 1995. This is Mark Van Ells, Archivist, Wisconsin Veterans Museum doing an oral history interview this morning with Dr. Farrington Daniels of Madison –
- FD: Better say, "Junior."
- Mark: "Junior." Excuse me.
- FD: 'Cause my father was well known.
- Mark: Farrington Daniels, Jr. Was he a doctor as well? Just out of curiosity.
- FD: He was a chemist. The chemistry building [at University of Wisconsin-Madison] is named after him.
- Mark: Oh, is that right?
- FD: Yeah.
- Mark: Oh, I didn't know that. Um, a veteran of World War II and Korea [the narrator]. Good Morning.
- FD: Good morning.
- Mark: Thanks for coming in. I like to start the interviews by having the subject tell me a little bit about where you were born and raised and where you grew up. Now I see you grew up in Worcester, Massachusetts.
- FD: No, I was born in Worcester, Massachusetts.
- Mark: That happens to be my wife's -- where my wife grew up so I'm a little curious about that. Why don't you just tell me a little bit about it?
- FD: Well, I had the good sense to leave when I was one. [Both laugh] When I was born, my father was a first lieutenant in the Chemical Warfare Service stationed in Worcester, working on gas masks. My first Christmas picture is a picture of my father wearing a gas mask. You can't identify him, holding me as a baby. He then went to Washington for a year and then to the University of Wisconsin where he was in the Chemistry Department from 1920 until his death in 1972. So I – but I grew up mostly in Nakoma. We moved there in 1922, and as you know, one of my boyhood chums

then and ever since was Dan Turner, first frogman. I think you have an interview with him.

Mark: Oh, we sure do.

FD: That impressed my son, last night, when I told him what Dan Turner had done. It was a great neighborhood. It's already been the subject of a Historical Society exhibit about two years ago.

Mark: Oh, is that – I think I saw that. Yeah.

FD: Nakoma as a typical or leading suburb. So it was a great place, and most people, when they go back home after many years, find where they played as a boy is now shopping malls or parking lots or condominiums or something, but where I played is now the University Arboretum so my boyhood [laughs] playground has been preserved forever. Where do you want me to go from here?

Mark: So you went to college in --

FD: I went to Wisconsin High School in Madison, which no longer exists.

Mark: Right.

FD: Then four years at the University here. I started out to be an anthropologist. One day the professor of anthropology called me into his office and said, "Get out of anthropology. Nobody can make a living in it." Six weeks later he changed campuses. But at any rate, I then looked around for a change in career and took some vocational aptitude exams. I don't know how well they're looked upon but they rated me very high in psychology and medicine, and I was already taking zoology, so I decided, this was 1938 and Hitler had just won at Munich, and I figured there was a war coming on and I would rather be a doctor than an artilleryman or whatever. So that Adolph Hitler had a direct influence [laughs] on my career. So I was a medical student from 1940 to 1942.

Mark: Here at UW?

FD: UW. Then I transferred for my third and fourth years to Harvard Med School.

Mark: So—

FD: But—

- Mark: I'm sorry. When the attack on Pearl Harbor occurred you were--
- FD: I was already in medical school.
- Mark: All right. Just for anecdotal purposes, do you remember the incident and where you were and what was your reaction to it?
- FD: I was out in the back yard washing my father's Oldsmobile and it was a fairly nice, fairly warm day as I remember. I mean there was no snow on the ground. And of course, in high school, we'd talked for years about "Do Hitler and Mussolini and the Japanese mean what they say?" Well, it turns out they did. I had a fraternity brother, Carl Kasten, in the Alpha Delta Phi fraternity. We heard of Munich. Now, the three Kasten brothers, they had been in Germany that summer to use up family money that they could not bring out so they went over to spend it. When Munich came, the Kastens said, "Here we go!" They knew, having seen what was going on in Germany that summer—
- Mark: They knew what was gonna happen.
- FD: They knew what was gonna happen.
- Mark: So when Pearl Harbor came, I assume that it was a surprise, but not terribly as much of a surprise?
- FD: Not a total -- it was not totally out of the blue, no, 'cause I followed the Japanese invasion of China with interest because I had an uncle who was a medical missionary doctor in Nanking. He got chased out of China first by Chiang Kai-Shek, then by the Japanese, then by the Communists. He'd been going [laughs] back and forth. He got caught in Manila on the way home and was at Santa Tomas for a while being a doctor, but he was exchanged on the Gripsholm [a Swedish ship] so that I was aware of international things, for a long time.
- Mark: You sound like it, yeah, more than usual from what I can gather anyway.
So, after the attack on Pearl Harbor how did --
- FD: Also—
- Mark: Oh, I'm sorry.
- FD: In our neighborhood, Major Fox, the ROTC officer told us in the '30s that there are two rules in the Army, one is no land war in Asia and two, don't get caught in the Philippines. [both laugh] So even then the military thinkers were thinking what might happen.

- Mark: Yeah, So after the attack on Pearl Harbor how did your medical training change? I mean, did you--
- FD: I was in medical school and I don't remember at which point we were given reserve commissions as second lieutenants, Medical Service Corps. At any rate, I think I gave you my draft card. [laughs]
- Mark: I think you did. I think it's in here somewhere.
- FD: It's in there. OK. So were given this classification, and in 1943 at Harvard we went into uniform -- privates and then privates first class in the ASTP Program. Is that ASTP? Have I got the right letters?
- Mark: Yeah, Army is ASTP, yeah.
- FD: Yeah, with the arm patch that was known to the medical students as the flaming proctoscope. [both laugh] They tend to have an irreverent sense of humor, which is a great help at times of stress. And then, well, to jump ahead, at medical school at Harvard, graduated December '43, that was the year there were two classes, then nine months of internship at the New York Hospital in New York City which is connected with Cornell Medical School, then into active duty in the Army in October 1944.
- Mark: And so, as you went to active duty now, if I talk to a ground-pounder or something, they'll tell me about the sergeant with the foul mouth and the whole business. I assume it was different for you as a medical doctor. What sort of military training and indoctrination did you get?
- FD: After we went in, then we went to Carlisle Barracks which over time has had many functions—
- Mark: Yes.
- FD: For an intense six-week training course in how to be a medical officer instead of a doctor.
- Mark: And, is this how to wear the uniform and salute and all this kind of thing?
- FD: Yeah, and it was *terrific* teaching! They were so beautifully organized. They had a trick. They'd have key information on the board, but they'd keep it covered until they got to the point. Then they would rip off the cover. Then you could see what they wanted you to see, and it gave it terrific impact because they lead up to it and then—

- Mark: Right.
- FD: Wham! There it was. It was cold, and we marched outside, and we were all dressed up, on account of the cold, sitting in bleachers. Then we went inside, and most of us got drowsy. But the fine for falling asleep in class was a half-month's pay.
- Mark: Hmm. That's considerable—
- FD: I did one time and the fella next to me, Bill Dolliday [?]- I stood up -- I heard my name and I stood up -- and Bill fed me the questions so I stumbled around, but anyway I didn't get fined.
- Mark: Close call though.
- FD: Close call.
- Mark: So what sort of men, I assume they were all men, although there could have been some women too, were in this--what sort of doctors were going into the Army at this time? Were they all fresh out of med school same as you?
- FD: Most of 'em were—
- Mark: Were they all men, by the way?
- FD: Yeah, they were at that time.
- Mark: Uh huh. And so—
- FD: I don't know what they did then. There were women doctors in the Army.
- Mark: Yeah.
- FD: I don't know what training they had had. But one I must tell you about. There was a colonel, regular Army, who was assigned to teach us about tanks. He was said to have lost, in the maneuver in Louisiana, to some young lieutenant colonel named Eisenhower, [laughs] and he got up and he said, and I – this should stay on tape, not just be transcribed, "I'm going to tell you about the "stradgedy" of the "calvary." [laughs]
- Mark: Not the most "ar-tic-a-late" guy, huh?
- FD: So you can see why he was assigned to medical officers instead of overseas duty. One of the exciting things was that DDT was just coming

in, and there was some fella who'd been a public health officer who gave a lecture on the fly, all the horrible things the fly did and how you could zap it with DDT. And, of course, that was long before DDT became an environmental poison.

Mark: Right.

FD: It was a miracle drug to keep the mosquitoes out of the foxholes, which it did. And then--let me think of more about the—

Mark: Sure, and you can come back whenever you want.

FD: The medical school at the Carlisle Barracks. But, I've got a picture of the group, a couple of hundred of us, in that, one of these long pictures.

Mark: Yeah.

FD: I found some of my later friends in the pictures, people I didn't know at that time, but met later. We got through with that in December 1943, and I thought—I was assigned a general medical officer. What's that, 3100? –

Mark: I have no—

FD: Category.

Mark: I was in the Air Force. I have no idea—and forty years later, too.

FD: Yeah. In contrast to anybody who has specialty training, I just had an internship. That was sort of Bulge time [Battle of the Bulge], and I thought I'd be overseas as a battalion surgeon quick, right? But instead, I wound up at Lawson General Hospital in Atlanta. I don't know how these things work. In my case it worked out very well.

Mark: And so what was going on at Lawson General Hospital?

FD: It was a general—

Mark: What were your duties?

FD: It was one of the regional hospitals where men -- men were brought to a regional hospital near their home.

Mark: If they were injured overseas or something.

FD: Injured or sick or a psychiatric casualty. They were brought to a hospital near home. Lawson covered the southeast states, and it was a real tight ship operation. It was given a unit, a Meritorious Unit Citation. The commander was [General] Sheep, [an] old time officer who depended on his staff for all the details. You'd find General Sheep out walking the corridors, and you'd run into him: "Lieutenant, how are things going?" It was all very quiet, but you knew [laughs] that if a sink was still plugged up after twenty-four hours, he would be on the next phone saying, "What the hell is wrong?" I never have forgotten that because other organizations I have been in, you never saw the top brass. I was--at Cornell for example, twenty years I ran the biggest clinic in the place, and neither the Dean or the chief of the hospital ever came by to just ask how things were going, and that hurts when you've once seen the benefits. Let's see—I'll tell you more about Lawson. I'm apt to tell you things that are impressive, usually in retrospect, but-- One night I was called to the emergency room for a sergeant who said he couldn't remember who he was. He was obviously fit and troubled by it. It turns out that Ernie Pyle wrote a book about -- "This is your War" -- about the Italian campaign. In one scene, a very beloved captain has been killed and the men are filing by to bid him good-bye. One of them reaches down and touches his--straightens his tie and says, "Sorry, old man." OK, this was in the movie, and this guy had just seen the movie and he blanks. His memory went for awhile. I never heard the follow up on it, but--

Mark: Was he a combat veteran?

FD: Combat veteran?

Mark: Yeah, he came back from overseas?

FD: Yeah. He'd seen himself portrayed in a movie of a combat situation and went amnesic for -- I don't know how long.

Mark: That brings up an interesting topic--the psychoneurotic, as they were called at the time, problems among soldiers in World War II. You look back today and you associate that with Vietnam veterans a lot, but World War II veterans also had—

FD: Well—

Mark: Those sorts of problems. I was wondering if you could comment on the extent of them and your experience.

FD: Well, of course, I was on the psychiatric service for six weeks in Illinois. I don't remember those. I remember a manic Black man who could bend furniture [laughs], and we kind of worried [laughs] –

Mark: What else he was going to bend?

FD: What else he was going to do. And, they were giving shock therapy for schizophrenia and for depression. I really don't know what they were doing for combat fatigue at that point. I suppose by then the combat fatigues would have been sort of sorted out on service, and –

Mark: Yeah.

FD: From the more severe. But another --I was one of the few bachelors at Lawson. I was assigned to neurosurgical service. I was given my choice. You could either have orthopedics or neurosurgery. Since I was trained in internal medicine, I thought I could do better on the diagnosis of neurologic disorders, which I did. They gave me an admitting ward with about fifteen beds and I did four to eight physical-- history of physicals and neurologic exams a day while all the others in the unit were happily operating. They loved me for doing what they thought was the scud work, but to me it was the interesting work. So I found myself with a straight medical internship of nine months being designated as the Senior Surgical Officer of the Day in a 3,000-bed Army hospital. The reason I was a Senior Surgical Officer of the Day was that I ranked the next man by one day. You see how [laughs] rank works out in some situations. I got assigned, since all the others were married, somebody must have gone in and talked to the Adjutant and gotten switched so that I would be on duty on weekends and holidays. And, that sounds terrible, but on the other hand, I found it very exciting because I was the point man in a 3,000-bed hospital, and I had to identify the problems and call for help once I went to every ward, which is a quarter to a half-mile long I think. I could bring you a map of Lawson if you want sometime.

Mark: I might be curious to see it sometime, yeah.

FD: And I went to all the wards and the last ward of the whole series was the women's ward. I said, "Any problems here?" They said, "Oh, the girl way in the back has got a stomachache." She had classical appendicitis. The last patient in the whole set-up, and so I called a surgeon and I assisted at the operation. That shows you how thorough you have to be even—

Mark: Yeah.

