

# AAI LOOKS BACK

For nearly 100 years, AAI members have been at the forefront of advancements in immunology and related disciplines. In this issue, we profile Elise Strang L'Esperance whose legacy included a number of firsts, both in her medical research and in the career distinction she achieved as a woman.

## Elise Strang L'Esperance: Pioneer in Cancer Prevention and Recipient of Lasker Award

In 1916, **Elise L'Esperance, AAI 1920**,<sup>1</sup> became the first woman to be a lead author on an article published in *The Journal of Immunology (The JI)*.<sup>2</sup> Co-authored with her colleague at the Cornell University Medical College and editor-in-chief of *The JI*, Arthur Coca, AAI 1916, the article examined sources of error in the Wassermann reaction — the newly developed test for syphilis.<sup>3</sup> This was not the last “first” to be credited to L'Esperance, for she was instrumental in breaking a number of barriers for women in medicine and changing the face of cancer prevention in the United States. For her ground-breaking work in cancer prevention, L'Esperance shared the 1951 Lasker Clinical Medical Research Award with cancer researcher Catherine Macfarlane. L'Esperance and Macfarlane were the first women to be awarded a Lasker for medical research.

Born in 1878, Elise was the youngest of three daughters of Albert Strang, a Yorktown, New York, physician, and Kate Depew Strang, sister of Chauncey Depew, a U.S. senator, lawyer to Cornelius Vanderbilt, and railroad president. Encouraged by her father to pursue a career in medicine, Elise enrolled in the Women's Medical College of the New York Infirmary for Indigent Women and Children (hereafter referred to as New York Infirmary),<sup>4</sup> taking advantage of opportunities created by women's medical education pioneer Elizabeth Blackwell.<sup>5</sup> While a student, Elise married David A. L'Esperance, a New York attorney, and received her medical degree as Elise L'Esperance, graduating in the college's final class in 1899.<sup>6</sup>

L'Esperance began her medical career as a clinician by interning at Babies Hospital in New York and then entering private practice as a pediatrician, first in Detroit and then in New York City. Frustrated that medicine was unable to spare her patients the ravages of diseases having no known cure, Elise sought to switch her emphasis to medical research. In 1908, she was appointed to the New York Tuberculosis Commission under the esteemed William H. Park, AAI 1916.<sup>7</sup> As a result of her work with the commission, she became



Photo Credit: New York West Cornell Medical Center Archives

increasingly interested in the research opportunities afforded by a career in pathology. In 1910, she joined the staff of James Ewing, a cancer specialist in the Department of Pathology, Cornell University Medical College, becoming his first female research assistant.

Elise showed much promise and was promoted to instructor in 1912, awarded a research fellowship to study in Munich, Germany, in 1914, and, in 1920, was promoted to assistant professor — becoming the first woman to attain a professorial rank at the medical school.

During this same period, she also served as the director of laboratories of the New York Infirmary.<sup>8</sup> After obtaining the rank of assistant professor, L'Esperance remained at Cornell for another 12 years of productive research and at the New York Infirmary for an additional 26.<sup>9</sup>

1. L'Esperance joined AAI when the New York Society for Serology and Hematology was dissolved in 1920. She was a member until she passed away in 1959.
2. In the early years of *The JI*, articles were often written by a single author. When an article was co-authored, the designated first author had directed the research, and the second author was a contributor. Ruth L. Stone, M.S., AAI 1922, was the first female author in *The JI* (as a second author).
3. Elise S. L'Esperance and Arthur F. Coca, “Further Experiences with the Isolated Organ Lipoids as ‘Antigen’ in the Wassermann Test,” *The Journal of Immunology* 1, no. 2 (1916): 129–158.
4. The New York Infirmary for Indigent Women and Children was founded by Elizabeth Blackwell in 1857 to serve the poor of New York City and provide positions for women physicians and a training facility for female nursing students. Blackwell opened Women's Medical College in 1868 to teach and train female physicians. L'Esperance followed Blackwell's spirit at the New York Infirmary in creating clinics that were staffed entirely by women. The New York Infirmary merged with Beekman Downtown Hospital in 1981, and today is the New York Downtown Hospital.
5. Elizabeth Blackwell (1821–1910) earned a medical degree in 1849, becoming the first female to do so in the United States.
6. She graduated in 1899, but she contracted diphtheria and was unable to receive her degree until 1900.
7. William Hallock Park (1863–1939) was the director of the New York City Health Department Laboratory from its founding in 1893 until his retirement in 1936. He is best known for his work in applying bacteriological and immunological methods to public health in New York City, notably his successful clean milk and anti-diphtheria campaigns. Park was an AAI member from its founding until his death. He also served as president in 1918, as well as on the Advisory Board of *The JI* (1920–1936).
8. *The New York Times*, “Dr. L'Esperance Specialist, Dead,” 22 January 1959: 31.
9. She later returned to Cornell University Medical College as professor of preventative medicine (1950–1959).

