

Shared memories of Dale A. Russell

In assembling Dale Russell's biography, we spoke with a number of his friends and family members who shared with us some heartwarming and humorous stories that speak to Dale's character better than a simple re-telling of his life and career ever could. We pass along some of these stories below, copied with minimal editing, with permission from those who sent them.

John Acorn (Science writer at Ex Terra Foundation, now Faculty Service Officer at the University of Alberta)

Dale and I worked together, on the storyline for the exhibits of the Canada-China Dinosaur Project, back when I was working as a science writer for the Ex Terra Foundation. We had many fascinating discussions about dinosaur biology and taxonomy, not to mention the dinosauroid "hypothesis". We also went on to work on children's dinosaur books together, in *The Tiny Perfect Dinosaur* book series. During those interactions, I always found Dale to be pleasant, professional, and enthusiastic. Thinking back, I have fewer quirky stories that I thought I might. But I do have some.

For example, at one point in the early '90s, Dale and I gave talks together at the science centre in Calgary, to a general audience, about the Canada-China Dinosaur Project. Dale spoke first, and I followed. At the end of my talk, I asked for questions, and a young boy of about ten raised his hand.

"What is the difference between *Struthiomimus* and *Dromiceiomimus*?" the boy asked.

"You are in luck," I responded, "*Dromiceiomimus* was named by Dr. Russell himself! So, I'll let him answer your question."

"Well, um, yes young man..." Dale stuttered. "I believe, if memory serves... um... yes... I think the difference was in the bones of the hand...er..."

At that point, the boy's parents beamed with pride, and patted the boy on the back. "You stumped him, son," I heard the father say.

Late that night, in a room that Dale and I shared, somewhere in Motel Village, I awoke in pitch darkness to the sound of a human voice. Slowly, I struggled to consciousness, and realized that I was listening to a lecture about the sauropods of India, in Dale's unforgettable voice. He sounded like one of the 16 mm science films that I watched as a school kid in the 1960s. In those days, he also loved to talk about sauropods, to absolutely anyone. Really—anyone.

"What time is it, Dale? I'm not sure what you are talking about," I said weakly, into the blackness.

"Oh, I thought you were awake, John. Gosh, it's three a.m.! Sorry my friend. I wonder if the boys downstairs will make me a cup of coffee?"

"That's a good idea, Dale. Night night."

The next day, I gave Dale a ride to the Royal Tyrrell Museum, from Calgary. To pass the time, Dale offered to read me an essay he was working on, so he opened his laptop (they were quite hefty in those days) and began. The essay was about alien-human hybrids, of the sort that might arise as a result of abductions. You know, the sort of abductions that were commonly reported in those days, involving artificial insemination of paralyzed human women onboard

alien vessels. Dale's concern was simple: did these hybrids have a soul, and if so, how should the Catholic Church prepare itself for these people as potential parishioners? I listened patiently, and carefully, and complemented Dale on his logical approach, and his courage, since he was planning to share this document with his priest. I explained that I wasn't a Catholic myself, and that in fact, I wasn't religious at all. I also volunteered that I had read quite a bit about the subject of alien abductions, in *The Skeptical Inquirer*, and that most scientific investigators had come to the conclusion that the "victims" had experienced what are called hypnogogic or hypnopompic hallucinations, in the time between waking and sleep. I promised to send him some papers, and I gently suggested that perhaps there were no such hybrids living among us. Sadly, though, this resulted of a weakening of our friendship, and although we still kept in touch after this event, he was always a bit leery of me from then on.

The last time I saw Dale in person was at the Dinosaur Park Symposium at the Tyrrell Museum. Striding across the stage, animated beyond belief, he was a folk hero to every young person in the audience. I was glad to see him getting the admiration he deserved, and I'm glad to remember him this way. We talked on the phone a few times after that, but eventually we fell out of touch.

Here are a few more of my memories:

Receptionist at the Ex Terra Foundation: "Good morning, the Ex Terra Foundation, how can I direct your call?"

Dale: "Ah yes! In essence, it is extremely interesting about the Early Cretaceous sauropods of China and India—the titanosaurs have been misunderstood, I fear, and other phylogenetic

patterns are becoming clear. If only I had a working knowledge of cladistic analysis, but perhaps even that eventuality..." [or some such thing].

Receptionist [putting Dale on hold, and yelling to the entire office]: "Anyone who understands Dale, please pick up on Line 1!"

And here is one that Dick Fox liked to tell:

Dick: "Hello, Fox here."

Dale: "Dick! It's Dale Russell. Do you think that there are turtles on other planets?"

Dick [after a long pause]: "Dale, that's the stupidest question I've ever heard."

Dale: "But do you think so?"

Dick: "No, Dale... Is there anything else you wanted?"

Dale: "I don't think so, Dick. I just wanted your opinion."

Dick: "Good bye, Dale."

Dena reminded me of another Dale story. She and I were coming back from a trip to Canmore, and we stopped in Calgary to see Dale, since he was staying at a motel in the west end. When we got there, and he opened the room door, two things became apparent. First, Dale was not well—he was sweating, dazed, and wobbly-looking. Second, the room was about the temperature of a dry sauna. He had the heat turned up as high as it would go. As we all know, from the legend of Alfred Russell Wallace, the human brain works even more efficiently at fever

temperatures, and Dale's brain was in overdrive. It was the first time he met Dena, and when he realized that she was just finishing medical school, he assumed that her training would give her special insights into the adaptations that facilitated early human evolution in Africa. He was wrong, but that didn't prevent him from expounding on the subject for a good half hour or more. When she saw an opening to speak, Dena firmly explained to Dale that he was sick with a high fever, that he needed to rest, and that his room was far too hot for his own good. When we left him, he looked a bit confused, but of course he survived that event, which probably took place sometime in 1990.

Maria Amorose (Dale's daughter)

One of Dad's most salient qualities was a respect for objective truth and a belief that one could know it. This quality permeated all aspects of his life, even in small details. For example, he refused to tell lies, even little social lies which most people tell without thinking. Further, he would not deceive people into thinking that he knew more than he actually did. Mom said that one of the things that first attracted her to him was his honesty in replying, "I don't know," to a question posed to him at a public lecture at Columbia University, in New York, where everybody knows everything. This respect for the truth gave him great credibility as a father, and bolstered me particularly during my teenage years, when I was doubting everything. I remember his saying, "Maria, God exists whether you believe in Him or not." He didn't give any argument at the time, but the thought that a man as intelligent as my father could say that supported me in many a dark hour.

Dad was a loyal husband and father. He respected my mom and consulted her in everything. Up at the crack of dawn himself, he would bring her breakfast in bed at an unearthly hour, poke her awake, and chat with her about whatever was on his mind. It was one of the last things to go in their relationship when Mom's dementia worsened, and I believe it was the interaction he missed most. Their happy marriage was the pleasant backdrop of my childhood. It was Dad's unshakeable conviction that his wife and daughters were the most beautiful in the world.

Even though Dad was one of those "driven," overachievers himself (especially on long car trips, "Let's just go a little farther and see if we can get to the next town; it'll save on tomorrow's driving"), he did not "drive" his kids. The thing I remember most about him during my childhood is how much fun he was. He would take us on "nature hunts" when mom was cleaning the house on Saturdays. We would always go on vacations together as a family, in spite of the inevitable hassles of traveling with small kids ("I have to go to the bathroom," "Are we there yet?" "Does this hotel have a pool?" "Lizzie locked us out of the hotel room"). We nearly broke them on one road trip through the Maritimes during our teenage years. They swore, "Never again!" But in a couple of years the memory faded, and we were "back in the saddle" again. We went to the most amazing places as kids: France, Italy, Switzerland, Tunisia, the Bahamas, the Dominican Republic, and all across the United States and Canada.

**Reese Barrick (Visiting Assistant Professor at North Carolina State University, now
Director of the Sternberg Museum at Fort Hays State University)**

Dale was a great friend and colleague while I was at NCSU. He actually called the Department and asked if there might be a position for him there as he had promised Janice he would move back to the States at some point and we had hit it off at a meeting in Phoenix. In addition to being a Visiting Professor at NCSU, he was also the Curator of Paleontology at the North Carolina Museum of Natural Sciences where, in addition to “Willo”, he was also instrumental in bringing the *Acrocanthosaurus* specimen to the museum and getting it in its place of prominence facing the state legislative building across the street. He was close with museum director Betsy Bennett and worked with her on the plans for the new museum that was built while we were there. He was prominent in developing the plans for the Nature Research Center at the museum including the Paleontology Research Lab. He had a number of graduate students while there including James Lamb, Director and Curator of Paleontology at The Black Belt Museum, University of West Alabama; George Phillips, now Paleontology Curator at the Mississippi Museum of Natural Science; William Straight, a professor at Northern Virginia Community College; Sara (Decherd) Rutsky, a professor at Wake Technical Community College; Alan Coulson, a professor at Clemson; Christine France, a research scientist at the Smithsonian Conservation Institute after completing her PhD at Maryland; and Jeff Bartlett, after serving as the Collections Manager at the Prehistoric Museum at the College of Eastern Utah is now the Director of Finance and Operations at the Hallie Q Brown Community Center in Saint Paul.

While at NCSU, Dale and I created a Bachelor’s degree in paleontology that started out the careers of Holly Woodward Ballard, professor at Oklahoma State Center for Health Sciences and Terry Gates, researcher and instructor at NC State University and NC Museum of Natural Sciences.

Dale created the Center for the Exploration of the Dinosaurian World while at NC State and worked closely with Elizabeth Wheeler in Forestry and Michael Stoskopf at the Vet School.

Dale was the most gracious, vibrant and brilliant person I have had the pleasure to work with. We could talk one day and design a project around dinosaur ecology and two days later decide we needed to study if lightning in the Cretaceous was crucial to nitrogen fixation in soils for plant growth. It was non-stop for nine years before I left for Utah. He had boundless energy and I remember him jumping out of the vehicle and literally bounding out to the “Willo” site and I had to jog to keep up. The former students had a nice online reminiscing session in January. Lots of great stories. He impacted a lot of lives and will not be forgotten. I miss him dearly.

Pierre Béland (Research Scientist at the Canadian Museum of Nature, now Canadian Chair with the International Joint Commission)

Adieu mon ami!

Dale Russell was the most decent and generous person I have ever met. He was my supervisor at the Canadian Museum of Nature for over six years, a mentor and a true friend. Not the “do this, do that” type of boss, never sitting in a high chair looking down on the world, Dale would never show he knew more than I did—which undoubtedly was the case, considering that I was an ecologist by training and my curriculum in vertebrate palaeontology was quite limited. His enthusiasm knew no bounds, be it for espousing a new concept or jumping into a new project. To him, the realm of ideas and possibilities was wide open, distance was only a word, and every nook and cranny worth investigating.

He would challenge and amaze me in so many ways. He had been through mandatory French training as a manager. That was my mother tongue, so he would make attempts at us having a conversation in Moliere's language. But he was not proficient enough to handle a francophone visitor or French colleague, and would kindly call me in to handle the situation. Within weeks, he had barged into my office looking very grave and official and had announced: "I have just told Human Resources to stop paying my language bonus."

I recall vividly sitting in his office only a day or two after I joined the museum as a research scientist in the Palaeontology division (soon to be renamed Paleobiology). He had bombarded me with questions about concepts in ecology, and I was telling him about a flux model that had been published recently by an internationally renowned ecologist. Dale was fascinated by the possibility of relating bones from a quarry to a measurable flow of energy through the food chain. Suddenly, he grabs the phone on his desk and says "Let's give him a call; what's his number?" I was taken aback: I did not know the guy personally, was unsure of which institution he was working from presently. "I'll ask the operator, Dale said. They will get me through." One of Dale's many *carpe diem*.

We embarked together on a very fruitful and exciting adventure aimed at unraveling how principles of ecology could help to understand the role of dinosaurs in their ecosystems. This endeavour took us to several of the most famous dinosaur fossil sites and museum collections around the world. I had the eyes of a kid allowed to touch a real *Archaeopteryx* or a dinosaur mummy. But, despite all his years in the trade, so did Dale! Like modern Darwins, we also visited communities of large vertebrates and the vegetation types that supported them. Whether in the savannah of Zambia and Kenya, or the rainforest in Cameroun and Indonesia, we searched

for clues left by contemporaneous large animals and how they would help us understand how the giants of the Jurassic and Cretaceous lived in their own dynamic worlds.

