(As published in The Oak Ridger's Historically Speaking column the week of December 30, 2019)

Oak Ridge welcomes in the promise of a new year, 2020, filled with renewed ambitions and even more innovation than ever that is guaranteed to come out of our region. As we look ahead, let us also reflect on two Oak Ridgers who have left us but have not departed from our hearts and minds. We will long remember them both!

This year, Oak Ridge lost two iconic heroes that helped put our Secret City on the map.

Ed Westcott, a renowned photographer, died on March 29, 2019 at the age of 97. Ed joined his wife Esther Seigenthaler Westcott, and left behind an incredible visual history of the top-secret Manhattan Project for Oak Ridgers and the world to appreciate for generations to come.

And Dr. Liane "Lee" Russell, a genetics pioneer and legacy researcher, passed away on July 20, 2019 at the age of 95. She was reunited in death with her husband Dr. William "Bill" Russell. Lee's contributions to science helped create X-ray health guidelines for pregnant women that are still practiced today.

These two incredible people were thrown into a time in history where war was tearing at the world at every corner. They each ended up at Oak Ridge by chance to accomplish things that had never been done before.

While we celebrate the upcoming new decade in Oak Ridge, we must take time to remember these two exceptional individuals. They not only made a difference in the lives of so many people but propelled Oak Ridge to its rightful place in history and groundbreaking science.

Beginning with my dear friend, Ed Westcott, Oak Ridgers grow up knowing his legacy. It's nearly impossible to read about the Manhattan Project without encountering Ed's iconic photographs. Now these images help our visitors understand what would be much harder without Ed's wonderful and descriptive photographs.

Ed was hired as the 29th employee of the Manhattan District of the U.S. Army Corps of Engineers. He was the only individual -- out of the 75,000 that eventually occupied Oak Ridge during those tense Manhattan Project years -- to have a camera and capture the construction of the plants used to separate uranium-235 from the more abundant uranium-238 to create the world's first atomic bomb as well as the world's first industrial-size nuclear reactor.

At just 20 years only, he was initially tasked with taking photographs of the X-10, Y-12, K-25 and S-50 plants that were being erected. But his portfolio eventually grew to cover every square foot of the 59,000 acre-site that made up Oak Ridge at the time, and his hobby became capturing the people and the daily lives of Oak Ridgers that aid us today in understanding our history.

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His dedication to our city extended beyond what was required of him, as he took photos both on and off the clock. His creativity was so unique, with the ability to put all his subjects at ease that his photographs appear natural -- not staged -- capturing the true, raw emotions of sorrow, gravity, humor, affection, respect and wonder in his pictures.

There's no one else like Ed and after World War II he went on to take even more pictures working for the U.S. Atomic Energy Commission and its successor agencies, the Energy Research and Development Administration and the Department of Energy, to showcase peaceful uses of atomic energy. Eventually retiring, out of all the places in the world, he picked Oak Ridge to live out his remaining years. We were blessed with him for many more years.

Oak Ridgers drive by Ed's photographs every day in businesses, restaurants, government offices and various structures, such as electrical access junction boxes. A shopping center, a theater, a street, several galleries -- two of which have documentary films running -- and many photographic displays in our community are named in his honor.

More than 15,000 of his negatives are housed in the National Archives in Washington D.C. There are two traveling exhibits that feature his photographs, several online archives of his images and the University of Tennessee has nearly 100 images periodically shown in their downtown gallery in Knoxville, TN. He's up for consideration for the Presidential Medal of Freedom by U.S. Rep. Chuck Fleischmann's office with support from U.S. Sen. Lamar Alexander.

Ed also published his first book of Oak Ridge photographs in 2005 in the "Images of America" series. And Ed is so well-loved in our community, the city issued an official proclamation naming Saturday, January 20, 2018 "Ed Westcott Day," a day set aside just for celebrating his legacy!

If you haven't already, come visit the Manhattan Project National Historical Park here in Oak Ridge where several sites have his legendary photography on display. These include the Children's Museum of Oak Ridge, the American Museum of Science and Energy, the Y-12 History Center in the New Hope Center at the Y-12 National Security Complex and the X-10 Graphite Reactor at the Oak Ridge National Laboratory

The new Oak Ridge History Museum has two galleries dedicated in his honor! The amazing large panoramic photo of Oak Ridge, which was in the previous location of the American Museum of Science and Energy, is located on the Wildcat Den walls there. And most recently, the Historic Grove Theater has a wall of Ed's photographs near the entrance to the theater.

Soon to be unveiled is the K-25 History Center at the East Tennessee Technology Park which will, of course, also rely heavily on Ed Westcott images for the displays there. As you can see,

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without Ed's photograph, we would be hard pressed to tell visitors of our proud heritage and especially the early years. What a blessing we have in his legacy!

