

THE LIFE AND TIMES OF FRANCIS BERTODY SUMNER,

BY HIMSELF

Those of my classmates who may remember me probably remember me as an erratic kid who took little part in the social activities of his class, but was prone to arguing with his professors in the classroom, and to flaunting his unorthodox views on religion, college athletics, etc. whenever opportunity presented. Well, I grew up after a while, or at least I grew part way up. For this last assertion you will have to take my word, for none of my classmates has seen me in many years. But I can tell you some things which may indicate a certain degree of maturity.

Now as to this autobiography nonsense! I was born in Pomfret, Connecticut, August 1, 1874. This I have on the authority of my parents, for the first place that I can remember was a small house on a ten-acre patch of land within the limits of the present city of Oakland, California. Here, in the country, was my home for the first ten years of my life. It was not a farm, for my father raised nothing except minor produce for our own table. Those were strictly horse-and-buggy days, and it was a six mile drive to Oakland; that plus a train and ferry ride to San Francisco - so I did not get around very much. We had very few near neighbors. I grew up seeing only occasional persons outside my own home. In some ways that was a bad beginning as will appear later. On the other hand, it got me started as a naturalist. I spent much time roaming over the surrounding country, alone or with an older brother; occasionally with one of the neighbor's boys. We brought home "specimens" both living and dead. Since my father encouraged these tastes and my mother tolerated them, they were not early suppressed as they might readily have been.

My only schooling during the first ten years of my life was received from my father, a retired teacher living on a very small, independent income. This task he performed so competently that when I finally entered school at the age of ten, I found myself ahead of most other boys of my age. To what extent the mental equipment which made me rate later as a "good student" in school and college was due to this favorable start I am not certain, though it must have been due in part to this.

Our family's next move was to Colorado Springs, then a mere village. There I first became acquainted with boys, not as occasional companions, but in large numbers on every hand. They were boys, too, who were mostly standardized in respect to what a fellow should do and say and wear and think. My own previous period of conditioning was not conducive to a speedy adaptation to this new environment, and so my adaptation was slow and was never really complete. What you saw in 1890 - '94 was the still unfinished product of this process of adjustment.

The Colorado Springs episode lasted but three years. By 1887, we were living in Minneapolis, drawn thither, in part, by the University of Minnesota, which my father, for some reason, had picked out to be my college. Along with several other 94's (Frank Anderson, Frank Manson, John Creelius -- I hope that I have not omitted anyone), I got my preparatory training at the Minneapolis Academy. I remember this as being a fairly good school, and it had the advantage of preparing the students for college in three years, as compared with the four years required by the public high schools.

My career at the University I look back upon with very mixed feelings. It was compounded, I think, of about equal proportions of success and failure. I had a high scholastic rating, one of the highest in the class, though in some departments it was nothing to brag about. On the other hand, I largely denied myself the social contacts which so many regard as the most valuable things in one's college life. Fortunately for me, these gaps in my education were partially filled in later on. But that helps little for present purposes. To most of you I must be an almost complete stranger.

I did, however, meet a few 94's in various places later, mostly in the East, and mostly within the next few years after graduation. In New York I recall running across George Bauer, David Burbank, Theodore Clark, Henry Hovland and Charles Topping. On a trip to West Point I called upon James Munro, then a cadet. I believe that he was a captain at the time of his death. I had the pleasure of taking Hope McDonald through the Agassiz Museum at Harvard, while she was living in Cambridge. Clara Leavitt appeared on the scene once at Woods Hole and again here at La Jolla. Harry Martin dropped in to see me some years ago, and within the past year or two I heard the cheerful voice of Will Coe over the telephone. Unfortunately, we could not arrange a meeting. Looking over the list of "living members", prepared by our Secretary in May, 1943, I find but three of these ten names.

The experiences which I look back to with greatest pleasure, during my college years, were probably the journeys among the Minnesota lakes and streams which some of us were privileged to take under the auspices of Professor Nachtrieb's department. It was particularly thrilling to camp at Lake Itasca and paddle in small boats down the little creek called the Mississippi River, at a time when those places still belonged in the realm of primitive wilderness, and when the beauty of the woods and lakes had not yet been marred by human depredations!