But how exactly did living things become fossils? Would we find hippo dung in the process of entering the fossil record if we cut a deep trench into the bank of the Luangwa River, flowing in the savannah between the Congo and Malawi? However deep our trenching, we never found any. One day, on the way back to our camp, there was a black rhino in the bush by the road. Still pretty far, looking rather small, though obviously aware of our presence. We stopped. Could it be of some use for our studies? Slowly, he came closer and closer to our Land-Rover. Dale was in the cabin, but I was standing behind in open air. The animal kept coming at an angle, until he parked calmly next to us, just some car in the other lane at a traffic stop. Looking at me with a cold eye, the beast slowly moved its head away, and then swiftly toward the car. It hit us with a loud bang, and the Land-Rover swayed like a sailboat hit broadside by a rogue wave. The driver immediately rushed ahead some distance, stopped, and yelled “Get back in! Now!” I jumped out on the dusty track and climbed into the cabin. The Land-Rover sped away with the rhino tailgating as if he were a racehorse. Dale looked at me, dead serious, eyes sparkling: “Could a *Centrosaurus* keep up with this guy?”

They were long trips, with many hours to get to know each other and grow a friendship that I often missed in later years after leaving my job at the Museum. Long hours by the roadside waiting for the vehicle or the guide, long nights on camp beds trying to find sleep through the deafening sound of zillions of insects and what else was trilling or ululating up in the giant trees of the rainforest where the last Javan rhinos roamed. We had plenty of time to share each other’s views. In science, we started from different perspectives: as an ecologist I was grounded in processes and mathematical models, while his domain was bones, anatomy, taxonomy and...

dreaming about what could have been. We also differed in our views on spiritual life, as unlike me Dale was a deeply religious person. Lying in the pitch-black night, immobile, sweating all over and hoping mosquitoes would drown upon landing on my skin, I would tease him: “Dale, you still haven’t quite convinced me how a seasoned palaeontologist like you, a man who has this grasp of time elapsed since the big bang, who tells that supernovae spew out the heavier atoms, how life originated, continents drifted, dinosaurs went extinct giving rise to mammals, to the ascent of man, and the two of us here, right now in this jungle... How you can read the Bible and believe that God created it all?” Silence would usually follow this sort of existential question. So I would ask an easier one to make him laugh: “Dale, on Noah's ark, what deck were the dinosaurs on?”

I owe so much to Dale Russell. He shared with me everything he knew, he fed me with dreams and workable ideas, visions of times past and how there was never a plan for evolution, only change building up on what existed at any one time. He got me to think in terms of “back then”, when life was new and today’s rules did not apply, because they had not evolved yet. And during the last year I worked under him, I started revisiting an idea I had back when I was an undergraduate student in biology. I had submitted to our genetics professor a solution to the genetic code, but he had shot it down in flames with facts (that happened a lot with Dale too). My immersion in the past with Dale Russell, both of us witnesses to evolution, had made me see that what I had outlined long ago referred not to the present genetic code but to an ancient one. So, teaming up with a colleague, we published what I consider to be my major scientific paper, “The origin and evolution of the genetic code.”

And, of course, I was fascinated with Dale’s humanoid reptilian, and how the world of today would have been different, if dinosaurs had not been wiped out following a catastrophic

encounter between the earth and an asteroid. I even wrote down what their alphabet may have looked like. Dale not merely taught me with his usual modesty and enthusiasm, he made room for me in all his plans of study, he elevated me as his equal, to the point of making me feel I was a cog in the driving mechanism of it all.

Steve Cumbaa (Research Scientist at the Canadian Museum of Nature, now retired)

In August and September 1992 Dale and I were in Liaoning, China, working on the fauna of Early Cretaceous lake basins with IVPP colleagues Chang Mee-Mann, Li Ji-Ling, and Jin Fan. We had great transportation for the entire trip, three Jeep Cherokees which were a legacy of the Canada-China Dinosaur Project, each with a driver from the IVPP. On the first day of fieldwork we visited Young's *Yabeinosaurus* locality (an Early Cretaceous squamate) just outside a small hamlet. After an hour of searching without success, Dale decided to prospect farther afield.

With Jin Fan in tow, Dale soon headed off uphill for greener pastures, those being stratified volcanic outcrops overlying Jurassic red beds exposed on a hilltop about a kilometre away. Jin Fan left Dale at the base of the hill, and came back to fetch the rest of us. We walked up to the hill through a ravine, and of course couldn't find Dale.

We searched for about an hour, making our way across the countryside and through small settlements, but as it turned out, with only a few moments of disquiet. Dale of course, walking by himself and garbed in shorts and field hat, had stood out, as did the cheery "Ni hao" with which he greeted everyone. Everyone we encountered was able to recount when he had passed by and in what direction he was heading. "Oh, you were looking for me?", he said as we hurried up to

him. My field notes reflect relief; it would have been tough to tell Janice back in Ottawa that I'd managed to lose her husband on the first day.

We were collecting one morning just outside the village of Meileyingzi when a young mother and several children roughly 4–12 years of age walked by, slowed, and gathered around to see what we were doing. I had just found a partial small psittacosaur and was showing the fossils to Dale. He beamed, and in wonderful teacher mode showed them the bones, and explained politely in English that the bones were from a very old, very tiny dinosaur. He went on to say why we were there and what we hoped to learn from studying the bones found near their village. One of our IVPP colleagues kindly translated for the mother and her kids. The kids took in every word, and seemed interested. Then the mother spoke to the kids and they smiled awkwardly, backed away, and moved off down the path.

We asked what the young mom had said to her kids, and were told she had said, “If everyone did what they did, who would grow crops? What would you eat?” Good point, and if that wasn't enough to deflate our heads (we had become used to being the centre of attention in rural China), she told her kids as they moved on, “If nothing died, what would they (Dale and I, of course) do for a living?” We and our IVPP comrades all got a good chuckle. Word of caution, kids: learn a trade!

Our return flight to North America via Shanghai started at the very crowded Beijing airport. Jin Fan and one of the IVPP drivers got us there in good time and made sure we got to where we needed to be. We and our baggage finally navigated airport construction and the line

for document and security clearance, then did the latter again as we had to go back to pay a departure tax (and change money at yet another location to be able to do so). Finally we were able to say goodbye to our hosts and move on to getting our baggage screened, another lengthy experience. We were relieved when it was just us and our carry-ons—cameras. I smiled as a beaming Dale, leading the way, said a few words in Mandarin to a somewhat bewildered-looking security official at the X-ray machine. Dale bowed deeply, extending his arms and holding out his camera to the official—the picture of an 18th-century explorer presenting a treasure from an exotic land to his king or queen.

We finished up at security, sat in the departure lounge for a short while, and then boarded our flight. On arrival in Shanghai we went through Customs for a quick document check and visa stamp before waiting at the gate for the jet to be serviced before re-boarding. It was there that Dale remembered his camera... Calls back to the Beijing airport with the assistance of a very kind Chinese student unfortunately produced no results. If the lucky new owner of the camera ever had the Kodachrome developed, he or she might have been mystified by the images of dinosaur bones in the IVPP collection, a couple of us scruffy Westerners looking out at the Bohai Sea from the beginning of the Great Wall at Laolongtou, and probably a few of the last day or two of our truly memorable fieldwork in Liaoxi.

I very much doubt that Dale's mind was ever idle. Whether chatting during a coffee break, studying a specimen in the lab, or figuring out the stratigraphy at a new locality, his mind was working overtime. Much of the time Dale was like the nerdy genius portrayed in movies or television, leaping to his feet to write another equation on the board. To anyone who spent much time with him or has read his books however, a different facet was revealed. Contemplative,

broadly spiritual, and collaborative by nature, Dale actively sought out a broad range of expertise to bring to bear on major questions of life on Earth and beyond, and wrote about them beautifully. His lyrical descriptions of geological and biological change through vast expanses of time reflect a man with a grasp of the big picture, much more Zen master than nerdy genius.

However, we all had a soft spot in our hearts for the nerdy genius, the spark plug that often got the ball rolling. One night in our hotel room in Yixian, that aspect of Dale's character was clearly in the forefront. By that time we had spent nearly three weeks in Liaoning sampling the fauna from a number of Early Cretaceous lake basins, interbedded with volcanic strata. We had seen a lot and were tired, but Dale and I spent a wonderful hour before lights out kicking around ideas about what we had seen—or hadn't seen. I had been writing up my notes, and started writing down the questions that Dale posed, in rapid-fire succession. Animated discussion followed each. These are particular to the research we were doing, but give a glimpse into how Dale's mind worked when he was on the trail in full bloodhound mode:

On diversity and speciation: Why such low dinosaur and fish diversity? And such high bird diversity? Why no crocodiles or pterosaurs? Why no radiation in the lycopterid fishes like African rift valley cichlids? Within lakes? Basins? Why no large piscivorous fish? Why do plant microfossils suggest high diversity? On taphonomy: What triggers the mass deaths of *Ephemeropsis* (an insect) and *Lycoptera*? Are there seasonal kills in East African lakes? Do the Liaoxi lakes have seasonal parameters (they are varied and have slump structures)? What is the role of differential depositional environments in the presence/absence of species and higher taxa? On other topics: What are the facies represented by the Jehol Group, and what is the nature of the fossil distribution among them? What does the presence of so many psittacosaur tell us about their habits? What do the turtles, *Lycoptera*, and *Ephemeropsis* eat? What eats *Ephemeropsis*?

Why no champsosaurs or trionychids high in the Rehe strata? Why aren't the turtles more widespread? What are the ecological equivalents of crocs in the lake basins? Why no real diversity in size, intra- and inter-specific in the fishes? Why no conchostracans in the Fuxin Fm? Could the fish have "cooked" through temperature elevation in lakes due to lava flows? What is the nature of endemism in the Jehol fauna? Are the plants cosmopolitan and the fishes, etc. endemic?

Spending time with Dale was *always* an adventure, and *never* boring. He was the mentor who convinced me to make a career move to become part of the Paleobiology team, and pointed me toward a project and the area of study I still pursue in retirement. I am forever grateful for that, and for all the memories of time spent in his company.

Phil Currie (Research scientist at the Royal Tyrrell Museum of Palaeontology, now Professor at the University of Alberta)

In late September and October, 1987, a group of us that included Dale Russell, Dong Zhiming, Chuck Gruchy, Emlyn Koster and myself split off from the main camp of the Sino-Canadian Dinosaur Project in Xinjiang, and drove across northern China back to Beijing. The purpose of the trip was to look at prospective field sites for 1988. Most of the 6,200 km trip was on unpaved roads, and there were countless experiences and adventures. As in 1986, we managed to avoid banquets and heavy drinking for most of the 1987 field season. However, that all ended on October 5 when we pulled into a relatively small village called Chabu Shamu in the middle of Inner Mongolia (Nei Mongol). As it turned out, we were several days behind schedule when we got there, and we learned that the central government of China had prearranged

welcome receptions all along our route. Chabu Shamu is in the grasslands in an area that is considered a cultural centre for all Mongolians, and they take special pride in preserving Mongolian customs. We were met on the road by a village elder, who then guided us the remaining two kilometres into town. Supper that night started with several rounds of toasts, which consisted of two to four shots of baijiu (a very strong clear liquor based on sorghum, and sounds like “By Joe!”). The export version of baijiu is usually kept to 40% alcohol, but in China most brands exceed 50% (100 proof), which means it ignites when you put a match to it. All versions have a very distinct odour and taste that is revered in China, but in few other places. The most famous brands include Moutai, which is as expensive as a good bottle of single malt Scotch, even in China. But somehow I don’t think we were drinking the high quality stuff that night, because it flowed like water and we saw several cases brought in. For most of the night, groups of Mongolian ladies would bring guests the shots of double or quadruple happiness, and sing a Mongolian drinking song. There was no escape from the social pressure at that time, as you had to stand in front of the toast masters until you drank everything they gave you. The meal was long and elaborate, and was serenaded by local musicians and singers. When we finally went to bed during the wee hours of the morning, my head was swimming erratically, as it still was when I woke up in the morning. Nevertheless, I was flabbergasted that all of us woke up in good moods without any admitted hangovers. As we continued on the trip through Nei Mongol, however, we found out that we had to stay on schedule, which meant basically being in a different town every night (and some days for lunch as well) for a banquet. There was the mandatory four shots of baijiu at the beginning of the banquet where we had to stand as the Mongolian drinking song was sung by women (and sometimes children), followed by an excellent meal with endless toasts, speeches, and a dances organized in our honour. We each

learned different ways to dispose of as much of the liquor as we could in ways that would not insult or offend our hosts. I would usually hold it in my mouth until attention turned elsewhere and I would spit it into my teacup or glass of beer. Dong Zhiming simply closed his mouth as he threw his head back and most of it ran down his chin and cascaded onto his chest. Dale had several systems, including always having a facecloth that he could spit the liquor into when he ostensibly wiped his mouth. One had to be very careful, however, because if you were caught getting rid of the baijiu, then they would find a way to make you drink even more of it under scrutiny and surveillance. I was caught when our hosts realized that my teacup of milk tea was getting fuller each time I lifted my cup to my mouth, and that in fact the milk in the tea had even curdled. The next time that the “four shots of happiness” came my way, the shot glasses were bigger and they watched me very carefully as I stood in front of them and drank each one. By the time the third one was burning its way down my throat, I felt the top of my head come off as I left for outer space.

