

**ALBERT EDWARD GALIGHER**

Albert Edward Galigher was born in 1901 in Cairo, Illinois. In his teens, he moved with his mother, Mary Baker Galigher to Chicago, where he attended Hyde Park High School. Galigher next attended the Lewis Institute of Chicago where he graduated with a Bachelors of Science in 1919. He then attended the University of Chicago in pursuit of a Masters of Science degree.

While he was pursuing his degree from the University of Chicago, as a graduate fellow in the Department of Zoology, Albert E. Galigher's collaborative research with Libbie Hyman resulted in a paper titled *Direct Demonstration of the Existence of a Metabolic Gradient in Annelids*, which appeared in *The Journal of Experimental Zoology*, Volumes 34, 1921.<sup>13</sup> The following year, AE Galigher's research efforts resulted in a second scientific paper titled: *On the Action of Certain Substances on Oxygen Consumption V. The Action of Potassium Cyanide in Relation to Respiratory Rate*, which appeared in *American Journal of Physiology*, Volume 58, 1922.<sup>14</sup> This second publication, with Galigher as the sole author, referenced extensively the scientific papers of both Libbie Hyman and her mentor, Charles Manning Child.

## THE PACIFIC BIOLOGICAL LABORATORIES

On July 8, 1922, Albert E. Galigher married Doris June Kingsley and shortly thereafter set off on a sometimes dirt “Lincoln Highway” with wife and mother bound for the central coast of California.<sup>15</sup> By the fall of 1922, the family had settled into the small coastal community of Pacific Grove. The following year, on April 21, 1923, Albert and Doris Galigher's son David was born.

The idea for AE Galigher to move to California and establish a biological supply company may have been a topic of discussion with his roommates, J. Nelson Gowanloch and EF Ricketts. As well, the idea to move to west may have been suggested during his collaborative research efforts with Libbie Hyman. Conversely, the reason for the Galigher's relocating to California may not have been to set up a biological supply company, but to seek employment at Hopkins Marine Station, as suggested by his daughter, Mary Galigher Groesbeck.<sup>16</sup>

The next person to move to Pacific Grove, California, in the fall of 1923, was AE Galigher's college friend Edward F. Ricketts. On August 19, 1922, a year before moving west, Ed Ricketts married Anna “Nan” Barbara Maker; a wedding date just six weeks following the marriage of their friends, Albert and Doris Galigher. The young brides, Doris Galigher and Nan Ricketts, had long been close friends. In fact, it was Doris who had encouraged Nan to move from Pittsburg, Pennsylvania to Chicago, Illinois, and subsequently introduced Nan to her future husband, Ed Ricketts.<sup>17</sup>

Ed Ricketts had delayed his relocating to California until after the birth of their first child, who was born August 23, 1923. Soon thereafter EF Ricketts left Chicago, Illinois for the opportunity to join Galigher as a junior partner in the Pacific Biological Laboratories.<sup>18</sup> In November of 1923, several months after he arrived in Pacific Grove, Ed Ricketts was joined by his wife Nan, and their three-month-old son, Ed Ricketts Jr.

First located in a one-story board and batten building at the corner of Fountain Avenue and High Street in Pacific Grove, California, the Pacific Biological Laboratories supplied prepared microscope slides and biological specimens to both schools and academic research institutions. This collaborative partnership of AE Galigher and EF Ricketts lasted just a few years, officially ending in 1925. The transfer of Galigher's

share of the biological supply business to Ricketts was remembered by Nan Ricketts in her memoir:

*After about two years there had to be a change at the Lab; there was a need for more financing. So Ed started writing to different biology houses and other sources to find some one to invest. University Apparatus in Berkeley responded. I believe that Ed and Albert both were in favor of the company. Then there came the split of partnership between Ed and Albert. Each had the opportunity to buy out the other, on certain conditions. It happened that Ed was the one who was able to raise the money, and Albert and Doris went to Berkeley.<sup>19</sup>*

## THE LABORATORY OF MICROTECHNIQUE

In 1925, when the Galigher family moved to Berkeley, Albert found employment, for a short time, as a technical assistant in the Department of Zoology at the University of California.<sup>20</sup> Finding he lacked the temperament for the University's departmental politics, Albert Galigher left the academic position and established-in the back bedroom of a rented house in Berkeley - the AE Galigher Inc. Laboratory of Microtechnique.<sup>21</sup>

To support the effort, Albert Galigher taught his mother and wife to do lab work and the threesome ran the business. Just four years after his establishing the Laboratory of Microtechnique, the stock market crashed and the United States plunged into a severe economic depression. According to Mary Galigher Groesbeck, her father's well-established business was profitable throughout the Great Depression; as his money came various academic institutions worldwide, enabling them to afford a beautiful home located high in the Berkeley hills, with a spectacular view of the surrounding area.<sup>22</sup>

In 1934, Albert E. Galigher published his book titled *The Essentials of Practical Microtechnique in Animal Biology*. Consisting of 288 pages of text and 58 original photomicrographs and drawings, this book provided readers with detailed information about the preparation of biological microslides for both research and education.<sup>23</sup> The preface of the book provides further insight into AE Galigher's experience brought about by his establishing of the laboratory of microtechnique:

*...The need for more accurate and reliable methods of microtechnique was vividly impressed upon the writer more than ten years ago, when he experienced the exasperation and discouragement which generally result from attempts to use many of the methods ordinarily set forth in books on the subject. In 1926 he established a laboratory of microtechnique, and in the eight years which have since elapsed, the author and his assistants have devoted a large share of their time to extensive experimental investigations directed toward the improvement and standardization of microtechnical methods. This work has been supported by the distribution of slides for educational purposes, which has also enabled the author to receive valuable suggestions and criticisms from biologists active in various fields of teaching and research.<sup>24</sup>*

For many years, this publication served as the primary handbook for biologists whose research required the application of advanced microscopical techniques. Although the first edition of *The Essentials of Practical Microtechnique in Animal Biology* (1934) remained in print for only a short time, the book proved to be so useful for microscope slide preparation that owners of the book seldom, if ever, parted with their personal copies.<sup>25</sup>

According to Mary Galigher Groesbeck: *After the publication of Essentials of Microtechnique the publisher always wanted him to update it, but he was too busy making a living, playing the violin, teaching himself the flute, being President of the Albany Rotary Club, taking pictures and developing and printing them in his home darkroom. My dad was kind of a one man band, did every job needed to keep the lab going, with the help of my mom, my grandmother and some part time grad students.*<sup>26</sup>

One of those part-time apprentices was George Payne who, as a young UC Berkeley pre-dental student, began working as an assistant for Galigher's Laboratory of Microtechnique in 1954. In an article published in the University of the Pacific, School of Dentistry Alumni Magazine (1984), Payne remembered Albert Galigher as *nothing short of a genius*. Payne's remembrance of Galigher was described in the article as follows:

*He was also something of a maverick, having first fled the University of Chicago after a dispute, and much later, the marine biology lab in Monterey he operated with Ed Ricketts...He was also a raconteur, philosopher, and concert violinist, who thus exposed his young employee to new worlds: music, radically new ideas, and an array of unusual and fascinating people. During Payne's three years at the lab, the two would often speak far into the night, in mammoth intellectual bull sessions where we talked about everything under the sun.*<sup>27</sup>

With the above depiction of AE Galigher as *a raconteur, philosopher, and concert violinist*, one can begin to consider the influence he may have impressed upon the life course of his former business partner EF Ricketts.

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