

So Far, So Good: An Octogenarian Emeritus Takes a Brief,
General Inventory

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Life as a whole has been an enjoyable and rewarding sojourn for the writer, who pauses now, remembering and undertaking an attempt to prepare some kind of summary to an earlier, more lengthy, episodic autobiographical coverage under the title, "Again the Scene."

First, as to general health, on its several fronts: I enjoyed, during all my days, through childhood, youth and the mature years, exceptionally fine physical health. And this fortunate condition has prevailed, on the whole, into my current years, involving but a few necessary surgical interventions, and no serious illnesses at all. A minor, benign, subdermal fibroid mass was removed from my chest during my sixties; the skilled extirpation of an enlarged, non-malignant prostate, which had become subject, however, to infection, and was unpromising of optimal relief, was accomplished by an experienced, humane specialist, with excellent results and without even post-operative discomfort; and finally, the better part of a decade later, within half a year of my 80th birthday, a skilled team of orthopedists implemented a total replacement of my osteoarthritic right hip-joint. These latter two instances of surgery are of frequent necessity, after all, in men attaining the years of reference. I get about comfortably, using my cane to ensure proper balance, as well as to afford a degree of support; but genuine hiking can no longer be listed among my favorite activities, as it was indeed in other days....

With healthy cardiac, respiratory, circulatory and digestive systems to date, I find no basis for complaint as to physical health. Any account of my mental and intellectual qualifications would merit an initial statement that I've always been strongly attracted to, and later an increasingly interested observant and student of, natural history. The penetrating interest, notably in animal life, began while my childhood years were passing at a home in the country near Napa, California, and where I began the formal educational experience, up into the fifth grade, in a one-room country school. I always enjoyed seeing the animals at a circus, far more than watching the performances of clowns and acrobats.

In my grammar-school days, both in country and town schools, I hardly could have been classified as a stimulated, achieving pupil. No one subject seemed really to "turn me on," save perhaps art and some particular areas of literature, in each of which I did rather well.

In high school, however, beginning at Napa and then particularly at Berkeley, I discovered an attraction to, and ready ability in, languages, such as Latin and Spanish; and later came to enjoy physics and especially chemistry. I graduated with a reasonably good grade-point average, although

I'd not found math to be a strong academic subject in my case (save that I recall receiving top marks in plane geometry). And I did continue to enjoy English literature.

In any event, my high school record was sufficiently qualified to admit me into the University of California at Berkeley, in 1921. And it was there that my intellectual qualifications really were afforded stimulation.

Registering there as a pre-medical student, I pursued, inter alia, such required courses as chemistry (the first year under the excellent and deservedly world-famous Professor Joel H. Hildebrand, whose hundredth living birthday we celebrated in November, 1982!), and physics, later also zoology, English and other scientifically applicable languages, e.g., French and German. I did well in these disciplines but was not a Phi Beta Kappa (as is my granddaughter Susan Fox, who recently graduated from college).

At any rate, my required courses in organic chemistry evoked within me such a penetrating love for that subject area that, considering also the time and expense required for achieving a medical degree, I decided to alter my major to chemistry. This I did, and still graduated at the scheduled end of my fourth year. My thirst for the chemistry major had been such that I had completed more than 50 semester units in the Department, including all the organic courses offered, plus a seminar, a reading-research course, and undergraduate honors research, all of these latter with high grades. Because my interests in animal life never had waned, I opted a lecture course in biochemistry, and kept in touch with my earlier professor of zoology, Dr. C. V. Taylor. As I was about to graduate, he offered me a teaching assistantship in zoology, which greatly flattered me. But I had, at the time, to reply that I was to be employed by the Standard Oil Company of California, in their laboratories out in Richmond. To this, Dr. Taylor's reply was, "Fine. You go ahead with that work, and when you eventually come back for graduate work, you will be all the more prepared and valuable to us." What a surprise and a compliment were those words.

C. V. Taylor was doing research on the protoplasm of single-celled organisms, which captured my rapt attention when he demonstrated to me the microscopic vistas of protoplasmic streaming, or so-called cyclosis. I never again forgot them.

The result was that, during some four years of experience as an industrial chemist, my taste for biological sciences had become increasingly demanding. Such a taste was catalyzed by my reading of Darwin's "Origin of Species" and his "Descent of Man" during noontimes and other free hours.

So I touched base again with Professor Taylor, who, meanwhile, had migrated to join the biology faculty at Stanford University. Our communications soon led to my being offered, at Stanford, a teaching assistantship in biochemistry, under Professor J. Murray Luck, which I accepted, beginning in the middle of 1929. So I resigned my position at

Standard Oil at the end of my fourth year there, to take up my graduate studies.

The Stanford experience was one of great stimulation, of academic and later professional importance; for it was then and there that my defined professional outreaching genuinely began. As a graduate student in Stanford's School of Biological Sciences, emphasizing biochemistry as my major field of emphasis, I was among those numerous others in said school (save that few if any were biochemistry majors therein), who were expected in their curricula and their oral examinations to demonstrate satisfactory responsiveness to mature questions and discussions relating to the classification, structure (or anatomy) and function (or physiology) of plants and of animals. Moreover, these requirements were clearly announced before the fifteen faculty members who came to hear and/or participate with questions, at my qualifying oral exam on Dec. 10, 1930. Thirteen of these faculty people asked questions, while the remaining pair each declared that they had come as observers. I had had no academic contact with either of them, but knew one of them by sight and on a greeting basis.