At one banquet, Dale had to hold the baijiu for so long in his mouth that he ‘burned’ the lining inside his mouth. This caused him pain and swelling in the throat, and he was not a happy camper, and hardly spoke a word for several days, which was severely out of character. Another trick he tried backfired as famously. Over the course of several of the first banquets, he had noticed that the community elders would walk around and toast everyone, making the recipients drink the four shots of baijiu, but only sipping a bit themselves on the first round. So Dale took it on himself to walk around and toast all of our hosts, thinking that he could get them blasted without having to drink much himself. It was a very large group, and unfortunately they made sure that for every person he toasted, they made Dale drink an equal amount himself as the guest. I don’t think Dale remembered much about that night!

Our first trip to China to look at field sites was in 1986, and Dale Russell, Brian Noble and I flew to Xinjiang with Dong Zhiming. It was an exhilarating experience for all of us, but I only realized when I went back home that I was in “culture shock” the whole time I was in China. Very few westerners had been to Xinjiang since the Sven Hedin expeditions around 1930, and we were as great a novelty to the people of Xinjiang as they were to us. Wherever we went, we would always attract crowds of curious bystanders, and frequently women (and sometimes men) would walk up to me and stroke the hair on the back of my arm. One woman, after stroking my arm, made a comment in Chinese as she walked away that gave our Chinese colleagues a good laugh. She said, “Just like a camel”.

We were there to look at the fossil sites in the Junggar Basin where Dong Zhiming wanted us to work the following year, and we stayed in a town called Jimsar. On May 6th, we returned from the dinosaur sites late in the evening, had showers in the public bath house, and crashed around 1AM. Dale was sleeping in the same room as Dong Zhiming, and I was bunking in the same room as Brian. About an hour later, I woke up when I heard the door open (none of the rooms had locks in the hotel) and saw a blanket wrapped apparition come into the room. I was alarmed until something about the mannerisms of the ‘ghost’ suggested to my tired mind that it was Dale. Rather than turning on the light (the switch was a long way away anyway) to find out what was going on (and thereby waking up Brian), I decided to leave it until morning as the blanket-wrapped ‘Dale’ curled up on the concrete floor. Although I fell asleep right away, I woke up a couple of hours later wondering why I had concluded the intruder was Dale, and wondered what if it was someone intent on robbing or murdering us? I lay there unable to fall asleep again until about 5AM when suddenly the apparition rose from the floor. I had realigned

myself to face the intruder, and was ready to throw the sheets off my body and leap out of bed to defend myself to my last breath. But the apparition turned away and opened the door in the darkness. And as he did so, he dropped an alarm clock on the floor and I instantly knew it was Dale! I learned later when we had some private time that when Dale had gone to bed the night before, Dong had started to snore right away. Dale took it for about an hour and then snuck into our room to sleep on the floor. But Dale did not want Dong to be offended, so he got up at 5AM to sneak back into Dong's room (and pretend he had been there all night) before Dong woke up. This pattern was repeated for the next few nights. However, on May 8, Brian and I decided to go outside for a walk before retiring. Much to our surprise, we got locked out of the hotel, and had to sneak in through the back courtyard. By the time we got to the room, Dale was already asleep on the floor with the lights out. So we crept in and went to our beds in the dark. Now there are two things you need to know about the hotel room. First, the beds were very short, and second, there was a liquor and drink cabinet at the foot of my bed. Forgetting this, I lay down and stretched out my legs, and thereby pushed over the liquor cabinet. It hit the concrete floor with a huge noise next to Dale's head, and three of the coke bottles that had been sitting on top smashed! As we turned on the light, there was broken glass and sticky brown liquid all over the floor around Dale, but miraculously nothing had touched him! We pushed the glass and liquid to each side as best as we could and went to sleep for the rest of the night. In the morning, the lady in charge of keeping our room clean came in with a broom and a dustpan. She swept up the glass, walked out of the room, crossed the hall, opened up the second story window, and threw the glass into the street in front of the hotel. When we returned to the room that night, the coke was exactly where it had been left the night before, except by now had dried out in the warm, dry Xinjiang climate!

Later that same summer, Dale, Dong and I were in the Arctic on Axel Heiberg Island, looking for dinosaurs of course. We were not having much luck (the ice had not gone out of Sand Bay that year and there was still a lot of snow on that part of the island), so we decided to break up into smaller “fly camps” spread farther afield. Dale and Dong were transported by helicopter with one tent and enough supplies for several days to a spot near the mouth of the bay, while Clayton and I were flown further inland. Although Dale, Dong and I were co-leaders of the Canada-China (Sino-Canadian) Dinosaur Project, each of us made the decisions in our own field areas. I was curious as to why Dale chose to go off with Dong, but decided he was probably trying to save Clayton and me from having to deal with Dong’s snoring. It was almost a week before Clayton and I were picked up and returned to camp. I was dying to know how Dale had survived with Dong’s snoring in a small tent. When I asked him, he broke into a big smile and said there had been no problem at all because Dong’s Thermorest would not stay inflated. The latter spent every night tossing and turning because he was unable to sleep, and therefore did not snore. I expressed surprise that Dale had not given Dong his air mattress, because Dale would normally give the shirt off his own back if he knew that someone else needed it. If I had not been so surprised by this out-of-character twist, I would not have blurted out anything. But as the smile faded from Dale’s face and was supplanted by his own look of shock, I realized that it had not even occurred to him to swap Thermorests! I was glad that Dale had managed to escape Dong Zhiming’s snoring, something that I had to deal with myself many times in future years!

Gilles Danis (Collections technician at the Canadian Museum of Nature, now General Manager of the Homestead Antique Museum, Drumheller)

Let us start at the beginning. Dale and I leave Ottawa on June 28, 1968 to go do some field work in the Peace River country. By the second week of July it is apparent that we are wasting our time unless we have way more than we dispose of. He then decided to head for Dinosaur Provincial Park where he intends to look for specimens that have parallels in Asia, especially, small theropods, coelurosaurs like Dromaeosaur.

We arrive in Dinosaur Park on Bastille Day 1968, July 14. The next day he has one of his occasional migraines and declines to go out but he sends me with Peter and Dawn Dodson. Peter is there to do the field work for his Master's thesis which he will begin in September under Dick Fox.

Complete fluke, I find a sickle claw that very day. You know the site well as several years later Gerhard Maier and Adrian Mather dug up a plesiosaur about 6' below the soot. If you look on the south wall you will see a small hole about the size of a grapefruit. The race was on.

Inevitably, Hope Johnson came to visit one day and we were showing her our finds including several sickle claws, vertebrae and miscellaneous junk. Dale then showed images from articles on *Deinonychus* and Dromaeosaur and he showed her a drawing of a complete *Deinonychus* foot.

At this point Hope said, "I know a lady who has found one of those." Dale was skeptical but he said he would be happy to see her material and he would tell her what he thought it was.

About a week before we were to leave for home, Irene Vanderloh comes in with Hope and in a shoe box (yup) is a complete foot of a small coelurosaurs complete with a sickle claw. Dale nearly fainted.

We immediately made arrangements to go see Irene and she would take us to the spot and we were welcome to collect anything we found and take her specimen as well.

When we got there she said that it had been 10 years and was not sure but we bounced along the prairie until she pronounced that we were at the site. She took us down the hill to the site and we were delighted to see that the overburden was not much more than 6". We cleared the overburden and dug the specimen out in three days. I returned there many times and nothing else has ever surfaced. We dug up some limb bones, vertebrae, ribs, some forelimb and a SKULL CAP.

Dale published the description of this find as *Stenonychosaurus inequalis*. Little did we know the consequences this animal would have but that will be the subject of another story.

While we were in the park Dale always busy thinking of things just mentioned that somewhere near Trochu, Loris Russell had described a location with the K/T (today it is the Cretaceous-Paleogene) boundary. He wondered out loud about the extension of the dinosaurs. Surely, he thought there had to be some indication of what had happened, we had just not stumbled onto the facts yet. This musing was to see Dale, David Jarzen and I roam the world for a number of years.

The first episode is entitled "Watch your head for God's sakes"...

Dale came back home with an obsession for the K/T boundary. The first problem to solve was whether it was a rapid extinction or a slow one. Was it synchronous or diachronous? He spent months trying to find a fossil marker that would give him a time frame with no success. Until he went to a Xmas party where he met a man named John Foster who said "Hiiiiii! Dale I

have the calendar you need!” He turned out to be a paleomagnetist at the GSC. He said that there were several times during the history of the earth when the poles reverse for a while and then return to the original position. He said if we could locate the K/T boundary in relation to one or more of those reversals called anomalies, we could tell whether the extinction was diachronous or not.

We immediately became aware of the Gubbio section in Italy where the paleomagnetism had been studied and placed the K/T boundary at just about the 35th anomaly. And we were off.

Dale started a program of sampling the paleomagnetic signature of the K/T boundary all over the world. Many locations in western USA and Canada, in Alabama, we went to Denmark (Kolbegaard’s farm), in southern France, a few places in New Zealand, and I spent many lonely hours at the GSC scanning the cores on a spinner magnetometer.

In New Zealand, at a site called Bragg Creek (Bragg shows up all the time in this project) we found an unusual layer of much about the thickness of half a lens cap. This was wet mud which we called the Hallowe’en clay because of the black, orange, red, and yellows colours in it. Remember this thing.

Bringing our samples back to Ottawa we soon realized that some of them could not be analysed. The Danish stuff was chalk (like drawing chalk) and the Bragg New Zealand sediment was limestone, not very magnetic. Again John Foster came to the rescue “Hiiiiil Dale you’re from the west why don’t you call Alvarez at NASA, they have a geological lab in San Francisco and their equipment is the best. Hiiiiil they build it themselves.”

So we packed up the New Zealand material and just as an afterthought we included the Hallowe’en clay (just in case).

Did I mention that up to that point all the sampling indicated that K/T boundary all over the world was located at just about the 35th anomaly so it was looking a lot like we had a synchronous event and therefore a catastrophe, not an evolutionary dead end.

While we were waiting for NASA, Dale did not waste time. He contacted the DSDP project (Deep Seas Drilling Project, the Glomar Challenger). And they told them that the CCCD (Calcium Carbonate Compensation Depth) indicated a warming of the oceans. Combined with evidence of immense forest fires at the end of the Cretaceous and violent turbation indicating a super storm, we were beginning to get a picture but no cause yet.

That is when the boom fell. Alvarez came back and told us that the K/T boundary was at the 35th anomaly but more importantly that the Hallowe'en clay had radioactive Iridium. Radioactive Iridium does not exist on earth. It had to have come from outer space. This could have been a giant asteroid which would have struck in an antipodal location from New Zealand (at the time) and the reflux would have caused a thick deposit at the boundary there with thinner deposits all around the world (which was later observed). Alvarez then said we have been witnessing something without knowing what the effects would be and you have seen the effects without knowing what the cause was. We think that we have just put two and two together.

In 1976 there was a symposium held in Ottawa where Dale, Alvarez, J. Tuzo Wilson, the DSDP people, some meteorologists, marine biologists, etc. were present and the results of their discussion were published in a compendium in *Syllogeus*. It has been out of print for 20 years now. I seem to remember it as being entitled "The Greenhouse Effect and the Extinction of the Dinosaurs". I was at that symposium running the tape recorder. I seem to remember that there was a consensus that if the rate of pollution remained unchecked it would cause irreparable damage in about 50 years. 1976 + 50 is 2026. Party now or forget it.

This episode is called “Scientific hotdog”.

We were in Denmark in November of 1974 or ‘75. Yup Denmark in November and Tucson on July 1; that’s us.

We were staying at the Vigso Bugt motel, a quiet very nice place and the owners had us eat and watch T.V. with them because it was off season and there was nothing else to do. Me, I was totally bushed having cored all day and I went to bed.

Dale was in the same room as me so he came in took a shower and came to bed.

Since you have been to Denmark you will be familiar with the big Eider down bed covers they use there. They are thick and wide. They place them on the bed and fold the sides under so that they look something like an upside hotdog bun.