Alas, experiences of this sort are often pleasurable in retrospect only. They are not so pleasurable in the happening. By a trick of our memories, we put out of mind the manifold physical discomforts, the mosquitoes, the monotonous and unappealing camp grub, along with the personal friction that seems to mar the relations of the best of friends after a few weeks in camp. This trick of memory is a beneficent thing, for it allows us to accumulate a stock of pleasant recollections such as may enrich our entire lives. Those field trips of mine in the Minnesota woods were the forerunners of numerous collecting trips by land and sea.

My chief personal debt to one of my teachers was to Professor Nachtrieb, who placed numerous opportunities in my way, and gave me encouragement which had much to do with my choice of biology as a life profession. Nachtrieb, after retiring from teaching at Minnesota, moved to Berkeley, where he lived with his wife and daughter until his death about two years ago. With a single exception, he was the only one of my professors whom I ever saw in later life. The other one was she whom we students designated—affectionately or disrespectfully, as the case might be—as "Maria." Considering the none too exalted estimate of her which I (along with many others, I fear) formed in my college days, I was amazed to read in eastern papers, many years later, of the doings of "Minnesota's Grand Old Woman," Professor Maria L. Sanford. Years later still (1916, or perhaps even 1918), I had the pleasure of hearing "Maria" speak at the La Jolla Woman's Club. She was then at least eighty and still going strong! Student's estimates of their professors are not always fair.

I had expected to continue at Minnesota for at least a year of graduate work, following commencement in '94, but my good angel intervened, through the medium, as it happened, of an old-fashioned and incompetent physician. His advice that I should discontinue university work and take a year off, before proceeding with further studies was sound, for I had graduated very young and doubtless needed the rest. But he warned me very solemnly, and this without even having used a stethoscope, that my heart was seriously affected, and that I never again would be able to endure strenuous exercise of any sort. Parenthetically, I may remark here that I have indulged in mountain-climbing of a sort, throughout much of my life; have ascended Mt. Vesuvius five times on foot for example.

However, this well-intentioned advice of the old doc led to my moving east, with important consequences to my entire future. One of the first consequences was my consulting the celebrated Doctor William Osler in Baltimore --celebrated even then, though I had not even heard of him. He assured me promptly that I had no organic heart trouble and thus dispelled the depressing illusion under which I had been living for a year and a half. On Dr. Osler's suggestion, I took a voyage in a sailing vessel from Baltimore to Rio de Janeiro and return.

Here again was experience, but I doubt whether this experience had the desired therapeutic value. I suffered greatly from seasickness, both going and coming. The messes from the galley were very far from what a dietician would have prescribed for a patient of any sort, and I had no real companionship at a time when this would have done me a lot of good. But I did see Rio. I had not been informed that this was one of the world's beauty spots, and was left to make the discovery for myself.

The fall following my trip to Rio de Janeiro I entered Columbia University as a graduate student in the Department of Zoology, with Psychology and Physiology as my "minor" subjects. Here I worked under men whose names and achievements were already somewhat familiar to me. Chief among these was Edmund B. Wilson, one of the leading biologists of his day. Though I first registered as a candidate for the doctorate in 1895, my work was delayed and interrupted in various ways, and I did not receive my degree (Ph.D.) until 1901.

One event of outstanding interest during this interval was an expedition which three of us Columbia men made to the Egyptian Sudan in the summer of 1899. This expedition had as its main objective the obtaining of the developmental stages of a peculiar African fish known as *Polypterus*. It was the belief of our sponsors that knowledge of this fish's development might throw important light upon a theoretical biological problem, the ancestry of the land-living vertebrates.

Not only did we fail of our main objective, but we buried one of our party, Nathan R. Harrington, at Atbara, twelve hundred miles up the Nile. He was the victim of a tropical fever from which each of us suffered in turn. Several years later, a young English zoologist returned after a successful quest for the same material in another part of Africa, only to die at home from the effects of tropical disease contracted on his journey. This is the sort of "useless" scientific research which it is difficult to justify to a layman, but for which enthusiastic young scientists are frequently willing to risk their lives.

Once again, I might dwell on the precious stock of experiences which we accumulated in this painful way, to the enrichment of our later lives (those of us who survived). We journeyed into forbidden territory, by special permission of the British government, less than a year after Kitchener's re-conquest of the Sudan from the Dervish rebels. But we had ample opportunity to visit, on the way, many of the historic monuments of ancient Egypt. I little thought, when I wrote a theme for "Maria" on the Temple of Karnak, that I should be strolling among those famous ruins some half dozen years later.

