Memorial to Don L. Frizzell
1906-1972

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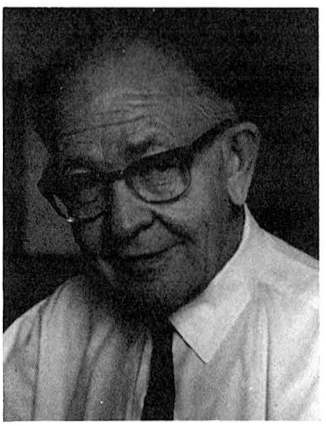

FRIZZELL, DONALD LESLIE, Educator; b. Bellingham, Wash., Oct. 19, 1906; s. Thomas Fisher and Bessie Pearl (Knapp) F.; B.S., U. Wash., 1930; M.S., 1931; Ph.D., Stanford, 1936; m. Harriet Idola Exline, Aug. 29, 1938 (dec. Feb. 1968). Paleontologist Shell Oil Co., Houston, 1936; paleontologist, geologist Internat. Petroleum Co., Peru and Ecuador, 1937–44; asso. prof. geology U. Tex., Austin, 1945–48; asso. prof. geology U. Mo., Rolla, 1948–52, prof., 1952–. Mem. Geol. Soc. Am., Am. Assn. Petroleum Geologists, Paleontol. Soc., Soc. Econ. Paleontologists and Mineralogists, Soc. Systematic Zoology, Am. Soc. Ichthyologists and Herpetologists, Soc. Vertebrate Paleontology, Sociedad Geologica del Peru (corr.). Research on classification fossil fish otoliths, holothurians, foraminifera and mollusks. Home: 6 Rolla Gardens Rolla MO 65401.

This excerpt from the 37th edition (1972 to 1973) of *Who's Who in America* may seem brief and prosaic, but to Don Frizzell it represented one of the outstanding achievements of his life. On May 23, 1971, he wrote: "It is late on a Sunday afternoon, and I am unduly exuberant. It is a silly emotion arising from the fulfillment of a very silly but long-held secret ambition. At least, I *think* I have kept it a secret! For many years, I have wanted to crash the rolls of *Who's Who in America*, and finally notification came that it is a *fait accompli*."

Except for this one admission, he hesitated to speak of the honor to even his most intimate friends. Whereas others would have basked in self-glorification, he muffled his satisfaction in a quiet smile. Characteristically, this was Don's stance—capable, talented, and intelligent, but self-effacing to the point of shy withdrawal from the more active social pursuits of his acquaintances and peers.

Don was baptized Donald Leslie Frizzell. As a young adult and for the balance of his life, he greatly disliked the name "Donald." This aversion was intensified when Disney created Donald Duck. Fortunately, on most occasions, Don was able to avoid using his full name, but when he realized one day that "Donald" would have to be engraved on his tombstone for "everybody" to see, he winced visibly. He approved of "Frizzell," however. That name in its various forms (Fraser, Frissell, and so on) was brought to the new continent in colonial times from England via Scotland. The clan from which his father descended apparently immigrated to Canada, and it is believed that Thomas F. Frizzell was born there, later moving to the United States and settling in the state of Washington, probably at or near Creston in Lincoln County. By 1906 he had moved to Idaho where, in the little town of Hope, he was married to Bessie P. Knapp on January 1 of that year.

It was here in the "scab-rock country" (as Don dubbed his home in central Idaho) where Don spent his earliest years while attending grade school in Whitebird. In those days, Whitebird and its environs were part of the western frontier--rustic, rugged, and sparsely populated. The unspoiled wilderness with forests, white water, and mountain lakes was not far away. In one family photograph, Don is shown as a beautiful four year old, dressed in a wide-brimmed straw hat and blue coveralls, holding an eighteen-inch fish that is half as big as he. According to the caption, Don had told his friends that this was a "genuine mountain trout" caught by his mother.

