of Vertebrate Paleontology at the American Museum of Natural History, had suffered from Marsh, who evidently felt the up and coming scientist was as much of a threat to his paleontological empire as Cope was. Osborn testified that Marsh was sequestering large quantities of fossils collected at government expense in New Haven, where they were poorly accessible to visiting scientists (indeed, some Marsh field jackets are still unopened today!), and that that he was thwarting paleontological collecting by the American Museum in Wyoming. All of a sudden Marsh had become a political liability to Powell! *Odontornithes* was again held aloft in July, this time in the Senate, and the damage was worse. Powell's Survey had been reduced to $430,000. Powell requested Marsh's resignation immediately. Things turned out badly for Marsh. His $4,000 annual salary from the government was forfeit, his Peabody Trust went dry, and the economy crashed in the winter of 1893. Marsh was forced to mortgage his elegant house and to request a salary from Yale. Moreover, he was forced to begin the transfer of valuable specimens from the Peabody Museum to the Smithsonian, a process not completed in his lifetime.

Both Wallace's and Jaffe's books make interesting reading and can be read with profit. I found that Jaffe had a deft journalistic touch, skillfully weaving in ancillary materials and developing contemporary economic themes. As an example of the former, he traced Cope's 1876 trip to the Judith River country of Montana Territory through Fort Benton, home of the Occidental Saloon, billed as the "toughest joint in the west." Its owner was so dismayed one morning to find neither a corpse nor a drunk on the ground in front of the saloon that he announced his departure for points further west because "This dump is getting civilized!" Of the latter, he relates the outbreak of the Franco-Prussian war to German bond redemptions that caused a squeeze on the Northern Pacific Railroad building out across the northern plains in Dakota Territory that triggered bank failures that precipitated the market crash of Sept. 18, 1873 and resulting depression. The cessation of railroad building in Indian territory might have been useful in quelling hostilities but increased pressure for gold mining, especially in the Black Hills, ultimately resulted in the debacle we know as the Battle of Little Bighorn on June 25, 1876. The antecedents of today's global village were in place more than 100 years ago for "even in North Platte, Nebraska, one had to pay attention to distant wars fought by armies that couldn't speak English." I also happen like Jaffe's artifice of ending the book by nudging his story into the present by visiting the Peabody Museum last spring on the hundredth anniversary of Marsh's death and talking to school children about dinosaurs, but most of all I like the way he then deftly pirouettes from New Haven to the cluttered debris of my own office at the University of Pennsylvania, in the shadow of the Leidy Labs of Biology. You don't expect me to be objective do you?

So it is that the saga of Marsh and Cope is destined to live on, and to be retold to each generation of paleontologists. Hopefully lessons are to be learned about the value of cooperation. How would our science have been different if Marsh and Cope had cooperated with each other? What are we doing today to make sure that history does not repeat itself?

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AN AMATEUR'S PERSPECTIVE

by John Catalani

An Opportunity to Reflect

This essay will be a bit more on the personal side than previous ones. I will once again be writing on one of my most passionate subjects. No, not nautiloids again (OK, I heard that collective sigh of relief). Well, not *mainly* on nautiloids anyway. This essay will, as has several in the past, concern the cooperation between amateur (or non-professional, if you will) and professional paleontologists. The focus this time, however, will center on the encouragement and guidance professionals can provide to the amateurs.

At the MAPS (Mid-America Paleontological Society) Fossil Expo this April (I am writing this essay in March), I will be presented with the Katherine Palmer Award for non-professional contributions to paleontology. First of all let me say that I am, of course, honored to have been selected to receive an award named after a true pioneer in paleontology. On a more personal level, however, an occasion such as this makes one reflect back on the past and contemplate the circumstances that

have contributed to any perceived success. Yes, this award is for the non-professional but if not for certain professional paleontologists that I have been privileged to know none of this would have happened.

