Lowell Milken Center for Unsung Heroes
ARTEFFECT

Impact Statement

Jordyn Sledge, Grade 9
Man of the Marsh, 2025
Ceramic bust, acrylic paint and metallic wax surface for bust, collected branches covered in polyurethane and bound with twine, crocheted leaves, polymer clay cell, polymer marine invertebrates, polymer painted with acrylic paint, wooden base.
30.5 x 31.5 x 22.5 inches
Ida B. Wells Academic and Performing Arts Complex
Teacher: Rebecca Wilkinson
Unsung Hero: E.E. Just

Somewhere in the woods of New Hampshire, a young man scours the soil for tiny beings: ferns, beetles, worms, moss, and frogs. Over a century later, a teenage girl ventures through the marshes of Mississippi in search of salamanders. The man is a young Ernest Everett Just; he doesn't know it yet, but his work will change the field of biology forever. The young girl is I, Jordyn Sledge, emboldened in her passion by the story of E.E. Just, a story represented in my sculptural piece, "Man of the Marsh." I chose Dr. Just because he was a pioneering biologist, something I want to become in my own life, and he founded a fraternity in which many of my family members belong. I connect with Dr. Just's work on a personal level, so I dedicated this piece to him and his life's work.

Dr. Ernest Everett Just (1883-1941) was a true academic; his work in cellular biology was groundbreaking and still influences how scientists today study cells. Ernest was a lifelong learner. His reading instilled a deep appreciation of the natural world, which remained thematic in his further studies. He attended Dartmouth University, majoring in biology. Professors and peers recognized his innate talent and academic prowess, but his race was viewed as a handicap. Just achieved much academically, but was denied the opportunity to give the commencement speech at his 1907 graduation because the white faculty felt it would be 'insulting' to the other white students and their families.

After graduating, Just taught zoology at Howard University in Washington, inspiring the blossoming passions of fellow African American students in science. Ernest wanted to create a community for outstanding African American men, built on fellowship, scholarship, and excellence, so he founded the Omega Psi Phi fraternity in 1911. While teaching at Howard, Just met esteemed biologist Frank Lillie, who invited Just to the Marine Biological Laboratory. Here, Ernest would spend his summers off from teaching collecting invertebrate samples from the waters surrounding the MBL. He worked primarily with the eggs of marine invertebrates, which he studied utilizing a new method: emulating the cells' natural environment during study. This technique of handling invertebrate eggs culminated in his 1939 textbook, 'The Biology of the Cell Surface,'

describing his ingenious discoveries and methodology. This book is still referenced today, almost 100 years later! Dr. Ernest Everett Just created a huge shift in the scientific community, allowing a more objective truth in the pursuit of knowledge and demonstrating the abilities of African Americans in academia.

The impact of Dr. Ernest Everett Just was profound: serving the African American community and challenging the scientific status quo. While he taught at Howard University, a college specifically serving African American students, he noticed the lack of a theater department. While performing arts wasn't his specialty, he saw the talent in his students and worked to give them a place to present and improve their acting, singing, and dancing abilities. In addition to deeply caring for his artistic students, he ensured in his lectures that his students understood and respected all living beings. Furthermore, Just founded the second African American fraternity, of which many of my immediate family members are a part of. Ernest's most well-known contribution is his methods of experimentation. His discoveries regarding the cell surface in development were groundbreaking. Dr. Ernest Everett Just's impact on the African American community and the scientific field was significant and still shows its effects today.

This piece, "Man of the Marsh," emphasizes Dr. Ernest Everett Just's connection with the environment and the organisms he studied. The sculpture consists of Ernest in the middle of trees made of branches I found outside and subsequently whittled. I then attached them in the shape of a cypress tree, a tree common in the marshes Ernest explored when he was young. The leaves are crocheted with many threads stitched together to form a stronger shape. This medium symbolizes how Ernest and I view the world: every individual and organism has their place or purpose but still connects to everything else to make a greater whole. From the branches hang a sculpted cell, a cyanobacterium, also known as blue-green algae. I chose this specific organism because they're abundant in marine environments, and Just wrote extensively about their cell surface. While I created this feature, I made sure to put a great emphasis on the layers of the cell's outer membrane. Below the cell are Ernest's hands, catching the cyanobacterium. Ernest is constructed with earth clay and painted with a deep ocean blue and a gold coat on top, a color also used on the cell. Finally, Dr. Just has sculpted marine invertebrates on his back, all of which are species he studied while writing "The Biology of the Cell Surface." All those organisms are physically connected to him, much like they were connected to him and his work. This sculpture piece focuses on Just's work and the interconnectedness of the organisms he studied.

Creating and sharing this piece allowed me to see someone who was much like me and taught me more about my artistic process. As I researched Just and read his biography, I saw a man who truly loved learning and cared deeply for his community and where he came from. The ability to learn about someone so similar to me who accomplished amazing things inspired me to pursue my own goals in science and art. Researching various species and cellular structures is something I enjoy but depicting them in an artistic medium is something I love doing. I realized how meticulous I am, putting in as much detail as possible into the cell and other invertebrates to create art depicting the organisms accurately. Additionally, I have shared my work online and told the story of Dr. E.E. Just to my friends and family and will present this piece to elementary students

at my school, hopefully inspiring them to respect the natural world and pursue their interests.

References:

Byrnes, W. M. (2010, January 25). *Ernest Everett just: Experimental biologist par excellence*. American Society for Biochemistry and Molecular Biology. https://www.asbmb.org/asbmb-today/people/012510/ernest-everett-just

Just, E. E. (1939b). *The Biology of the Cell Surface*. Biodiversity Heritage Library. https://www.biodiversitylibrary.org/page/5818314.

Manning, K. R. (1985). *Black Apollo of Science: The Life of Ernest Everett just*. Oxford University Press.