The toy gun that he carried in a "genuine leather" holster was a forerunner of the .22 revolvers that he used for target practice in later years when he became a good marksman. Don never lost his interest in firearms; at the time of his death he was a member of the National Rifle Association. His knowledge of guns, especially hand guns, was extensive.

Don's career and consuming interest in all aspects of zoology took root when he was a child in this western setting. One afternoon not too many months before he died, when he and I were chatting over a cup of tea in Don's home laboratory, he admitted that as a very young boy he would spend hours watching with rapt fascination the insect life in the drainage ditch near his home. He also spoke at another time of having had access to a neighbor's library which contained a fairly good selection of books on natural sciences. Like so many children when they are becoming aware of the natural life around them, he went through the motions of butterfly collecting, although he showed more enthusiasm for the shells that he later found along the shores of Puget Sound after his family had moved to Seattle. His first really serious effort at collecting, however, occurred when he enrolled in a course in zoology at college where a properly labeled collection was required. Once when the class was on a field trip, it was decided that there would be a contest to see who could find the greatest number of different species. Don, with his usual zeal, won the contest. When he was asked how it happened that he did so well, he said that instead of staying with his classmates who didn't know much about collecting, he followed after his professor who did!

As his interests gravitated toward geology and eventually paleontology, shell collecting became a professional necessity. He had a good collection of mollusks from the Pacific Northwest by the time he was graduated from the university. But the mollusks and forams that he obtained while traveling in the States (New England and the Gulf Coast), in Mexico, in Panama, and especially those collected during his residency in Ecuador and Peru, were the specimens that provided him ultimately with material for his more important research projects. They also, as he often lamented, presented him with multiple problems in logistics whenever the collections had to be packed, shipped, and subsequently stored--a harrowing process that occurred several times in Don's life.

Because of the impetus toward nature study in Don's early years, it is not so surprising that when he chose a college curriculum he selected a field within the discipline of natural science. He finally convinced his father (who thought he should pursue a musical career) that he should enter the University of Washington in Seattle to study geology and zoology. He did so in 1926 and stayed on until he received his master's degree in zoology under the direction of Professor Kincaid, that eminent biologist who is best remembered publicly for his development of the hybrid Japanese oyster capable of propagating in Puget Sound waters.

It is somewhat surprising to realize, however, that even as an undergraduate Don had already been engaged in the writing of scientific papers. In the same year of his graduation from college, he published three papers in *Nautilus*. During 1931, when he was working toward his master's degree, he brought out another paper on a new molluscan species.

The summer of 1931 before he entered Stanford, Don worked as a junior paleontologist with the Northwest Experiment Station, U.S. Bureau of Mines in Seattle.

The next five years were spent off and on in pursuit of a doctorate in paleontology at Stanford University, where he was able to combine his interest in both zoology and geology. One of the first courses which he took at Stanford was micropaleontology, which was then taught by Hubert G. Schenck, a pioneer in the field. Another of Schenck's innovations (professional as well as educational) was a publication, the *Micropaleontology Bulletin*. Don was manager of the *Bulletin*, at least in 1932 - his name appears on the title page of the volume for that year--and he and Richard E. Blackwelder contributed an article in 1933.

Don supported himself in graduate school with fellowships (Jacobs Fellow 1931 to 1932, Scholar 1933 to 1934, and Jordan Fellow 1934) and by participating in a second career, of a sort, in music. As a child in grade school, he played the mellophone and trumpet remarkably well; he was also passable as a pianist and showed natural talent for harmony and composition. By the time he entered Stanford, he was an accomplished musician. He had taken several music courses at the University of Washington and was playing professionally as a member of The Royal Cardinals of Stanford, with band engagements in Palo Alto and Lake Tahoe. During the summers, Don, with a group of four other musicians, was hired to provide entertainment and dance music on ocean freighters which carried a limited number of passengers. He played both saxophone and trumpet in these bands and nearly "lost face" later in South America, when as an employee of a prestigious oil consortium, he dared to play saxophone with a local dance group.

