

I couldn't be happier to be with this year's graduates and their families and friends. And I'm honored to be on the same stage as the chancellor, the provost, and the other esteemed guests.

When I met Tim and Venilde for lunch a few months ago I was reading a new book by Mustafa Suleyman called [The Coming Wave](#). If you don't know the author, he cofounded DeepMind, sold it to Google, and then cofounded Inflection AI. He might have fit in better at CCS than Mansfield College. Instead, he dropped out of Oxford to start the Muslim Youth Helpline and advise the Mayor of London before he got around to AI. In the book's prologue, Suleyman poses a question to an unnamed AI platform: *"What does the coming wave of technology mean for humanity?"*

I'm less interested in what large language models think about the future than what this year's graduates think. I'm sure I could randomly pick a work group from the kids on stage that would produce a better answer than the canned response that Suleyman got. In a way, that's what I want to talk about – for no more than ten minutes.

I'm so old that my mentor was Marvin Mudrick, the founding provost of CCS. He thought that [intelligence was \[the\] human quality](#) and saw the College as "an effort to take obstacles out of [our] way." He would have agreed with Jakob Svensson that [artificial intelligence is an oxymoron](#). Svensson sides with a long line of European scholars who believed that intelligence required an organic body – a human being – to interpret events in the world in real time.

The intellectual dilemma didn't begin with AI, by the way. One of my role models is Walker Percy, who had to drop out of his residency at Bellevue Hospital in New York when he

contracted tuberculosis. He became a novelist and philosopher who gave the Jefferson Lecture to the National Endowment for the Arts in 1989, the same year that the World Wide Web was created. Percy's address was originally called "The Divided Creature" but he renamed it "[The San Andreas Fault in the Modern Mind](#)".

Percy's complaint was that social scientists studying human beings were using dyadic processes to understand triadic phenomenon. A lot of experimental outcomes are dyads that can be expressed in a binary fashion: X's and O's, Yes or No, etc. What Percy called a triad was an echo of western thinkers going back to Nicholas of Cusa in the fifteenth-century. Spoken and unspoken language is transformed into communication by the way it's perceived by sentient beings. Events only mean what we take them to mean. Words and phrases and nuances are meaningless until they pass through our prefrontal cortex.

Robert Sapolsky, a Stanford neuroendocrinologist, would undoubtedly take the other side of the argument made by Mudrick, Percy and Svensson. In his eighth book, [Determined](#), Sapolsky makes a compelling case that human cognition is nothing more than the evolutionary product of biological machinery. Variations in human behavior are largely dictated by cultural and environmental stimuli. As an atheist and a scientist, Sapolsky doesn't think that human beings have souls. But his deeper point is that there are eight billion ways an event or a word or a gesture can be perceived, depending on how each human being is nurtured, trained, and wired.

While I was still a student in CCS, my first job in healthcare was on the Psych Unit at Cottage Hospital. Then I spent seven years in Los Angeles for medical school and my emergency medicine residency. After that I treated 100,000 patients on my way back. I spent a lot of time in leadership positions in the private sector and healthcare politics that I don't have time to talk about. For most of my career I was also on the clinical faculty at UC Irvine. I saw humanity at its best and its worst but my most significant experiences in neuroscience were parenting one child with autism and another with SUD.

The more I've learned about neural networks, neurotransmitters and the structural nature of memory and behavior, the harder it is to refute Sapolsky's conclusions. Most if not all of us are vulnerable to dysfunction at some point of our lives. Our sense of agency and

free will are more illusory than most of us want to believe. And there are millions of people all over the world with profound mind-body imbalances their societies ignore.

Which brings me to the message I wanted to share with the College as a community of alumni, faculty, and students. As a semi-autonomous Gaucho on a five-year plan, I moved freely between Biology, Chemistry, and Physics in the College of Letters and Science when I wasn't reading and writing as a CCS Literature major. And my best experience might have been learning to paint the year Hank Pitcher joined the faculty.

I realized that every academic discipline had its own language and norms. The College and its culture unleashed my curiosity and encouraged me to learn how to learn. In medical school at USC I learned another series of languages derived from Latin describing Human Anatomy, Physiology, and Pathology. Then the public hospitals in LA county taught me another mantra: *See One, Do One, Teach One*.

The most important thing I've learned is that *every human being we encounter has something to teach us*. The more humble we are about our own ignorance, the more we open ourselves to the most valuable kind of knowledge – the magical, mysterious, non-verbal, trans-cultural, trans-disciplinary stuff that is a long way from AI.

Everything we think we know about dynamic systems, our environment, and life is based on interpretive languages and derived narratives. Our problem – the human condition, if you will – is that we find ourselves increasingly trapped in the idioms we inhabit as artists and scientists. The more narrow the niche we create, the more secure we feel. But the specificity of our so-called knowledge gets in the way of our ability to communicate with each other. Expand the hypothetical to include class, race, and religion and you can begin to understand why we feel like strangers to each other.

There's another guy from Stanford that I'm inclined to agree with: Ian Bremmer, the founder of the [Eurasia Group](#). He thinks that the most important powers that you will face won't be governments but global companies that are likely to dominate AI. [Microsoft CEO Satya Nadella](#) thinks that "coding needs to become a core skill irrespective of whether you are in computer science, medicine, history or literature."

Brad Smith and Harry Shum, the company's President and VP for AI, elaborated in [The Future Computed](#): "If AI is to reach its potential in serving humans, then every engineer will need to learn more about the liberal arts and every liberal arts major will need to learn more about engineering."

Since their book was published, Shum resigned to chair the council at Hong Kong University of Science and Technology, which is my polite way of saying that the next dance will be between the intellectual domains of America and China, creating a lot of uncertainty for Europe, the Global South, and all of you.

I was invited to speak because I believe that the founding values of the College in 1967 are existential in 2024. The conflict when I was a kid between the faculties, regents, and students in the UC system was the substrate for a radical experiment. I honestly don't think that something like CCS will ever happen again in a public university.

And I've always felt like one of the unique attributes of the College was that its students were expected to spend time in every academic discipline. I think that's the reason that Mudrick took me seriously in my first interview when I told him – at the ripe old age of 17 – that I wanted to write and go to medical school. Although the requirements have changed as the College evolved, the multi-disciplinary ethic is still fundamental to our culture.

The world is far more fragile and volatile than it was back in the day. And I know that one of Mudrick's frustrations was that there wasn't more dialogue across disciplines among CCS students. But I sincerely believe that the future – when you will be the ones giving commencement addresses - will be better because of CCS. Our community - our entire world - will be better off when artists realize they are chemists, mathematicians feel like they are writing music, and computer scientists excel at poetry.

If I learned anything as a physician - or as a writer - it's that asking the right questions is more useful than assuming you have all the answers. The search for eternal truth unites the arts and sciences. As important as your individual accomplishments will be, it won't matter if you don't share your wisdom with each other. You will have to solve our most vexing problems collectively if we are going to survive on an equitable, habitable planet.

One of the pitfalls for commencement speakers is offering advice that their audiences don't want to hear. But my encouragement to this year's class, as well as their advisors and successors, is that the highest calling of the CCS community is to ask each other the right questions. While you are finding your own voices and staking out your breakthroughs, if you are listening to each other carefully and collaborating across disciplines, the answers we need will take care of themselves.

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