John Trueswell:

Ok, so now welcome to the tenth Annual Benjamin and Anne Pinkel Endowed Lecture Series. This Lecture Series was established through a generous gift from Sheila Pinkel on behalf of the estate of her parents, Benjamin and Anne Pinkel, and serves as a memorial tribute to their lives. Benjamin Pinkel received his Bachelor’s in Electrical Engineering from Penn in 1930 and was actively interested in the philosophy of the mind and published a monograph in 1992 on the subject entitled, “Consciousness, Matter, and Energy: The Emergence of Mind in Nature.” The objective of this book was a reexamination of the mind-body problem in light of new scientific information, and the Lecture Series is intended to advance the discussion and rigorous study of the deep questions which engaged Dr. Pinkel’s investigations. It is now with great pleasure that I introduce Dr. Sheila Pinkel from Pomona College who will say a few words before we go on to our talk.

Sheila Pinkel:

Hi, good afternoon, it’s really a pleasure to be here. Once my father retired from his scientific work, he spent the rest of his life exploring mind-brain paradigms, and this is the book that he wrote, and we just misplaced it. So, he was a person who was in love with the marvelousness of the mind, and so, there were things about the mind that he absolutely couldn’t explain. He was fascinated by our ability to form an image. He was interested in the phenomena that when he would think, “I’m going to pick up a spoon,” his hand would pick up a spoon, and he thought that that was an example of mental energy affecting the physical world. He was interested in something like the phrase, “I think I’m wrong.” He didn’t understand how he could think he was wrong, and how did he know how what was right, and who was the “I” in that sentence? He was interested in the phenomenon of laughter, and, if he were here today, he would feel extraordinary
joy that you are here to hear the lecture, although he couldn’t explain what joy is. So, I am absolutely thrilled to be here today. I am so delighted that the department of Cognitive Science has done such an outstanding job of putting together this lecture series, and I look forward to the lecture today and I look forward to future lectures. Thank you so much.

Martha Farah:

Well, I too want to thank Dr. Pinkel for making this wonderful lecture series possible and I want to thank Christof Koch for accepting our invitation. We, I think, have been trying to work it out for a while, and your schedule finally allowed it. We’re very, very happy, and it’s a very, very appropriate topic for a lecture in honor of Dr. Pinkel’s father. Because I understand we not only have the usual array of graduate students and post-docs here, but also undergraduates, thanks to Sharon Thompson-Schill’s gentle nudge in the form of “if you want credit for this course you have to come to a talk.” Those of you who have chosen this talk, I want to, I was trying to think what can I say about Professor Koch that goes beyond the usual biographical details that one can find on his website, and, walking in, I was thinking, the wonderful thing about Christof, which I kind of sensed from his work reading it over the years, and that was really confirmed for me when I first met him in person a couple of years ago at one of the Consciousness meetings is that, judge for yourselves people of all ages, but, particularly, you young people, I think one of the really wonderful things about Christof as a scientist is he has what is, what used to be called I guess in 1980s psycho-babble, an “inner child,” which he seems very much in touch with, that is, his scientific spirit is very much in touch with, kind of, the wonder of the universe that we are living in, and there is such a sense of seeking to understand with the most open mind and the most humble attitude, trying to understand every thing from the physical world right up through the psychological world, and the most difficult, and some would say intractable, don’t even bother to try to understand it phenomena, consciousness.
So, I think the one thing that I hope the young aspiring scientists in this audience will take away from this lecture is just how important it is to stay in touch with that very open-minded, very curious spirit that I think you will see has driven Christof’s work. So, I’m going to go back and review a little bit of his biography, but actually skipping his true chronological childhood, and start with his studies as a college student in Germany. He studied physics and philosophy at Tübingen where he got a Master’s degree in physics. He went on to the Max Planck Institute for computational neuroscience in Tübingen, or biological cybernetics I guess it was called, for a PhD entitled “Non-linear Information Processing in Dendritic Trees of Arbitrary Geometry,” but don’t worry, he’s not giving that talk here today, and his mentors at that point were Valentin Braitenberg, who I think is widely known for one book: “Simple Minds?” or “Vehicles.” A book, again, that you need no background, no great sophistication, just curiosity to read and understand.

In addition to Braitenberg, Tomaso Poggio, one of the great figures, contemporary figures, in computational neuroscience. From there he went on to work more closely with Poggio at MIT in the AI lab and the Brain and Cognitive Sciences department. He was there for four years as a post-doc and was then hired by Caltech where he has put down roots and been ever since. The lab he has established there is very wide-ranging in its work. You can discern three general categories, each one of them quite broad, the first of which is computational neuroscience, basically, cellular neurophysiology from a computational perspective, that following most directly from his graduate work. He also has accomplished a lot in the field of visual perception, both with psychophysical studies not involving any kind of explicit neurophysiological method, but just psychophysical studies of normal humans, neurophysiology, neuropsychology with brain-injured humans and computational modeling, and, finally, the third topic of his lab’s research is consciousness, and that is what he is here to talk about today with the very simple title for a very complex subject, “The Biology of Consciousness,” so I give you Christof.