- FD: That the 3,000th patient would have [laughs] appendicitis!
- Mark: Would have something like that. So what were the major problems that you encountered? What were the major challenges?
- FD: Well, in neurosurgery, most of our patients were men who had been wounded with peripheral nerve injuries or head wounds. We put a lot of tantalum plates in skull gaps. There [laughs] is a story about putting in the plates. I assume that if I get too colorful it will be edited out.
- Mark: You can't get too colorful.
- FD: At any rate, we were operating on this guy and, of course, all we saw was, through the sheets, the hole and I forgot that they did this under local anesthetic. See, the brain has no pain sensors.
- Mark: Right.
- FD: And one of the men, I think, Major Baker, said, "You know, when the brain is injured there is one word that goes last." And I—and I hesitated. "What word is that?" And underneath [the sheet], from the patient came booming out, "Shit!" [both laugh] It teaches you something about talking if you're not sure the patient is unconscious. [laughs]
- Mark: So, a lot of head injuries?
- FD: Yeah. We were replacing skull defects. I would be the second or third assistant with the surgery. Once they offered me a chance to work on an ulnar nerve repair and they said, "Cut if you're really cocksure." I said, "I've never been that sure of anything in my life." They knew I wasn't interested in surgery and I didn't feel safe in it.
- Mark: So did you encounter problems like paralysis and that sort of thing—
- FD: Oh, yeah.
- Mark: Among some of the veterans?
- FD: Yeah. There is a one – there's a thing called the Brown Second Syndrome where you get separation of things that are here [gesturing to part of the body?] and sympathetic. I've even forgotten what it was.
- Mark: Parasympathetic or—

- FD: And [forgotten] some of the motor effects and I diagnosed that, much to my surprise. You read about these in a book and all of a sudden there is a patient with it. A lot of peripheral nerve injuries and I noticed a pattern among the wounded men who'd had concussion of the spinal cord. Did I give you a reprint of that?
- Mark: I don't recall seeing it. You may have, though.
- FD: I should include that, I think. But at any rate, these are men who have paraplegia and then get better. The cord is not severed, but it's injured. It recovers and I found that six out of the seven who had it had the same wound; a transverse rifle bullet that just ticked the spine in the back.
- Mark: At a particular point?
- FD: Yeah. They weren't all the same. I guess there were six, seven, eight -- when I first published papers in the Journal of Neurosurgery. I wrote every word in the paper and the Major says, "That's good. I'll get it published for you." Guess whose name appeared first. [both laugh] It appears in the literature as Baker and Daniels.
- Mark: So did you have much contact with the patients after the surgery?
- FD: Not particularly, no. I had the admitting ward.
- Mark: Yeah. That's what I was wondering.
- FD: It's the diagnostic part of it.
- Mark: Yeah.
- FD: No surgical service.
- Mark: I was kind of curious about the adjustment that a paraplegic or someone with a paralysis might have to make. I realize you didn't --
- FD: I had a whole ward of paraplegics for a couple of months. All we could do then was sort of turn them. We had them in sort of a sandwich in frames.
- Mark: Right.
- FD: Treatment got much better very rapidly after that.

- Mark: So how did these young men deal with this? I mean I assume that they were all nineteen, twenty, twenty-one and now they're paralyzed and there are certain psychological adjustments you have to make.
- FD: You want to hear one case?
- Mark: Sure.
- FD: This will make me cry out of sight. Young kid had a mortar shell fragment this big in- - he didn't know he'd been hit except he collapsed. He had a severed cord. The first night he was there I heard him talking to his girlfriend on the phone telling her he was all right: food poisoning. You know in this country now, you get sick from a hamburger and that's a federal case. Well, these guys, some of these guys would go through incredible things and say, "Well, if I could, I'd be back at the front." You know, and others would be whining about nothing.
- Mark: Interesting.
- FD: We had one paratrooper who'd lost both legs. I-- in addition to being on the neurosurgery service, I was on the CDD Board, the Civilian Disability whatever. These were enlisted men who were getting out on disability and we were the little board that passed on them. Make sure that it was service connected—
- Mark: Yeah.
- FD: And other things. We had one paratrooper there who told us, "If I hadn't lost my legs, I would be back with them." We had another guy who came in about the same time who had been drafted unwisely. He had a chart this thick consisting of letters to congressmen [laughs] from members of his mother's women's club and so on. We hated to do this. We finally went to the CO of the hospital and said, "This guy deserves nothing." He said, "It's not worth your time. Let him get a disability." So, I'm sure there are men out drawing pensions who were like that. There's sort of these tremendous differences of the reactions.
- Mark: Right, huh. That's interesting.
- FD: Then—
- Mark: I'm sorry, go ahead.

- FD: I have another story to tell you about when I was Senior Surgical Officer of the Day. I think it was Christmas Eve 1945. Yeah. That—I wasn't there.
- Mark: '44?
- FD: No, I wasn't there.
- Mark: Well, anyway—
- FD: '44—I didn't get to the Lawson, but at any rate, I was—it was Christmas Eve and was on duty and a lot of the patients were home on leave, but of those who were there, I suppose there were at least 1800 or maybe more. I went to every man and said, "Soldier, it's Christmas Eve. Would you like a drink?" And I was writing prescriptions [laughs] for Spiritus Fermenti, 60 ml and a lot of men didn't, but a lot of men did appreciate it enough to the point where they had to keep the pharmacy open until 9:00-- of all these orders for whiskey coming in, Spiritus Fermenti, medical doctor, and I didn't know whether I was going to be complimented or punished or reprimanded for doing this. Silence, no comment whatsoever from the administration. [laughs]
- Mark: Now, was the war over by this time or was the war still going on?
- FD: Let's see, I guess it was over by then.
- Mark: Sure, for your liquor ration there. Yeah, it would have to be, yeah.
- FD: I think that I may have the wrong holiday.
- Mark: Yeah.
- FD: I didn't write it down.
- Mark: Uh huh. Um—
- FD: But you always wish you had taken notes.
- Mark: Oh, I know.
- FD: I wish I had kept a list of patients I saw, what they had, and where they got wounded by what. I think they liked me--I was also a witness in front of the Medical --of the Officers Retirement Board. So I had to represent, present his history so he would get proper retirement benefits. I didn't know that I was well known to the administrators, but a man who was a

sergeant in the regular Army had become a lieutenant colonel during World War II. He'd been overseas and got a bad back. OK, I was sitting in the officer's dining room, and I didn't even know he knew who I was 'cause he'd gone overseas and dis—and he came over and shook my hand. Obviously [?] he knew I was on the Officer's Retirement Board. [both laugh] For a sergeant to retire as a lieutenant colonel is a big deal.

Mark: Yeah, I would say. So at the hospital—

FD: I'm talking too much and not letting you ask what you want.

Mark: No, not at all, not at all. At the hospital, it's a military hospital and yet the medical field in the military is notorious for being sort of informal. I was wondering if you could sort of comment on relations between you and your fellow doctors and the doctors and the nurses and the officers and enlisted men and those sorts of things. How military was your hospital?

FD: Well, this is another—well, we didn't have to get out and march in the morning. We did at Harvard Med School. That was an interesting time when Harvard went into uniform. [laughs] If you ask me later I'll tell you about Captain Fairbanks. He was the first commander at Harvard.

Mark: OK. I'll make a note here.

FD: OK. But at Lawson we didn't have any marches. It seems to me that a certain number went at flag lowering at the end of the day, but we had our commanding officer at the hospital [who] had been the doctor in the Philippines on the Bataan Death March. He had taught us a lot by telling what you do if you're overrun—what do you do to protect your nurses. The Japanese overran and he said that what he did was to go out and knock on Japanese tanks until he found the one with the commanding officer of that unit and sit down with him with a bottle of whiskey and say, "I want to surrender the hospital as a unit." This was accepted. Then of course, if you don't do that kind of thing, then you have a "cry havoc" situation when the soldiers act like Serbs. Everybody [laughs] now thinks the Serbs are something. They're just doing what the Huns did and what the Cossacks did. So all these—

Mark: It's nothing new, yeah.

FD: They just cut whoever is there, male, female, child— and that isn't the way our GIs were at all. We sent overseas a bunch of educated gentlemen, which is the strangest army in history maybe [both laugh], but one of the most effective.

- Mark: So, in terms of discipline in the military-ness of the hospital, I mean were you referred to as Dr. Daniels or were you Captain Daniels or—
- FD: Captain or lieutenant, yeah. I think it was the same guy [laughs] that came back so friendly to me— the kind of guy who would— you're walking here and he is walking the other direction over here and he says, "Let's have it!"—meaning a salute [laughs], but most of the officers in the hospital, the division chiefs, were medical school professors who'd gone in.
- Mark: Right.
- FD: So we used to have many of the features of a medical school. We'd have post-mortem— a lot of people would go watch. Off the record, I think this [laughs] is a way that medical schools would[??] help pay— is to charge admission to autopsies. People are so ghoulish: \$5,000 for a rape victim, y'know. Maybe they wouldn't be so fascinated if they had to smell it. Let's see, I was talking about surrendering the hospital.
- Mark: Right.
- FD: Back from the Philippines-- he'd starved for years-- fed himself up fat. He was blubbery--died of a heart attack right after dinner. We had a military funeral, and if you haven't ever marched in a military funeral, you have missed something because that half-step is very, very hard.
- Mark: I'm sure it is.
- FD: Very slow, little balance, tremendous muscle tension--go slow--muffled beat--for a mile.
- Mark: Now, Atlanta, during the war, I'm interested to know if you had any-- if you got off the post much. Did you have much contact with the locals and if so, what kind? I'm interested in the impact of the war on the Atlanta community.
- FD: Well, I was probably exceptional in that I had a cousin of my mother's lived in Atlanta. Her husband was a very successful insurance salesman. So, that was sort of my home away from home. I would go to their house for Sunday dinner and so on. Next door lived a chiropractor who drove two Lincolns during the war. Some way he must have got the last Lincolns off the assembly line [laughs] or something. And he had a daughter. Well, they introduced me to her. So I had--she's not the only girl I dated, but I dated her for awhile. I used to write home when I had another date with Lilly, the chiropractor's daughter. I dated another

woman who had been married two weeks before the Battle of Midway to one of the pilots--torpedo pilots--who was lost. The Officers' Club was very active. Most of the socializing went on at the club right on the post.

Mark: Yeah.

FD: We didn't get to downtown Atlanta much.

Mark: I'm interested-- If you go down South today, there are still some places you can find where you're a "Damn Yankee," and I was wondering if you had any sort of experience with that.

FD: Well, let's say this. In Atlanta at that time, if you said, "the war," you had to explain which one you were talking about [laughs], but--and I had to write that paper. I could get by streetcar, to the Emory Medical School library. It took about an hour and something into Atlanta and out again, but I think, more than most, I worked rather long hours.

Mark: Yeah. You were just too busy to go out—

FD: Yeah.

Mark: And socialize. So you went to the Philippines eventually.

FD: Yeah. Let's see if I have another—oh something that came into Lawson. One reason I wish I had written this down because I was aware and I assumed everybody was aware of the fact that the men who came back from combat from Europe were different from the men who came from combat from the Pacific.

Mark: Why is that?

FD: The men in the Pacific had been through an ordeal. They'd been through Clausewitz's civilized war in Europe. The natives [laughs] were friendly [unintelligible] citizen. So were the natives in the Pacific. The Japanese were not popular with their dark-skinned cohorts. They loused that chance up horribly.

Mark: And so, this was something that you noticed?

FD: I'm sure it was. Yeah. Men from Europe had just been wounded. The men from the Pacific had been wounded and they had been through an ordeal, particularly Okinawa. And, of course, the men from the Pacific were yellow from the Atabrine.

Mark: Right.

FD: So you'd walk in a ward--I remember one particular one--Okinawa man coming back with a neurologic disorder--I'll think of the name of it in a minute—where you have tense paresthesias in the [unintelligible]. He came in with a wet towel around his hand to try to relieve it. Causalgia. He was yellow. You could just spot him as a Pacific veteran. Then we were getting them all at the same time. You see--I didn't get there until 1945, but we were still getting veterans coming through the line from North Africa, Italy, D-Day, St. Lô. St. Lô--I suppose we saw hundreds of them from-- they identified the weapon as 88 shells.

Mark: Right. German 88.

FD: German 88s--around St. Lô--we had a lot of men from there. Then the Bulge came in. I didn't treat the frostbite, but I was aware of it. And then, I said we had the different veterans-- and then we had the freed prisoners. They were, in order of magnitude, worse off. This was veterans.

Mark: In what ways?

FD: Well, they were still haggard, thin, hollow-eyed. They'd been through hell in a way that the others hadn't.

Mark: I'd imagine malnutrition would have been—

FD: Right.

Mark: One of the big problems they'd have.

FD: The General had gotten—had fed himself up to the point of having a fatal heart attack.

Mark: Right.

FD: I talked to one of the patients who had been a survivor of those prisoner ships of the Japanese that were sunk by our own torpedoes. He had to swim several miles-- I don't remember how many-- to land. He was a big, tough guy. I asked him, "Why did the Japanese treat their prisoners so cruelly?" And his opinion was—I've read it somewhere else--"You're a prisoner. Prisoners are to be punished." If you're a prisoner then you're supposed to be beaten and so on because you have done something wrong. You're being punished; so no distinction between a military prisoner and a criminal prisoner. Could we stop for a second?

Mark: Sure. Want to?

FD: Yeah.

[Brief Pause]

Mark: I had forgotten exactly where we left off.

FD: Well, I guess we were still at Lawson General Hospital, talking about the difference between—

Mark: European and Pacific veterans. Right?

FD: European and Pacific casualties and—

Mark: And the POWs. That's where we were.

FD: And the freed POWs. I got to know people later who had been prisoners of the Japanese in Indonesia and so that sort of reinforced what the veterans said there—I told you about the side-to-side perforating wounds causing the temporary paralysis.

Mark: Temporary, right.

FD: And the CDD for enlisted men and the Officer's Retirement. There was one other. Oh, after I'd been in Neurosurgery for a while, I got transferred to Medicine where I had 120 sick patients-- about three or four deaths a week.

Mark: Sick with what?

FD: Well, Lawson was a radiation therapy center. So people with leukemia and sarcoid and lymphomas were there for radiation treatment. So once they were--the tumor board would discuss it before they got treatment and once I presented seven out of the eight cases as were my patients. Interesting--when I got off of surgery, where I was an assistant in surgery not a prime operator, and onto medicine, my rating scale jumped immediately. [laughs] The surgeons liked what I was doing, but they wouldn't give me full credit for it because I wasn't cutting. Then I learned, later, that we had been--those who stayed there had been several times kept from going overseas by special plea from our administration so we must have been doing a good job. Like I say we got the unit citation.

Mark: Right.

FD: I had never been in quite a high morale place as that. People tend to forget that discipline and high morale are not mutually exclusive. In fact, everybody is doing his job and you know it. You're getting things done. Everybody--that's not bad.

Mark: Right.

FD: This idea that freedom consists of no hierarchy is ridiculous. [laughs] Then all of a sudden, without advance warning, I got orders to go to San Francisco to go overseas and it turns out the train was full of Captains, Medical Corps from all over the country who suddenly realized that if they weren't sent overseas now, they could not be--like the Selective Service was such. So we were all [laughs] into San Francisco from all over the country. Many of us were a day late. We only had three days notice to get there and I took a day to go back to Madison to see my family [laughs] before I went overseas.

Mark: Now, by this time the war was over.

FD: The war was over. Yeah, but it didn't wind down in one instant, you know. There was a lot to be done and---

Mark: And so you went over seas.

FD: In April '46.

Mark: '46.

FD: Mm hmm—went to Camp Stoneman in California where I met a cousin, who was a Captain Dental Corps—

Mark: Also going overseas?

