



# **Jack Redden: An Old Country for Young Men**

By Bill Schulz  
Photos by Mike Wolforth

## Jack pulls a cigar from a newly opened package and chomps on the end.

*Nineteen Forty-seven was the first year I chewed on a cigar, he comments, sticking it in his mouth. I was rough-necking in the Elk Basin oil field up near Powell, Wyoming. On Sunday afternoons we played baseball and I was catching a game when someone stuck one in my mouth. I chewed on it until the 6<sup>th</sup> inning when I got a bit sick.*

**He takes the cigar out of his mouth; looks at it for a moment then sticks it back in. First time ever, he repeats. Playing ball that summer was the best time I ever had, Jack recollects. One Sunday we traveled over 200 miles and I caught one baseball game at Powell and two softball games at Thermopolis. By that third game, I wasn't rallying the team much at all.**

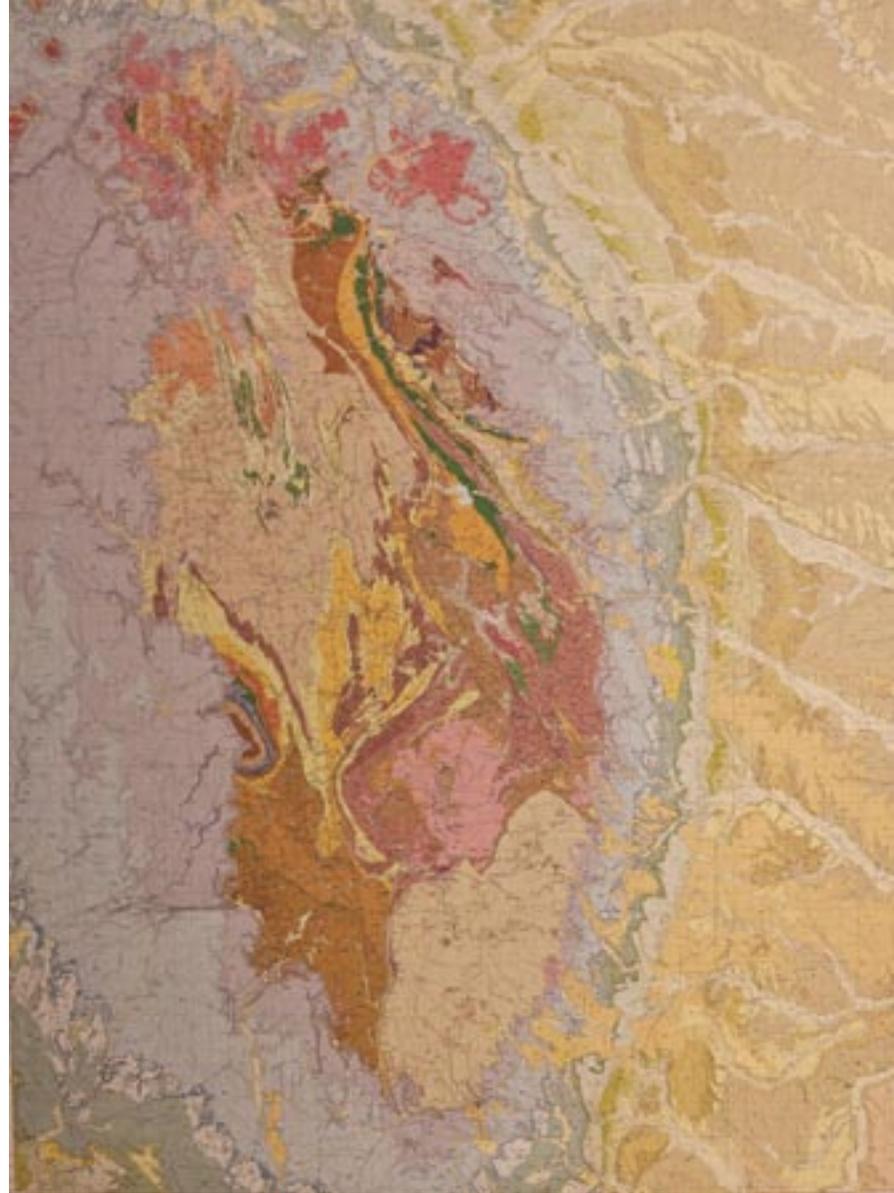
**He laughs, loudly and long. In fact hardly five minutes goes by during our three hour conversation that Jack Redden, "retired" geologist, doesn't laugh long and hard and loud. He calls himself a maverick and that he is, an independent thinker who does things his way. Throughout this interview he took my questions wherever he wanted to go with them eventually meandering back to the answer.**