It happened that there were four doctoral candidates coming up for orals on four successive days of that week. And some of the faculty biologists suspected, not without sound reasons as matters turned out, that there likely was at least one weak candidate in the quartet; and they were determined to discover if that were so. Moreover, since I was the first of said number on the list, it was especially gratifying, after the exam, to hear the Chairman's words, when I had been recalled into the "chamber of inquisition." "Mr. Fox," he said, "the examiners have asked me to tell you that you have passed a very satisfactory examination, by unanimous vote."

I was practically speechless, but the ready round of smiles and handshakes placed me back into the world of reality, and there then remained only the completion of my researches and the preparation of my dissertation, which I later submitted under the rather cumbersome title, "Some Chemophysical Aspects of Carbon Dioxide Narcosis in Living Cells."

The research, methods, data and report all were original with me, and the document was readily accepted; moreover, the committee decided that, in this instance, the candidate's oral defense of his dissertation should be waived.

Thus there came about the beginnings of my new profession. A few weeks before my doctoral degree was to be conferred upon me (and this despite the fact that we were then in the midst of the Great Depression of the Thirties), I was fortunate enough to have received two offers of employment. One of these was to join the faculty of the University of California's Scripps Institution of Oceanography, with research and instructional duties as a physiologist, specializing in marine organisms. The other position was for a rather undefined period at the Stanford University Hospital, to work under the direction of a medical faculty man on experimental cancer research upon rats.

Considering the former offer to me more substantial as to solidity of appointment, as well as in its relationship to my area of chief interest, I elected it as my choice, and was fortunate enough to implement the placement of one of my best friends into the Stanford position, wherein he worked for the ensuing decade.

My professional life has been exceedingly rewarding to me. I have been able to elect and pursue my own researches, whether alone or in collaboration with graduate students, or else with colleagues abroad or in my own laboratories, upon many different phases of comparative biology. My chief concentration has focused upon animal pigments and their metabolism; and of these, principally the carotenoids.

I was fortunate enough to be awarded a Rockefeller Research Fellowship, which enabled me to spend a year at Cambridge University, accompanied by my young family. Six years later I held a year's Guggenheim Memorial Fellowship. And a year after achieving emeritus status I spent a year as Distinguished Scholar at the Cranbrook Institute of Science in Bloomfield Hills, Michigan.

My researches at S.I.O. received gratifying support over many years and from several sources, notably the Rockefeller Foundation, and later from the National Science Foundation. Such aid enabled me to realize mutually useful research assistantships for a goodly number of deserving graduate students, who thus completed their doctoral work in my laboratories. In several instances, such young men were co-authors with myself, of papers reporting the results of jointly conducted researches.

In my teaching, I gave a graduate course in Marine and Comparative Biochemistry, wherein each enrolled student was required to write a fully documented term paper on a subject mutually agreed upon, and to present his subject orally before the class during the latter weeks of the academic term.

A feature in which I am able to take particular interest and satisfaction may be given passing notice here. That is, I have every reason to believe that my appointment as Professor of Marine Biochemistry (actually beginning as Assistant Professor at the time, in 1937), was the first time that this title had been used anywhere. It was a British colleague and friend who first mentioned this to me. However, it had originated in the minds of a close colleague at S.I.O. and myself when we were one day in 1936 discussing a shorter and more suitably defining title for one occupied with the kind of researches and instruction that I was doing. Accordingly, the new title had been proposed in that year, and my title came into effect at the opening of the following academic year.

I endeavored to present my course along broad lines, beginning with the supposed origins of the earth, its oceans, their living inhabitants and comparative metabolic habits and contributions to the chemical, physical and biological environmental features.

I have ever felt grateful for the breadth of general biological training and knowledge encouraged, and indeed demanded and practised in the School of Biological Sciences at Stanford, and the very genuine impact thereof upon my academic career.

I have thoroughly enjoyed the many years of cordial association and collaborative studies with my colleagues on this Campus of the University. I have appreciated the opportunity to witness, and in some small measure to contribute to its steady growth in numbers, areas of study, its space, overall effectiveness and increasingly wide recognition through the years.

It has been a special privilege to pursue one's daily life among a guild of genuine scholars and specialists in diverse fields of exploration. Honors which have come to colleagues have been a source of pleasure and pride to me. And, referring to allied recognitions which have been accorded to myself, the chief source of gratification has resided in the genuine expressions of pleasure and congratulations from such friends and colleagues.

Among some known shortcomings within myself, I have not, at least, been aware of feelings of jealousy, envy, or any manner of depression over the success, recognition and rewards accorded to colleagues, but, on the contrary, a sense of gratification for distinctions accorded to any of them, and thus to our University.

Moreover, I have indeed felt that I have enjoyed my own share of such compliments; and I've not felt a sense of competition for promotionary elevation or official responsibilities.

As an emeritus, in my thirteenth year as such, I am not a seeker for paid employment, for not only can I not be classified as employable at my age, but I receive a very good annuity. Nor am I a contestant for any position; not only are there younger, still active and more talented personnel available, but I candidly enjoy my freedom.

I do readily confess to having experienced a wrenching sense of loss when I recognized a manifest need for my laboratory space by a deserving team of young, productive workers. Nevertheless, I could part with that commodity without hesitation, for I could easily appreciate the importance of continual, optimal use of all available facilities. I was then no longer spending much time, nor utilizing much space, equipment, or many reagents in my lab, of necessity, and I've always supported the principle of optimal utilization of all available space and facilities. I know that ultimately the magnificent office space that I still occupy, with its eight windows affording views of the blue Pacific, must one day be inherited by a successor...but that time is not yet, in early 1982.