Ed's gift to Oak Ridge was his photographs, for sure, but also his generosity, giving people like you and me insight into his camera lens-view of history in the making, the birth of the atomic age, and Oak Ridge's role in ending the greatest war ever known. Our city will be forever grateful to Ed. Our visitors will be forever blessed by his work.

And while we have lost the one who literally framed Oak Ridge's history, we also lost another who shaped our reputation as a place for world-changing scientific innovations.

Dr. Liane "Lee" Russell was a mammalian genetics expert and among her most important discoveries she gave the world a better understanding of radiation's effects on developing embryos. She also contributed to the discovery of the purpose of the Y-chromosome through her work at Oak Ridge National Laboratory's 'Mouse House.'

Russell came to our country fleeing Nazi-controlled Austria, eventually becoming a citizen and taking up interests in chemistry and biology. Earning her B.A. degree from Hunter College in New York City and her Ph.D. from the University of Chicago, Lee and her husband, Bill, came to Clinton Laboratories, later Oak Ridge National Laboratory, in 1947.

The Russells chose the Clinton Laboratories -- ORNL's then Manhattan Project name -- as a destination largely because it was one of the few places at the time that would allow Lee to work alongside Bill. They were truly a team in marriage and also in careers. Their research was complimentary and they enjoyed that close working relationship for the remainder of their careers until Bill's passing. Lee continued to enthusiastically work until very near the end of her long life.

Over the next six decades however, the Russells' volume of work with mutant mouse strains led to the development of an extensive mouse colony known affectionately worldwide as being kept in the "Mouse House." Their work together led to a number of discoveries related to their mammalian genetics research. The Mouse House was located at the Y-12 National Security Complex, which housed as many as 200,000 mice, and was one of ORNL's most famous institutions which made lasting contributions to genetics research.

From these incredible breakthroughs Lee received the Department of Energy's highest honor, the Enrico Fermi Award in 1994. The citation honored Lee for "her outstanding contributions to genetics and radiation biology including her discovery of the chromosomal basis for sex determination in mammals and her contributions to our knowledge of the effects of radiation on the developing embryo and fetus." Numerous other awards have been presented to Lee over the years.

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And Lee's ambitions didn't stop in the laboratory. While working in Oak Ridge, the Russells also developed an appreciation for the region's natural beauty and became staunch environmental advocates. Lee, along with her husband Bill who died in 2003, were instrumental in founding the Tennessee Citizens for Wilderness Planning organization.

This effort led to the establishment of the Big South Fork National River and Recreation Area and obtaining National Wild and Scenic River designation for the Obed River. Their names are synonymous with the creation of these natural areas and are often cited as the primary reason for their very existence.

Her advocacy efforts continued further when in 2013 ORNL established the Liane B. Russell Distinguished Early Career Fellowship. This unique initiative is intended to attract diverse and promising early-career scientists whose career goals align with DOE missions. It also is intended to address such issues as a result of the many common career difficulties women in science encounter.

Take pride Oak Ridgers in knowing Dr. Russell's significant contributions to science is explained in several places across the Secret City, including in the American Museum of Science and Energy and in the K-25 Visitor Center & Overlook within the Manhattan Project National Historical Park. She was proud to be an Oak Ridger and truly blessed us by choosing to live here. An icon of dedication, success and never-ending enthusiasm for life, Lee's legacy she has left us is one of a truly amazing scientist as well as a most effective environmental advocate!

I've never doubted Oak Ridge would dare let the memories of these precious people fade. Just this month alone the Historic Grove Theater, the Flatwater Tales Storytelling Festival organizers and the three Oak Ridge Rotary Clubs <u>unveiled a 65 foot wall of nearly two dozen Ed Westcott</u> <u>photographs</u> at the Historic Grove Theater that depict the livelihood and rich culture that make up Oak Ridge while at the same time honoring Ed!

Plus, Oak Ridge National Laboratory will be celebrating <u>the life and legacy of Dr. Liane Russell</u> <u>during a symposium</u> on December 20, which will feature past and current recipients of the Liane B. Russell Distinguished Early Career Fellowship!

Clearly this is evidence that they are remembered, always! Have a Happy New Year, Oak Ridge!

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Liane "Lee" Russell when she was doing groundbreaking and record setting research at the Biology Division of Oak Ridge National Laboratory located at Y-12

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Ed Westcott at age 20 when he was the 29th person hired and assigned to photograph the Clinton Engineer Works

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Lee Russell as she enjoyed her later years in Oak Ridge, never really stopping her avid and energetic efforts to both do research and save our environment

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Ed Westcott during his retirement years in Oak Ridge