The music on shipboard consisted usually of the popular waltzes and jazz tunes of the era, including many numbers made famous by Paul Whiteman whom Don so resembled (even to being slightly corpulent) that he was occasionally mistaken for the maestro.

Evidently Don's musical career never seriously interfered with his early scholastic life or professional output. During his years at Stanford, he also became engrossed in what might be considered his most favorite scientific subfield--zoological nomenclature. His interest was initially aroused in 1932 when he participated in a faculty-student symposium at Stanford that resulted in the publication *Procedure in Taxonomy*. Don never lost interest in this area of study and continued to excel in it throughout his professional life.

After his graduation in 1936, he accepted a position with the Shell Oil Company in Houston, where he spent a year working as a micropaleontologist. The job with Shell was not one which in Don's opinion offered immediate prospects of advancement nor even good long range potential. In 1937 when he had the opportunity to join the International Petroleum Company (IPC) in Talara and Negritos, Peru, he signed on as a geologist with the understanding that he would soon be involved primarily with paleontology.

> "Have I mentioned of late how much I am enjoying work here?" Don asked in one of his letters. "This is the most fascinating commercial position which could be imagined," he continued with enthusiasm. "All of the work–even the routine–is pure research. Besides, I see perhaps a hundred, or even a thousand times as many organisms in any given time as does the average academic systematist. That in itself is a fair basis for conclusions in regard to variation and distribution. Then there is room for detailed systematic studies."

On August 29, 1938, after Don had been in Peru approximately a year and a half, he was married in Guayaquil, Ecuador, to Mrs. Harriet Exline Lloyd. Having obtained her doctorate from the University of Washington in 1936, Harriet was granted the coveted Sterling Fellowship at Yale University to continue her arachnological research under the direction of Alexander Petrunkevitch. Although she had the opportunity to renew the fellowship, she chose marriage instead, and at the end of the school year she sailed for Peru. Thus, Don's and Harriet's marriage formed a union of two doctors with mutual professional interests. Throughout their married life, they exchanged knowledge and expertise that was helpful to both, and, admittedly, some of their happiest and most exciting experiences occurred on their "collecting forays" related to their respective and (or) mutual research interests.

While Don was working for IPC in Peru, he made many trips to the coast (usually looking for fossils) or across the deserts to the mountains. Two of these trips he remembered as being especially rewarding. The first of these was near the Chira River south of Negritos where he and one of the company men dug *huacos* (ornamental vases probably used for ceremonial purposes by the Indians before the Spanish conquest). Two days of digging by hired natives yielded six *huacos*, seven miscellaneous pots, and a few shell, stone, and copper trinkets, all buried at a depth of nine feet. As Don described it: "On Santa Semana, the last three days of Holy Week, *huacos* may be dug. The rest of the year–so says tradition–these relics retreat of their own accord far below the ground. So on Easter vacation (for it is best to heed superstition!), we selected this spot for the activities of Ghouls, Inc."

When the earthenware was finally uncovered ("disturbed for the first time in 500 to 800 years"), the predominance of "Blackware" vessels and the primitive designs indicated that the grave was of an age just prior to the Inca Dynasty. One of the urns was red with a stirrup handle, one Blackware was shaped like a dove, and the other was shaped and decorated in stripes like a melon. These were all unused. A red cooking pot with a tiny octopus handle for decoration and several other pots in various utilitarian shapes were badly charred, probably by a fire which had been kindled in the grave itself. Don's share of these spoils was given to the University of Washington Museum in Seattle when he returned to the United States after the completion of his Peruvian contract.

The second trip was initiated on New Year's Day in 1938 when Don was invited to accompany an expedition to Ayabaca, Peru. In his opinion, this excursion offered him some of the most picturesque scenery imaginable. The coastal desert in which the company concession was located was so bleak and dry that any area covered with tree vegetation seemed impressive by contrast. Nevertheless, his description of crossing the "lovely green Chira Valley with its myriad white cranes and egrets" convinces one of its authentic beauty, likewise does the "ascent into the Andean foothills past burro

trains, clusters of mud huts with thatched roofs made of palm leaves, and the dome-shaped, mud ovens in the courtyards."