**I had come to visit with Jack to ask about the culmination of the last twenty-five years of his life—a 5x4 foot digital geologic map of the Black Hills—but two hours went by before we ever got to that subject. Instead I listened as Jack gave me a stream-of-consciousness journey through his life interjected with laughs and verbal asides like *You get me?*, and *I'll go you one further...*, and *I have been very fortunate*, and *Oh, I didn't finish my story...and, acknowledging my lack of geologic knowledge, Do you know...you probably don't...***

**Jack grew up on a farm in rural Illinois during the Depression. Growing up on a farm has distinct advantages, Jack tells me. It helped me in the building of things, in developing three dimensional concepts and visualizations, in working hard, and it gave me a good background in practicality.**

**But Jack, still just seventeen years old, left the farm. He worked for a time for the AFL-CIO Hod Carriers and Common Laborers Union making eighty cents an hour, nearly twice what he could make on the farm, but World War II intervened. Jack wanted to join the Army Air Corps but they lost his physical exam papers twice and then told him their quota was filled. He was not to be so easily put off however, and so he joined the Marine Corps after persuading his mother to sign the permission papers. But according to Jack, *in boot camp the Marine Corps didn't feed us country boys enough so I went down to the smokers and boxed. Paid three dollars, good money in those days, but mostly I just wanted to get all I could eat at the NCO chow hall after a fight.***

*I could have ended up on Okinawa but the company commander asked me if I wanted to apply for the V-12 program which would allow me to attend college, and, (he smiled at me mischievously), become an officer and a gentlemen. One of the members of the selection board for*



*"Maps Showing Geology, Structure, and Geophysics of the Central Black Hills, South Dakota," by Jack Redden and Ed DeWitt. (Photographed at the Journey Museum)*

**the program was a Colonel who had refereed some of Jack's bouts. I was very fortunate. He was chosen for the program and given a list of big colleges to choose from.**

**While most of the selectees (about 50 of 28,000 troops were selected) chose the big football schools, Jack remembered his mother telling him five years earlier that their mailman, her uncle Homer, had mentioned that Dartmouth was a really good college. Jack checked Dartmouth as his first choice and got it. In the accelerated program, he graduated after only three years, class of '48, and decided to go to graduate school. Jack interspersed his educational pursuits and employment throughout his meandering dialogue with me but I summarize the notable ones here: AB Dartmouth; MS, PhD, Harvard; employee, U.S. Geological Survey; professor, Virginia Polytechnic Institute; administrator, Wright State University; Professor Emeritus, School of Mines and Technology.**

**I asked if Jack's love for geology had begun back when he was a child growing up on the farm, but the only rocks he was interested in as a kid were those we all enjoyed—the skipping rocks which he selected and skimmed across the waters of the**

creek on the farm. *There were no rock outcrops in central Illinois, that was glacial country, but I found plenty of flint arrowheads while I was plowing corn with the horses.*

Actually Jack's interest in geology began when he took geomorphology, a required course in the V-12 program. He really liked the aerial photography. *I had to eventually choose a major because the war ended before I finished. I'm a product of the Depression and for me education was a way out.*

Not only did Jack discover his life's work at Dartmouth, but in graduate school he also found the love of his life, Harriet, who later became very active in the arts, especially as an accomplished actress in Rapid City and the Black Hills Playhouse. When Jack met her, she was the secretary for the dean of the law school who one night attended a geologists' party. A friend told her that she was seeing too many lawyers, and that she needed to meet some real people. Remembering that night, Jack recalled, *she was timid, but she must of thought I was the soberest one in the bunch because she asked me to guard the bathroom door for her because there wasn't a lock on it.*

He walked her home that night across the river and after just three dates they were engaged and eventually married for 47 years. *I was so stupid, he recalls, anything on the farm was possible so I never thought anything about it when I brought her to Custer. Her folks were horrified. It must have been quite the cultural shock for her—from Boston tea parties to Saturday nights at Blackies or The Wigwam, the only two nightclubs in Custer in the 50's. Sometimes on Sundays I would take her picnicking in the hills.*

Jack experienced his own culture shock when he started teaching at Virginia Polytechnic Institute (VPI). He was riled at a staff meeting when one of the PhD's on the staff complained that a "so-and-so" student did not call him doctor. Similarly, Harriet was distressed when she asked one of her black friends, *what do you do on the weekends? Do you go to the movies? Her friend replied, Oh no, we have to sit way up in the balcony, and it's a fire trap up there.*