FD: Also going overseas. He went to Korea and I went to the Philippines. We weren't even told we were going to the Philippines. You would have thought this was a high security [laughs] decision at this point. It was hardly top secret that the doctors are going to the Philippines. They took us on the SS Sea Star, which was a Victory ship with-- only thing on board was 1,000 men and their personal luggage. So the thing was so light in the water that the screw was sticking out-- over half was sticking out-- and in the morning, shit, we were like this [indicates with hand gesture] and, "My, there must be a storm." [laughs] --a beautiful blue day [laughs]-- waves about three feet high.

Mark: Was there a lot of seasickness by some chance?

- FD: Yeah. There was. One Filipino captain or major, who was in his bunk for ten days or so, didn't eat. And we went by Kauai. We could see Hawaii on the horizon. We didn't stop--went straight to Manila through the San Berdadino Straits. We knew enough about the war to know that that had been a very active place, in the naval battles, into Manila. The harbor was full of sunken ships, still, and Manila was flattened.
- Mark: Yeah. I was going to ask you what did it --because Manila was one of the worst battles of the war. It's not recognized widely, but it was an incredibly savage battle.
- FD: Couple of hundred thousand people or more died in Manila when the Japanese torched it—
- Mark: Right.
- FD: But the news was the same day that Mark Clark's Army went into Rome and that caught the headlines. It's like the Peshtigo Fire. Nobody paid any attention because the Chicago Fire got all the press, but you hope journalism students realize that they aren't fair to history if they just follow the excitement.
- Mark: Mm hmm. But this was like a year and a half after that, and it was still--Manila was still very badly war-damaged.
- FD: Yeah. You may remember that the center of the city, the Intramuros, [a walled city within the City of Manila] had been reduced by the 155 millimeter Long Toms firing point blank until they blasted through. Well, that's an expensive way to tear down a wall, but—Then I was assigned right off to Batangas, which is the capitol city. The Province of Batangas is about seventy-five miles south of Manila. You know it? You've been to the Philippines?
- Mark: No, but I'm familiar with the Philippines. I've studied a little bit about the Philippines so I'm familiar with the geography of Luzon anyway.
- FD: Yeah, Luzon. I only got onto Mindoro from there, briefly, and I was assigned to the headquarters dispensary. That turned out—let's put— this may sound like boasting but it's true—in uniform doctors—I was lucky all the way through my military career. I was medically busy and intellectually active. A lot of people are just sitting somewhere bored, waiting for something to happen. I was spared that for some reason. So this dispensary-- I took over from a guy who did the sick call in an hour and a half or less, eighty/ninety-man sick call and then played horseshoes

all day. So I was in virtually virgin territory as far as diagnosing problems was concerned. I had one sergeant come in who was walking kind of bent over--doing what they call "pill rolling gesture" in medicine. I sent him up to the local hospital, 153rd Station Hospital. "He has a case of Parkinson's Disease." They called me back, "What do you mean? A twenty-eight year old sergeant with Parkinson's Disease? Never had one." "Look him over. What else could it be?" Then they never complained again on that score. He said, "Doc, I been nervous for six months and they keep giving me phenobarb and it doesn't do any good." So he may have had encephalitis causing Parkinson's Disease from a mosquito bite.

Mark: Yeah. I was gonna say your comments thus far have sort of gone in this direction anyway, but I'll put the question out. How was your medical professional work in the Philippines different than Atlanta? It sounds like it would be incredibly different. There must be different problems, different—

FD: It was outpatient, but when I went in the Army I carried with me a Bible and a handbook on peripheral nerves, and the handbook on tropical medicine. I had no idea where I was going, but it turns out I was right on all three. [laughs] We were shipped to the Philippines. Then, during the monsoon season, the chaplain—the protestant chaplain—came down to my tent once and said, "Danny, your Bible is moldy." It was! [laughs] It was tropical. He did me favors, too, like I supposed there was a lot of that in most of these situations. He brought me a case of Father Casey's altar wine.

Mark: Of what?

FD: Altar wine.

Mark: Altar wine.

FD: Which was a good white Australian. [laughs] We had a fancy tent and my roommate and I—he was the assistant adjutant— had inherited a refrigerator driven with a kerosene flame. We tend to forget you can do that with fires, gas, and so on. So, we had a refrigerator, which most everybody else didn't, so people used to drop by for cold drinks [laughs] including one captain who was Black. There weren't too many. I have a comment here about the Blacks.

Mark: OK.

FD: One reason we won the war is the very competent Black man--very competent—magnificent men—physically great and greatly competent.

We're not allowed to mess things up in planning operations. They had to run the car pools and the laundries and the mess halls where they could do some good--where their brains were really used instead of fooling around [laughs] in abstraction there. I've never heard of the unsung heroes of Black officers and Black noncoms who ran all these things. They kept things—

Mark Mm hmm. Kept things moving.

FD: Kept the gasoline going to Patton and so on. I think they deserve a monument of some kind 'cause they were magnificent people. I was VD Control Officer in the Philippines.

Mark: Was that an interesting job in the Philippines? You've been in the military. You know the Philippines has a sort of reputation in that area, so I'm interested in your comment on that.

FD: I wish I had kept the contact reports because they were fantastic! [laughs] Most of 'em—"I was driving a truck and the Filipino girls would say, 'Want pom pom, Joe?'" That was—it started in New Guinea. And anytime I hear my granddaughter say "Pom Pom girl" at the football game, I wince [laughs] 'cause that was their word for sex. "Want pom pom, Joe?"

Mark: So as the VD Control Officer, were you a busy doctor?

FD: Yeah, of course I had a lot of—there were—I can't remember for sure whether it was 3,000 or 6,000 colored troops and some of them had a rate—is this possible—of 22,000 cases per 1,000 men per year. Yeah. One private would come in with gonorrhea every month five days after payday [laughs] and Rosie's Bar in Manila apparently was the center of activity. I did something that was illegal. I went to the commanding officer, a colonel, and said, "Some of the units have this incredibly high VD rate. Until they get their prophylactic stations set up, which they hadn't, I request they be restricted to base." And this was illegal. And he went along, which paid off later, so I'll tell you about it. I had either a major or lieutenant colonel in supply who came in with gonorrhea the week before his wife was due from the States. Fortunately, he cleared up overnight on penicillin [laughs] and he said, "Captain, if there is anything you need in the way of fresh steaks, just call on me." [laughs]

Mark: Did you take him up on it by some chance?

FD: No, I didn't.

Mark: No, just doin' your duty.

FD: I had a good first lieutenant, Lieutenant White, very close from the base with gonorrhea and I said, "Why don't you go over to the other dispensary to get treated?" [This was] so he wouldn't be seen by men who knew him getting his shots. Another case from there— you asked about tropical disease. Batangas is not a malaria zone—not a malaria area— and it was interesting to me because when it got down to fifty-five in the rainy season, the Filipinos started getting pneumonia. They had cold weather diseases at fifty-five degrees. Most of what you see in the tropics is not tropical diseases; it's what you see everywhere, but I had one soldier who came up, came into the dispensary and said, "I felt fine until noon when I had a shaking chill." "Where have you been?" "Mindoro." That's malaria country. Temperature 104. I sent him up to the station hospital with a diagnosis of malaria. They diagnosed malaria clinically, but they couldn't find the parasite on the blood smear, so I learned later that they had gone over him again and found that his liver and spleen were way down to his pelvis. Blue slip, here. He got sicker and they flew him to Manila, and in a week he was dead of Hodgkin's Disease. He had lavage. So that was my case of acute malaria. That was medically very instructive. [laughs] Oh, we had a lot of external ear infections. We thought it was— we called it "fungus ears," but subsequently a lot of it is apparently pseudomonas infection; a bacterial infection. All right, this ear still bothers me from having had it myself—itching on and off for all those years. I saw a lot of it because the word got around that the ENT man [Ears, Nose, and Throat Man] at the hospital would ream your ear out with a steel curette if you went to see him whereas I would very gently use a cotton swab with hydrogen peroxide and so I had a lot of patients with that. They took my option instead of his.

Mark: I just had a question—

FD: Yeah.

Mark: It was on the tip of my tongue and now I've— oh! Morale. Now, as you described, the hospital in Atlanta had very high morale. It was a very well oiled machine, administratively. How was morale different in the Philippines after the war?

FD: It was lousy. Almost all of the medical officers there could think only of getting home. I think that some of them actually cried when they heard "White Christmas" played on the record player. For me, I had my hobby of photography. It was all exciting. I wanted to travel in my life and there I was so I had a ball. I had a movie camera with me too and one or two rolls of film. One day the base supply officer came to me and said, "Do

you have a movie camera? We've got a lot of film [laughs] we didn't think anybody could use." So I had movies, which are in the hands of the—

Mark: [Wisconsin] Historical Society.

FD: Historical Society and I have a VCR [tape] made from that. It doesn't show any combat, but it shows a lot of half-mile long rows of ambulances waiting to go for the invasion of Japan.

Mark: So you spent the better part of six months in the Philippines.

FD: Yeah. Well, here's the kind of morale I saw. Philippine Independence Day, July 4, 1946— a big moment in history. OK. Well, I went down and a couple other officers went down to watch the ceremony and boy was that a day to be in an American uniform—everybody smiling and waving. I didn't have any girls approach me directly. I stayed a virgin through the Philippines which many people find remarkable. [laughs] But, most of the guys were lying in the sack. They weren't interested in history where they were. You, perhaps, have met people like this; bored because they don't budge.

Mark: Nothing to do, no point to what they're doing. At least it would seem that way to them, perhaps. Did the Filipinos— did you get along well with the Filipinos? I mean in general— the hospital and the community and all that sort of thing?

FD: Yeah. I had several work for me in the dispensary. They had a boy that would sweep the floors, and his assistant [laughs], a younger boy, and they would bring me in fresh mangos from their home. At least one of the technicians or maybe two were members of a very wealthy family; so wealthy that their brothers had new cars from the States in '46. They were wealthy because they owned the ice cream plant.

Mark: I see.

FD: Mango ice cream is a great flavor. I don't suppose the people here would—

Mark: I don't think I've ever had it, although I'd try it.

FD: As I say, I got to know the Protestant chaplain very well, and I played poker with Father Casey, the Catholic. Father Casey was luckier than he deserved and we always wondered [laughs] about that. Al Ronda [?], the

Protestant chaplain, I got to know well enough so when my wife and I wanted to get married—I was in Boston and she was in New York and he had a church in Connecticut—we went there to get married. We are still in correspondence with him.

Mark: So you went to the Philippines [**End of Tape 1, Side B**] for these interviews.

FD: ‘Cause you get people get talking like I do, and –

Mark: Yeah, even more so if you can believe it [both laugh]. So we were talking about your leaving the Philippines. You were there for six months. Was it a fixed tour? When you went there did you know that it would be six months?

FD: No, I didn’t know how long I was going to stay. You were allowed to keep records of your service. You had a little book of where you had been to try to get yourself classified as a specialist. I tried to get Specialist in Internal Medicine which would have meant major instead of captain and so on, but it never came through. I didn’t know why, but when I came to leave-- this is a story for posterity or the Reader’s Digest or something-- we turned in everything that was on. I had one ambulance extra. I don’t know where that came from. [Laughs] Oh, before I get to that, I had a jeep and this was the best maintained jeep in the place for the following reason: because I let, one night a week, the 1st sergeant could have it and, another night a week, the motor sergeant could have it, and they used to jack this jeep up right there and maintain it. I had to turn the jeep in. The loader [?] officer took it over as his personal jeep.

Mark: Because it was so well maintained.

FD: So well maintained, yeah. I only got to Manila once or twice. We did take a rescue boat to Mindoro on a picnic. We had a picnic on the boat to Mindoro and back. I got some movies of porpoises that was intriguing. It is no longer a big deal to have pictures of porpoises, but then it was. When I came to leave, I turned in everything. We had an inventory-- checked off everything--just a few tweezers and surgical instruments missing and maybe a couple sheets. Then we crossed off everything and there was this unit equipment type such and such and I said, “What’s that?” When I took over from Paul Wolfgruber, the officer I took over from, I asked, “What’s that?” He said, “Well, that’s the enlisted men’s first aid kits.” Well, the clerk, at the depot, looked at the book and said, “That’s one complete general dispensary.” I figured what had happened was when they went out of a combat area to go in a noncombat [area], they made an inventory and somebody said, “What do you call a building?”

‘Cause here’s all the things that are in it?’ So they gave him this unit number, but you would think this would be an obvious mistake? Oh no, I spent two, three weeks getting statements that nobody had ever seen more than one dispensary there. I accounted for one and then I’m charged with another. I was getting all these statements and clerks are very adamant that this is a complete medical dispensary. I was working on that and I was in headquarters when the commanding officer came in -- a colonel, who incidentally was shackled up with a gorgeous Spanish girl [laughs]. He said, “What are you doing here?” Because I had been in to see him about the VD problem. I told him. He said, “Get out. Go! Go!” [laughs] So I don’t know how it was ever completely resolved, but--

Mark: If ever.

FD: If ever [laughs], yeah.

Mark: So you went back to the States, I assume on a boat.

FD: On a boat to San Francisco. This was a Navy transport and it was not at all like the *SS Sea Star*, on which I had gone out, which was a semi-converted freighter. It was a Navy ship and for every twelve officers, there was a Filipino servant to serve three meals a day while the enlisted man filed by the window to get their two meals a day [laughs]. Felt terrible.

Mark: A little embarrassed by that?

FD: A little, embarrassing, yeah, but the chaplain had given me a Shakespeare, a collected Shakespeare, which I went up--the gun tubs were empty-- there was no anti-aircraft guns-- Could go up in the gun tub, with all the Pacific around me and read Shakespeare. So that wasn’t so bad a trip. I didn’t mention going out on the *SS Sea Star*. The first evening meal was sauerkraut and wieners and those were all over the deck because everybody got seasick. I had never sailed like that before, but I wrote home very excitedly, “I can sail! I didn’t get seasick!” I used to get car sick as a kid so I thought I would have brought it up—you could say—I could sail on the ocean. I never got sick on that or the Rotterdam in the Atlantic. So that was-- I’m trying to remember more about the Philippines. Again, I’ve often wondered if you went to one of the satellite planets of Jupiter and found a military installation whether you would know where you were because the Officers’ Club looked so much alike everywhere. [laughs]

Mark: And that was in the Philippines you has an officers’ club—

FD: An officers’ club, too, yeah.