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## *L'Esperance (continued)*

In the early 1930s, L'Esperance's mother succumbed to cancer. Two years later, her cousin Chauncey Depew, Jr., passed away. Having died a bachelor, Depew left a large family inheritance to his cousins, who had already inherited large sums of money from their mother.<sup>10</sup>

In honor of their mother, L'Esperance and a sister used funds now available to them to create the Kate Depew Strang Clinic for Cancer and Allied Diseases at the New York Infirmary. With new equipment and its own staff endowed by the sisters for the first two years, the clinic was established as a separate department of the hospital. L'Esperance served as its first director, stating that the clinic's mission was to bring the use of modern techniques to the diagnosis and treatment of cancer in women. At its dedication, Ewing declared that the clinic represented "a pioneer step...devoted to the greatest problem in medicine and probably the greatest hazard in human life — cancer."<sup>11</sup> On its first anniversary celebration, First Lady Eleanor Roosevelt praised the sisters' "unselfish generosity."<sup>12</sup>

Shortly after founding the clinic, L'Esperance became convinced that the best way to prevent cancer from developing into malignant tumors lay in its early detection through use of the most modern techniques for physical examinations. The causes of cancer, after all, remained unknown. She would endeavor to enact her "tentative plan to prove whether prevention and early diagnosis" of cancer were effective. If so, she maintained that her approach "could become a practical part of a medical health service."<sup>13</sup>

Fortunately, L'Esperance had the education, training, and financial resources to act upon her convictions and do something that ultimately proved revolutionary. In May of 1937, she founded the Kate Depew Strang Cancer Prevention Clinic at the New York Infirmary. The goal of this new clinic was to identify early-stage cancers and pre-cancerous conditions because, according to L'Esperance,

### FURTHER EXPERIENCES WITH THE ISOLATED ORGAN LIPOIDS AS "ANTIGEN" IN THE WASSERMANN TEST

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Our previous publications (1) upon the Wassermann reaction have dealt chiefly with the technique of the test. We have called attention to two important sources of error that attach to the use of the isolated organ lipoids (Noguchi) as "antigen." These were: first, the non-specific or "pseudo-reaction" that is sometimes obtained with the originally prescribed quantity of "antigen" when the serum to be tested has not been heated; and secondly, the prezone phenomenon of wanting or weak reaction, which sometimes occurs with positively reacting sera where the larger quantities of the lipoid emulsion are used.

In a subsequent larger series of examinations we have not only confirmed those observations, but, through our association with Dr. E. L. Keyes and with the generous assistance of Dr. D. W. MacKenzie, Dr. B. S. Barringer and Dr. J. D. Kernan, Jr., we have been able, also, to reach a definite conclusion as to the relative clinical efficiency of our technical method in the diagnosis of syphilis.

The technique employed was not essentially changed from that described in our former publications. The serum to be examined was used undiluted in a quantity of 0.02 cc., or it was diluted 1 to 10 and the diluted serum was used in a quantity of 0.2 cc. The sera were examined usually in the unheated condition.

The guinea pig's serum was used in a 1 to 10 dilution in quantity of 0.1 cc.

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"effective treatment is that instituted at a time when the process is localized."<sup>14</sup> The clinic was a first-of-its-kind in the United States in its provision of a "complete physical examination of women, with especial reference to cancer."<sup>15</sup> The Cancer Prevention Clinic did not treat patients. Patients diagnosed with potential cancer were referred to their personal doctors.

10. *The New York Times*, "C. M. Depew JR. Left Estate of \$6,199,241" 17 November, 1931: 28. The article states that each cousin inherited \$1,931,810. Elise and her sisters also inherited money that their mother received upon the death of Chauncey Depew in 1928. See NYT, "Depew Will Give \$1,000,000 to Yale" 19 April 1928: 1. There is no clear evidence of which inheritance provided initial funding for the first clinic.

11. *The New York Times*, "New Cancer Clinic Opened by Women," 12 April 1933: 11.

12. *The New York Times*, "Clinic Praised by Mrs. Roosevelt," 27 April 1934: 11.

13. Elise S. L'Esperance, "The Early Diagnosis of Cancer," *Bulletin of the New York Academy of Medicine* 23, no. 4 (1947): 397. [Emphasis in original removed]

14. L'Esperance, 395. [Emphasis in original]

15. Catherine Macfarlane, "Cancer Prevention Clinics," *Journal of the American Medical Women's Association* 1, no. 1 (1946): 2.

The physical examination at the clinic typically included mouth, nose, throat, pelvic, and rectal examinations, urinalyses, blood tests, and a full-plate x-ray of the chest. L'Esperance remained vigilant in the addition of new techniques as they became available for early detection of the disease. These included a test for diabetes as well as a technique devised by George Papanicolaou to detect cervical cancer (today known as the Pap smear). The latter led to the enduring use of the Pap smear as part of a regular gynecological exam.