Growing up, Jack's mother and father had taught him never to act in a demeaning manner toward anyone so he never conformed to the southern attitudes of the time; in fact, he tried to transform them. Jack brought, as he puts it, an *informal teaching method to VPI* and he often played touch football with his students, informing them in class, *I'm Jack, not Doctor Redden.* He reminds me, however, that *things have improved greatly in the South since that time.*

There were, however, a few things about Southern life that appealed to Jack. One day he walked down to the small lake on campus that had recently been drained. As he looked over the mud flats he surmised, *you know, I'll bet there are some snappers in there.* He had often shot or caught soft shelled turtles and snapping turtles on the farm. *I loved to eat turtles, and Harriet learned*

*to like them, too, he acknowledged to me. So I began to walk out on the mud flats realizing too late that it was like quicksand. Almost immediately I was thigh deep in the muck and only by developing the technique of leaning on my hips from one side to the other was I able to extricate my legs and escape. Imagine what would have happened if they had to rescue geology professor "doctor" Redden from that lake, he laughs.*

Later, I learn another story from Jack about the snapping turtles. Every Friday was fish day in the field camp where Jack not only taught *the twenty to thirty guys* but also cooked for them. One day he caught four turtles and offered them up along with the fish. *After that time, he laughs, there were plenty of fish leftovers, but the turtle was always gone!*

**"My real love is to do geology, field geology, you get me? To make a geologic map from scratch; to read the topography of the land; to pace across the land."**

It was at this point in our conversation that I knew Jack's storytelling would go on and on unless I cut to the chase. So I did. I interrupted him to ask, *why geology?*

*Geology, Jack began, his manner suddenly turning serious, is based on the principle of uniformitarianism, that what is going on now went on back in the past. Let's put it another way. It's all logical, but it's complicated, too. It's a mystery story, trying to figure out things from the evidence. And the geologist gets to work outside. What could be better?*

*I loved taking students out to the field. My real love is to do geology, field geology, you get me? To make a geologic map from scratch, to read the topography of the land, to pace across the land. My pace back then was 5.65 feet, that is, two steps measure your pace, a pace is only when your right foot hits the ground. Now my pace is about 5 feet, he laughs momentarily. I'm always thinking in geology. The plains around the Black Hills are relatively simple geologically, commonly soil, but the Precambrian rocks are my love--metamorphic rocks (heated to as much as 600 degrees centigrade), now that's where it gets complicated. When you look at metamorphic rock, well, you just hope you can figure out which way was "up" for the original rock.*

*Whatever you are working on is complicated and sometimes you work from aerial photographs. You look at the outcrop of rock, get the various readings of the layers which can be flat or 90 degrees, he shifts his hand to that angle, and sometimes well, he laughs again turning his hand completely over, they're completely upside down. Some of my students claim that I never knew which way was up!!*

Sensing another story coming on, I suggest, *let's go look at the map.* Jack started working on the map back in the late 80s, and basically completed it eleven years ago. He did not think he would see it published in his lifetime, but in March he held a party to unveil the first of 1500 printed copies. Actually, it's a series of maps on one huge sheet that I had viewed on the internet, **SHOWING GEOLOGY, STRUCTURE, AND GEOPHYSICS OF THE CENTRAL BLACK HILLS, SOUTH DAKOTA** by Jack A. Redden and Ed DeWitt one of Jack's students in the 70's. Part of the map includes areas mapped by colleagues and students.

Jack takes me into what was once the dining room in his West



Clockwise from left: Jack at age eighteen, An impish expression from a young lad named Jack (courtesy photos) Jack and Harriet Redden get into character in a Group Theatre promotional poster (Art direction and illustration by Susan Turnbull, photo by Rodger Slott) Jack—bearing an uncanny resemblance to Robert Duvall—enjoys a walk with his dogs (Photo by Paul

Boulevard home, but it's now his map room. He digresses for a moment to point out several huge blossoming amaryllis. *You should have been here a week ago, why...* I draw him back to the map. As he unrolls the huge map, Jack, the geologist comes alive. For twenty minutes his fingers trace the digitally transformed lay of the land, and it's as if he is walking the land himself, noting its old intricacies,

*These are layered sedimentary rocks... See the TW? That's Badlands rocks here... And here, this is the Black Hills around 50-60 million years ago... Deadwood is this bottom layer here where the seas came over from the north... Over here is a map of the magnetic intensity... See here's Nemo... And here, this is a map of the gravity intensity. (Jack is the intense one now as he brings the map alive.) With those maps we're able to see deeper into the earth. You get me?*

