2018 C.L. de Carvalho-Heineken Prize for Cognitive Science, awarded to Nancy Kanwisher

Presentation speech by Peter Hagoort, chair of the jury of the 2018 C.L. de Carvalho-Heineken Prize for Cognitive Science

The human brain, ladies and gentlemen, may be the most complex machine in the universe. For ages, we have been trying to figure out how it develops and operates. We have dissected the brains of deceased patients. We did psychological experiments to unravel what people thought. And sophisticated scanners snap pictures of our brains while we are thinking.

Nevertheless, major questions remain. And some of those are quite fundamental. Solving them takes researchers who dare to be sceptical about what we think we already know. They have to do smart experiments and produce rigorous data.

Today's laureate is such a researcher, and let me try to explain why.

One fundamental debate in cognitive science is about what the brain actually is. The Modularity Debate, it is called. Is our brain one big network or a set of separate components?

Some cognitive scientists see one holistic machine, which spreads information and decision-making across a massive network of cells. Others see a collection of distinct parts, each processing or storing specific types of information. They are assembled and interconnected into one big instrument.

Most researchers, as usual, seek the truth somewhere in the middle.

Nancy Kanwisher, ladies and gentlemen, has been an exceptionally innovative and influential scientist throughout her career.

She was quick to embrace techniques that let her look 'under the hood', as you heard her describe it. She was intrigued by the colourful images of nerve centres and their connections. But she remained sceptical, and she kept double-checking whether such images really tell us the full story.

Her methods are often creative and very straightforward. For example, she has often scanned her own brains. She tells her students deeply personal stories about how she missed signs of brain damage in an old friend despite being an expert.

And as you saw in the video, she does not shy away from shaving her head in a classroom to explain the location of brain centres on her own scalp. It must have been an unforgettable lecture on the three very distinct brain modules she herself has identified: One that recognizes human bodies and body parts; one that lets us navigate spatial settings; and one that lets us recognize human faces.

These fascinating, highly specialised components may not have settled the Modularity Debate once and for all, but they sure have added a lot of fuel to the fire.

Ladies and gentlemen, the jury believes that the work of Nancy Kanwisher has consistently been original, clever, rigorous, reproducible and compelling. She often makes it look deceptively simple, but her

research has brought groundbreaking insights into how the brain organizes specific tasks. Much of it has already found its way into cognitive neuroscience text books.

So please join us in a big round of applause for Nancy Kanwisher, winner of the Heineken Prize for Cognitive Science 2018!