Mark: Much like in Atlanta?

FD: Well, not too different, yeah. I didn't mention one problem in Atlanta. For a couple of months you put a quarter in the jukebox and push the button for all your favorite pieces and all you got is "Sentimental Journey." [laughs] I haven't been able to – I can hear it still. Well, back to the Philippines—oh, and, Dr. Sixto Yarosa. Sixto Yarosa was a local doctor who I got to know quite well and he could do me favors --and I could do him favors. He took me to see some of his patients, including people dying of tetanus following hemorrhoidectomy operations. That is scary surgery, but we were told to help out the Filipino medical people. He was in private practice and right across the street from us was a Filipino dispensary with a lady Filipino doctor. We were able to— I'd get called over there to see yaws, which I had never seen.

Mark: I'm not familiar with that at all.

FD: It's related to syphilis. It's spirochetal disease, but it's trans—not—you get it as a child, not sexually as an adult, so you develop immunity to it, but it does destroy bone. It's pretty well abolished from the world because penicillin is so effective. I saw a typhoid patient of Dr. Yarosa's. He also owned a fruit farm and this is in the movies. Here are twenty kinds of tropical fruit that he is raising there and we had dinner at his foreman's house and as a special treat for the visitors— we had canned Hawaiian pineapple! [laughs] Fruit all around us. Well, this was a special treat for the visitors.

Mark: Well, we can come back if I think of something else. I'm interested in--

FD: Among the movies I have, is the first Memorial Day service there. It's a temporary service.

Mark: In the Philippines.

FD: In the Philippines, yeah. Some of the men, who had been buddies, were still there. I have a picture of 'em leaning by the grave. OK.

Mark: I'm interested in your life after the war and after you returned home—sort of the post-war readjustment to civilian life, the GI Bill and those sorts of things. This can help us into our transition then to Korea [the Korean War] for the next—when we pick this up again. So, after you returned home...?

- FD: OK. I went to San Francisco. I went to visit an aunt and uncle in San Francisco and thought I was going to have a week to celebrate in San Francisco. I got orders to go be the doctor on a troop train to Chicago—to Fort Sheridan. I had one day in San Francisco. I went to see my aunt and uncle and I said [laughs], “Would you mind if I took a shower? They only have salt water on the ship.” She said, “I’m sorry, I didn’t think of that.” So I had a nice—and on the troop train— that too was interesting, medically, because people were coming down with all kinds of things on the train.
- Mark: Like what?
- FD: Relapses of malaria. One kid developed thrombophlebitis, which means you could be hospitalized for months, then, but I managed to get him to Chicago. I went back to the caboose. We radioed ahead. They had an ambulance waiting in the switchyard to take him off near home.
- Mark: I think of thrombophlebitis as something that affects older people.
- FD: Yeah.
- Mark: This was a young guy. How did—
- FD: Young guy. I don’t know what he got it from.
- Mark: Strange. That’s interesting. So, OK, after Chicago then—I mean did—
- FD: I had six months at home in Madison or seven months at home in Madison. Then I went back to New York Hospital in New York for further medical training.
- Mark: Was it military training? Did you stay in the military?
- FD: No, no.
- Mark: Were you a Reserve officer?
- FD: No, I didn’t—
- Mark: You just—you got out.
- FD: I’m glad I did because I would have been a medical officer in Korea if I --
- Mark: So you got out. You were free and clear. So, after the war, then, you had to sort of adjust to civilian society or readjust—

- FD: No, no problem.
- Mark: Whatever the case may be.
- FD: “Cause I hadn’t been in combat. I had no personal trauma involved.
- Mark: Right and so you had no problems with nightmares—
- FD: No.
- Mark: Or physical disabilities or anything like that. Some veterans-- I mean veterans I talked to disagree on this so just tell me whatever you think. Some veterans will complain that the civilian society didn’t appreciate their sacrifices enough. Did you have a sense of that at all?
- FD: Yes. My parents had been totally untouched by the war, even though I had lost good friends--guys from my own neighborhood. They seemed - they were Edwardians. They weren’t slowed down by World War I or World War II in their belief in inevitable progress. This was part of their religion. Things are getting better and anybody who says not is ungodly.
- Mark: And you had a different view of this.
- FD: Yeah. In fact, one day my dad said, “Considering the losses you’ve had, maybe you were right.” Meaning, I think, that inevitable progress was hard to sell to me.
- Mark: Now, professionally, the war was good for you actually. [laughs]
- FD: Well, that was doing medicine. Yeah. Yeah. I was doing what I was trained to do. I was doing a good job. I was interested and, for the first time in my life, I got paid. First time I ever had pocket money in my life.
- Mark: So, how did you transfer your military medical experience into the a civilian practice? I notice you did some further training. Did you use GI Bill benefits by some chance?
- FD: Oh yeah-- used GI Bill through 1950 or ‘51.
- Mark: Now, where did you go to school for your further training?
- FD: Cornell Medical School, New York Hospital.
- Mark: Yeah, that’s right. Yeah. And what sort of—how did you stay—

- FD: I was assistant resident in medicine for six months in '47. For a year in 1948, I was a research fellow there, although I continued to do some clinical work. Then, for six months in '49 I was also an assistant resident in medicine.
- Mark: Now, for the expenses involved in that. Did the GI Bill cover everything you needed or did you have to supplement you income—or , as an intern, did you get paid?
- FD: I had about \$1900 saved from the war so that actually my military experience was just broadening of my diagnostic base, so to speak.
- Mark: Right. Right. So after the war, in your further medical training and among your colleagues, were they also war veterans?
- FD: Many of them were, yeah. I think that generation, strangely enough, has a better sense of humor. I think the younger people thought we don't take things seriously. We did! Sort of gallows humor some of it. Some it was just exuberance. I saw it in my own faculty at Cornell. Later on. So when—
- Mark: [unintelligible] talk about your training at Cornell.
- FD: OK. This—we're only a year [laughs] away from Korean now.
- Mark: Yeah.
- FD: In 1948, the nurse who had the nearest coffee pot to my fellowship was named Alice Monroe and she is my wife. We've been married for forty-four years. So, but then I wanted to do research. I think I wanted to be a professor long before I even thought of being a doctor. It was sort of a question of in what field. In fact, Harry Harlow, who I knew for many years--the famous psychologist-- the baby monkey man here at Wisconsin, says that he thought I might get a Nobel Prize, but we couldn't figure out in what. [laughs] He said I demonstrated a certain amount of general competence. So then I had an offer to take a research fellowship in nutrition at Harvard School of Public Health. I went there and my parents bought me my first car in '49, a great Chevy. So, I moved to Boston and got a little garret apartment on Commonwealth Avenue and I thought, while I was there, I would take the courses for a master's degree in Public Health-- turns out that was very serendipitous because the fellowship didn't work out. I was doing research, but it wasn't going fast enough. The chief of the department called me and said, "I want you to stop doing what you're doing and take all the blood pressure of all the rats." I told

him that I had reached a point where I wanted to make more money than \$3,000 a year in fellowship. He said, "You can't get anything more than \$4,000 anywhere." But I mentioned that, in the Philippines, my roommate was Assistant Adjutant Dave Bass. He was working at the Quartermaster Climatic Research Lab in Lawrence. I talked to him and he said, "We're looking for [a] physiologist. Why don't you apply?" So I did.

Mark: And, that's how we get to Korea.

FD: Let's—that's, yeah. That's how we get—

Mark: Yeah, OK.

FD: Let's say not *to* Korea. Let's stop at Quartermaster, next. OK?

Mark: Yeah. We'll pick up the Korean War experience next time. I got a couple of other things—

FD: Sure. OK.

Mark: I made some notes about. I was just interested again for anecdotal purposes about your recollections, if any, about V-E Day and V-J Day. When the war ended, you were in Atlanta. Do you recall—

FD: I don't remember much about V-E Day. I do remember V-J Day. Lieutenant Valone [?], who was one of the hand surgeons, came running down the hall shouting, "No more Purple Hearts." I think that's worth recording. This was a doctor's reaction. No more wounds. And, of course, it was great relief because everybody thought he was going to be in on the invasion of Japan. In fact, if you work there, you wondered why not-- if you weren't on the way.

Mark: Yeah, and of course, in this 50th anniversary year of the atomic bomb has been the subject of controversy and so I'm interested in your personal recollections on the dropping of the bomb and do you recall what you thought? Did you have any particular—

FD: Great relief.

Mark: Reaction to it.

FD: Great relief! The war's over.

Mark: It was gonna cut down on our workload—

- FD: Of course. My dad was working for the Manhattan Project.
- Mark: Oh, was he?
- FD: He was head of the Metallurgy Lab in Chicago and, of course, he couldn't tell us anything about it, but I guess he told my mother, "If I talk in my sleep, don't listen." [both laugh] I used to read Popular Mechanics and Popular Science and they had all kinds of stuff about uranium and the future of energy. That suddenly disappeared. So I figured the Metallurgy Lab had something to do with uranium, but I thought aircraft propulsion or some other use. I had no advance knowledge of the bomb, except my dad had told people publicly that there are new weapons that may end the war.
- Mark: I had a note here to ask you about the relationship between doctors and nurses. I assume a lot of women were nurses in the hospital. I'm interested in any sort of working relationship between the men and women at this time.
- FD: Fine, I mean professionally.
- Mark: Professionally.
- FD: Nurse Kelly. When I went to the medical floor—when I had my 120 sick people, elephantiasis and all kinds of things—That's where I saw the tropical medicine, there more than the Philippines. I got back from lunch and once she said, "So-and-so died, but I didn't call you. We were expecting it." Another time, "We've got another patient with the funny stuff with the lacrimal [?] glands." Sarcoids. We had enough of them, so she spotted it. She was a tough lady, too. [laughs] Kind of nursing associate with Bellevue Hospital in New York. No nonsense.
- Mark: Yeah, but they were well trained—
- FD: Well trained.
- Mark: And that sort of thing. I've got one last note. You said, "Remind me of Captain Fairbanks."
- FD: Oh yes.
- Mark: So I made a note of this so I thought you could tell me about the Captain as we close here for today.
- FD: He was our first commanding officer of the Harvard Medical School, ASTP Unit. Of course, a lot of us guys had gone going into the Navy

which was much more lenient with what their men did. Fairbanks used to stand outside and try to catch married men coming in late from oh-- [laughs] Endearing things like that, but he wanted to give us a talk to straighten us out and some of the many medical students had been chatting with the WAC sergeant who was in charge of the office. Captain Fairbanks said, "I want you to get this. I want you to get it straight. I want you men to leave my WAC alone." Well, by evening, there were twenty verses to the tune of "Pistol Packing Mama," which ended up as "Leave My WAC Alone." [laughs] He didn't last [laughs], but he was famous because he was quoted in the New Yorker for having said that, "If you fellows and I get together we can make Harvard the best Medical School in Boston" [laughs] He was about the same age of some of the students. He was a classmate of some of the third year students so that it was inappropriate. We got a medic-- an officer, Medical Corps--who had been in Iceland and was a very nice, outgoing guy. Things were better when we had a doctor in charge instead of a captain of artillery.

Mark: I'm sure. OK. Let's close on that note. We can—

FD: OK.

Mark: Pause for now. Thanks for coming in this morning.

[End of August 4, 1995 Session]

Mark: OK. Today's date is January the 25th, 1996. This is Mark Van Ells, Archivist, Wisconsin Veterans Museum once again continuing our interview from last August with Dr. Farrington Daniels about his experiences in World War II, which we had just completed and we're moving up to the Korean War period. We had left off just as you were about to leave the service in the late 1940s. So, let's just recap a little bit quickly. You were in the Philippines. You went there in 1946 and came back—

FD: April to November, 1946. I was in the Philippines as a medical officer.

Mark: Then you came back to the States and when were you actually discharged from the service?

FD: January 3, 1947.

Mark: What did you do after that? Let's try to take the steps from your leaving the service to your civilian employment.

FD: Oh, I had a few--I had an appointment July 1, '47 at the New York Hospital for Assistant Residency in Medicine. So I had a few months in Madison and stayed at my parents' house and did some research in the medical school here, but I also had time to do a lot of photography and put together this book and the history of our Door County cabin up to that point. So it was a fruitful time as far as far as preparing documents [laughs] was concerned and getting pictures ready. Then in July '47, I went to the New York Hospital as Assistant Resident for the Department of Medicine for six months. Then I had a year of fellowship during 1948--Nutrition Foundation fellowship research that didn't work out particularly well, but I did meet my wife in the process.

Mark: Can't beat that, I suppose.

FD: I had a fellowship and she was the nurse in charge of the metabolism ward, which was the nearest coffee pot. So that's where we met, over coffee. [laughs]

Mark: Was she a native New Yorker?

FD: Native New Yorker--grew up in Brooklyn. OK. Then I had the other six months of my assistant residency from January to July 1949. I had a year out. Then I went to the Harvard School of Public Health for a fellowship in nutrition and at the same time I was there I thought I might as well take the master's degree in public health, which turned out to be the much smarter of the move.

Mark: Why was that?

FD: The research didn't pan out too well for a variety of reasons, but for one thing I was under a great deal of pressure to start producing, and I tried to cover too much by far. So I was disenchanted with that partly because the chairman of the department called me in and said that he wanted me to drop what I was doing and do something he wanted me to do, that if I were spending— And I told him I needed more money and he knew I had an apartment of my own and had my first car I ever owned— I was over thirty at the time. He said if I was spending more than \$170 a month, I was living too high for a student [laughs] and I would do something else. A friend of mine from the Philippines—he and I had been tent-mates in the Philippines, was working at Climatic Research Lab in Lawrence, Massachusetts and he said, "We're looking for a physiologist. Why don't you apply?" So I applied and was accepted and started—I'm not sure of the exact date. I think it was about June 10 and we had a small unit. I was in charge of the physiology branch of the Climatic Research Lab, which was about a four-man operation at that time. Then--I think it

was the 23rd of June, the North Koreans invaded South Korea and all of a sudden I was in charge [laughs] of a big operation. We were studying cold weather protection—the Environmental Protection Agency was the name of our organization. I had the physiology branch in that and I'd expected to—the main reason was to go somewhere I could do some research and write it up. See, I'd done a lot of research, but I hadn't published much so I thought this would be a quiet backwater in which I could do some research under the supervision of a Ph.D. physiologist, Woody Belding. Well, shortly, he left to go to an academic job and all of a sudden I was in charge, not only of myself doing research in a quiet backwater, but organizing a lot of activities on cold weather; some on hot weather and a lot on load carrying. I thought I'd talk about the cold weather first. You have a copy of my CV [curriculum vita], which lists when I got different civil service ranks; eleven to fourteen.