Then he becomes more specific. It's a mystery story,

*Stony Flats... And here the Cheyenne, the Belle Fourche, the Little Missouri, and see here this gradient? It's steeper so the water flows faster and it actually beheaded the Little Missouri. We geologists call it stream piracy!*

*Here is Little Elk Canyon, with 2.5 billion year old granite... Harney Peak granite is the youngest of the old rocks, 1.7 billion years old... Young Cambrian rocks are about 520 million years old...*

*Here, 1.7 billion... See these folds here? Things are really screwed up here in the core—the ones I love.*

The map is colorful and detailed but I must agree with Jack when he asks me rhetorically, *Do you know...you probably don't...* as he reads the map like he was actually walking the ground either as the young 82-year-old man he is today or as the dinosaurs might have travelled it so many, many years ago.

I realize as I watch him absorbed in his map journey: *an old country traced by a young man.*

The phone rings and for five minutes Jack talks geologic language with I presume, one of his former colleagues or students. While he talks I look at the lay of his living room: books, maps, sliced up rocks, boxes of rocks, rocks on the table, rocks on the floor, and rocks on the couch beside Mickey his sleeping dog. And the other accessories: magnifying glasses, knives, geology tools. Hardly has Jack hung up the phone when it rings again. It's obviously a telemarketer this time and Jack replies, *No, he's gone for a month.*

It's about time for me to leave, but Jack has a surprise for me, the biggest mystery story of them all. When I ask him, *are you working on any current projects, Jack?* He pulls a rock out of a box. It's been sliced into sections by a diamond saw. The respectful way he handles it suggests to me that a mystery story is coming. I'm not disappointed.

*I found these 4 ½ years ago. I originally thought these were percussion structures (pointing to egg-shaped knobs on the surface) due to rocks hitting one another in the ocean surf or in a mountain stream. I'm not a paleontologist, you get me? But these structures have a surface going around them like a fossil—even though they are quartzite...originally a sandstone. These are my enigma structures.*

*I was told by a paleontologist that you can't call them fossils. I asked why not and he said they're too big...there's nothing like this. My question then was what are they? Answer: I don't know... (Jack, a geologist for the past 60-odd years, is thinking deeply...) he triggered off the stubbornness in me and I decided to figure out what they actually are.*

I listen as he surveys the pieces of evidence. Well, you treat each sample as an outcrop of rock so I cut this up into slabs and I ask, is there anything in geology like this? You get me? These are not concretions. . . these are organic. . . in sedimentary rock. . .they have the closest resemblance in shape to styolites. . .but they're not. . .

But my enigmas are not concretions. After just three hours with Jack, the geology detective, I know that he is on to something: there's a mystery afoot...maybe something really big... he knows it, and this time even I know it... I spent hundreds of hours working on this stuff. He looks around his room. I gotta get the paper out. I'm not gonna live for ever.

I imagine myself asking him, "are they alive?" because for a moment Jack looks like a character from one of those *Far Side* cartoons crouched over a rock exclaiming, it's alive! But then I hear him say, I'm pretty damn sure they were.

Jack is not a nutty professor; he's definitely a maverick, but he's also what I would call a rock detective and as such he is scrutinizing the evidence. Remember, we work from evidence to solve the mystery of the rock. This surface was biologic in origin. . . 2.1 billion... I'm trying to prove that. . . It's formed by a thin layer of one cell critters...

For a moment Jack is lost (or found) in his thoughts. I reach for my coat and feel the weight in the pocket. "Oh," I say, "I brought a rock." I pull out a bluish-gray oval rock that is covered with these weird pimple-like bumps. To my surprise, and satisfaction, Jack is immediately interested, reaching for a magnifying glass; he turns on his desk lamp and peers through the eyeglass, but then casts it aside and reaches for his