An amateur's first contact with a professional is pivotal to the development of a positive attitude toward the professional community and to a decision whether or not to continue serious involvement in the *science* of paleontology. I was very lucky. My first contact was Dennis Kolata of the Illinois State Geological Survey. In 1975, my wife Kathleen and I had amassed a modest collection of nautiloids from the Platteville (Ordovician) of Illinois and Wisconsin. I was using various sources, such as August Foerste's monumental works published by Denison University and, of course, the nautiloid *Treatise* volume, to determine those genera/species we had found. (I assumed, at the beginning of my research, that all the specimens we had collected would have been identified and published.) I had some questions concerning the rocks exposed at certain quarries from which the specimens had come and so I sent a "to-whom-it-may-concern" letter to the Illinois Survey. The letter ended up with Dennis (probably low person on the totem pole at that time). Now, he could have merely sent some Survey publications and considered his responsibility met. However, Dennis sent not only the appropriate publications but also copies of pages from his dissertation that was to be published as Memoir 7 of The Paleontological Society as well as a two-page letter complete with a hand-drawn diagram of one of the quarries in question. In addition, he wrote the letter in a style that did not talk down to me as either a high school teacher or amateur.

This positive response, from a professional who had his own responsibilities and research to contend with, prompted me to take the next step. I packed the best specimens of each species that I had identified (and a few that defied my identification—just didn't do enough research, I thought) and Kathy and I drove to the Survey to meet with Dennis. We were well received by Dennis and he sat back quietly as I pulled out and explained the nautiloids. It was then that my naivete about how professional paleontologists are trained and operate made itself known and I was given a much-needed dose of reality. I assumed that since professionals work in a certain group of rocks they would, of course, know everything about *all* the fossils contained therein. Dennis patiently explained to me that his area of focus and expertise was the echinoderms of the Platteville and Galena (also Ordovician) rocks and that he had just a passing knowledge about the other critters. He suggested that I contact Rousseau Flower (a name I obviously encountered many times during my research) in Socorro, New Mexico, the world's foremost authority on nautiloids.

I put off contacting Rousseau until 1980 preferring to check other sources and people. Everyone, however, said the same thing—Rousseau Flower was the one person to consult. I wrote to Rousseau explaining clearly that I was a high school teacher and an amateur paleontologist. To my surprise, he wrote back inviting me to visit him during my summer vacation. When I arrived at his house, fully prepared to stay at a local motel, he greeted me warmly and told me to place my bags in the spare bedroom. I protested but he would hear none of it—I would stay with him and his wife Peg and that was that. For the next several days in his lab at the New Mexico Bureau of Mines and Mineral Resources, we discussed the nautiloid specimens that I had brought. He confirmed the vast majority of those I had identified (a dedicated search of the literature does pay off) and pointed out that those I could not were new genera and species some of which he was already working on from specimens supplied by another amateur. During this visit (and the subsequent longer stays in 1981 and 1983), I was also introduced to the colorful character known as Rousseau Flower.

Relating stories about Rousseau has become part of the tradition at informal gatherings of paleontologists. Most of these stories, unlike the apocryphal stories of other famous scientists, have some basis in truth. His pranks and behavior at professional meetings and on field trips (and elsewhere) are legendary. As he did with many others, Rousseau pulled the double-mask trick on me. Let me explain. Rousseau collected elaborate Halloween-type full-head masks. One day, as I was at the lab working on a specimen description, Rousseau came in very quietly and stood behind me. I heard this low growl and turned around to the sight of Rousseau in his gorilla mask. I chuckled and said something about being momentarily startled and that he could now remove the gorilla head. He removed the first mask only to reveal another mask underneath, this time of a ghoul or something. At his house in the evening, he would either play classical music on the stereo or play selections himself on his cello often accompanied on the piano by Bureau friends visiting for the evening. And, yes, I did see both the famous bullwhip and his chain-mail armor hanging in his closet. I also viewed his insect collection (he began studying entomology before switching to paleontology) and signed the famous Flower guest book (volume II, I believe) which contained the names of visiting scientists from all over the world that had stayed with Rousseau and Peg. What a complex individual.

During the time we spent in the lab, Rousseau graciously instructed me in both nautiloid morphology (I still have his hand-drawn diagrams) and the laborious process of writing descriptions of specimens. He would have me describe a particular new species and then critique my description explaining both what was acceptable and what he would change and why he would have done it differently. My time with him was incredibly productive in terms of my paleontological education. In terms of concrete work on the new taxa, however, less was accomplished. This was near the end of his career (he "retired" in 1978 and died in 1988) and he was having trouble with his sight and with emphysema and was trying to finish too many projects at once to be productive. However, by this time his place as one of history's greatest (and most colorful) paleontologists was secure. Once, during one of our long talks, Peg (what a sweet and intelligent and caring person) remarked how well Rousseau and I were getting on, something, she said, that was not a common occurrence. I will always fondly remember how the premier scientist in his field took in an amateur and treated him as a colleague and friend.