> "Approaching the Sierra," according to Don's travelogue, "there is a gradual, almost imperceptible change in verdure. Wild bougainvillea blends with the purple morning glories and the vivid red of the cactus blossoms. Valleys present panoramas of pasture land with a tumultous mountain river. . . . But to me the high point of this part of the trip was the sight of flocks of green, crimson-headed parakeets, flitting with convulsive flight and chattering a weird cacophony. . . . Then presently, the Andes . . . in all their grandeur. They are not snow covered but are blanketed with green grass and low shrubs, fringed here and there with trees. Cultivation from time immemorial has left terraced plots on steep hillsides still producing odd fruits and vegetables."

The piece de résistance of this trip was apparently the view of Ayabaca, the little settlement that, as Don said, "has clung precariously to the mountain slope for centuries—bathed in clouds and overlooking the majestic expanse of the Sierra terrain." It comes into the traveler's sight for the first time around a bend in the narrow, mountain road that was rebuilt upon old Inca foundations. "The first view of the town recalls a painting," Don wrote in a letter to his fiancée in 1938. "The clouds, mountains below, and even the downward slope of visible streets are unbelievable for their sheer beauty of line and color. Even the plaza, unseen at first view, presents a picture that is quaint, colorful, picturesque, too beautiful to be taken at face value."

Anyone traveling by car in these mountains during the years when Don was in Peru would have had difficulty with the roads. They were either good, which meant passable, or bad, which meant impassable. Either way, because of the steep terrain and dangerous curves, they were a challenge to one's driving skill and nervous stamina. With Don, however, the moment of greatest terror came not while he was driving on one of these treacherous donkey trails, but while he was attempting to walk on a narrow-gauge train trestle. He had always suffered acutely from a fear of heights, and in this instance he was nearly undone when he was forced by circumstances to cross a quivering trestle over a deep canyon with perpendicular walls. Don started across the trestle with false courage and managed only the first two railroad ties before he had to drop to his hands and knees. He was frightened almost to the point of immobility. However, by taking a deep but cautious breath (though shaking miserably and feeling desperately queasy), he managed to crawl to the halfway point. Just then he heard a train whistle. He looked back in panic and saw a train coming around a curve only a minute away—which, as it turned out, was more time than it took Don to jump to his feet, make like a track star in the 100-meter dash, and all but collapse on the other side of the trestle. In recalling the incident many years later, with considerable amusement, he said that it simply was a case of priorities.

Not all of Don's work for the IPC was in the vicinity of Negritos. On at least three different occasions he was sent to Ecuador on various company projects. The last two were for periods of three months and a year in 1942 and 1943. Both times the Frizzells established residency in Guayaquil, but not without considerable difficulties. Suitable living quarters were hard to locate, and the city was hot, humid, crowded, and unsanitary. Services that were customary in the States were slow in coming, if at all; rats were not uncommon even in the apartment; cyclical infestations of ants invaded everything

that was not enclosed in a metal-capped jar; and the cockroaches at times were so thick on the city streets that the natives scooped them up in baskets. The Guayaquil experience was not without its exciting and hazardous moments, however, as when Don and Harriet survived an earthquake that destroyed much of the city and leveled several nearby towns. During that quake, they remained in their apartment because they could not do otherwise and held themselves upright by holding on to a doorframe while helplessly watching their expensive, new microscope inch its way to the edge of the desk. Every bell in every church and cathedral was ringing violently, the electricity was off so that the city of 176,000 inhabitants was in darkness, and water spouted from broken mains.