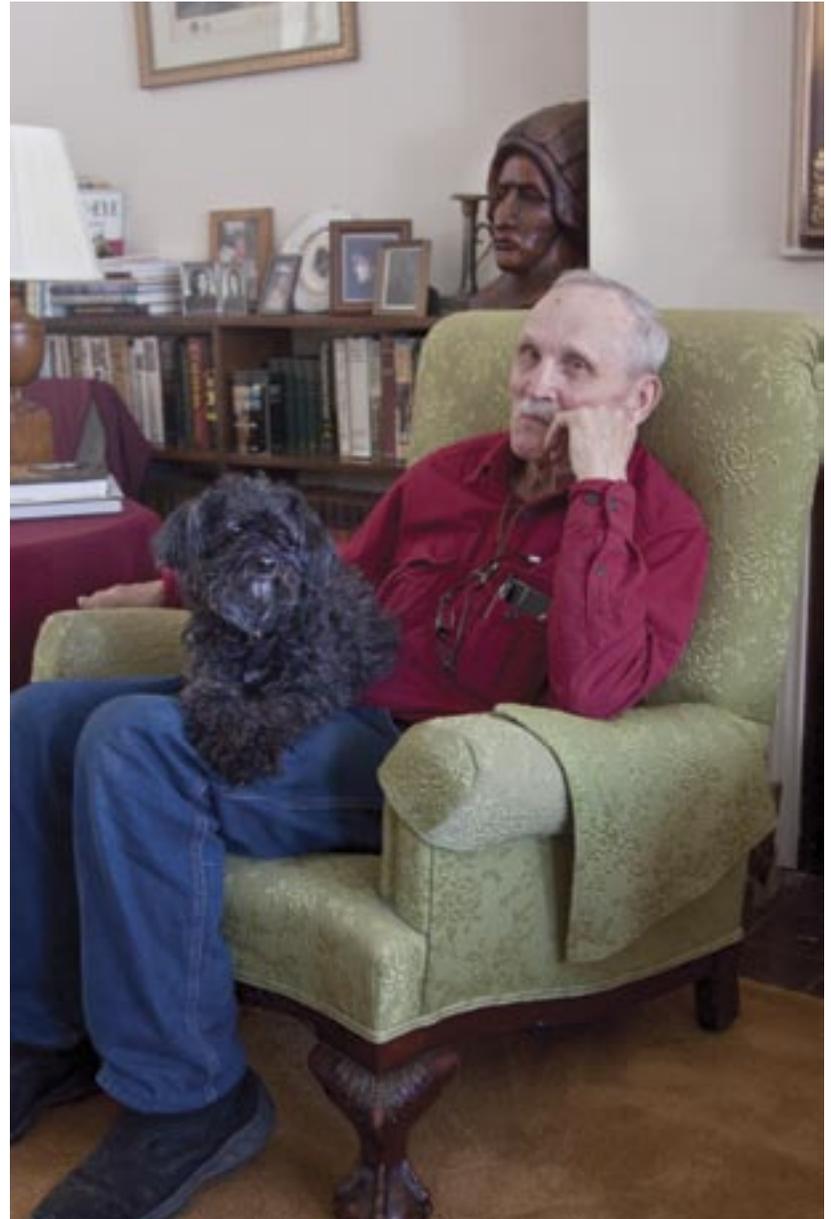
cheaters, an eyeglass contraption that fits on his head and allows him to see better what I'm looking at.

Yes, it's likely a concretion...and he pauses to look more closely through the magnifying eyeglass contraption. Believe it or not, it looks almost certainly like SLS's—what I call small layered structures. . . I am saying that because of the outer surface. Now I am getting excited. Hold on to that one, he says. I can get my diamond saw and cut it up for you, if you want. . .

I surrender the enigma, the mystery rock, to him. These enigmas keep me going. Well, few paleontologists specialize in the very old stuff. My paper will muster all the evidence together to show they are fossils. I'm very puzzled by them. He looks closely again at the rock he holds in his hand. I'll go you one further. I see too many inconsistencies. I won't be able to prove what they were, but I never observed anything like them before. You get me? . . .2.1 billion, he says to himself.

I'm puzzled, too, and with that I leave this man (Doctor Jack Redden, Professor Emeritus), this young 82-year-old man, to his 2.1 billion year old world. Leave him to solve his next mystery. Leave him to his enigmas and his SLS's. Leave this young Jack man in his old country.

I remember asking him earlier about the map, the fruit of



Jack and his dog Mickey relax in Jack's West Boulevard living room.

his geologic labor. I had hesitated but asked, *Who will use this map?*

His reply is a serious thoughtful one:

*It's not wasted time—trying seemingly to convince himself of the worth of his many years of effort—it is the basis for all hydrology, ore deposits. . .geology seems worthless but when you get the basic maps together it guides others to find economic deposits needed by man or to tell the engineers where not to build or dig.*

As I walk away, I think back to an article I wrote for *FACES* about a poet, Linda Hasselstrom, writing the land, and I smile and think, *its not a waste Jack. You are guiding others like me to think about the land, about the great mysteries of these Black Hills.*

And then I echo Jack's words,

What could be better?

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