A few years after my last visit with Rousseau, I received a letter from Dennis offering me the opportunity to publish a nautiloid range chart for the Ordovician of the Upper Mississippi valley region. Such an undertaking made me appreciate the extensive nautiloid library I had acquired. The chart was to be part of a volume of papers to be published by the Minnesota Geological Survey (Report of Investigations 35) in conjunction with the 1987 North-Central Section GSA meeting to be held in St. Paul. The volume would be edited by Dennis and Bob Sloan, then of the University of Minnesota, and would deal with all aspects of the Ordovician of this region. I completed the project although, not having ever been involved with something this professional, Bob had to modify the chart to fit their format. Kathy and I also attended the conference and pre- and post-field trips. This was after our daughter, Kristan, had been born and was a welcome chance for Kathy to get back into the field which the needs of a young child often precluded. At the pre-meeting field trip, Bob made it a point to be introduced to Kathy and me. He made us feel welcome and thanked me for my contribution to the volume. At this same conference when he found out that I had been working on a paper with Rousseau, Bob encouraged me to continue or, if Rousseau became too ill, to finish it on my own. At every professional conference I have attended, Bob has always asked me to join him and others he may be with for discussions or lunch or whatever. Bob's attitude towards people is a model for us all--he accepts others for who they are and returns the respect shown him.

More recently, John Pojeta (who had me peer-review Bob Frey's USGS Professional Paper) and, of course, Warren Allmon were instrumental in my growth as a serious amateur. And now Bob Frey and I are planning to finish the Platteville nautiloid paper initiated by Rousseau and myself.

I have had brief encounters with many other professionals at meetings and on field trips—too many to mention here. Almost without exception they have treated me as a colleague despite knowing of my amateur status.

Have I met with disapproval to my involvement in the profession? Certainly. And this is understandable for several reasons. First, the time involved in Ph.D. work and specializing in a particular aspect of paleontology would naturally tend to make one leery of someone who has not put in the time academically. Second, my over-exuberant personality and aggressive attitude (which I freely admit) toward collecting in general and nautiloids in particular has a tendency to put some professionals at arms length. But any negative experiences I have had are in the minority. The vast majority of professionals have approved of my involvement and have, to their credit, shown patience as I extol the virtues of nautiloids.

Yes, I would have continued to collect fossils—make no mistake about that. But without the kind words and encouragement of these professionals my collection would have remained just that—a collection of artifacts instead of a resource to be used to advance the science of paleontology. I consider myself very fortunate and privileged, as I hope I have conveyed above, in having been associated with some of the finest professionals in any field. We, as amateurs, don't want to compete with professionals. We merely want to contribute by collecting the fossils we love and, by doing this, to continue the rich tradition of non-professionals in paleontology. Professional paleontologists have an awesome responsibility: A kind word or encouraging attitude from a professional can make the difference between a successful avocation and a failed dream. In my opinion, this responsibility is being met honorably and professionally.

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BOOK REVIEWS

A Book of Taphonomic Revelations?

Taphonomy: a Process Approach, by Ronald E. Martin, Cambridge University Press, United Kingdom, 1999, 508 p., $100.00, cloth; $44.95, paper.

Reviewed by Sally E. Walker

"*We the endless dared--how far we have come! And only taciturn Death can know what we are and how we must always profit when he lends us time.*"

--Rainer Maria Rilke, 1923,
The Sonnets of Orpheus II, 24

Upon opening the plastic-packaged book by Ronald Martin, *Taphonomy: a Process Approach*, I was immediately confronted with an acrid smell emanating from the freshly printed pages. "How fitting, " I mused, "for a book on death, decay, and destruction in the fossil and modern record." However, as Martin promises in his introduction, this book moves beyond the three "D's" and into the realm of processes dictated by time and taphonomy: Phanerozoic global change and an attempt to bring taphonomy into an applied environmental science. It is a daunting task, but Martin forges ahead and brings many disparate ideas together into what would hopefully be called a cohesive whole.

Martin takes a hierarchical approach to organizing his book. Aside from the first chapter, which briefly reviews the history of taphonomy and the various philosophical approaches