Mark: So when the Korean War broke out and you were tasked with coming up with new ways to help the troops and protect the troops—

FD: Or continuing the—

Mark: I suppose perhaps we can start by my asking you: what were some of the problems that you were tasked with solving in terms of cold weather? What specifically were the problems the soldiers were having and what sort of solutions did you come up with?

FD: Well, of course, the biggest problem was footwear. In the winter of 1950, there was a terrible problem in frost bite. It is interesting. This job of mine was a remarkable education in that we dealt with the military industry indirectly-- advisory committee. I spent a lot of time going back and forth to Washington, by rail, from Massachusetts on the "owl overnight train," which was called the "square wheel express." It was a bumpy ride. You stop for whistle practice in Philadelphia and so on. I was going to the Pentagon and to the Quartermaster which was in one of the World War I temporary buildings along the Potomac.

Mark: And they told you what--that basically just the soldiers' feet are getting frostbite and fix it or--

FD: Well, it was an interesting position because I was on the Pentagon's Advisory Committee on Physiology so I could bring up ideas there, which then I would go home [laughs] and carry out...

[End of Tape 2, Side A]

- FD: ...So it wasn't as if I had to go get a new grant every year to do a specific piece of research.
- Mark: Yeah. So what sort of solutions did you come up with to--for example, the footwear problem?
- FD: The footwear—the research was already underway. There was a belief, particularly in the leather industry, that you had to have leather footwear 'cause leather breathes. Then, of course, you were supposed to goop it up with all kinds of waxes and greases to make it waterproof. So it was sort of conflicting aspirations there [laughs] between evaporating sweat and keeping water out. There was some research going on on impermeable footwear. Impermeable footwear as if you had one galosh inside another with insulation between sealed, the insulation sealed. I've still got the pair I wore for a while. I can bring them in. They aren't really wearable anymore. But the principle-- but, of course, what happens if your feet sweat? This is all low and it stinks. [laughs]
- Mark: As TV commercials tell us constantly.
- FD: Right. There was research going on, but there was still this idea that you couldn't put feet in an impermeable barrier. So we studied that, somewhat internally.
- Mark: And what did you find?
- FD: Well, we--I'll mention some names as I go along. Oh, what was his name? Bill suggested and we carried out a study in which we put experimental impermeable boots on feet for a week or ten days and I and another medical officer examined 'em periodically, like every day, I guess, to see what did happen. Interestingly enough, well, they did not get heat rash, like an obvious sweat gland disease. They get terrible wrinkled, the feet got very wrinkled. If you've ever seen your hand or foot after its been in a hot tub for an hour or so, [there is] a lot of wrinkling and thickening of the epidermis. The smells weren't too bad. Maybe the only time in history that somebody has done a research study where the data involves sniffing socks. [laughs] 'Cause they were acidic smells, like, I suppose, butyric acid, an acidic acid.
- Mark: What did the troops say about them? Did they keep their feet warm? Were they uncomfortable?
- FD: No, they kept their feet warm. This tale goes on [laughs] and on, but while the Army was diddling about this, the Marines went ahead and started using them and the reports came back, "Frost bite problem solved."

Walking around Massachusetts with friends and technicians and so on wearing the insulated boots; the boys had a great time splashing. It used to be if you splash in the gutter and go home, your mother will be very angry with you for risking your life by getting your feet wet. [laughs] But here they stay warm and your feet would be spared the outside environment. Word started to come back very rapidly that this was great stuff; that the frostbite problem was largely solved. But to jump ahead for a footnote, we were on a research visit to Korea in '54. Every medical officer I talked to, in various echelons, said, "Great, wonderful stuff." Got up to the front line, where we could see the Chinese troops through binoculars at the DMZ. I asked a medical officer there. He said, "Oh yeah, about one man in the company can't wear 'em, so we assign him to be clerk." So it's hard to get statistics because, in the field, the troops solved lots of problems. At least the American troops do. [laughs] So, nobody knew about the fact that there was a certain number who couldn't tolerate them, but that came out two or three years later.

Mark: They couldn't tolerate them in what sense? Their feet got too wrinkled or they smelled too bad?

FD: Too hot or something.

Mark: Too hot? They're too wet in some cases, I suppose.

FD: Shoes were uncomfortable. Look, can we stop for a minute?

Mark: Oh sure.

FD: There was a contract out. I've forgotten where he was. Ed Folk was the physiologist. He was doing a study on impermeable barriers around the feet and he came in with a report, which puzzled me at first, because he said that the sweat is reabsorbed if you secrete it into this space and sweat is reabsorbed. This, of course, terrified the military. You're getting absorption of stuff in the footwear and, also, the description of this wrinkled white foot as macerated— When you say the foot is macerated, they envision sort of a pulpy stump. [laughs]

Mark: Which isn't necessarily the case.

FD: No, it wasn't, no, but we puzzled over his findings until we realized, I don't know if he ever understood, that he was counting the sweat as if it had continued unabated and he was including that and then he subtracted how much was left. It turns out sweat was being suppressed rather than reabsorbed, but his numbers came out the same way either way. Then we put out a couple of research contracts, one with Dartmouth Medical

School's Walter Lobitz, the principal investigator--he's a dermatologist--to study what happens to sweat glands when they are occluded. [This] turned into a very productive study of sweat gland function, which again, leaping ahead to a footnote, the world authority on sweat glands--sweat functions was a Japanese Yas Kuno—K-u-n-o—and, in 1954, I visited him in Japan. The war was over as far as sweat studies were concerned. [laughs] So this contract went out, insulated boots were used, and of course there are many other reasons for the reduction in frostbite. An important thing came up which is still unresolved and that is that the Black troops had more severe and more frostbite than the Whites.

Mark: Really? Why do you suppose that was?

FD: The people who studied it suggested many causes, but none of them suggested it could be the pigment itself. We've done work on guinea pigs, PIBO [?] guinea pigs [PIBO stands for a lung disease that might fit with the research] later comparing white and black on the guinea pig and on the pigmented nevi, which suggests that the melanin is fragmented during frostbite and that this is probably an irritant itself. But this has not been resolved in the literature, partly because I haven't figured out how to publish it, but, that was later on.

Mark: So this boot you helped develop, how long--

FD: I didn't actually help develop the boot, but I helped explain why you could wear it.

Mark: Yeah, which resulted in the Army producing a certain kind of boot.

FD: Right.

Mark: I was wondering--

FD: It's called the insulated boot. It looks like a galosh, rubber galosh.

Mark: How long did the Army use it and do they still use it today?

FD: I assume they still use it. You can still buy it in the sporting good stores or shoe stores.

Mark: I've never actually looked. Next time I go shoe shopping, I'll undoubtedly think about it in a different light.

FD: Well, I 'spose I--for this purpose I should look, right? [Mark laughs]. Well, let's take another pause, OK?

- Mark: OK. [Presumably after a pause] So we had talked about the boot. Is there anything else you'd like to add about the boot?
- FD: No, I suppose--this was probably one of the main contributions we were able to make.
- Mark: There were other cold weather problems that I'm sure you faced.
- FD: I might say the medical department didn't approve of everything the quartermaster was doing along these lines. They thought that was their turf.
- Mark: All you needed was a turf battle sort of thing.
- FD: Right, and I don't know what happened, but after the Korean War the Quartermaster Corps was abolished and I don't know what happened, but it had gotten sort of uppity and that's one of the things where I was a strange character in physiology or medicine in that I was willing to work on applied problems. I didn't insist on everything I do as something you could report as hot, cutting-edge science, so I was useful that way. It was sort of fun applying medical knowledge to non-medical situations. It was sort of fun [laughs]
- Mark: A professional challenge.
- FD: Yeah, right—an intellectual challenge, but I did have assigned to my team several medical officers. This was their duty while they were in service. I had one who had gone to Washington and convinced somebody that he was a great investigator and was assigned to me, and he admitted it was to get out of going to Korea. We had some trouble with him, but some of the others on my team, well, I had an anthropology section, a biochemistry section and a physiology section under my physiology branch.
- Mark: I think I understand the last two, but what was the function of the anthropology section?
- FD: Well, Paul Baker, who was there and Russ Millman studied the body composition, fat in relation to various activities and Paul Baker took Black and White troops in the Arizona Desert and measured their body temperature and Blacks took up more heat from the sunlight than the Whites, which is sort of the reverse of what you expect in terms of world distribution color--particularly a lot of work on body fat--and Paul Baker and I wrote a couple of reports and presented a paper at a physiology meeting on "Relationship of Subcutaneous Fat to Body Cooling." I might

as well go into this. We took a bunch of men-- a spectrum of fat sergeants and thin corporals and myself and a few others. We went into cold chambers, 16 degrees Fahrenheit, 15 Centigrade, and--we sat there and shivered-- and we had measured the body fat with calipers. Then we measured the oxygen consumption, which is an indirect measure of shivering. We found a nice linear correlation to the fat man who just sat there comfortably--the skin got colder, but they didn't shiver as much. So they were insulated, and of course, other studies have shown that in cold water, you have to be fat to survive. The Channel swimmers looked like walruses.

Mark: Which, I guess, makes sense.

FD: Yeah, but we demonstrated it. And I don't know if anybody has paid much attention to it since, of course. I talked to Paul Baker a year ago in a meeting in Oakland, California, and he said a lot of the things we worked on never have been followed up on. He was doing a project on why do various Indian tribes get a lot of diabetes and have so much trouble with obesity-- and the same in the Pacific Islands—the Polynesians—and he figured out that maybe the survivors of a long voyage would have--the fatness would have some survival value in terms of surviving the waters. So this was my anthropology section. Paul went on to become Professor of Anthropology at Penn State and a prominent figure and one of the first ones to do physiologic measurements in different racial groups instead of just skulls—

Mark: That sort of thing.

FD: That sort of thing, but when I talked to him, he said this has gotten non-P.C. You can't— there was a lot of research thirty years ago about racial differences, but all of a sudden, you can't do it because people will mistrust your motives and say so. [laughs] Hold it for a minute, OK?— Raise a fuss. So we have fat and cooling— different men cool differently and, of course, clinically sort of another effect. Fat people tend to have certain skin problems, possibly because their skin temperature is lower than the average person. So the insulation is harmful in that chronic cold exposure—

Mark: Yeah.

FD: Like in British, old-fashioned British houses without central heating, that kind.

Mark: Skin problems like what?

- FD: Well, chilblains for one. Chilblain is sort of a hive that comes on in the cold. They used to say the British nurses would have chilblains in England and by the time they landed in Africa by plane the chilblains were disappearing, but—Well, let's stop here again for a second. [Presumably a pause] We've talked about the foot. The hand, of course, is a tremendous problem in the cold.
- Mark: Yeah. It's more exposed--digits.
- FD: Yeah. For example, a lot of men had frostbite of the hands in the Air Force--the Army Air Force--because they would be at 30,000 feet, or higher, and they'd be under attack and, to manage the machine guns, they would finally rip off their gloves and risk--take the frostbite, even though it would incapacitate them, because that was the only way to save their lives. We never really solved that. We had a program in which we were trying to develop gloves that you could feel through and we had a contract with an industrial company that was very enthusiastic, but seemed to miss the point of the whole study. They got to talking about other facets of gloves. [laughs] They couldn't get them to pay attention. I might mention that in the early days at Lawrence Climatic Research Lab, John Lyman, who was both an engineer and a psychologist, came for a year--and he and I were buddies intellectually--exchanged ideas like crazy. He was kind enough one day to say that he knew two scientific generalists, and the other one was Claude Shannon, meaning I was the other one he knew so that—I might put in here a little plug. I had a rather broad background. I think I started to read Science Magazine when I was about eight or nine, which means I've been reading it since 1926 or 1927. --Still reading it [laughs] and, of course, with the medical training you get a certain variety of things you can do there. In the old—part of this was—the old days products when you could design your own apparatus. That was part of a research project was to design the apparatus. Now everybody walks in to a \$10,000 machine and turns dials and that's not quite the same. [laughs] A side comment on building your own apparatus or design--During the quartermaster years, I designed a lot of apparatus, some of which I never got to use--and nobody else saw the use of it-- and it's a very moving experience-- you would have in a lab, when you're about ready to leave and go somewhere else for another job, your successor walks in and he looks around at all these things you have designed, built, loved and he says, "Let's get all this crap out of here." [laughs] "Let's get all this junk out of here." [laughs] Clear it out for his junk. I mentioned the medical department. They had a lab at Fort Knox that did some similar things. They also studied the insulated boot and they also did field trials at various places. Going back to the hand--we figured it should be obvious that metal has a high thermo-conductivity, much more than-- so you grab cold metal in the outdoors today and people would say,

“That’s colder!” It’s not colder, it’s just that it conducts heat away so it feels colder. Hunters frequently tape the metal parts of their guns -- put adhesive tape on them-- so that you can put the insulation either in the glove or on the object, and we never got very far with that. Field officers would talk about the problem they had with their men getting frostbit when they were reaching in to release the hood of a vehicle going in between the bumper. I would say, “Why don’t you insulate the bumper?” [laughs], and I never got anywhere, but I did one study that should have convinced people. I don’t know if it did, but I and two enlisted men-- there was a new insulating material out which came from Germans, actually, called “insulate.” It’s a foam where the bubbles that are not joined as in sponge rubber or a cellulose sponge. They’re insulated-- there are bubbles in there, but they are not connected so it makes a good insulator. It’s in wet suits now. This was the earliest wet suits. We had a couple of those to try, too. So we had this insulation materials in two thicknesses put on aluminum pipes about this long, aluminum tubes about this long. Then we had our hands covered with thermocouples and we grabbed the insulated one and finally the bare aluminum-- and I didn’t need any numbers to prove the point because of the profound way in which the corporal, who was doing the experiment with me, said, “Jesus Christ!” with great religious fervor. [laughs] So this was the only frostbite I deliberately introduced. I have a picture of my own hand showing the frostbite on the fingertips, but we demonstrated that insulating the metal helps. I don’t think the military puts insulating foam on their vehicles to this day. I could go up and look at your displays maybe and see. I don’t think you’d see any.