I must not, however, give the impression that I have been much of a globe-trotter. As a matter of fact I have seen little of those parts of the world which are best known to the tourist. It chanced that I have made three visits to southern Italy, primarily to work at the celebrated Zoological Station at Naples (four visits, if two in 1899 are counted separately). Near the end of the summer of 1900 I was joined at Naples by two of my Columbia friends and spent a couple of weeks with them seeing Rome and Florence. I visited Venice alone. Later we spent a week

in Paris, and took in some of the sights of the town, from the Louvre to the Moulin Rouge. In justice to ourselves, I hasten to add that much more attention was devoted to the former than to the latter.

After the Sudan adventure of 1899, I returned to this country and took a teaching position at the College of the City of New York, a position which I held for seven years. This proved to be a rather unprofitable period of my life in some ways. The conditions both for teaching and for scientific research were exceptionally unfavorable at that time, and I was myself poorly qualified to teach elementary courses to students, few of whom gave any evidence of serious scientific interests. Indeed, my dissatisfaction with the prospects there was so great that I finally resigned the position and accepted a temporary and lower salaried job with the U.S. Bureau of Fisheries at Woods Hole. This although I was now married and had a small daughter. It was a leap in the dark, but it proved to be a fortunate one.

For several summers I had held the directorship of the Woods Hole laboratory of the Bureau of Fisheries, a position of not nearly so great importance as an outsider might infer. The director was ordinarily a temporary appointee, holding the position for the three summer months only and being reappointed each year. I became involved, however, in a rather large-scale project, the preparation of a two-volume report upon the local marine fauna and flora. This required my continuous presence at Woods Hole for several years. Thus I succeeded in escaping not only from the uncongenial College of the City of New York, but from New York City altogether.

I have long since refused to accept the conditions of life in a great city. That they constitute a negation of most of those things which we mean by the "good life" is to me too plain to call for argument. If I were forced to choose between the life of the lonely prospector or "desert-rat" and that of the "strap-hanger" of the New York subways, I should not for a moment hesitate in the choice. This although the great metropolis treated me pretty well personally during the eleven years (summers aside) that I lived there, and although I left behind many valued friends and relatives when I moved west to less congested areas. I must add that I have found this feeling of aversion to be deeper each time that I have returned to these hectic centers of population from the peace of the "Great Open Spaces." Having spoken thus, you will understand my dismay at the prospect that many of the additional millions who have flocked to our Pacific Coast to weld airplanes and battleships are likely to stay here after the war!

It happened that when the report for the Bureau of Fisheries was finished, I was out of a job, but thanks to a generous gift from a fairy god-father of mine, I did have a considerable sum of money. So why not spend a half year in Italy? That we did, my wife and I and our little daughter. I worked, as I had before, at the Stazione Zoologica, and carried out there one of my most interesting pieces of research. This had to do with the adaptive changes of color and pattern by which bottom-dwelling fishes, such as flounders, render themselves inconspicuous. A topic as far as possible from any practical application, but furnishing an example of the startling and unexpected mechanisms by which some animals meet their requirements for self-protection. This line of research I have taken up again in recent years, and indeed am so engaged at the present time. The central question here is, how the chemical processes in the skin of a fish are influenced by what the fish sees in its immediate neighborhood, and influenced in such a way as to benefit the fish! Does this interest you, or does it merely provoke an indulgent smile?

However, my whole time was not spent in the laboratory. I had a wife and daughter with me. And aside from that, no normal person would be willing to spend all his time indoors amid the beauty and historic interest of southern Italy. You have all heard the saying "See Naples and die." Of course some cynics have given a different meaning to those words from that originally intended. Here, as earlier at Rio de Janeiro, I met with the same contrast between the supreme beauty of the landscape and the filth and degradation and low standards of decency of the poorer classes of people. In both cases, however, these people were picturesque in their squalor. One ignores the filth of the Naples streets when he gazes across the bay to Capri and Monte Santangelo in the distance. And even the stenches vanish almost completely under the deodorizing magic of time. (Vide remarks by the present writer on mosquitoes, etc. in earlier pages of this monograph!). However, I do not presume to lecture to you on Italy. Many of you have probably seen Naples for yourselves, and many have doubtless seen much more of Europe in general than I have. But tell me -- is there one of us who would want to see it now, or for a long time to come?