By this time, even Don, who had written so enthusiastically in 1939 about his foreign assignment and had hoped to remain in South America for "ten to a dozen years," was becoming weary of this station. The thrill of an exotic environment had been displaced by the irritations and aggravations indigenous to a controlled, company compound where commodities and conveniences were necessarily limited by isolation and, in this instance, by World War II shortages. Field trips were hampered for lack of automobile tires, and collecting trips per se were out of the question. Many of Don's friends and colleagues had left or were soon to leave for the States, and Harriet was anxious to return to the University of Washington in Seattle where she had retained much of her research material. So when the second vacation in Don's six-year contract was due in September of 1943 (while the Frizzells were still in Guayaquil), they flew north to Seattle where Harriet remained for the duration of the war as an instructor in the zoology department at the university. Don, after a short visit with his father in Seattle, went directly to the U.S. National Museum in Washington, D.C., to work on forams. He stayed in Washington until after Christmas of 1943 and then returned to Negritos for another six months, or time enough "to bring the well samples up to date."

In August 1944, Don was again back in Washington, D.C., after having severed his relationship with the International Petroleum Company. He was now working as a consulting paleontologist. This was the beginning of a six-month interlude during which time he applied for, and received offers of, jobs with various governmental and commercial agencies. He was reluctant to accept any of these positions, however, for what he really wanted was a teaching job as a micropaleontologist in a reputable college. Finally in January 1945, the University of Texas at Austin offered him a job as associate professor in the geology department. He readily accepted and was delighted with the prospects of being an educator—not that he did not have trepidations about lecturing in front of large classes and worries about proper teaching methods. He was very conscientious, however, and no less erudite, so that before long he became recognized as a scholarly and witty instructor. By the time he had finished teaching spring quarter at the University of Texas, Harriet had likewise finished her academic year at the University of Washington. She then joined Don in Austin and they set about establishing themselves as members of the college community.

The three years that Don taught at the University of Texas were valuable to him in many respects, mainly because of the experience he gained as a professor. He also had opportunities to do some serious collecting in Texas; he was reimbursed by the school for attendance at various national geologic meetings; and to a limited extent, he was able to continue with his research. In this respect, though, he found that his school

commitments took more of his time and energies than he had anticipated, and because he felt financially required to work during the summers for the Geological Survey (1945) and the Texas Bureau of Economic Geology (1946 and 1947), his output of published material was somewhat curtailed, but he did manage to initiate one of his principal pieces of research at the time.

Don's approach to his teaching and his relations with his students then, as well as later, were such that after their graduation the students remained personal friends, and many stayed in contact with him for the balance of his life. Many of these were foreign students who were most grateful for Don's friendship and interest in them as people. This is best exemplified by a letter from, and public account about, one of Don's former foreign students at the University of Texas. First, there is an excerpt from a letter written March 16, 1959, at the Ministry of Petroleum and Mineral Resources, Riyadh, Saudi Arabia: "I have been wanting very much to write to you to express the gratitude of a faithful student to a great professor, and to tell you how much I enjoyed your lectures and benefited from your guidance. I am, indeed, putting much of the knowledge which you passed over to me to good use in the services of my country." The letter is signed by Abdullah H. Tariki. Then, in the public account from *Time*, April 27, 1959, appeared this statement: "Abdullah Tariki, chief of the Saudi office of Petroleum and Mineral Affairs, is the unquestioned spokesman of the new generation of ambitious Arab experts in oil. 'Absolutely incorruptible' say U.S. oilmen, who quiver at some of Tariki's ideas. 'The only Arab who knows anything about the oil business.' "

The college atmosphere and intellectual environment associated with the school were stimulating to Don. It is doubtful that he would have left Austin in the summer of 1948 for a position at the University of Missouri School of Mines and Metallurgy as an associate professor in the department of geology and mineralogy had not the offered salary been considerably higher and chances for advancement more favorable. During his first year at Rolla, Don taught micropaleontology, paleontology, and petroleum geology. The following year Don took on a course in stratigraphy in place of petroleum geology. With departmental expansion the succeeding year, he moved on to courses in stratigraphic paleontology and Mesozoic and Cenozoic paleontology, having been relieved of some of the paleontological and stratigraphic teaching by Alfred C. Spreng who joined the staff in 1950. Don, of course, retained his graduate course in micropaleontology throughout his tenure. In 1951, systematic paleontology was added to the curriculum, and this pattern of courses held essentially unchanged except during his last few years when he taught historical geology.