Mark: The recent conflicts have all been in tropical areas—

FD: Right.

Mark: And it’s not that much of a concern, although who knows when the Bosnia exhibit goes [laughs]— we’ll get a look at it then.

FD: Partly because some of the medical department people had gone up to Fort Churchill and gone out on Hudson Bay among all the arctic hummocks and they said, “Nobody can fight in this. We can’t evacuate the casualties. No way!” they said, and I’m sure that got to the military. Arctic warfare is a battle with the environment so much that—well, the Finnish—the Finns and Russians had quite a set to there, even on ice skates. The Finns were ice skating [laughs] into combat. Well there’s the hands. Should we take a break?

Mark: Sure. [presumably a pause here]

- FD: Cold weather--
- Mark: Cold weather.
- FD: Now, I don't know how many years it lasted, but for several years the U.S. and Canada had a joint research station at Fort Churchill.
- Mark: Which was in Northern Manitoba.
- FD: Northern Manitoba. Is it fifty-nine [laughs] or sixty-nine degrees?
- Mark: Up there.
- FD: It's way up there. It's not in the Arctic Circle, but it's right where the Arctic tundra meets the tree line.
- Mark: Yeah.
- FD: Right at [Fort] Churchill itself-- you can see fair-size trees going down to itty bitty trees and they say some of these little trees are 100 years old. But anyway, they had this winter research station and I went up two winters and slept out in tents. It's interesting--I could plan an experiment and then go out into the field and do it and the troops didn't complain to me because the plan had been some mysterious "they" up there back at headquarters. They didn't know that I probably could have gotten them Champagne [laughs] served on the bivouac if that were a useful part of the experiment, but, at any rate, they thought this was all something dreamed up by--
- Mark: Some bureaucrat in Washington.
- FD: "Them." "Them." Yeah. So I learned a lot about sleeping out in tents. There are several items of interest there. One, since the sleeping bag has a hood here, the heat tends to come out around your neck, when you're lying on your back, so I learned how to dig a hole in the snow and put my forehead on the surface of the snow, so I could breathe, and then all the heat from my body would stay inside. It wouldn't rise up. There are some interesting studies done elsewhere that show that a normal person, just standing there, has got a chimney effect inside his clothes; bringing bacteria and all kinds of things out in the air around his neck because it's a chimney. We had gasoline stoves in the tents and, oh, about four men to a tent-- and it was a very, very Christian act to be the man who got up and lit the stove in the morning. We also had gasoline lanterns, which gave out a lot of heat. People didn't--we were sort of cheating by using light that would add a lot of heat--radiated heat. You asked--before I went to the

Climatic Research Lab, Bass and some other people had studied the phenomenon we've all experienced when you get cold: urine flow increases. Cold diuresis probably suppresses the posterior pituitary. [At] any rate, it's a real phenomenon, so up there, people would sit around after supper, after cooking, drinking hot chocolate and coffee. Then, so they'd have their body full of fluid. And then, about 3:00 a.m., they had to go. Getting up and going out-- there was sort of a crapper area--sit across a pole, but that is an answer. You take into the sleeping bag, with you, a condom, for which you have no other conceivable use. [laughs] You take that and you fill it full of urine and then tie a knot in the top and gently pass it out past your head. Out. And then, in the morning, there is a ball of ice like that. I don't know how long it took to freeze; probably twenty minutes [laughs] or less. It was about thirty-eight below zero some of the time with a forty mile an hour wind, so it was cold. They say that in the spring, where this camp has been, these balloons of water disappear into the snow. When it melts in the spring, the campsite is full of water-filled balloons. Very strange experience [laughs]. I think this can go on the record, can't it?

Mark: Oh, I don't have any problem with it.

FD: Oh, OK. I think people would like to know about this. I haven't recommended condom urinals for older men, but, if you're traveling, it's something to consider for urgencies. Let's see, there were other--Well, let's stop there a minute.

Mark: Sure.

FD: Before World War II, there was a thing called the "Harvard Fatigue Lab," which had been studying exercise and metabolic rates and different activities and so on. Come World War II, they looked around for a chamber which could be used as a cold room for research on men. They found in Lawrence, Massachusetts there was a woolen mill where somebody'd had the bright idea to get the lanolin out of wool. Instead of chemically extracting it, you freeze it seventy degrees below zero. Then you whack it and it knocks the congealed lanolin off. [laughs] Well, it didn't work, but they had this cold chamber and so the Army--the Quartermaster Corps--moved in [and] carried on a lot of the work of the Harvard Fatigue Lab. In fact, the man I went to work for, who shortly left, was Belding-- Woody Belding. He had been with Harvard Fatigue and some of the other people had been involved in Harvard Fatigue Lab. So that's how it came into being and, when I went, it was just a holdover from World War II.

Mark: Yeah.

FD: Nobody knew there was going to be a Korean War.

Mark: But there was a Cold War against the Soviets

[End of Tape 2, Side B]

and much of Russia is very, very cold, and I was just curious as to whether much of your research had to do with sort of long-term planning for a possible invasion[?].

FD: Well, it wasn't discussed with us, but it may have—but the interesting thing—

[Approximately ten second gap in tape]

Mark: OK.

FD: You want to introduce it again so you have a record on—

Mark: No, I'll worry about it later.

FD: Well anyway, we were talking about my call to Washington—classified—can't talk about it on the phone—Washington with a colonel there, "What's all this about?" He sort of sheepishly opened a desk drawer—bottom drawer on the right. I could see that he brought out some little cloth bags, triangular, about this big—say five centimeters. And he said, "These are bags of red pepper that the Chinese are using around their feet." They had a diagram of where the little pads of this were supposed to go around the feet and a big set of instructions in either Chinese or Japanese, I don't know which. We had to investigate this. Well, we found that if it did anything it was less than half a degree [laughs] and, of course, there is a whole literature and folklore and commercial sales of capsicum products, the active ingredient of the red pepper. And ah—

Mark: Which is supposed to do what?

FD: Well, it is now used for treating post herpetic herpes zoster, and neuralgia, and so on. It does stimulate the nerve endings to give an impression of warmth. It does not warm the tissue, but it feels like it. So we don't know--

Mark: Which is not unimportant, I suppose, to soldiers freezing in a foxhole somewhere.

- FD: Also, it could be used as a warning device. When it stops feeling warm, then you may be frozen. The sensory nerves are--we never did know exactly what their rationale was, but I haven't had this translated yet. I don't know where to go for—
- Mark: A Chinese translation.
- FD: Chinese, yeah. I'm sure there is somebody on campus that can do it.
- Mark: Oh, I'm sure there's gotta be.
- FD: I still have the description and the original and several color photocopies of it, which I'll get you, one, as soon as I [laughs] as I can...
- Mark: Sure. We can use it.
- FD: Then I reviewed the literature and it turns out that most of the previous attempts to use rubifacients—R-U-B-I-F-A-C-I-E-N-T-S—[he misspells this, it is rubefacients] was in the Russian literature, which I got only in translation through the War Department—through the Defense Department—and so when I wrote up this report, I sort of took a delight in this. It stopped being secret fairly rapidly. It was restricted, when I reviewed previous attempts to use this. I think that was useful too. It kept from having a big line of investigation that would have gone nowhere. But it's interesting, just in the past ten years, it's come out as a treatment for a variety of dermatologic conditions. Well, so we've been through the bladder problem--
- Mark: Hands--
- FD: Let's see—
- Mark: And feet.
- FD: And feet.
- Mark: Any headwear problems? I mean having this big steel thing on your head—
- FD: You know, somebody was working on a thing they called a toque,—T-O-Q-U-E-- which was supposed to insulate part of your face, but restrictions around breathing is not easy to do. I didn't work on that particularly, but at [Camp] Churchill there, one of the psychologists, Bill Mills, was working on the sensory effects of cooling. He had a little stick with a "V" in it. It had different skin temperatures. How far along this

ruler, this double ruler, can you feel that it's separate? So I got to know him pretty well. We're still in communication with his widow 'cause they were at Churchill all the time and they used to throw parties with a lot of games--

Mark: Now at Churchill, I don't know, but I would imagine that camp sanitation in a cold weather environment may or may not be much of a challenge. We've discussed the bladder thing already.

FD: Oh, typhoid bacilli from a stool can blow for 30 miles. See, the snow there, not because there is much snowfall, there is only a couple of inches a year, but it drifts and blows for miles. And the medical department was very concerned with waste disposal, what to do.

Mark: Now in the wintertime when it's really cold, I would imagine there was not terribly much of a problem—

FD: No, but the—

Mark: But it's when it starts getting a little warmer, even in the relative terms of Churchill—

FD: Right.

Mark: That's when these organisms will be released.

FD: Yeah, I don't know about flies, but the Arctic tundra has billions and billions of mosquitoes. One of the men up there who was working on mosquitoes said he had calculated that as you walk across the tundra in the summertime, you'd draw to your area of attraction, involved 600,000 mosquitoes. [laughs]

Mark: That kind of puts northern Wisconsin in perspective I suppose. [both laugh]

FD: Well, let's break there for a minute.

Mark: Ok.

FD: We did a lot of studies on bivouac at Churchill, most of which are just little things that are put in the technical reports, not scientific breakthroughs in any degree, but we had a visitor one night, a Marine lieutenant, and he came out to spend the night with us, and he was just delighted because we had the 40 below and 40 mph winds-- the coldest

night of the winter while he was out there, and he survived it so that was great. [laughs] He told a couple of stories I won't repeat.

Mark: I'll let you off the hook on that one. I'm interested to know what sort of troops that the enlisted men that were the subjects of these experiments...

FD: They volunteered. Interestingly, I don't know why, particularly, but military life can be pretty boring and this wasn't particularly hazardous duty. It might be uncomfortable, but--I had one-- for some reason I had to check their vision, and he couldn't read the eye chart. I said, "How'd you get in?" He said, "I memorized it." I showed it to him and he ran right through it. I said, "Do it backwards." He said, "I can't. I didn't memorize it that way." [laughs]

Mark: But they were all volunteers. I guess that's what--

FD: Volunteers, yeah, but they were enlisted men in the Army who had volunteered to go on this activity. An interesting bunch of men as, I suppose, any group would be. One--some of them in the Arctic and the desert--same guys. We compared some of the things. Our biochemist let us down. He wouldn't do all the specimens we collected. We had one guy, name of Holcomb [?], who was a West Virginia coal miner and he used to take bets on being able to lift a jeep--one end of a jeep by himself. He was a strong man! [laughs] Wasn't particularly big, about 5'10" or so.

Mark: I suppose there's technique involved in something like that, too.

FD: Right. And, again, this is a little off--it wasn't at Churchill but it was a field trip, bivouac on Mount Washington.

Mark: In New Hampshire.

FD: New Hampshire, yeah. The troops were in the field. and the language was pretty blue, and our statistician, Julie Clamas [?] was coming out to check on the experiment. I wondered how it would happen. All the blue language just disappeared when they knew there was a woman in camp. It was as if a different part of the brain was involved in the dirty words. Of course, now that you can use them all I don't know what's going to happen and whether you can segregate them as usefully now. See, they were situation specific. A lot of people think if you say these words on a stage you are reproducing life in the trenches. No, no, no. Those words are used as inflected Anglo-Saxon. We'll use the word "son-of-a-bitch" as an example and not the term for excrement, which can also be used. But it's inflected Anglo-Saxon. You greet [a man] who just saved your life, you say, "You son-of-a-bitch!" Mm hmm. You get a message from the next

echelon up that “you son-of-a-bitch!” On paper it looks the same, but it’s not. I don’t know if I got it here, but you know what I mean.

Mark: Two completely different meanings—

FD: Yeah, right.

Mark: Based on context and [unintelligible] I suppose.

FD: Yeah. That’s why I say it’s inflected. [laughs]

Mark: Ok. I suppose the time has arrived to talk about—

FD: Well, a little bit of hot weather, first.

Mark: Ok. Oh, I’m sorry. Yes, by all means.

FD: We did studies in Yuma, Arizona. I guess we can go from here to the packs. Ok. You go back to Yuma where the pack carrying. One day, October or November of 1950, somebody came from Washington and said, “You’re to start a program in human engineering.” I said, “Fine, what do you mean?” [laughs] At the same time, a psychologist got the assignment to study “human resources.” I asked one of the— told the psychologists: “That sounds great. What are you going to study?” He said, “Well, we’re going to start out by studying the legibility of can labels.” [laughs] I said, “That’s fine, but why call it such a highfalutin thing as human resources?” Well, at any rate, it turns out that he was particularly interested in the human engineering of load carrying, which has been a military problem for a long time. I think it’ll probably run over to next time, because-- But, at any rate, I think within a month I had outlined some activities studying the energy costs in different situations and different load distributions under different conditions and these studies stopped when I left the Army, which is too bad because there’s a lot of things that could be done. Of course we started out with the treadmills, which were already there at Lawrence--in the cold chambers. Of course we had a chamber that could do almost any temperature—120 F down to minus 70 F. At Churchill, it’s very convenient when you say it’s 40 below because that’s the same on the Fahrenheit and the centigrade scale. Well, we started out with treadmill studies and field studies locally. Do you have a list of my publications or just my CV [curriculum vitae]?

Mark: No, I was fishing through here and I don’t see your CV off hand. I was also trying not to make much noise.

FD: One of the first things we did was to put a shoulder pack and this distribution of the weight around the waist, which the British were recommending at that time. There's a long story about that! We tried it on the thighs. You know, the paratrooper comes down. They put a lot of loads on his thighs cause they're free, but you can't walk with them—you know, you can't run with 'em. And I asked a paratrooper, "When you do a drop, how do you manage to move after you get down?" He said, "Well, a truck comes and picks us up." [laughs] So that's how real the practice is. Well, we found, in general, the closer you get the weight to the center of gravity, the less energy it costs. Thirty years subsequently, people were studying the women in Africa who carry weights on their heads. You have to learn how to balance to do it. They don't spend any extra energy to carry the load as compared to walking, which is kind of a surprise. Well, let's see if I've got--One of the immediate questions in one's mind is you're studying these people on a treadmill, is that real? And I thought not as I watched people, which way they put a foot out. The foot comes back and lifts the body with the treadmill doing the work. So we did a study comparing walking on a treadmill and walking on a road. We had a couple of technicians set markers for distance and they would pace it for a small group of about eight men and we'd measure energy. And if you want to see something silly, it's a bunch of U.S. Army soldiers marching at two miles an hour. [laughs] And another group marching at, let's see—what else, at three and a half miles an hour. But anyhow, what a group zipping along and another one just dawdling to see—So we found that it did cost more to walk on the track than it did on the treadmill and a British author, about five or six years later, said he couldn't reproduce our results. I haven't checked recently to see exactly what he said, but I'm sure we did it very carefully because we had these markers and these excellent technicians pacing the troops. I wish we had a movie of this experiment because [laughs] these men going slooowly along, about like a--seemed most like-- **[End of Tape 3, Side A]** it's a military funeral. Have you ever marched in a military funeral?