The mission of the Cancer Prevention Clinic included educating patients about the importance of routine physical examinations to identify cancer early. The clinic was also committed to alerting patients to what were deemed “predisposing factors” for cancer. Among these factors, L'Esperance included the “excessive use of tobacco and other chronic irritants.”<sup>16</sup>

The preventative clinic model L'Esperance created proved so successful in identifying early-stage cancers and pre-cancerous cells that Ewing asked her to create a similar institution at Cornell-affiliated Memorial Hospital. The first clinic opened to women in 1940 and was followed by a clinic for men in 1944. By 1947, when the newly constructed building of the Kate Depew Strang Cancer Prevention Clinic at Memorial Hospital Center was dedicated, cancer was the second-leading cause of death in the United States, as the death rate had continued

increasing unabated since the turn of the century.<sup>17</sup> The idea of a cancer prevention clinic was revolutionary in 1932, but, by 1947, it was hailed as “the most powerful tool thus far devised” for the early detection of cancer.<sup>18</sup>

The preventative clinic model was copied quickly across the United States. Clinics opened in Philadelphia (1938) and Chicago (1943). By 1947, 181 clinics had opened in 30 states and in almost every major city across the country.<sup>19</sup>

In addition to the Lasker Award, L'Esperance received the Clement Cleveland Medal of the New York City Cancer Committee in 1942, becoming the first woman to do so. She also served as the first editor of the *Journal of the American Medical Women's Association*, as well as an associate commander of the Women's Field Army of the American Society for the Control of Cancer.<sup>20</sup>

16. L'Esperance, 397–399.

17. The death rates for infectious and parasitic diseases, by contrast, were declining. With the exception of the pandemic influenza of 1918–1920, heart disease was the leading cause of death in the United States, U.S. Public Health Service, Vital Statistics of the United States, 1947 Part I (Washington, DC, Government Printing Office), 111; U.S. Department of Commerce, Mortality Statistics, 1932 (Washington, DC, Government Printing Office), 14.

18. *The New York Times*, “Clinic Dedicated in Cancer Battle,” 13 November 1947: 20. Quotation from Austin V. Deibert, chief of the cancer control subdivision of the National Cancer Institute.

19. Macfarlane, 2; *The New York Times*, “181 Centers Push Fight on Cancer,” 24 November 1947: 25.

20. The American Society for the Control of Cancer adopted the name American Cancer Society in 1945. The Women's Field Army was responsible for major cancer education campaigns in the 1930s and 1940s.

## ERRATA

In the list of new AAI members published in the previous newsletter (*AAI Newsletter*, December 2011, pages 20-26), the following AAI Trainee Members were named without indication of their doctoral degrees. AAI lists these new members again here with the distinction of their advanced degrees.

**Sandrine Aspeslagh, M.D.**  
Gent, Belgium

**Jirong Bai, M.D.**  
Omaha, Nebraska

**Mahesh Bhandari, D.V.M.**  
Ames, Iowa

**Erika F. Campos, M.D.**  
Sao Paulo, Brazil

**Miao Cui, M.D.**  
Flushing, New York

**Sehba Dsilva, M.D.**  
Manhasset, New York

**Christina Du, D.V.M.**  
College Station, Texas

**Kevin J. Esch, D.V.M.**  
Ames, Iowa

**Arunakumar Gangaplara, D.V.M.**  
Lincoln, Nebraska

**Patrick Gubser, M.D.**  
Basel, Switzerland

**Suresh Chandra Kari, D.V.M.**  
Detroit, Michigan

**Nagaraj Kerur, D.V.M.**  
North Chicago, Illinois

**Michael Eric Lewis Le Page, MBBS**  
Perth, Australia

**Chih-Yuan Lee, M.D.**  
Taipei, Taiwan

**Haekyung Lee, MBBS**  
Astoria, Armenia

**Song Li, M.D., Ph.D.**  
Omaha, Nebraska

**Mohan S. Maddur, D.V.M.**  
Paris, France

**Sara Mashoof, D.V.M.**  
College Station, Texas

**Quan Nguyen, M.D., Ph.D.**  
Los Angeles, California

**Sherri Ojikutu, D.M.D., Pharm.D.**  
Chicago, Illinois

**Kyla F. Ortved, D.V.M.**  
Ithaca, New York

**M. D. Masudur Rahman, D.V.M.**  
Jeonju, South Korea

**Morteza Roodgar, D.V.M.**  
Davis, California

**Armen Sanosyan, M.D.**  
Yerevan, Armenia

**Lauren V. Schnabel, D.V.M.**  
Ithaca, New York

**Laura A. Shaw, Ph.D.**  
La Jolla, California

**Gina Song, Pharm.D.**  
Chapel Hill, North Carolina

**Nianbin Song, Ph.D.**  
Baltimore, Maryland

**Amol Suryawanshi, D.V.M.**  
Knoxville, Tennessee

**Rachel Maureen Tell, D.V.M.**  
Ames, Iowa

**James E. Thaventhiran, MBBS**  
Cambridge, United Kingdom

**Kevin Wayne Tosh, Ph.D.**  
Bethesda, Maryland

**Sergio Iván Valdés-Ferrer, M.D.**  
New York, New York

**Tamara Veiga Parga, D.V.M.**  
Knoxville, Tennessee

**Kangling Xu, M.D.**  
Dallas, Texas