From 1946 to 1957, the sparseness of Don's correspondence makes it difficult to give a full account of his activities for this 11-year period, but it is obvious from his list of publications that he was not idle. There is a brief note in his biographical résumé in the faculty records of the University of Missouri–Rolla that indicates he spent the summer of 1952 on "a field assignment with Gulf Oil Company in the Sechura Desert of northwestern Peru." In corroboration, a foreign correspondent in 1956 mentioned his envy of Don's earlier return to Peru. It should be mentioned at this point that the Frizzells in 1956 expanded their little one-story, two-bedroom home at 6 Rolla Gardens by building an addition which contained a large laboratory and ample storage room for Don's work (thereby allowing Harriet one of the bedrooms for use as a laboratory), a fireproof vault for Harriet's extensive spider collection, an extra sun room for quiet

reading or for overnight guests, and a basement garage. These accommodations understandably added immeasurably to their respective research activities.

The year of 1958 must have been a banner year for Don and Harriet, if the increased amount of Don's correspondence for that year is any indication of the fact. They had sent out, sometime earlier in the year, a packet of reprints which contained five of their more recent and newest endeavors in the field of micropaleontology. The use of the plural pronoun is not unintentional, because Don informed one of his correspondents that Harriet had about decided that "she is now a micropaleontologist," and went on to explain that "She will continue some work on spiders, of course, but . . . is deeply involved with me in some micropaleontological problems." As a matter of fact, she had been involved for some time, because three of the papers in the reprint packet had been coauthored by Don L. Frizzell and Harriet Exline. The topics of these three papers concern holothurian sclerites, a subject which constituted a decided break with Don's previous work on Foraminifera. Don indicated in another letter that he considered his *Handbook of Cretaceous Foraminifera of Texas* as a sort of a swan song of his foraminiferal studies and that he had become interested in other pursuits. One of these was the study of crustacean gastroliths (a relatively unexplored field in micropaleontology), and the other was "fishing" (part of which occasioned his published study on fish ossiculiths).

Fishing as a new outlet for Don was more than a form of relaxation. Characteristically, he derived from it a source of intense scientific interest that was to occupy his attention for the balance of his life. He informed a former University of Texas student that his studies of fossil fish otoliths, to which he had recently turned, was "an outgrowth of an interest in fishing that we developed around 1953 and that remains one of our major 'hobbies.' " Subsequent correspondence contains frequent mention of fishing excursions to Lake Norfolk, which lies astride the Missouri-Arkansas border, and to several favorite Missouri fishing streams and manmade lakes in the vicinity of Rolla. It is axiomatic to add that he, of course, skillfully dissected his own fish heads for the otoliths—a surgical job of no mean proportions.

A summer and Christmas holiday trip to the Gulf Coast was an order-of-the-day type thing during the period of 1958 to 1959 because it was considered to be a "combined fossil hunting, spider collecting, and fishing expedition." The "fossil collecting," of course, was to increase Don's collection of fossil fish otoliths; the spider collecting was to further Harriet's studies in araneology; and the fishing, without question, was "pure research," especially when they were "planning a five-day foray to the Biloxi-Gulfport area, Mississippi, for the Christmas vacation [1958]," and were hoping "to spin-fish and perhaps fly fish in the Gulf."

In the fall of 1959, Don was awarded a National Science Foundation grant for a two-year (1959 to 1961) study of "Recent otoliths and the Eocene-Oligocene otoliths of the Gulf Coast"; therefore, during the Thanksgiving vacation of that year he collected in the Vicksburg-Jackson-Meridian area. Harriet, for once, did not accompany him. He had also acquired extensive collections from the same general area the previous summer, and now with the financial assistance from the grant and with the help of a student, he was able to process them during the summer of 1960. Accompanied by this same student, he made "another collecting trip to Mississippi and Alabama" in

July. Consequently, he was able to inform a correspondent later that summer that the otolith project was going well and rapidly, but that it was keeping him "altogether too busy."

