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The reminiscences of Sir Hans KREBS¹ concerning the discovery of CO₂ fixation by mammalian tissues invite a few brief remarks about this subject as seen from the perspective of the group which worked on carbon dioxide metabolism, primarily in photosynthetic and bacterial systems during the period from 1937-1942. I may note that some treatment of the early history of tracer experimentation in and around the Radiation Laboratory at Berkeley is available in a few articles I have published previously^{2,3}, but a properly intensive and exhaustive chronicle of the Berkeley experience remains to be written. It was shortly after my arrival as a postdoctoral student in Berkeley at the start of 1937 to work on purely nuclear physical problems at the Radiation Laboratory that I became aware of the Director's (E. O. LAWRENCE) intense interest in seeing the cyclotron production of radioactive isotopes exploited in biological and medical research. LAWRENCE was aware of my training as a radiochemist and it was not surprising that I soon found myself spending most of my time in preparation of radioactive materials made by cyclotron activation for use by various investigators in and around the campus. In this connection, LAWRENCE approached me one day (probably in the summer of 1937) with a special request to cooperate with a young assistant professor in physiology (I. L. CnAmOFr, later to achieve considerable repute through his pioneering investigations on carbohydrate and lipid metabolism in animal tissues using tracer methodology). The proposal was to utilize the short-lived carbon isotope ($C \sim 1$, $t_{1/2} \sim 20$ minutes) to study labeled carbohydrate, produced by photosynthetic CO₂ incorporation. He mentioned in passing that a young graduate student, Samuel RUBEN, not yet ordained as a Ph.D., was also involved. I was, in fact, collaborating with RUBEN in a research on neutron-induced radioactivities in the rare earth elements and so learned quickly that the idea of using C^{11} in tracer studies on carbohydrate metabolism had been pressed on CHATKOFF by RUBEN who in a characteristic excess of enthusiasm felt that the short life of C^{11} could be no insuperable handicap in obtaining adequately labeled carbohydrates. The notion that green plant photosynthesis could be used to prepare uniformly labeled D-glucose was the basis for his optimism. To help in this project, another young scientist—then an instructor in the Division of Soil Science, Dr. W. Z. HASSID—was impressed into service because of his expertise in carbohydrate chemistry. (I need not emphasize here that Dr. HASSID was also later to make his mark as one of the world's outstanding researchers in biosyntheses of carbohydrate.) To make a long story short, we soon discovered that the expected production of the labeled glucose was not proceeding according to the textbook suggestions but instead there was a massive short-term fixation of labeled carbon from CO₂ into unknown products and that, most surprisingly, the primary chemistry involved a dark (reversible) thermal fixation of labeled carbon in a carboxyl function with subsequent light-activated reduction of the labeled carboxyl to more reduced states of carbon.

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