Returning from this delightful interlude, I found myself without a job, and it took many months of anxious seeking before I found a suitable one. Finally, I secured the position of "Naturalist" on the U.S. Fisheries vessel "Albatross," then in San Francisco Bay. And so, back to California again after the lapse of 28 years, this time with a wife and seven year old daughter.

The "Albatross" had been constructed many years earlier for marine research. It had been employed, under Alexander Agassiz for example, in voyages similar to those of the famous "Challenger." I had expected to make lengthy cruises in the ocean, but now, the old vessel was showing her age. The Bureau of Fisheries could not obtain sufficient funds for her rejuvenation, and so we confined our operations to a two years' biological and hydrographic survey of San Francisco Bay (or at least the beginnings of one). My family and I lived in Berkeley, where we already had some good friends among the faculty people at the University.

The last great Hegira of the Sumner family was to La Jolla, where we now live. This is how it happened. Some years before Professor Ritter, and others, from the University of California, had founded a marine laboratory at La Jolla, with the all-important financial backing of E. W. Scripps and his sister. This laboratory was soon incorporated into the University, under the name "Scripps Institution for Biological Research." It was then stipulated that any kind of biological research --not merely marine-- could appropriately be carried on here. Thus it was that I was taken in to conduct a program of investigation upon geographic variation and heredity in a widely distributed group of wild mice known as *Peromyscus*. What this was all about would require a good many pages even to outline, so I shall be content to have you brand the entire enterprise as "nutty." But the project covered a period of seventeen years, during which it was well supported by the University of California and the Scripps. My achievements with *Peromyscus*, such as they were, probably represent my chief contribution to science, and were largely responsible for such recognition as I have received from outside biologists.

Aside from the breeding, measuring, and computing aspects of this project, at the home station, was the collecting of living specimens --hundreds of them-- in their natural habitats, an occupation which took me into the fields and woods and mountains and deserts of California; later to Arizona, and then as far east as Florida and Alabama. Those were glorious days (always with the considerable reservations mentioned above!), and I look back upon them as the "golden age" of my life.

But administrative exigencies swung the policy of the Scripps Institution seaward again, and we now have become the "Scripps Institution of Oceanography," successful and active but in other fields. After a while, though not under compulsion, I abandoned *Peromyscus* and returned to some of my earlier fish studies, already discussed.

My chief failure as a writer has always been my utter inability to tell things tersely. And so I have ambled along in this narrative far beyond any reasonable limit of length, and beyond the deadline set by our Secretary for the time of its completion. But I cannot decently end it, even here. There are certain personal things which cannot be omitted from a biographical sketch, even if I wanted to omit them.

In September 1903, I married Margaret Elizabeth Clark, the daughter of an Episcopalian clergyman, whom I first met at a students' boarding-house in New York, and whom I learned to know better at Woods Hole. We are still married and have never had the least wish to separate. This deserves mention, for it is far from a universal rule at the present time, particularly here within hailing distance of Hollywood. I could bestow many personal praises upon my life companion, but perhaps the rarest tribute which could be paid her is that she is able to get along with me!

We have two daughters, living on opposite sides of the continent. Their two children, a son and daughter respectively, have advanced us to the status of grandparents. Our son, Herbert Clark Summer, is a Stanford and "Cal-Tech" alumnus, now a Lieutenant (jg) in the Navy. He visited us very recently, after taking part in the landing operations at Sicily, Salerno and Anzio.

It would be lacking in grateful appreciation if I failed to acknowledge certain professional honors which I have received. I was elected to the National Academy of Sciences, the American Philosophical Society and some other organizations supposed to represent substantial achievement in science, and I have held one of the vice-presidencies (Section F) of the American Association for the Advancement of Science. How much these things mean, I must leave for others to judge. To modestly belittle their value would be discourteous to the distinguished men who have seen fit thus to honor me. On the other hand, .. .. well, you can see that I am on the spot!

I am reading with interest the biographies as they come in.

Farewell!

La Jolla, California, April 4, 1944.