The year of 1961 was a full one in terms of work to the extent that Don and Harriet were "too weary and busy with odds and ends" to undertake their usual summer trip to the Gulf Coast. Don's first paper on otoliths had been published, and by the summer of 1962 he indicated to a correspondent that another National Science Foundation proposal was in the mill for a two-year study on otoliths.

Don and Harriet spent three weeks during August of 1963 in Veracruz, Mexico, collecting the salt water fishes of the area and extracting their otoliths. It was a "most enjoyable, although a strenuous trip" for both of them because they worked long hours during their stay at the marine biological station, and they had driven the entire distance "(5½ days each way)."

In the spring of 1964, Don and Harriet added a completely equipped darkroom to their home laboratory facilities ("The last bit of painting is receiving Harriet's expert touch."), and they undertook another "foray around the Gulf Coast area during the latter part of July and the first part of August." That spring semester was also "one of the busiest times in my [Don's] teaching experience," primarily because of major administrative changes which were taking place within the school. "We changed this year from the School of Mines and Metallurgy to the University of Missouri Rolla. Our Dean was uprated to a Chancellor, and the general administrative staff is increasing." It was also a strenuous year researchwise, because Don had been "writing and re-writing a paper, fortunately with a flexible deadline, on genera and lineages of fossil bonefishes (otolith-based)."

The first half of 1965 was taken up with work on Don's and Harriet's contribution on holothurian sclerites for the *Treatise on Invertebrate Paleontology*. They had agreed to write the material fifteen years earlier, and the task had finally caught up with them. It was especially trying for them because of their other research projects. Harriet was working (on spiders) as a consultant to a research group at the University of Arkansas and was devoting at least one-third of her time on it, which was a bit too much. Meanwhile, Don, having received a year's extension, was still fully engaged with his NSF project. They had planned to have the paper "in around March 15," but on the 17th of March they still had "quite a bit of writing to do." Actually the job was not completed until July 15 when it was finished in a swirl of activity. They had just received some critical information from Germany after having sent their article for printing to R. C. Moore, editor of the *Treatise*. This information necessitated changes in their manuscript.

But the big news for that year was that Don had been granted a sabbatical leave from February 1 to May 31 of the next year when they planned to travel in England, France, Spain, Germany, and perhaps Austria, "meeting otolith workers along the way of course." The trip to Europe was a high point in both of their careers, but it was paid for dearly with an accompanying and subsequent breakdown in their health, which in retrospect is not surprising when one considers the accelerated pace of their activities during the immediately preceding years. Don's ability for narrative description makes it unnecessary for anyone else to give an account of the trip.

Our European expedition was a most enjoyable experience, although three months was somewhat too long. (Six weeks is about the maximum time that one should take in foreign travel.) We spent six most pleasant weeks in Spain: we flew jet direct to Madrid, then went by train to Lisbon, Portugal. From Lisbon, we skirted the Portuguese coast southward and thence eastward into Spain, the next stop being Seville (with a one-day excursion to Cadiz). We took a small fast train from Seville to Malaga, going through some of the most spectacular mountainous terrain that we have ever seen. (Possibly the high point was the Ronda Gorge—with a man-and-burro-wide path, built of lumber and literally bolted with iron to the vertical face of the gorge. Unfortunately the train flashed around curves and into and out of tunnels, so that we could not even photograph the hair-raising pathway.) At Malaga we ran afoul of the big celebration of Holy Week (Santa Semana), so train and hotel reservations could not be made for the trip to Valencia and Mallorca (nor for the boat trip from Valencia to Palma de Mallorca). Consequently, we flew from Malaga to Palma, stopping at Valencia only long enough to change planes. Palma was perhaps the high point of the entire trip. I managed to meet an otolith specialist, as well as to get otoliths from Recent fishes at the Biological Station there. (Arrangements had been made for that in Madrid.) An extremely high point was a trip to Seller where we met Guillermo Colom—you probably know about his work on calpionellids and tintinnids, which is being used very widely in the study of open-sea limestones (even in the Cretaceous of Texas). Colom is an individualist who would not bother with course work for even a B.A. degree, although he took special work at one of the universities in Paris and is currently rated as one of the world's top micropaleontologists and geologists. He was quite wealthy (local opinion holds that he still is) and he has devoted some 40 years to full time study of the geology and paleontology of Mallorca and Spain.