Dale came out of the shower and said, “Oh, it’s a sleeping bag.” I told him no, it was a folded over eider down cover but he did not hear me. He looked all over for a zipper but to no avail. He looked at the foot of the bed and noticed that the bottom of the “sleeping bag” was open. He figured that was the way in so he dove into the eider down cover from the foot and wiggled and grunted his way all the way up till his head popped out at the top.

I could help but to think of him as a wiener in a hotdog bun. I had a good laugh.

This instalment contains two episodes because there are short and they took place during the same field trip.

Tick, Tick, Tick

Early on in the extinction project, Dale had convinced himself that the extinction had been sudden and was the result of a catastrophe (evidence or not). Oddly enough, although we did not know about the asteroid yet, he had suspected some interstellar event as the cause. He laid his suspicions at the foot of a supernova that would have happened near the earth, showering the planet with heavy radiation and killing all sorts of things. The theory was full of holes but there was some kind of evidence that a huge bubble of gas from a supernova would have passed through the earth's orbit at about the time of the K/T event.

Consequently, Dale figured that the K/T boundary would be more radioactive than the neighbouring sediments.

We took off from Ottawa with Dale carrying a Geiger counter on the plane (those were innocent times. Imagine trying that now). Being insatiably curious, he turned on the Geiger counter in the plane to measure the ambient radiation to see if it was higher at higher altitudes.

When we landed, he turned off the Geiger counter (or so he thought) and we went on the field trip. We left Calgary for Montana. At the first site, Dale found to his horror that he had only turned the rheostat down and but did not click off the switch, which meant the counter had been running all this time and the battery was dead.

We opened the device to see what kind of battery it had. We found four kinds of batteries including a very rare one that could not be bought anywhere but from a scientific instrument provider. In addition, we found that you need four hands, two heads, and a crew of bystanders to change the darn things.

A few nights later, we were in some small motel in a dinky town in Montana. There was a rowdy bar there and some less than intellectual fellows yuk-yuking about.

We always shared rooms when travelling like that, and in the middle of the night I felt a cold wind over my face. I woke up wondering where that came from, and saw the room door was open. Dale had started to worry about the Geiger counter and he wanted to test it. There he was, in the middle of parking lot with the bar patrons cheering him on, walking around with a Geiger counter, in his pajamas.

It made an impression on the locals but it reminded me of Diogenes running around Athens in the nude looking for a “real man”.

The second episode is entitled:

SHEEP DIP

We had gone to Jordan (Montana) to look at the Hell Creek locality for *T. rex*. It is now under water (thanks to the Fort Peck reservoir) but we could say we went there. The following morning, we decided to go Glasgow (Montana) because there is nothing in Jordan (at that time anyway). We took off at about 7:00 AM. I was driving and for those who have spent time in Montana, you will know that the speed limit is “Reasonable and Prudent”, which means your foot on the floor and warp-speed x 2. The road is as straight as an arrow and you can see forever so I was driving at about 75 or 80 miles an hour—in other words, standing still.

What I did not realize is that between me and the horizon, there was a small river where the road takes a sharp dive, makes a hard left, goes for about 500 feet, then takes a hard right over the bridge, and up the hill to resume the original direction.

Did I mention the wind wing? In those days, the front doors each had a wind wing, a small triangular window that you could open and swing completely around so it would blow cool air in your face. Today we have air conditioning. Dale was dozing with the wind wing completely open and his head against the door.

Came to the river crossing, flew down the valley, I tried to slow down but there was not much time. I made the hard left ok, but on the short, straight stretch there were five sheep, three on the left and two on the right. After much deliberation, I figured that two dead sheep was less of problem than three so we hit the two on the right.

I could not see Dale's face but I could feel his eyes growing as big as beach balls as he lay paralyzed in consternation. We hit the beasts and a graceful arch of sweet manure raised up and headed straight for the wind wing. It made a swishing sound as it deposited itself on a, by now, totally awake Dale. I can really impress my boss if I set mind to it.

We limped into town on a Sunday, going by, I'll swear, every church in town and pretending that nothing was amiss, and headed for the first combination car-wash/laundromat we could find.

Reasonable and Prudent they said!

And now the scary one.

A FATE WORSE THAN DEATH

Since I have been in Drumheller, I have often received a phone call and the voice says “care to go out for pancakes?” That strikes the fear of God into a man’s heart. But I am getting ahead of myself.

By now, we knew we needed to collect geomagnetic samples but we did not know how. So, as a trial run, Dale and I came to Saskatchewan to try to collect such samples since there are a few K/T boundary exposures there. In retrospect, the first attempts were totally ludicrous but that does not matter for the sake of this story.

We went to visit the Regina division of the GSC and talk to them about what we were up to and to just shoot the breeze about death and destruction.

We went to do the field work and on the last day we came back to Regina. We stayed at the all new Regina Inn, the flagship of Saskatchewan sophistication at the time. Since our flight the next day was not until 2:00 PM, we decided to pay the GSC another visit, have a decent lunch and catch our flight. As simple a plan if there ever was one

We agreed to meet at the coffee shop for breakfast at 7:00 when they opened, which is what we did. As the restaurant was empty at the time, the hostess told us we could sit wherever we wanted. So Dale made a bee line for a booth at the very end of the restaurant.

I slipped on my side of the booth and Dale plopped himself on the other side causing a veritable tsunami of water. Surprise!!!!!!!!!!!!!!!!!!!!!!!!!!!! The waitress ran over and apologized, there had a water leak during the night and the seat which was a huge foam cushion covered with cloth (not vinyl) had absorbed a large amount of water which we had observed.

So now Dale is OK from the front, but only from the front. They guide us to a small table away from the troubled spot, right in front of the door that leads into the kitchen. Since the daily catastrophe had already happened, we were relaxed; foolish thought.

We order breakfast, I can't remember what I had but Dale ordered pancakes. I was sitting there with my coffee in my hand when Dale's pancakes arrive. He slathers them with butter and grabs the cruet which holds the syrup. As he goes to pour the syrup, he fails to notice that the saucer upon which the cruet sits is stuck to the cruet due to some syrup overflow. He keeps on pouring until the saucer is on edge vertically and the surface tension is no longer able to keep it in place. It drops onto the table but does not fall flat. No sir. It starts rolling toward the edge of the table. Dale quickly puts down the cruet and tries to catch the saucer only succeeding in batting it farther whereupon it falls to the floor. Again, defying the laws of Newtonian physics, it falls on its edge and continues to roll. He bends down but fails to reach the saucer which continues on its merry way. Dale then surprises all of us by diving on the floor and crawling on his stomach in pursuit of the cheeky saucer. Mercifully the episode ended there.

However, as I said we were right in front of the door leading to the kitchen. The waitresses would come by with a perfectly straight face but as the door would shut there would be those roars of guffaws coming from the other room.

Being used to the boss's antics (we called him the "leerless feeder"), I was not overly intimidated by it but whenever I would hear the voice on the phone say "Care to go for pancakes?", I would answer in Japanese.

...fad, fad, fad till daddy took the T-Bird away...

Dale was subject to fads. But unlike the usual fad which comes today and goes tomorrow, Dale got into them with heart and soul and no holds barred.

After the National Museum reopened in 1974 after years in renovations, it became the flagship of the Trudeau era sophistication, on par with the National Arts Centre. And the Paleobiology Division was the darling of the museum. Whatever Dale asked for, he got.

The extinction problem was always right under the surface and though Dale knew a lot about the animals that had gone extinct, he did know so much about the flora. He figured a paleopalynologist was needed. He asked for one and within a few months David Jarzen was hired in that position. Little did he know that he would be the cause of many a fad to strike the Paleo division.

The first one came just off handedly when David noted that some of the pollens he observed at the terminal Cretaceous, looked a lot like African violet pollens. The race was on. Dale got into African violets with a vengeance. He started to learn everything there was to learn about them and started growing a few in his office. Then he had to bring some home so he grew them in the rumpus room. Then the bathroom had a few followed soon after by a line of them along the kitchen windows. The last straw came when they were all over the tables in the living room. The problem, you see, is that African violets like humidity. For instance, they grow around Victoria Falls where there is constant mist. Ottawa is dry, especially in the winter. So, to compensate for the lack of humidity, Dale hung old diapers soaked in water all over the place, including the living room, in front of the picture window to keep the humidity high.

That is when Janice put her foot down, suggesting that the flowers and the diapers did not disappear soon, Dale would be made to eat them. End of fad...

But the end was not really near yet. Dave Jarzen also noted that there were many types of hardwoods in the Cretaceous. There were oaks of course, magnolias, birches and a waft of others. This fad was not necessarily funny but wherever we went after that, from Alabama to Christchurch (New Zealand), we had to stop in the forest to look at trees.

Soon after the presence of figs was noticed in the pollen samples. This was the fig phase that Rick Day mentioned [see below]. He pretty well summed up the situation but he missed a small event. The janitor Dominic was in fact Dominico Padova Tatasciore (that's not Russian). Of course when you think of figs, you think of Renaissance sculptures, and when you think of Renaissance, you think of Italy. In walks Dominico Padova Tatasciore and Dale latched on him trying to quiz him about figs. Of course I know a "lotta abouta da figa", says Dominico. "Lotta figa in Ottawa, maybe someday I take you to see them." So, a date was set and sure enough, Dale and Dominico leave to see the figs.

When Dale comes back he describes these wonderful estates he has just visited with Dominico, the super expensive houses, the gardens with fruiting figs right here in Ottawa. The more he talked about this, the more we started to realize that Dale had spent the day visiting the Ottawa Mafia dons. We had a laugh about that.

I am convinced that Dominico eating Dale's figs was not entirely unintentional.

The next fad, again spurred by Dave Jarzen, who noticed the presence of mycological spores in the samples, was the mushroom phase that Rick Day mentioned. Immediately, Dale asked for a paleomycologist and sure enough, Chris Pirozinski was hired. The mushroom phase started.

One day, Janice comes home and Dale is in the basement with some log board and he is putting what looks to her like oversized eaves troughs in the darkest part of the basement. Her curiosity peaked, she asked what that was for and when she received the explanation that they were troughs to grow mushrooms and that they were going to be filled with horse manure which is what mushrooms grow on, Janice had the expected reactions; she threatened marriage dissolution complete with rack and ruin if that plan was to be enacted.

Of course, at the lab on Woodward, we had no idea was going down and when Dale showed up with his lumber and started to produce the troughs we had the reaction that Rick Day described earlier. We never saw mushrooms growing in between the racks but Dale went wild. By that I mean that he started to pick wild mushrooms and treating us to sautéed wild mushrooms, sautéed over the chem lab hot plate. It is a mystery that most of us are still here to talk about it.

Once again, Dave Jarzen to the rescue. Another type of pollen that was found was probably related to grapes. This fad was the favorite of us all. Dale got into wines. I need not elaborate. Hey, if the boss wants you to drink wine on the job, are you going to refuse?

The last fads are something that I did not witness myself. They happened after I left for Alberta in February 1979. However it was related to me by various witnesses, probably Rick Day, Gerry Fitzgerald, Dave Jarzen, I forget, but is it so Dale-ish that I have to believe that it is true even if it is so outrageous. So here it is the way it was related to me.

A sculptor by the name of Séguin (I don't know his first name) came to Woodward drive to make a sculpture of *Stenonychosaurus inequalis* (remember *Stenonychosaurus* from the first episode?). He did a bang up job and the animal is life size and walking casually along. Dale was

very pleased and he was walking around the model and when he stood directly in front, he noticed that the snout was shortened by the perspective and the hands were pretty much prehensile, it was cursorial and probably warm blooded (that had been the prevalent theory for a while, even if feathers had not been seen yet). He started thinking what if the extinction had not occurred, could this this have evolved into a sentient being? (The idea of birds had not occurred to him). He and Séguin began creating a hypothetical being based on *Stenonychosaurus* that would have somewhat humanoid characters. They called it Dinosauroid. Had I been there, I would have insisted on calling it Androsaur, but I was not. Dale was derided for that but the idea and speculation is intriguing and I saw it for what it was right away and was quite amused.

This whole affair gave rise to the final fad that I am aware of. Dale thought right here, on this little rock spinning around a sun of no importance in a godforsaken galaxy, the possibility of intelligent life may have occurred twice; once terminated by an unfortunate celestial event and succeeding the second time in the evolution of *Homo sapiens* (man the sap). This probably means that somewhere in the unfathomably huge universe, the possibility that there is sentient life is almost 100%.

Could those beings be so advanced that they have figured out how to manipulate the space/time continuum and are able to travel though the universe, exploring at will? COULD THERE BE UFOS?

