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The Intersection of Neuroscience and Art

Inspired by the hand-drawn brain renderings of Santiago Ramón y Cajal, the father of neuroscience, NYU hosted a panel of esteemed artists and neuroscientists to discuss how the two fields overlap and ultimately contribute to each other.

By Kristina Hayhurst, Deputy News Editor
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NYU hosted Nobel laureate Eric Kandel alongside other neuroscientists and artists yesterday to discuss the intersection of art and science.

The talk was put on in tandem with "The Beautiful Brain: The Drawings of Santiago Ramón y Cajal," a traveling exhibition organized by the Weisman Art Museum in Minneapolis that is currently on display at NYU's Grey Art Gallery. The installment features the drawings of Santiago Ramón y Cajal, a neuroscientist whose hand-drawn portraits of the brain revolutionized our understanding of the brain in the late 1800s.

Cajal developed his drawings with the aid of an advanced Zeiss microscope alongside the subtle power of his hands. People rever Cajal's drawings, which are still used in some science textbooks, for their artistic prowess. Lynn Gumpert, the art director at the Grey Art Gallery, said this was

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Eric Kandel, a Nobel laureate, spoke at NYU Skirball alongside other neuroscientists and artists about the

intersection between art and science.

exactly why Cajal's drawings were perfect for NYU

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"What's so special about the show and Cajal's drawings is that they function both as artwork and as scientific illustrations at the same time," Gumpert said in an interview with WSN. "It's very rare that you come across something that is so remarkable on both levels. For a place so strong in both science and the arts, NYU was the perfect fit."

During the talk, artists Teresita Fernandez and Robert Whitman discussed the similarities between art and science with Kandel. Kandel emphasized that the two fields had immense intersection; a piece of art, he argued, cannot be complete without the reaction of the observer — and that's where the science comes in.

Kandel, who received his Nobel Prize in 2000, made breakthrough discoveries on the concept of slow synaptic transmission. His work helped pave the way for the development of drugs that treat Parkinson's Disease and depression.

"The work is not complete until the viewer responds to it," Kandel said during the talk. "That response, which will be different for every viewer, shows different creative processes are occuring in our minds."

This relationship between art and its audience prompts direct emotional and physical reaction, processes that scientists still don't fully understand.

"In order to grasp the mind, you really need to understand the psychological underpinnings of people's behavior," Kandel said. "In neuroscience, we have a very restricted understanding of such complex mental properties."

Fernandez, a visual artist who has installed sculptures all over New York City, spoke to how this relationship is also essential to the art world.

"Art is rooted in perception, and perception is about how you understand something, [its] informed by your emotions, experiences, background — everything," Fernandez said. "There is a kind of seductive aspect of creating a work that draws people in and keeps them there, but we don't always know how to do that. If there was a formula for it, we'd all be artists."

Just as the brain is a complex entity that scientists are still unraveling, so are emotions and perception — two concepts that Kandel and other scientists hope to study in the future.

"What's next at the intersection of neuroscience and art is the possibility of using brain imaging," Kandel said. "I could see experiments in the future delving further into our perception and reaction to art."

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