After Spain, we spent roughly a month in Germany, mostly at Mainz, and Paris. The weather was miserable, and we were ill with a vicious virus bronchial attack. Harriet achieved some spider work in Paris, but I did rather little. And of our ten days in Paris, only two were pleasant weather. Britain was better, although the weather still was miserable. Both of us did well at the British Museum. After London, we went to Bournemouth, where I met *the* otolith worker of the country. That, too, was productive, as was a visit with a young undergraduate at the University of Nottingham who would like to study otoliths. After that we visited friends in Edinburgh and had a few days in north Wales. Then home, and very glad to be back. The entire trip lasted from March 3 to June 1.

The following two years were interesting and busy for both. Tbeir research went on at full pace, and Don's teaching load was increased. An element of lassitude and tiredness is reflected in some of his correspondence. In one letter, written in June 1967, he expresses this by saying, "In the last few days I have felt much better than before, probably due to several fishing trips to local artificial lakes, and have gotten a few things done."

In September of 1967, Harriet's health began to deteriorate rapidly, and she was hospitalized for examinations and treatment. She died in February the following year. From then on Don seemed to have succumbed to a paralysis of will, and his correspondence, therefore, is sparse. He rallied only enough to carry on his teaching, and though he endeavored to interest himself in his research, he never again gained sufficient momentum to be notably productive.

Although Don was obviously a person of serious intent, his life was not all work and no play. He enjoyed reading as a pastime and indulged his taste for detective stories and science fiction. Photography was also a source of enjoyment, and his camera equipment was of the best and adequate for his recreational as well as pro-

fessional needs. He subscribed to several photographic trade journals and enjoyed combing them at leisure in search of equipment bargains and new techniques. Unusual words and their application held Don's amused attention, and punning was a favorite exercise which he even carried over into his scientific work. An example appears in a letter to a former student who sought his advice on the naming of a new species. Don suggested the following: "Patronymics–*cookae*, honoring Miss Cook; *coqua*, a 'punning type' dedication to Miss Cook (if she would not object!). *Coqua*, Latin for a woman cook, would be a noun in apposition."

Don was sensitive, provocative, observant (even of minute details), very articulate, and had a superior and well-disciplined intellect that questioned the validity of "facts" accepted by others as being obvious or well proven. He would have made a good philosopher except that the subject did not interest him. In fact, he avoided people who invariably steered the conversation to philosophical or religious discussions. He did, however, make one recorded attempt to define the "meaning of life."

"It's an essentially monotonous affair," he mused, "varied with 'highs' of pleasure and 'lows' of sorrow. To live one's life to the best of one's ability, striving at once to be fair to self and to others–that seems to me to be success."

This definition alludes quite properly to Don's ambitious nature, but it hardly conveys his fiercely competitive spirit nor the emotional extremes that he experienced in those moments of elation and of despair which he referred to as "highs" and "lows." Nor can we think of Don's colorful life as having been "essentially monotonous." He did, however, live so as to exemplify his credo of the full life–"to the best of [his] ability," and in his case "the best" was extraordinary. Somehow, it seems that this should not have been too difficult for Don. Having been endowed so generously at birth with the potential for amazing capabilities, he was assured even then, as he is assured now, posthumously, of a creditable place on the roster of notable and successful scientists.

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