Dale began studying the phenomenon of UFOs. He read all he could, weighed the evidence, made measurements and critiqued everything, in other words he became a UFO scientist. Meanwhile, down the road from his house there was a guy (we will call him Gary for no reason) who was a UFO nut. There is a difference: a UFO scientist is searching for the truth,

and a UFO nut just wants the sensationalism. The two of them would get together and have long conversations about the subject.

One night, in February, in Ottawa, minus 25 Celsius, knee deep snow, Dale is asleep when the phone rings. It's Gary. "Dale," he says, "look outside, the sky is full of UFOs." Dale jumps out of bed, puts on his housecoat and slippers and runs to the front door to look at the sky. A car drives up and honks the horn. It's Gary. "Jump in we'll go to the park, it's darker out there it will be easier to see them." Dale does not think, he jumps in the car in his pajamas, housecoat, slippers, knee deep snow, minus 25 and off they go.

The park in Kanata is a lover's lane and the trees are full of steamed up cars. Well you know, we get nervous, we call the police and the police comes. They see a guy in his pajamas, housecoat, slippers, tromping through knee deep snow in minus 25 degree weather in lover's lane, they call out "Hey buddy, what are you doing there? He says "I'M LOOKING FOR UFOs!!!!"

This entitled "Take it off! Take it all off.....!"

I remember it as 1981. The PMA (Provincial Museum of Alberta) was running its annual field camp in Dinosaur Provincial Park and southern Alberta, and Dale came for a month-long stint in the camp. He brought with him his young son Frankie, whom he called son Son. Son Son was a teenager of slight build, shy, retiring but pretty happy to be with the real dinosaur boys.

One day the Russells were to accompany me to my quarry. My quarry was on the south side of Little Sandhill Creek (for those familiar with DPP). The easiest route to that quarry was

to go to the lookout point where the tourists would stop to take the full view of the DPP badlands. It is impressive at any time for anyone.

Dale, Frankie and I got into my truck. Now by late July, our field trucks reminded me of Pigsty from the comics Peanuts. They ran in a perpetual aura of dust and plaster powder. We drove up to the lookout point and went to the far south end of it. All the tourists saw us and immediately thought those must be real paleontologists. This is not a tourist type vehicle. They followed us at a respectful distance and watched to see what we would do.

We got out of the truck, I in my paleo field uniform, a reprehensible tee shirt and cut offs; real cut offs. Levi jeans which had been torn to bits earlier in the year and the legs had been cut off to make shorts out of them. The shorts too are fraying at the bottom, leaving the pockets to herniate out of the legs. By now the tourists are absolutely sure that this is the real deal.

We put on our back packs, take shovels and picks and instruments of destruction and head off for the cliff. Now, the cliff is pretty steep there but not impassable. The tourists line up on the edge of the cliff as they see us go down. We arrive at the bottom and walk to the creek, about 30 meters, if that.

It had rained quite a bit that summer and the creek was a deep ranging torrent and I thought if Frankie got in there he would be washed away and we would not see him until we collected the remains in Jenner (again an 'in' joke). So I climbed down into the creek with my boots on and all, and turned around to catch the shovels and picks and instruments of destruction to whip them over to the other side of the creek.

I turned around again and the backpacks were duly produced and they went to the other side.

I then turned around again and grabbed Frankie and hurled him to the south side.

I then turned around to give Dale a hand in negotiating the creek only to get a handful of neatly folded clothes with the shoes sitting on top. I looked up and here is Dale in his birthday suit, buck naked. Need I remind you of the tourists who are lined up along the edge of the cliff, watching these proceedings with great interest? There was much hooting and hollering and applauding but I don't think that Dale noticed.

On that day, paleontology's prestige suffered a mortal blow but its sense of humour was a resounding success.

Dale the Prankster

Once in a while, he would pull a fast one on us. In 1968, Peter and Dawn Dodson in their car, and Dale and I in our truck, were out on the south side of Sandhill Creek in Dinosaur Provincial Park. We had parked right along the barbed wire fence, near the Princess pumping station. After a long day in the hot sun, we usually had a few 5 gallon containers of water which we would prop up either on the tail gate of the truck or the roof of Peter's car and pour water on our heads to cool off. Just as Peter had his head down and water was running down his back, Dale leaned on the horn and Peter jumped straight up in fright. I turned to look at Dale and he was sitting in the truck laughing his fool head off and saying "I hate myself, I hate myself." It's a good thing that Peter did not jump forward or he would have been tangled up in the barbed wire, like Steve McQueen in the "Great Escape".

Another time, in southern Saskatchewan. We were looking over the Wood Mountain area. Dale found the remains of what would have been a not even yearling hypsilophodont,

possibly *Thescelosaurus*. The vertebrae were barely the size of nibblet corn. There were foot bones the size of shelled sunflower seeds, a few other bones but no skull nor pelvic bones. However we collected it, made a jacket that was just barely larger than an LP record (for you old fogies), about 3” thick. It was heavy but carryable.

Dale said to me, “Start carrying it and I will wait for you around the hill and we will switch, then you go ahead and wait for me behind the other hill and so on.”

So, I got going, carrying this thing which must have weighed about 80 lbs. I turned the corner and no Dale. I go around the next hill and no Dale. I got around that corner and there all the way back at the truck on the road is Dale taking pictures of me lugging this crazy jacket and he saying “I hate myself, I hate myself”.

If Looks Could Kill

Dale was unusually inept with his hands or just about anything not intellectual. On our first field trip, we were in the Peace River country and we needed to do some laundry. We went to a laundromat and Dale threw everything in the washer, regardless of colour or condition. His brand-new red pajamas went in with the rest, including his white underwear. The result was that he spent the rest of summer sporting sexy pink underwear.

Over the years, the technicians at the lab went around after Dale, checking to see what he had broken. The only thing he had no success with was an ankylosaur tail club. But then again, maybe it was too heavy to lift in the first place.

His most famous feat of destruction was not even his fault. January 1969, by then the elements of the skeleton of *Stenonychosaurus* had been prepared and were ready for study. Dale was quite convinced that this specimen is related to *Dromaeosaurus*. Because we wanted to put it on display when the museum renovations were completed, he wanted a skull to study as well. We only had a skull cap—the top of the braincase—so he borrowed the type specimen of *Dromaeosaurus* from the American Museum in New York. In those days, people were somewhat casual about these things and sure enough, the AMNH sent the specimen “BY MAIL?!?!?!?” no less.

Wann Langston described the weather in Ottawa as 9 months of winter and three months of hell. We were in the middle of an invigorating cold snap when the skull arrived. Gerry Fitzgerald and I carefully opened the box, made a little nest with soft but firm cheese cloth and wood shavings (no ethafoam in those days). It was like disarming a bomb.

When we had the skull out to see, we called Dale and told him in no uncertain words that this was not your ordinary item and he was not to touch it at any time, especially without telling us that he intended to do so. Dale came in all bouncy and looked reverently at the specimen. By now it is was warming up and the old glue, which had probably denatured in transit and weakened, gave way and the skull fell apart in two pieces in front of Dale’s nose; he had not even breathed on it, let alone touched it. The look of horror and dismay on Dale’s face should have been preserved for posterity but nobody had a camera on hand.

Once, I was preparing the skeleton of an *Aspideretes* turtle. In those days we had some of those old school gym chairs, those metal clattering things that were the epitome of discomfort. As I was working on the little, tiny foot bones and skull, I had my face in a microscope and when you do that, your world becomes microscopic too, like Disney’s “The Fantastic Voyage”. Dale

came scurrying through the lab on his way to the collections area. Somehow, he got his feet tangled up in one of those metal chairs and kicked it. It went clattering across the floor and for me with my face in the microscope, it sounded like a 15 floor scaffolding unit coming apart on my head. I nearly had a heart attack.

Rick Day (Research Assistant at the Canadian Museum of Nature, now retired)

Dale & figs:

Where Dale got his interest in figs, I'm not aware of. He somehow got a hold of some fig sapling stock and had two or three figs growing in pots in his office at Woodward Drive. How these figs actually survived is beyond me as they were planted in real crappy soil, Dale wasn't actually fastidious in watering, and surprisingly were not baked alive by the broiling sun coming through the picture window. Anyways after years of growing and Dale cross pollinating, the plants got to the point where they produced two or three fruits which Dale was immensely proud of. We had an Italian office custodian at that point by the name of Dominic who usually only worked in the early morning hours and I guess one morning whilst cleaning Dale's office, his taste for figs got the better of him and he ate them all. When Dale showed up for work he quickly realized that the figs were gone, he was in a state of consternation and almost in tears. He questioned all as to their knowledge of this crime. Dominic finally fessed up to his misdeed a few days later.

Mushroom story:

Again, where Dale got his varying interests is somewhat a mystery. Anyways, near Dale's house in Bells Corners, there was a really nice patch of mature mixed hardwood forest and Dale would go there to harvest the wild mushrooms, and especially the morrells. He would bring these to the lunchroom and periodically cook them up on an electric hotplate, with olive oil, butter and salt and pepper, offering to share the delights with anyone who wanted to. Have to admit, they smelled absolutely delicious. I believe Kris Pirozynski (our paleomycologist) abstained from the feast as he was always wary of wild mushrooms he hadn't collected, so I followed his lead and didn't partake. All who did certainly enjoyed the feast, with no repercussions. Dominic comes into the story at this point and he decided to reciprocate as he also had an interest in wild 'shrooms. Unfortunately, in this case, there was something amiss and a few of the participants ended up with very queasy stomachs and other associated symptoms. That was the end of the mushroom experimentation at Woodward.

I don't think Gilles had left for Alberta at this point, so he may be able to correct any errors in my memory.

DAR and the Romer Incident

Dale Russell and his attempt at lowering Al Romer's "encephalization quotient" (term used somewhat out of context, but fits nicely with Dale's later work on EQ).

I shall have to set the stage for this:

Early 1970s at the Woodward Drive Palaeobiology collections. At the time there was a dusty, dimly lit, low ceiling mezzanine above the front office space that housed HVAC equipment and was also used as a general storage space for a variety of materials not commonly

used. It also housed a small modern vertebrate comparative collection of various taxa that was located fairly close to the stair access. I have to add that the mezzanine was crossed periodically with very low cantilever steel roof trusses, and one had to be very wary of these when up there.

Al Romer was in Ottawa for some engagement, but also wished to see the vertebrate palaeontology collections at the NMNS. Dale chauffeured him over to give the tour. Dale was most likely nervous about the tour, probably wanting to impress Romer, after all you were dealing with a god of VP. Whilst walking through the collections, they got into a discussion on some obscure morphological feature of a particular taxon. Dale told Romer that they were in luck as there was modern analogue upstairs in the mezzanine collections that might help in their debate. Now the logical thing would have been for Dale to retrieve the specimen and examine it in better light downstairs—but no, Dale asked Romer to follow him upstairs for the examination. Dale goes jaunting up the stairs, with Romer close on heel, made the quick right hand turn around the mezzanine railing, and ducked under the roof truss to the cabinets. Unfortunately in his enthusiasm, Dale forgot the cardinal rule of taking visitors on to the mezzanine—that is instruct them to duck under the beam. Romer, unaware of this, hits the truss full on uttering some sounds of obvious agony (always wondered whether Romer cursed like a lot of us would—probably not). Dale turns around to see a very distraught and dazed Romer, with a rapidly developing welt on his forehead, but fortunately no blood. End of tour and discussion. Dale would have apologized profusely and made sure that Romer was OK in the short term, although Romer probably had a massive headache for days. Hopefully, he didn't have any concussion, not that well understood in those days.

The particular section of offending truss was eventually wrapped in heavy foam padding some years later after a few more incidents.

Dale and the coffee cup

Again at Woodward Drive, probably mid-1980s. For some unknown reason Dale gave up ceramic mugs for his java fix and switched to a white Styrofoam cup. Normally with most folks, such a cup is a one usage deal and the cup is tossed after. Dale was different, very insistent on reusing the same cup. Either Dale was an early pioneer in recycling or he was conducting some experiment in materials degradation. In any event (and I can't remember whether he took his coffee black) the inside of the cup took on a light coffee coloured patina that over time developed into a very tarry like coating. Sometimes he rinsed it after use, but not always. The cup must have easily gone through several hundred uses by this point and was amazingly still structurally sound.

At one point, and I never really fessed up to it to anyone at Paleo, I got sick of staring at this rather disgusting cup; so one morning before Dale arrived, I crumpled the cup and tossed it into the dumpster at the back of building (it certainly wasn't done for any altruistic reason like Dale's well-being). Dale arrives at work, comes into the lunch room for his fix and sees that the cup was missing. There was momentary bit of consternation on his part and he asked whether I knew what happened to his cup— "No idea, Dale" was my innocent reply. Dale goes back to his office, and returns a few minutes later with another Styrofoam cup, already preconditioned with a light patina. Little did I know that he had a few extras in reserve in a cabinet in his office. At this point, clearly outfoxed, I gave up. I can't remember whether he maintained the Styrofoam cup tradition when we moved to St. Laurent.