Mark: Uh uh.

FD: Half-step slow. Oh my, that's tiring. Let's see how are we doing here?

Mark: Well, we should probably just halt it here. We're actually going to have to resume this at some point so I think that would be fine. Ok?

FD: Yeah, I just--I feel a little slowed down.

[Tape 3, Side B has a portion of an interview with Jan Paul Holesvsky (OH 470). The WVM has his complete tape so this must have been a duplicate tape and the

Farrington Daniels interview was recorded over this, obviously with an error that lasted approximately 25 minutes.]

[A silence break in the tape indicates a pause with the new introduction and continuation of the interview at a later date.]

[End of January 25, 1996 Session]

Mark: Ok, today's date is March the 21st, 1996. This is Mark Van Ells, Archivist, Wisconsin Veterans Museum, continuing our interview with Dr. Farrington Daniels, Jr. of Madison, a veteran of World War II and a DOD civilian employee during the Korean Conflict. And that's where we left off. We had left off the last time. You were here talking about the development of equipment during the Korean War and specifically we were talking about the pack that you were developing.

FD: Load carrying.

Mark: And we left off--we were going to start talking about the treadmill. Let's just backtrack a little bit. Why don't you just briefly describe the pack problem, the pack situation?

FD: Back up a little bit. Shortly after I'd gone to work for the Quartermaster Climatic Research Lab in Lawrence, Massachusetts, I got word from Washington that we would undertake a program in human engineering. We didn't even know what that meant, but it included load carrying and load carrying equipment. Quartermaster, which is now defunct, you supplied all the equipment for everything except ordnance during the war. To dig into it a little bit, we found the load carrying was part of it and I grabbed onto load carrying as an area of study because from Washington or an advisory committee we were always changing priorities. I know these hand gestures don't show [laughs] on the tape, but, ah, would be constant shift in priorities so you'd have to sort of lock in a strategy of being an investigator. You'd sort of lock onto a few things and keep at it even though the names change and so on. So, we locked onto load carrying as something that was obviously important to the soldier and obviously in need of investigation. I've forgotten exactly how many of those episodes we covered. We did cover load carrying on a treadmill versus road walking. I guess that's where we were starting. Here's a report: Load Carrying No. 6. We wrote about eleven reports altogether, which I had heard fifteen years ago had become a collector's item; the series of reports in the military had become a collector's item. Here we did a study comparing the effects of walking on a treadmill compared to walking on a road. I think I did discuss it 'cause we had markers posted along the highway and two technicians who were graduates of Springfield

College, which is a physical education college in large part, where basketball was invented 100 years ago. But at any rate, they came to us with a background in studying people at work. But at any rate, we had markers so that they could pace exact speeds and compare the treadmill—the treadmill setting read in miles per hour so we tried to compare the two and, as I think I mentioned, the--you have men walking at two miles an hour compared to a group of men walking three and a half miles an hour. It was pretty silly. These grown men, in fatigue uniforms, slowly creeping along and we concluded that the treadmill supplied some of the energy in walking on the treadmill. It saved about ten percent in energy. Somebody else, I think an Englishman, tried to repeat our work and said we were wrong. That's about the only paper I've every published that somebody came out and took the trouble to say [laughs] it was wrong. I don't know if you have this among your—

Mark: I don't know. I'll have to check.

FD: Ok. I have many. Well, we also studied the effects of carrying packs in the desert, pulling sleds and carrying loads in the Arctic at Fort Churchill, which is subarctic, but it has arctic weather conditions and we had a contract out to Harvard to study the effect of pulling against resistance on a treadmill. Did I tell you about what they did to me in the desert?

Mark: No, I don't think so.

FD: My own technicians? They said, "You know, Doc, if you're gonna—" I did mention the fact that the test subjects didn't know that I was the guy who planned the experiments so they could complain about "the bastard back at headquarters." [laughs] So I would actually participate without letting them know that I had planned it. Then one of them said, "Doc, if you're going to expect these men to carry these packs around the desert, you'd better do it yourself." So I said, "OK, load me up with 40 pounds of sand." We used water cans, five gallon cans, and put different amounts of sand in them to weigh down a backboard [backpack frame]. "Ok," I said, "Load me up with forty pounds and I'll go around." Which I did. My pulse got to be 172 and I wasn't quite sure I'd make it, but I came through all right. There's a movie of it--of me and I looked fine. [laughs] My concern doesn't show on the picture. About nine months later, at a cocktail party, one of the technicians, Danny-- it was terribly formal, you see—Danny said, "You know that forty pounds you carried in the desert?" I said, "Yeah that was something." He said, "Yeah that was really fifty-five pounds!" [laughs] So, they had their little game with me, too.

- Mark: Now, yeah, I've got a note from our last interview to talk about hot weather so I'm sure we didn't talk about the desert. Why don't you describe the hot weather experiment?
- FD: We went to Yuma, Arizona. There was a field station there. I don't know how close to the Petrified Forest it was, but there was a lot of petrified wood around. It looked just like wood. Some of the fellows brought it home to fool their friends in the fireplace with it. [laughs] "Here, light the fire." Nothing would happen. It got up to 116 one day--dry heat, Personally, I concentrated mostly on the effects of cold. Our biochemist, Dave Bass, did a lot of work on climatization to heat. Turns out that heat and cold are not physiologic opposites. You'd think, well, one you get one effect and the--
- Mark: Yeah. It seems that way. It seems logical, but they are not, apparently.
- FD: So, I didn't publish much on the desert. Then, of course, during the Korean War, cold weather was the big problem. World War II, it would be the desert. Of course, people don't realize that desert warfare is so different from Bosnia or the Ardennes. You don't have hills and caves and trees and, so on. Out on the desert warfare is like ships at sea. Tanks, a line of tanks, are like a line of destroyers. Go here and there and you watch from above whatever is going on. You can't hide in a cave in the Sierra. [laughs] So I don't have too much to say about heat in this connection.
- Mark: So, I suppose in general then, these experiments they involve a lot of hiking and that sort of thing. Was there much consideration given to combat conditions and carrying this weight around in combat and how these things conform to a stressful situation like that?
- FD: In one study in the Arctic, we studied the energy cost of different activities, cutting snow blocks, chopping ice, and various other activities. We had a major who had been a combat veteran from Korea and a couple of other test subjects had also been in combat in Korea and we asked them to simulate rushing, grab a rifle and rush ahead and we'd measure the metabolic rate in that, which makes a spectacular movie. [laughs] Because you'd have the soldier running with a breathing gizmo on his-- and his exhaled air--we'd be collecting in a big rubber bag on his back. No, one of technicians would carry it so he would be rushing with two of our technicians running alongside holding the equipment to measure his oxygen consumption. So we did that in that occasion.
- Mark: But there were no combat simulation exercises or anything.

- FD: No, we didn't. No infiltration courses.
- Mark: Because if you think of an infantry, infantrymen, they're crawling on the ground and rolling around and crawling into holes and that sort of thing. When it came to the stress bearing load on the soldier, that sort of thing wasn't-- you weren't involved in those experiments in anyway?
- FD: Not particularly. Oh, we did--we had a contract with Dr. Karpovich at Springfield. We did studies of load carrying over obstacle courses, and interestingly enough, the Springfield studies, in spite of all the hobbling and restricting effects the guy could overcome it to the extent that it didn't effect how long it took him to do it. The time trial-- he wasn't slowed down, but it took an extra effort to accomplish it. We have a movie that was very popular, strangely enough, with the British who were doing some of the same things. We had an obstacle course with a series of tires like they sometimes use in football training where you hop from one to the other with different loads and taking slow motion movies. You could see how the packs would flop around and up and down and the men would be thrown off balance by a load. Of course, I gave you the history of load carrying from that earlier report. The military is always trying to add more for the soldier to carry, you know. [laughs] Over the centuries, every once in awhile, somebody would get an idea of how to have a light infantry and--
- Mark: Right. Well, actually, that sort of leads into the question I was going to ask and that is, in your estimation, given your work in the field, how much can a man carry in combat in the field, because this was an issue in the Vietnam War. These guys were supposed to carry 60 pounds of equipment around in the jungle and that sort of thing. In your estimation, is there a limit?
- FD: My impression, and this includes looking at pictures of people and activities around the world, a man voluntarily will carry up to 40 pounds, not 60. If he's going out on his own on-- if he's going on a camping trip and he's gotta have his, carry his camping station with him-- then he'll carry 60. If he's paid, he'll carry hundreds, as they did in Korea. The Korean A-frames, which we'll mention a little later
- Mark: Yeah. So, I've got a note to discuss Steven J. Kennedy. Who is Steven J. Kennedy?
- FD: He was head of the-- I'm not sure what his doctorate was in, I think it was marketing or something like that. It wasn't a hard science anyway. He was head of the Clothing and Footwear Division of the Quartermaster. Had started in World War II, I think, goin' on-- Somebody asked him

once why he would have a job like that instead of one in industry. He said, "Where else can you make a three million dollar a day decision every day?" So, he had an adequate ego for-- but he was always pressuring us to do all kinds of ridiculous things. More than we could possibly respond to. One day we—well, I had two or three indications that they wanted me to come to Washington to discuss load carrying and we had just barely started our study so I put them off. Finally they said, "Just a bunch of us sitting down and talking it over, just informal discussion." I arrived. The train was late.. I came into this conference room, in Washington, in one of the old temporary buildings down the river, and here [were] a whole bunch of admirals and generals sitting around and I said, "I'm sorry I'm late. Will you tell me what's going on?" "No, no. Just give your presentation". As I began going in, his junior, in charge of load carrying, said, "Are we all agreed?" I said, "Agreed on what?" [laughs] And he didn't know so I gave a little talk and then he got up and said that the advantages of this new load carrying system we want to adopt are: one-two-- He went through at least twelve; very crisp, very precise. I was a little annoyed and I was also a little unnerved by suddenly facing the top brass and not being briefed on what it was supposed to be. So he got through and I got up. I said, "Dr. Kennedy? In regard to number one...In regard to number two..." And I went in order [through] every item he'd made and shot it down. I didn't know what would happen. My juniors, who were with me thought it was great, but they didn't say—they didn't clap. [laughs] I heard, later, that he was somewhat distressed and wondered why I had done this, but I think it was a good thing in the long run. If you have to act, don't expect your scientists to agree until they've got their data. More than once we would hear from them:

[End of Tape 3, Side B]

"You're on the field trial. We can't wait for your analysis. Just tell us how it's going on the first day." If you've ever run a field trial--suppose you take a bunch of troops somewhere--the first time you say--and what does the first day mean in terms [laughs] of the big picture? This is probably the most meaningless day of the whole study. But, I wasn't fired. But, interestingly enough, we included that pack system he was promoting, which had been described by the British originally. In the desert, I got a letter back from Fred Winsman[?] saying that "We didn't study this pack because our men couldn't wear it." [laughs] So it was so far off. It was a system that had the weight all slung around the waist, which is fine if you're standing still, but if you're tryin' to do anything-- The idea is to get it off the back. Of course, if you carry big loads on your back like a piano mover, but if you're going to do anything else, you can't. You've got to have where you lean forward when you climb and--

- Mark: Right. So these innovations that you made during the Korean War period, do you know how— do you have any indication as to how long these remained in practice and how many remain in practice today?
- FD: No. I have no way of knowing.
- Mark: I was going to ask how long you stayed with the Army in your--
- FD: In the Korean War. June 1950. I think I told you I went to work for them and two weeks later the North Koreans attacked. People said, "Why are you going up to that lab in Massachusetts?" A month later, they said, "How did you know?" [laughs]
- Mark: And when did you leave that? I mean, how long did you stay on?
- FD: I stayed, let's see, five— I left in November, 1955.
- Mark: Now we covered the pack and we covered the boots. Are there any other things that you worked on that we haven't covered yet?
- FD: The insulation of cold objects, I think.
- Mark: Yeah. We did talk about that.
- FD: This may have been the most important thing we did and I'm sure that's not been applied. Guns are not issued with insulating foam on the barrel. [laughs] I had several medical officers assigned to me. They worked on different projects. A lot on the effects of cold on the hands and feet, but I didn't--that wasn't my particular research so I won't talk about it. But perhaps the high--I'm probably forgetting something, but let's go to my trip-- Oh, let's talk about the atom bomb.
- Mark: Well, I was going to bring that up actually. Now, you were in *climactic* lab, you were in the *climactic* there, but this was—
- FD: Climatic [correcting Van Ells].
- Mark: Yeah. The age when we're starting to test the nuclear weapons and that sort of thing. How did you fit into that?
- FD: I was a test observer for the quartermaster. There was a research program to see if different kinds of clothing could protect from the flash burns. And of course, now it's silly, you know. [The] nuclear bomb is total. Why worry about details? But that's, of course, ridiculous too because there were survivors of Hiroshima that were only a couple hundreds yards

from the center, but they were way down inside concrete buildings. So I went, flew out to Las Vegas and went to the Nevada Proving Grounds. I guess this was also in early 1954 and it was a test of the atomic cannon, an eight inch shell. We could see the cannon over here and the place where it hit over here. We could see the shell starting out and then they said, "Turn around." And then it was facing away from it and it was like a hundred million flash bulbs behind and a sudden shock wave, but like that-- a blow on the back. Then I spent the rest of the day helping autopsy pigs that had been out in the blast area.

Mark: And what did you find?

FD: Well for one, that blast would drive a piece of straw right into tissue and the fellow I worked with had a radiation badge and I didn't because I hadn't expected-- They were suddenly short-handed on autopsying pigs and I could do that [laughs] so-- So I wrote him, I guess, fifteen years ago saying, "I didn't have a badge and you did. How much did you get?" He said, "I don't remember. If you find out let me know." But anyway, I registered as somebody who had been exposed.

Mark: So you eventually left the military, I mean—

FD: Yeah.