In 1975 when coming back from the Morgan Creek badlands with Kris Pirozynski and myself, Dale was driving occasionally. In one stretch in Saskatchewan during a blinding rainstorm and anxious to get home (many reasons for this), he was trying to pass vehicles on the Trans-Canada (50 ft. visibility at most). We survived. Later in the day, again on the TC, Dale was again driving right through a vicious hailstorm (up to 1" in diameter) and as we approached Winnipeg he saw a motel he wanted to stay at. Quick on the brakes and here we were doing at least one full circle on the TC in a very heavily laden Suburban. Surprisingly, we survived and ended up in the entrance to the motel parking lot. Kris had a few choice words with Dale; he not being too notable for such wording. Next morning we continued on our journey and driving through Northern Ontario, Dale was driving (why?) and launched into a discussion of the transition of the forest tree floras and edaphic reasons for this, hands off the wheel pointing a good portion of the time; meanwhile the vehicle was in the wrong lane a good portion of the time. Kris kindly asked him to stop at the next convenient spot and told DAR that he would not be driving anymore. I took over until Ottawa, whether Kris spelled me I can't remember. I never drove in a car that Dale was piloting again, although I did drive him many places.

Peter Dodson (former student of Dale's in Ottawa, now Professor of Anatomy at the University of Pennsylvania)

Another botanical fascination of Dale's was ferns. One and only one time I was a guest at Dale's house for dinner. The entrée was Jan's fern soup! Dale was proud of the fiddleheads he had collected. Come to think of it, this was in early March. They must have been in his freezer from the previous spring? It was, shall we say, very green! I honestly don't remember the taste, but my good wife, Dawn, is not nearly as adventurous as I am. It was all she could do to get it

down and not make a scene. Me—I will eat nearly anything (put to the test in China with five phylum soup!). I had no trouble. But we didn't ask Jan for the recipe!

Also a mushroom story that Gilles might remember. Hope Johnson was a singular lady from Medicine Hat who was very much a feature of our shared time in Dinosaur Provincial Park in the magical summer of 1968. She often arrived in camp bearing gifts, a blueberry pie, some fresh muffins or cornbread, strawberries, rhubarb sauce. On one occasion she brought some fresh mushrooms that she had harvested somewhere that morning. Dale was delighted and quickly fired up the cook stove (Coleman?). He sliced them and sautéed them in bacon grease and served them up hot. However, in his eagerness he hadn't washed them properly. As tasty as they were, they also removed several microns of enamel from our ivories, as they were, shall we say, crunchy. Hope had harvested them beside a gravel road!

Dick Harington (Research Scientist at the Canadian Museum of Nature, now retired)

I expect you have more outstanding memories from Rick and Steve than I could give you (e.g. Dale's endless search for figs growing in Ottawa; in bringing rare and edible mushrooms to work... cooking them for all in the back lab area; his habit of lining up page after page of a new, large typescript from his office door to near the front door of our former building on St. Laurent Blvd.; and of "attacking" a skunk in his backyard wearing a couple of black plastic garbage bags!).

I recall him generously letting me take over Wann Langston's former large, bright office on the second floor of the Sussex and George paleolab, while he kept the small, dark office

formerly occupied by Charles Sternberg on the ground floor—next to a mounted ceratopsian dinosaur!

Elizabeth Horton (Dale's daughter)

My parents moved to California in 2010, just after my father's retirement from his job in North Carolina. They bought a house near me, in a senior retirement community. We spent much time together and went on many excursions. Dad was always full of imaginative ideas of where to go and what he wanted to explore. Dad was always very active both physically and mentally. After my mother died in August of 2014, Dad stayed at their home until December when he moved into our house. It was an exciting time and we had lots of fun. My Dad was able to spend much time with my four children and two grandchildren. Dad was part of us. We did everything together. He loved to go on his daily bike rides. My husband Dan went to the gym every day where he and my Dad would exercise and enjoy being out with family and the comradery of the new friends that he was making at the gym. Dad was always a happy person filled with life! He had a fascination with elephants! We went on many excursions to zoos and animal sanctuaries to gaze at these animals. Dad would often tell us stories of his adventures in Africa which always left a smile on all our faces. We used to go on many day trips around this beautiful state of California. His favorite being his trip back to Daly City, San Francisco. We went to see the house that he lived in when he was a mere toddler. We compared the present with pictures from his past. It was an amazing walk down memory lane! He told us of many anecdotes of his youth and about living there with his parents and older brother Don.

As you must know, Dad was very emotional about his memories and the people that he shared them with. We often revisited his many trips into China and the daily struggles with the heat during the summers and fascination with the Chinese culture. Dad would share countless stories about the day he escaped the Tiananmen Square massacre in June of 1989! He was on the last Canadian airplane out of China! Quite an exhilarating story.

Dad and I have always had a special bond. We did so much together and were always up for an adventure. Our last adventure together took us to Paris, France in 2015. My father was then showing signs of decline and he wanted to visit with his brother Don and his wife Denise, before his lack of memory and word finding became overwhelming. We had a fantastic time traveling through France and to a family reunion in Morvan with Don, his son Sam, and family.

We were sad to see Dad leave for Arizona in 2018. We would love to have had him stay with us until the end. My husband Dan and I went to visit Dad while he was in the treatment facility in Arizona. We had a lovely time. We treated him to all his favorites like, white mochas at Starbucks with a healthy slice of lemon cake. He always seemed compelled to drink them with a straw stating that he did not want his moustache to get filled with foam! We went to the zoo and visited the elephants among other animals. We went to the “dinosaur” museum. He had great fun here! While he was touring the animated museum, we ran across a man who worked there who was studying paleontology. Of course, we introduced him to THE Dale Russell and the red carpet was rolled out! He was an instant celebrity! He loved every minute of it! He had his pictures taken to be preserved in the museum’s historical events! We had great fun and many laughs. This was the last time that I saw my father. Saying ‘goodbye’ to him was the hardest thing that I have ever done- not knowing, of course that I would never see him again.

David Jarzen (Research Scientist at the Canadian Museum of Nature, now retired)

Dale Alan Russell died December 21, 2019. He was 82 years old, suffered from dementia, and lived with his daughter and her husband. But before all that, Dr. Russell was a unique, fascinating and fun person to know and to share work. I know this, and have known this for 47 years.

I first met Dale in Saskatoon, Saskatchewan in 1972, at a meeting of the Geological Survey of Canada. I was just completing my doctorate studies at the University of Toronto, and had registered to present a talk at the meetings. This I was told by my major professor, Dr. Geoff Norris, was a good way to get exposure and to begin the process of looking for employment. I never expected that my time in Saskatoon would change my life and was the beginning of a friendship that taught me so much.

At the breakfast served at the hotel where the meetings were being held, I learned that Dale, as dinosaur specialist and Head of the Paleontology Division of the National Museum of Natural Sciences was looking for a palynologist to work at the museum, with emphasis on the Cretaceous and Tertiary palynofloras. I could not believe what I was hearing, and immediately struck up a conversation with Dale, eventually securing an interview later that month. The interview went well, and one month later I was hired as Curator of Fossil Plants at the NMNS, National Museums of Canada. I maintained the position for 23 years, all of which I worked with Dale Russell.

During the years spent with Dale, I became a better person, a better scientist, and a much better thinker. Dale never let a working day go by without a surprise. The surprise might have been a new fossil find, a larger-than-life plan for the future, or even sometimes the surprise might

involve a question to the paleontology group which would begin a few days of heavy discussion and varied opinions, to simply opening the floor to unleash a mirage of dreams for science the world and our position in that world. Dale never let a day go by without a surprise.

Years later Dale and I said our goodbyes as he moved to North Carolina to take on another position as the dinosaur expert for the North Carolina Museum of Natural Sciences at Raleigh, NC, while I followed close behind and moved to Florida to accept an offer as Collection Manager for the Paleobotany/Palynology Section at the Florida Museum of Natural History, in Gainesville, FL. We stayed connected for many years, but eventually after the death of his wife Janice, Dale began a slow decline into early stages of dementia. Later yet, he moved to California to be with one of his daughters, Elizabeth, and eventually his dementia grew worse.

I think back now to my days with Dale Russell, and tears often come to remind me how close we were, and how much the man meant to me. I think of Dale as tree in a forest. Perhaps one of many fine trees, one not often noticed, until the light shines upon its leaves in the fall or when the tree blossoms under the right conditions. The tree stands firm, it weathers the rain, the wind and the pressures of life. Eventually the tree dies, it falls, it returns to the earth from whence it was born. But the tree's image of strength and beauty lasts forever.

Dale's daughter Elizabeth wrote about her father's last days. She noted that just a day before he passed, he was happy and she and others took Dale to the Zoo. While there he seemed pleased to see the animals and as Dale would do, he stopped and spoke with the elephants. I think they understood him.

Good Bye ol' buddy.

Clayton Kennedy (Collections technician at the Canadian Museum of Nature, now retired)

Dale was a big picture guy. You could park (and did) a Beijing Jeep on a fossil bed and he would be out and headed for farther hills before the parking brake was set.

I was hired as his assistant in late 1983 and spent a month in the Arctic and NWT in '85 where I quickly learned that while he had a much faster pace than me, if I held back a quarter mile, I would end up at his stop point at the same time, given his zig zags. Coming from an archaeological background I kept my eyes on the ground while Dale would be forever scanning the horizon. He could cover ground and synthesize an analysis of the terrain by dinner time.

Born in the Wallowa Valley, Oregon, he liked to humbly mention that that rural farm valley produced more PhDs per capita than anywhere.

A pious man, from a Protestant family, he explained that he experimented with religions, including Buddhism, before settling on Catholicism while at Columbia U. I suspect that Jan may have been an innocent catalyst. I often heard the tapping of rosary beads in the wee hours of shared quarters and tents. Dale was also a founding member of the first Latin mass church in Ottawa. On the way to get the Melville Island plesiosaur skull scanned at the Civic Hospital, Dale cautioned me not to bring up timelines or dates around the head of the department as he too was a church member but with more religiosity. All good. The man was fascinated and quite cooperative. He did have to suddenly end the session to attend to a couple of barium enemas loaded in the waiting room. We got a couple of dirty looks on the way past with this field jacket.

While writing *A Vanished World*, he employed Ely Kish who sculpted each dinosaur before painting them into an environment. Patient and a giving person, Ely came from a rough

life in the Bronx. They spent hours at a time happily going over details and learning about each other as well. But when—and it certainly happened—Dale would wear on her, she would start a discussion about how dinosaurs would procreate (though in more colloquial language) and start to imitate a dinosaur orgasm. Dale would blanch and clear the room in short order and Ely would resume her painting in solitude with a smile.

Dale's encounters with the mortal world are legendary and Jan kept him grounded. He called me into his office one morning when I arrived, to tell me a story. That morning, always an early riser, he noticed that in the early darkness, he had, or so he thought, caught his neighbour's black cat in his "marmot" live trap in his vegetable patch. On closer inspection the cat had a white stripe. Not wanting to disturb his sleeping wife, he hatched a plan. He stripped to the buff and made a garbage bag suit duct taped together and around waist, ankles and wrists. For a helmet he put a clear bread bag over his head and duct taped around his neck. He said he marched to within a few yards when the beast turned and got off two shots directly at his chest. He wrestled with the trap and finally shook the poor mustelid free with some commotion. Neighbours' window and porch lights snapped on and Jan refused Dale from re-entry to the house smelling like he did. He had no choice but to un-duct tape his nakedness from the rudimentary but successful hazmat suit in the light. He hit the basement shower. On the way to work he tied the "suit" to the ball hitch of his car and dropped it off at the local Dairy Queen dumpster. And there he sat in his office, feet on desk, at 8:30 that very morning, without the hint of anything amiss.

[Son Frank Russell adds: And when Dad told us that he had left the bags in the DQ dumpster, and wondered aloud whether that was a sin, his daughter Maria looked at him and said deadpan "Looks pretty bad, Dad."]

[Daughter Maria Russell adds: After Dad made his special delivery to the DQ dumpster, he solemnly avers that the next time he drove by it was padlocked.]

Dale had a playful, somewhat mischievous side that often popped up—as Phil alluded to the slack human jaw Dale put on Malcolm Mckennas’s knee. I recall our table being presented with a plate of chicken entrails this onetime. Dale rose up quickly with glint of Wallowa Valley, kid-that-knows-his-way-around-a-chicken, in his eye. He leaned over plate, chopsticks held high and declared that he was going to find the “working end”. In short order called out a triumphant “Aha”.

Dale’s spontaneity ran afoul another time in a GSC base camp on Melville Island. With a given camp population of 20 plus snowed in for three days, the camp cook was challenged, as usually, the two helicopters would be busy sending and retrieving bodies to farther flung fly camps leaving a smaller house (tent city) to manage. Louise, a seasoned camp cook, now stressed, decided to cook up two whole turkeys from the larder to feed the crowd. The camp manager was at wits end trying to make radio contact with the real world in the radio tent, the two helicopter pilots and two mechanics were calmly playing euchre, the three Irish Brant Geese biologists were quietly singing ditties and others were reading or otherwise quietly engaged. Dale was restless and determined to help in the “kitchen”. “Help” denied. Undeterred he undertook an unsolicited turkey anatomy lesson as Louise prepared the birds. Apron off, she stamped out to her tent. Several volunteers stepped in to help cook the birds and Dale peeled carrots as the Irishmen sang. Louise emerged from her tent a couple of days later and she gave us big wave and smile as our chopper left. All good.

The jaw story is one that caught us off-guard.

Heading out for breakfast at the lovely Dadu Hotel, Beijing one morning, Dale stated that Malcom McKenna and an AMNH crew were also staying there. I could always sense some static when the AMNH came up in conversation and it was obvious that we would all cross paths in the breakfast room. The lovely Dadu was experiencing renovations and we were required to cross over newly dug trenches on planks of wood. Over the plank and back dirt Dale strode with purpose. Looking down I noticed bone, lots of it—including a human jaw. Dale turned back, smiled his mischievous smile and without hesitation and, with a sort of give-me-that swipe, was off at full stride. He scanned the room and made his move. With almost a tactical strike he rushed over with outstretched arm and placed the jaw on Malcom's knee and turned with a so-there kind of laugh.

Sheila reminded me of Dale's understated mention of the letter he received from an unnamed Hollywood producer asking him to be the scientific lead on an alien movie. Dale had declined the offer.

Coincidentally, E.T. was produced shortly after (E.T.'s similarities end at waist level)...

The movie followed the un authorized release of the dinosauroid story and thoracic view-only image (pre-*Sylogeus* publication) —in *Omni* magazine, during Dale's Berkeley secondment where Dale received concerned, creationist "fan" mail and a tape recording of "what-for" from the spouse of an evangelist preacher.

The story came out again as Dale, Sheila and I hosted Louis Psihoyos and John Knoeber on their *Hunting Dinosaurs* photo journalistic tour with Edward Drinker Cope's skull. Though Dale did not wish to expound further on the letter.

Then there were bears...

Dale often told the story of Dave Bardack being bitten by the grizzly. It was during their 1966 NWT trip. Dale was on one side of a valley and Dave on the other. A grizzly chased a caribou up the valley, where upon Dale jumped up and down, waving his arms, yelling "Watch out! A bear". Dave thought Dale was excited about finding a fossil and charged across the valley to meet him. Dave crossed between the caribou and the bear. The bear turned and bit Dave on the ankle then turned after the caribou at full speed up hill.

Fast forward to 1985, Dale and I were in the NWT at the site of the only concretion containing the jugal of a ceratopsian. We were the guests of Art Sweet and joined him on a section across Cretaceous outcropping. The helicopter hovered as we three kicked out our gear then jumped. We were to complete the section and get picked up by the chopper on the next ridge at the end of the day. We headed up the caribou track and realized that the grizzly blueberry grunt was fresh. At the top of the ridge, covered in dead spruce spars (and the reason the chopper could not land on the top), Art said two things—"I forgot the shotgun in camp" and "I bet there is a bear in this blueberry patch". We were armed with a shovel, a transit rod, Dale's attaché case and three cans of sardines for lunch. Art took a swing and smacked a spruce spar with the shovel. There she/he was. A solid grizzly between us and our destination. It reared up and charged straight for us over the tangle of dwarf birch and blueberries. Impressive sight

indeed. We made a quick, calculated assessment of our rapidly shifting plans and agreed that bears do not run downhill well—we jumped over the side. I landed in dwarf birch and looked back up hill to see Dale upside down and backwards with a firm grip on his attaché case that was twisted in the dwarf birch. He was not ready to let it go. Art, with a lower crank case than us, showed up shortly after, with pants split to the ankles, claiming that our plan was to leave him for bait. We sat in the cloud of mosquitos for a while before circumventing the ridge altogether. Art recovered his pride, Dale recovered his Stetson and attaché case. The sardines were delicious as we waited for the chopper, though Dale and Art decided to wait for dinner. The jugal is a whole other story...

Makoto Manabe (Research scientist at the National Museum of Nature and Science, Tokyo)

It is impossible for me to remember if Dale has expressed any negative feelings about something. He was always very careful to make statements and to draw conclusions, as a good scientist.

A group of us went to an Asian restaurant in Ottawa for lunch back in the eighties. There was a new waitress at the restaurant. Dale wanted to ask her where she came from. He wanted to be polite and said something like, "May I ask you a question? Where do your ancestors come from? You do not have to answer it if you feel it is too personal" very, very quickly. The waitress did not catch his question and she said to him, "What is the problem? What do you want from me?" It was perhaps the only occasion I remember someone was not happy to talk to Dale.

Don Russell (Dale's brother, Research scientist at the Centre National de la Recherche Scientifique, Paris)

We were living on Blake Street in the Richmond District of San Francisco when he was born. I remember looking with benevolent interest into his crib.

1937 was also the year the Golden Gate Bridge was opened.

Later, when we lived in Daly City and he was 3 or 4, he was in his high chair by the dinner table where we were having asparagus. A branch of it was put before him.

He looked intensely at it and said "I can't eat it. It's smiling at me." This is perhaps the first indication of a superb imagination which eventually led to the dinosauroid.

Years passed. We now lived in a shack 5 miles out of Enterprise, Oregon. When the wind blew, the wall paper moved. No running water; it came across several cow pastures and ended in a small trough behind the house. In winter, the ice had to be chopped out to make it function. The outhouse was at the end of a snowy path and snow had to be brushed off the wide board with 2 large round holes in it. Our mother did the dishes in a dishpan on the woodstove to keep the water hot. It was Dale's job to bring in the wood. Chores were never things that elicited enthusiasm in my small brother. He much preferred imaginative games with his sister, who was most happily his slave.

In our very modest library we had a big book called *The Earth for Sam*. In it, dinosaurs were mentioned. I had already been bitten by paleontology and it quickly penetrated Dale. When he was about 10 he made his first one—a stegosaur.

From the moment we moved, Dale went to school in a one-room school that was a good mile away on a small dirt road. No bus.

The family car was a 1929 Ford Model A pickup, in which the parents and two smalls travelled from Daly City to Enterprise. I took Dale on a trip to the John Day fossil beds one summer. It was so hot I opened both doors of the pickup and tied Dale to the gear shift so he wouldn't fall out.

After I began leaving home, to various universities, he followed different paths, ending up in New York with a doctorate and a wife.

If a brief concept could be cited to characterize my brother, it would be imagination.

On the other hand, he frequently had spells of intense enthusiasm for one subject or another. Once he literally inundated me with data on the melting ice caps over northern Idaho. Another time, it was elephants. You never knew.

A wonderful fellow!

Our mutual esteem never diminished.

People have asked about Dale's character.

He was the kindest, gentlest man I ever knew. I doubt he ever had an unpleasant attitude. And I never saw him angry.

This might sound difficult to believe, but Dale was really different.

My children, Sam and Susan, greatly appreciated his humor and the fact that he was so pleasant to be around.

In later years he used to laugh uproariously at his own jokes, which amused us immensely.

It is not possible for me to find anything negative about my brother.

I just remembered another memorable moment in his life:

He was in mid-career and was visiting the natural history museum in Bruxelles, mainly to examine the mounted skeletons of Iguanodons. To do this, the authorities kindly removed a huge glass panel, which allowed him to enter the exhibit.

In order to closely examine the ankle anatomy of the skeletons, he stooped over. His backside hit the big glass panel, which toppled over. The resulting crash brought authorities and spectators running from all directions—a bomb explosion was suspected.

Dale left a memorable souvenir of his visit.

The fig passion began with a sprig brought from Italy. Why, I don't know. It flourished in Ottawa and eventually came to France during one of his trips *chez nous*. He brought two, one of which is still growing modestly in our backyard; the other went to Portugal and was doing nicely at last news.

Frank Russell (Dale's son, Professor of History at Transylvania University)

As to what made the man, I am trying to figure that out myself in some ways. Obviously his elder brother Don was a great inspiration for him, but Dad went his own way, and his parents and siblings tolerated his Catholicism more than they approved it. Dad was comfortable being alone with his thoughts—as a boy hiking through the Wallowa mountains with his dog Fido, or in the field as a man—and I think that in nature he contemplated the way God wrote his revelation in leaf, rock, and bone. He was less comfortable among large groups of people.

The dinosauroid was a curious chapter. I remember at one point he seriously considered destroying it, for fear that it would be used in the wrong way (and I guess it has somehow survived four decades to exist in rather bizarre contexts on YouTube). Mom was adamant that it should not be called a "humanoid" which I think was good advice (if Mom had been alive at the time, she would have convinced Galileo to write in Latin and not Italian).

I was only in the field once with Dad (in Alberta, and N Dakota/Montana, 1980 or 81), and was struck with how hard he worked—long hours, never stopping. When I remarked on it, he said that he was trying to get as much as he could out of as little time as possible, so he could be back with the family. I guess in a way his life was like that—as much as he could, in the time he had.

Musings on Dad's character...

Dad loved to sing. Sometimes he did so quite well, sometimes quite badly (especially "Mockingbird Hill" before the sun rose on school days), but always with feeling and often with

joy. The Sons of the Pioneers provided him with some of his repertoire, but there were classics that hinted at ballads from other times and places—Abdul Abulbul Amir was a particular favorite, sung with great gusto, and featuring additional and improvised verses. Dad sang as he worked with snow-shovel or saw; he sang as he walked in forest or neighborhood. It wasn't a talent, but it was a great gift.

Dad loved to read. No doubt at the office his reading was for research, but at home other sorts of exploration dominated. His interests were all-consuming, and broke like waves rushing upon the scree, each billow tumbling a bit higher up the slope: mushrooms, fiddleheads, Spanish missions, Knights Templar, UFOs, African violets, square dancing... not necessarily in that order, and the current crest encompassing rather than replacing the old. Mom's patience and indulgence seemed infinite.

Dad loved to wander through nature. The forest was a second home, peopled with friends he knew by name. He introduced us to birch and beech, granite and geode, squirrel and slug. He exposed the veil and cap of the amanita, warning us not to fear but respect it, and encouraged us to gather baskets of shaggy manes to fry with butter and lemon. He recognized birds by their song, and whistled back to them. He gave evocative names to places—the 'forest of the shining bug,' 'milk-weed meadow,' 'the old oak log'—based on shared memories on walks with his children. He told stories and folk-tales as we went (particularly memorable was the Headless Horseman, told on a winter night cross-country skiing through a dark pine wood). Even in his last year, he loved hiking in the Arizona mountains with the desert in bloom, and walking under the stars.

Dad had a delightful and sometimes impish sense of humor. He loved practical jokes and minor mischief (the skunk stories go back a long way...). He would read P.G. Wodehouse aloud

in the car on long trips, and dissolve into laughter, his voice choked and breathless from the force of his mirth. On the other hand, the joke was often on him—Dad was sometimes oblivious to the physical and social constructions of humans, walking through plate glass in a post office in Carcassonne, or 'putting his foot in it' at a social gathering).

Gilles Danis' story of Dinosaur Provincial Park in 1981 reminded me of an incident that was less revealing (sorry) yet still showed a bit of the essence of Dad during that same summer. I remember one morning as dawn was about to break over the badlands, there was a clustering of paleontologist about the coals of the campfire, awaiting their coffee. We had a cook with us, and she poured the life-giving elixir into mugs, and passed them around, followed by milk and sugar. There were mugs for each, but only one spoon, and it made its way around the circle. When it came to Dad, he stirred his coffee, carefully licked the spoon clean, and passed it to the next person... who stared at Dad aghast. Of course dad had no idea that there might be a problem, and was rather puzzled at the laughter.

Darren Tanke (Collections technician at the Royal Tyrrell Museum of Palaeontology)

“Dinosaurs are a touchstone that separates the mentality of children from that of adults.” Dale A. Russell, paleontologist, from his 1989 book: *An Odyssey in Time*.