Mark: In your civilian capacity for what reason? Did you just want to move on to other things?

FD: Into an academics-- But let's go back to Japan and Korea, OK?

Mark: Oh sure.

FD: In 1954, let's see, I was assigned--I'm not sure I got an extra one of this-- but at any rate, this is my job description at the time. Here I have the orders. This is a copy you can have if you want. This is the, I suppose you'd call it a blue ribbon panel: [a] lieutenant colonel, who had been in Korea before; myself; Dr. Soo, who was the quartermaster scientist; and Al Levin, who was a mechanical engineer and also quartermaster. We went to Japan and Korea, managed to spend twenty-four hours in Hawaii, and I was able to get a Bell and Howell Filmo 70D, 16 millimeter motion picture camera issued from the Signal Corps and film. And since I had been a photographer virtually all my life, I was thrilled to have that. Those are our orders, "Go to Japan and Korea." And my major research activity on that trip—besides talking to a lot of medical officers—well, let's talk about that first. We were particularly concerned with the follow-up on the insulated boot. I think we covered some of that earlier.

Mark: We did. Mm hmm.

FD: We found that at every echelon going toward the front, you'd get a story that the insulated boot was wonderful, prevents frostbite, solves the problem of frostbite, and you got to the front line [laughs] essentially, where we could see the Communists through binoculars across the DMZ, talked to the people in the back--I can't remember whether it was a medical officer or an aidman [medical corpsman]-- He said, "Oh, yeah, about one in twenty guys can't wear that thing. We assign him to being company clerk." So it was hard to depend on statistics way back when [laughs]. You get away from the front to find out it's not as perfect as it sounds. I guess the insulated boot is still cold weather issue.

Mark: What was the problem? These one in twenty had [with the boot]?

FD: Sweating. I suppose soreness, lacerations. At one point, I initiated the study with a bacteriologist to see whether--if we put a different sugar in the boot, whether they would grow a different set of organisms that would be better. We never--that was never finished. I did tell you about smelling the feet of...[laughs]

Mark: Yes, you did.

FD: The men who wore the boots [laughs]

Mark: Yeah. You did. That's an image I do remember, yes, indeed.

FD: But of course, my main business there was to take movies of the A-frame, the Korean A-frame, which is a device used nowhere else in the world. I've looked in art galleries ever since—museums. It was, apparently, only used in Korea except that in the pedestal from Ur to 2500 B.C.[?], there is some men wearing pack boards. The British Museum did not know until I called it to their attention. They said, "You're right. We hadn't noticed it." But they're not exactly the same. The Korean A-frame has a shape like an "A" with a cross-bar here at the low back and the points go up here so that the bottom--where the top and the bottom are connected by a strap, which does not impinge in the axilla. It's out--rides front and doesn't restrict your circulation. Also the fact that the low extensions mean—and they always—the men who use it carry a stick so then they can sit down about this far to the ground, make a tripod with a stick and come back and they don't have to lift the whole thing all the way. I don't know if you've done any canoeing, but one trick in portaging a canoe is don't set it down 'til you're where you want to be because it is so much harder to lift it all the way up. Stick it in a tree or something. When you see a man carrying

three or five hundred pounds, a couple of his buddies will help him get started at a steady pace-- But past that, a weak point in the bending of the knee and then he can go on his own. So I took the movies and all the men, or many of the GIs in Korea, said that when they got home they were going to get a pack board, an A-frame.

Mark: 'Cause they liked it so much.

FD: Yeah. Well, and they saw what the Koreans were doing with it. One cousin of mine, who had been there, said he'd seen them carrying the wing from a P51, or 300-400 pound diesel drums, or 500 pounds of rice. This is rather impressive. As far as I know neither the military nor the civilian market ever completely adopted it. Partly because this is a load carrying device for a big load. It's like the piano movers and not a load you carry when you have to do anything else.

Mark: Yeah. I suppose that's what trucks are for, to some extent?

FD: Yeah. I submitted a proposal. I never heard anything about it. It was to incorporate the A-frame into air dropped supplies, so you get a box with built in straps, with stuff right on it. Of course we were--I was impressed with that in Korea because we developed technology in air drop of all kinds of things without parachutes, trucks, things with proper packing.

Mark: Interesting.

FD: Let's take a break, can we?

Mark: Sure.

FD: Ok. Well, hopping back to the desert for a minute. One thing we did was to, on our own initiative, we studied the effect of traction aids. We tried bear paw snowshoes in the desert. Most people thought it was kind of silly, but we had--our idea there was--everything was environmental protection agency--protection division. I wanted to switch around a little bit and say, "If we have to operate in weather extremes, how can we take advantage of them? Can you attack in the blizzard? Can you attack in heavy rain? If the enemy doesn't expect it?" So I was a little more belligerent than some of my colleagues, I guess, trying to think of what we could do to be useful. Well, the other things we did--we talked about insulated boots. We got in on what was called a cold-bar suit (C-O-L-D hypen B-A-R) which was the first foam, not foam plastic, bubbles were actually—in foam the bubbles interconnect, but this was the year of the first wet suits. Insulated, originally developed in Germany for shock absorbing for pilots in cockpits. Some of these things start out one way

and end up way over here. We did some studies to see if you couldn't wear this thing—a vapor suit—we found too much skin reaction. It had to be completely enclosed. We found, in playing around with them, that they were just great in the water. The water inside would be warmed fairly quickly. And, of course, now it's standard procedure for all kinds of things.

Mark: Yeah. So these snowshoes or these sand shoes, I guess. How'd they work? I'm just curious.

FD: They helped. We didn't carry it on much partly because nobody seemed really interested. I think they said, "Only eight percent of the world is desert, so forget it." But then we visualize the Sahara, and, of course, a lot of desert is not just sand dunes.

Mark: Right. As in Arizona for example.

FD: Ok. Going back—we went to Korea and then back to Japan-- We thought we had a high priority with the Army, but somebody else had been there on a somewhat similar thing about a year and a half earlier and had antagonized everybody. Come in, wheel up in vehicles, take a quick look, say, "Hi," and leave and pay no attention. We tried to be gentlemen and stuff--chatted and find out what people's problems really were, and so we apparently did very well representing the technical side, but, of course, the poverty in Korea is fantastic.

Mark: Well, see I was going to ask your impressions of the country (a) and then (b) your impressions of the troops and their morale and that sort of thing.

FD: Well, there's one--one of the divisions we visited was the 1st Marine Division and as far as esprit goes, the Marines have got it. They aren't just kidding when they brag about it. [laughs] The Army wouldn't take us anywhere by helicopter, but so Ralph Soo, the head of our expedition said, "Colonel," in the Marine division, "Would you take us back to Seoul by helicopter?" "Sure!" [laughs] And so we had a helicopter ride and I got some fantastic pictures of the Korean countryside, leaning out 1,000 feet down, sitting right by the open door, but belted in, by--reached down and looked at the countryside.

Mark: But you mentioned the poverty in Korea.

FD: Yeah. Everybody wore white, but this takes a fantastic effort because they would live in a hovel. They've got one good set of clothes, which they keep clean--beat them in the river, but they appear on the street-- you don't

know they're poverty stricken because they look like anybody else. I think of this in terms of putting kids in school in uniforms. If, they all look alike, they'll manage.

Mark: Now, I assume that was much different than Japan.

FD: Oh yeah. Japan—one of our expeditions—our group. We got back to Tokyo and he said, "Isn't it great to be home?" [laughs] Civilized as compared to Korea.

Mark: So this is 1954 did you say?

FD: '54, yeah.

Mark: How had Japan's rebuilding from World War II gone from your impressions? I mean, were there still a lot of bombed out buildings and that sort of thing? Or were things pretty much built up by that time?

FD: Well, a lot of built up. But, oh, this is an interesting military thing. One place we stopped in Korea to talk to a colonel who was in charge of supply. Supply at that point included-- I'm not sure if this is Japan or Korea, sorry-- but the phone was ringing constantly and he ignored it. He just went ahead and talked with us. What he was doing, he was in charge of flying supplies into Dien Bien Phu to help the French. I may have told you, when I was in the Philippines in 1946, South Korea was a joke. That's where you sent a soldier who didn't quite deserve to be court martialed, but you wanted to get rid of him. He was sent to South Korea. So South Korea was a joke. Then when I was in South Korea--Indochina was a joke because-- and so, when things get to be at the joking stage, watch out. [both laugh] What's going to happen next? In Japan, I talked—we stopped and visited the world's outstanding scientist in regard to sweat glands, Yas Kuno. He was well known in this country. I had a letter of introduction from a professor, who had worked with him in this country, and he had devoted his life to studying sweat glands. By picking this out, he became not only a local expert, but a world figure by picking out an area that was neglected and making it successful. He was a fine gentleman. When he heard I was allergic to beer, the medical school at Nagoya [laughs]--there was a beer garden just across the parade ground from the medical school. Guess where the students would congregate [laughs] at the end of the day? When he found out I was allergic to beer, he got me a bottle of Suntory whiskey, which is the Japanese Scotch, to take on the train with me. So we visited him. We also visited some research that was going on on the use of growing algae for food. So we visited not only the military but some of the Japanese technical universities. So that was great--wonderful trip. Then, allowing for

flashbacks, in Febr-- no in June 1955, I went to a physiology meeting in San Francisco. I was going to look up my old friend Tom Fitzpatrick, who was a Madison boy who I had known here to some extent. He went to West High and I went to Wisconsin High, but he was then professor of dermatology in Oregon. His number two in command had just left to go be head of dermatology at Yale. So Tom, after asking around and discussing what he was doing and what I was doing-- but he knew that I had done all this work on skin in relation to the vapor barriers and insulated boots--said, "How would you like to be assistant professor of dermatology at Oregon?" Well, I always wanted to be an academic and I said, "I'll think it over." I said "Yes." So I went and I never had a straight residency in dermatology, but I became a professor on my own within five years.

Mark: And you stayed there for how long?

FD: Oregon, for five years, Illinois, for one year and then Cornell, for twenty-two years. I've been retired here eleven years ago.

Mark: Hmm. And here you are.

FD: Yeah, right.

Mark: I suppose that's an apropos place to draw this to a conclusion, I guess.

FD: All right. As I say, unless we get a flashback of some kind.

Mark: Ok. I was just gonna ask, is there anything else you want to add offhand?

FD: Oh, I'm sure I'll think of something. [laughs] Are you turning it off?

Mark: I can, sure.

FD: This is from January and February 1953 about arctic bivouac at Fort Churchill. I was out with the troops. The first—we did one bivouac. We're staggering the men coming in different days to even out the effects of changes in the weather. Say, third day could be the third day because that's the bad weather so we staggered it in to deliberately confound it. When it came time, at the other end, to let men go home and everybody said, "No, no, that's bad for morale, keep them out." So all of a sudden, we had a group of men who'd gone past the full week. No Sabbath. It was interesting to see what began to happen. Different men began to have different problems in their own way. One guy got very accident prone. Eventually he would have a series of minor accidents and finally he had to be checked in with a burn on his hands from the stove. Another guy got

boils on his neck. I've forgotten what--a couple of others--one thing that the men in the cold do, and other people have noted this, is that you get drawn in, you know. It's not just the posture of shivering, but you get sort of drawn into yourself. And men get very irritable. You don't respond to requests or commands so that fighting in the cold climate--the Army more or less decided you can't fight in the Arctic. It takes three men to evacuate one if he is hurt and so it goes. As far as colder climatization goes, here's a footnote. About three--five days, third day--men would go out with bare hands and touch cold metal at minus twenty. Before that, it will stick. The skin gets dried and when men came in from ten days or so, and washed their hands, they would practically peel a glove of dried skin--calloused. But I've got here: edginess, surliness, general slowing down, failure to comprehend or follow suggestions unless shouted. However, if a visitor came overnight, the whole place would pep up. A Marine lieutenant, one I may have mentioned-- I won't tell you the story he told us, but he was so pleased. He was there on the coldest night of the year, I think it was the coldest night in three winters, and he got so that he was so pleased that he'd met the maximum test. When the weather is very bad, people do strange things. The coldest night, a major who was worried about us, walked four miles out through the subarctic, at night, to see how we were doing--check the tents. And we were OK and he walked back. I mean, this is bizarre behavior. I mean, it's almost a court martial offense--to go out alone at night with that kind of weather. When at Churchill people there would see a whiteout. People would get out and mill around. You get [unintelligible] stimulated by not being able to see. This is extremely hazardous to go out. You can get lost easily, but they'd go out and mill around like people do in a hurricane. Let's see--one developed boils--a series of accidents--

Mark: Now these accidents, the cynic in me says that perhaps some of these guys were doing this on purpose to try and get out of there. Did you get that impression or suspicion at all?

FD: I'm convinced. Accident proneness is a very specific thing. I had one fellow in the Philippines come into my dispensary every week with a different injury. He played in the band, but most people don't get injured in the following way. He tossed a rock into the air and got hit by it when it came down. I think he knew he was accident prone. You get ten men jump off the back of a truck. Everybody gets off; he twists his ankle. I don't know how it works. Anyway, from a personal standpoint, as a guy who wanted to be a professor and a scientist and a teacher and take care of patients, all wonderful things to do, the quartermaster was a fantastic opportunity because you didn't have to think up an idea and then go plead for somebody to fund it. They would come to you with a problem and the

money. They'd say, "We needed to study load carrying. What do you want to do?" One time they came to me and said, "We've got \$100,000 in contract money. Can you spend it?" [laughs] Some of the contracts went out very beautifully and some were duds. But at any rate, they—so, the pleasure of problem solving was handed to you on a tray. "What do you do about load carrying?" Well, energy costs and different loads, different terrains, different distributions of the load. I think I mentioned about the paratroops. They were putting loads on the mid-thigh. That's fine when you're dropping, but you can't move once you get down. Again, the problem with carrying is one thing, but carrying and fighting is an entirely different thing. And it was the same with cold weather. "We need to study it. So what should we do?" So I would think up things in response to this general question--specific experiments to do. I was on the Pentagon Committee on Applied Physiology, so I would discuss at that level something I wanted to do; then go back and find that coming down from the Pentagon through chain of command was this instruction to do what I already suggested. Sounds dishonest almost, but it was perfectly— [laughs]

Mark: That's very different than academia.

FD: Very different from getting a hot idea and then trying to raise the funds—convince a committee [laughs] OK. That's—I might have another footnote or two.

[End of Interview]