I am honored to have a chance to recall Dale and some personal aspects of him. Reading through the stories already submitted it seems he was a prankster and joker at times but I never experienced it myself. My first recollections of Dale go back to about 1973 in junior high when I found some loose Canadian Geographical Journals in school. Leafing through them I found

Dale's interesting articles on dinosaurs. Some of the renderings therein really fired me up- dinosaurs as active animals, not sluggish brutes! In 1977, I was a high school student and was seriously thinking about vertebrate paleontology as a career. His wonderful 1977 book *A Vanished World – The Dinosaurs of Western Canada* (Russell, 1977) truly inspired me during a time where I had little support from friends and family on my career choice. I wrote him and he kindly sent me reprints of his papers and identified some fossils I sent him. One was a prized ornithomimid pedal phalanx I found near Drumheller; my first good dinosaur find. I did not see it again for six years when a horrified Dale mailed it back with his most profound apologies. It had been misplaced in his office somehow.

In the early 1980's, I met Dale for the first time in Edmonton and later a few times in Dinosaur Provincial Park (DPP). Upon starting my non-volunteer career with Philip J. Currie in at the Provincial Museum of Alberta in Edmonton in early January 1980, I learned I would be helping build a new temporary dinosaur exhibit called "Discovering Dinosaurs". Opening late March or early May, it became a huge success with 30,000 visitors in the first week alone which shattered museum attendance records (Currie, 1980) going back to its late 1967 opening. Part of this exhibit were public lectures on Wednesdays at 8 pm (Anonymous, 1980) by dinosaur researchers, Philip J. Currie (April 8), Peter Dodson (April 16), Dale A. Russell (April 23), John Ostrom (April 30) and Robert T. Bakker (May 7). So, I must have first met Dale April 22nd or so. Dale's talk was entitled: "Reflections on a dinosaurian world" which "Discussed the relationship of the environment in the Mesozoic to the numbers and kinds of dinosaurs".

In my experience, vertebrate paleontologists come in three different types: some are more dedicated field men; others are researchers who look for new finds in museum collections only; and the overwhelming remainder are both. I found out the hard way that Dale was not a true field

man and could become over-excited so that fossils were damaged in his zeal to uncover it and see what it was. I was with him prospecting in Dinosaur Provincial Park when I found the back end of a crocodile skull. He brushed me aside and set to work. I thought I would learn from the master and let him go to it. That was a mistake. The specimen was soon busted up. I was aghast. Not long after, I had a bit of vindication when he was standing on an outcrop lamenting how few small theropod bones were in DPP and just then I found and showed him a perfect dromaeosaur pedal phalanx found just inches away from the toe of his boot. That night, relating my exploded crocodile skull experience to others in the field crew, I was told to “always dig it up yourself and distract him away as he usually gets too excited”. Seemingly Dale thought I collected too many fossils as he used to call me around 1981 “Collect the hill Tanke”. In another incident, this time sanctioned, Dale was doing a fascinating geochemical study of dinosaur bones. Analysis of them would elucidate details of foods consumed. While hadrosaurs and tyrannosaurs eat plants and meat respectively, and it showed up so on a graph created during his studies, ceratopsians were a peculiar outlier; it seemed they may have had an occasional penchant for meat, too. I assisted Dale in the DPP badlands, finding dinosaur femora so he could get more samples of trabecular bone deep inside the bone. This necessitated chopping a hole into the bone to retrieve his samples. Perhaps remembering the earlier crocodile skull incident, each time he began work, he encouraged me to “look away” or “avert your eyes, Darren” as his small pickaxe went to work. This project sounded really interesting and I looked forward to reading about it, but as occasionally happens, the project took a long time to meet fruition and curiously nodosaurid ankylosaurs plotted more towards carnivory (Ostrom et al., 1993).

I was pleased when Dale and his technician Clayton Kennedy were able to come to my wedding reception mid-August, 1985. He was not on the invite list but that soon changed when I

found out he was in town. I immediately sent a wedding reception guest to his hotel to extend my invite.

The last time I saw him was in the later 1990s in the unprepared collections room at the Royal Tyrrell Museum of Palaeontology (TMP) on a behind the scenes tour with a bunch of staff and students from the North Carolina State University and North Carolina Museum of Natural Sciences at Raleigh, NC. He had left his job in Ottawa in June of 1995 (Spears, 1995). He told me with great relish how much he loved his new job there; describing himself as a “facilitator”. People would come to him sometimes with outlandish project ideas and he helped facilitate making that project happen. He took great pride in that role, using his elevated position in supporting and helping others achieve their goals.

One important aspect of Dale that many people overlook is that he was a strong advocate for women in vertebrate paleontology from the 1960’s on, during a time when it was an overwhelmingly male-dominated field. As an example, Society of Vertebrate Paleontology membership mailing lists show 9.7% women in June 1960 and 28% in 2012 (Tanke, 2017a) and this number continues to rise. Irene Vanderloh (1917-2009; Tanke, 2010), a woman born and raised in the DPP area wanted to become a paleontologist and stated so to a paleontologist working in the area, one of the Sternberg’s (probably Levi), who told her something to the effect “Paleontology isn’t for girls”. She never pursued her dream but kept looking for fossils. In 1968, Dale and technician Gilles Danis were in DPP looking for bones and skeletons of small carnivorous dinosaurs (Cooper, 1968). They did not have much luck. Irene saved the day when she showed them a skeleton she had found some years earlier and gave them pieces she had picked up then. Russell and Danis excavated a scattered skeleton of a then named *Stenonychosaurus inequalis* and an important paper resulted (Russell, 1969). In that, Dale

acknowledged Irene as the finder and saw to it she was also acknowledged in a museum news release on the find (i.e. Anonymous, 1969a-b).

Hope Johnson (1916-2010) was a largely self-taught artist, and avocational botanist, historian and paleontologist (Tanke, 2011, 2019). She spent most of her adult life in Medicine Hat, AB and conducted fossil hunts near there and on the periphery of DPP. Through the University of Alberta's Richard Fox, she became aware of Dale around 1967 and the two shared a long correspondence, mostly about paleontology but also more personal things such as child-rearing. She would mail him fossils she had found for identification and Dale could have his pick of anything she found. Recognizing her intelligence, dedication and trustworthiness, Dale recommended that the Alberta Parks branch of the provincial government hire Hope as the DPP seasonal paleontologist during the summers of 1969-1970, 1972-1973. Dale also had an interest in UFO's. In February, 1975 the DPP Park Warden and his daughter, while parked at the lookout saw a UFO within Park boundaries, a bright object that lit up the badlands near the First Nations "Dream Bed" site. Hope, learning of the observation wrote to Dale about it and he excitedly wrote back asking for as many details as possible but also asking her to leave his name out of it as he was worried what his professional colleagues might think. From the other stories here it seems they were already well aware of this fascination. I see others have spoke about the Hope Johnson mushroom incident; I have another related recollection, too. The grittiness of the cooked up fungi was recalled, but someone else told me there was a distinctive taste of automobile exhaust as Hope had collected them immediately adjacent to a busy roadway.

Finally, Jane Danis (nee Colwell; 1941-), Canada's first formally-trained female vertebrate paleontologist (Tanke, 2015; Tanke 2017a-b, in prep.). She is currently suffering with dementia and/or Alzheimer's, so her comments about Dale were gleaned from her prior to her

illness. As her biographer, I hope it is OK to include her thoughts on Dale here. Jane and Dale first crossed paths at the University of California Berkeley in the early 1960's, Jane working on a master's degree in Paleontology and Dale finishing up on a Ph.D. on Late Cretaceous mosasaurs. In the fall of 1965, she started working at the University of Alberta in Edmonton. In the summer of 1968, Jane fell head over heels for Russell's technician Gilles Danis where they first met in Dinosaur Provincial Park. Jane once told the author she felt Dale "owed her" a job seeing how she had been wooed away from a good job and career in Edmonton back to Ottawa by his young technician Gilles. She worked for Dale and other earth scientists in Ottawa but for Dale she worked in a variety of support jobs: fossil preparator, measuring paleomagnetic samples, and in a variety of secretarial and curatorial roles. During part of this time, Jane and Dale shared an office. She described him as likeable and how he "accepted her as a woman". They worked together and got along well, he "was a good person to work for", "he was one of the good guys", and that she had surprisingly, "a crush on him". The Danis moved back to Alberta in the late 1970's to join the Paleontology Department of the Provincial Museum of Alberta, which later became the TMP. When a Collections Manager job came up in the fall of 1981, Dale enthusiastically recommended her for the job which she got.

A little-known fact is that he was a supporter of children and science. In one example, in the early 1980's he was involved the "Mighty Mites" comic book published in the Canadian children's magazine "Owl". In the comic, three children have mystical powers and can shrink down to a tiny size. The children do that and latch onto a tumbleweed which rolls in the Dinosaur Provincial Park badlands. From there, the kids hitch a ride on a rabbit's hair and then they hitch a ride on a hadrosaur. The two authors of "Mighty Mites in Dinosaur Land" worked

with Russell to produce a comic book that was “... as educational as it is entertaining.”
(Zwarun, 1981).

Dale certainly had a way with words. His use of words and sentence structure could be complex. He was not putting on airs, it was just how his brain was wired and how he spoke. Though he spoke perfectly good English, at times I found myself about one sentence behind, translating what he just said. One such incident has stuck with me for forty years. He and I were in our field camp late one night talking about something and we both decided to turn in. I said goodnight and got up to leave. He said something like “I’ll occultate you in the next twenty-four-hour cycle”. I stood and stared at him for a second or two and replied “Yes, see you tomorrow”.

I shall always be in debt to Dale for his support and encouragement as a teenager. I know Dale was a religious man so if you are in heaven Dale, I hope you are well and the skies are filled with UFO’s, supernovae and other extraterrestrial mysteries, and the ground full of complete mosasaur and small theropod skeletons and other wonderments to amply stimulate your ever inquisitive mind.

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Holly Woodward (former student of Dale's, now Associate Professor at Oklahoma State University)

As a senior in high school, I attended a Marine, Earth, and Atmospheric Sciences open house put on by North Carolina State University. There, I saw Dale Russell talking to prospective students next to a cast skull of the dinosaur *Acrocanthosaurus*. Growing up on a healthy dose of Discovery Channel paleontology programming, I instantly recognized Dale from tv as well as books, and was starstruck. I couldn't believe a rockstar of paleontology was there in North Carolina! After getting up the courage to speak with him and learn that there was a paleontology concentration in geology at NC State, my mind was pretty much made up as to where I would attend university.

I credit Dale for introducing me to "out of the box" thinking early on as an undergraduate. I remember visiting his office to say hello or ask about classes to take, but he'd always sit and chat with me about a new paleo discovery that had been announced or a neat idea he'd been thinking about. He was so enthusiastic about everything! It was as if every day was fresh and new and full of excitement. Often I think he enjoyed my visits to bounce ideas off of me, even though frequently I felt that while the rest of us were on one particular level in seeing the big picture, Dale was leaps and bounds ahead of us in putting things together. It often seemed that he struggled to slow down and explain things at our pace because he was so excited for us to see the

conclusion that he'd come to. This was also literally true, as he seemed to have only one way of moving: the speedwalker. It was really difficult to keep up and have a conversation with him when walking around the university!

I remember that Dale offered an undergraduate level "dinosaurian world" class, which was completely filled on the first day with students from all kinds of disciplines, wanting to take an "easy" science class (how hard could dinosaurs be?). He began the class breaking down the statistical probabilities involved with Earth ending up just far enough away from the Sun to not burn up but not freeze, and to host life, and then the statistical likelihood of life on other planets. In another lecture Dale discussed how the pubis was turned backward in *Deinonychus* to free up the leg muscles to act more independently of tail muscles so the tail could act as a counterbalance when running, like a cheetah. He grabbed a pointing stick, put it on his backside, and ran around the front of the class moving the stick one way or the other when he turned. I was fascinated by his lectures, but they were not what other undergraduates expected when signing up for a dinosaur class. I think by the end of the semester there were less than 20 students.

Dale put all of his energy into everything he did, and that kind of enthusiasm was infectious. He was also one of the few people I would ever call a true gentleman. He spoke to everyone with respect and courtesy, treated everyone as individuals, and I never heard him say a bad thing about anyone. He taught me much about science, but even more about how to interact with other people and fellow scientists. I realized that at professional meetings, while many paleontologists disagreed with his hypotheses, no one had a bad thing to say about his character. Before that point, I didn't realize that it was possible to have strong disagreements about science with others, but mutually respect those researchers too. Thus, because of Dale, I decided early on that while I was fine with people disagreeing with my hypotheses (that's how science works,

after all), I wanted to conduct myself in such a way that I would be respected as a person in this field, like Dale.