

Learning in the Age of Artificial Intelligence

Minhyong Kim

GHR Forum
Seoul
November, 2020

Teacher Resources



Figure: Seoul Centre for Teacher Development

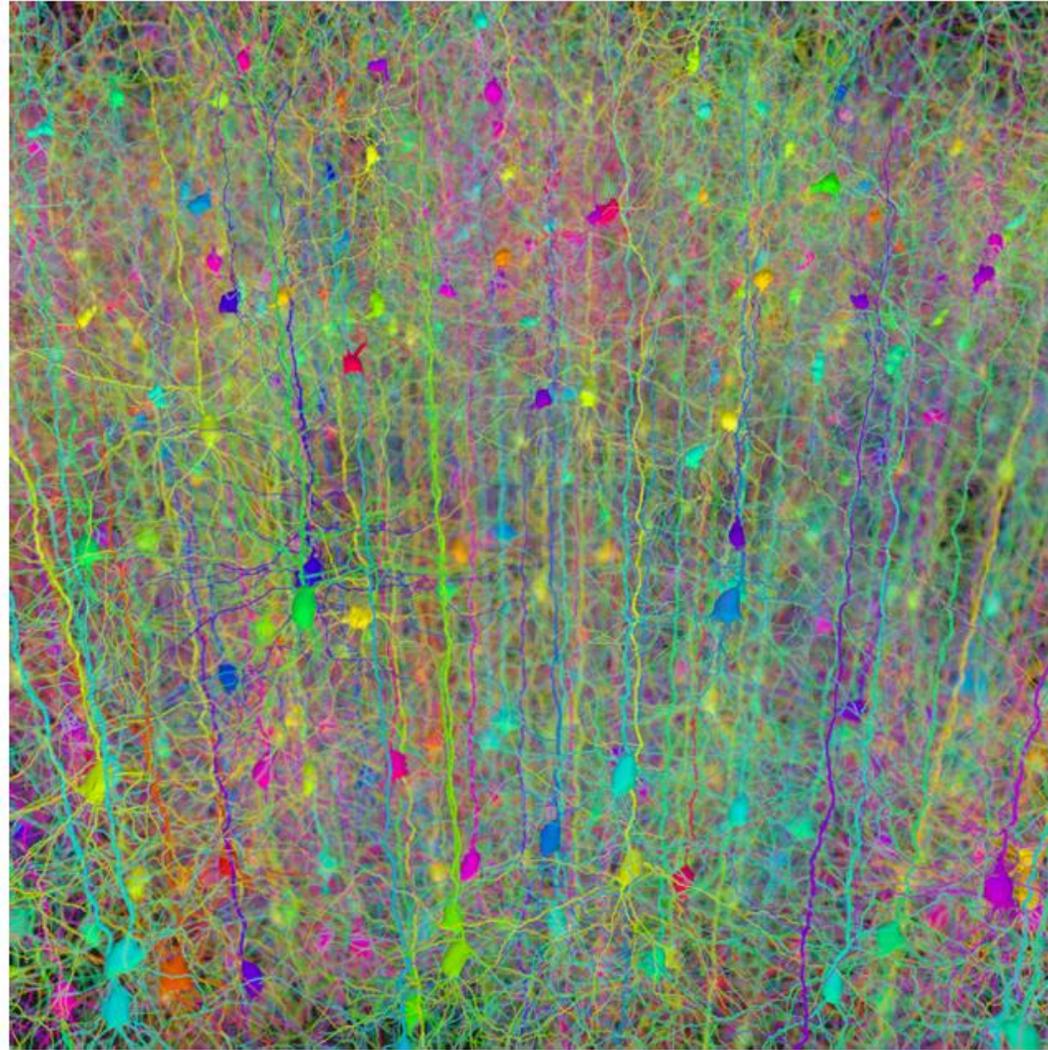


Figure: Computer Simulation of Pyramidal Neurons

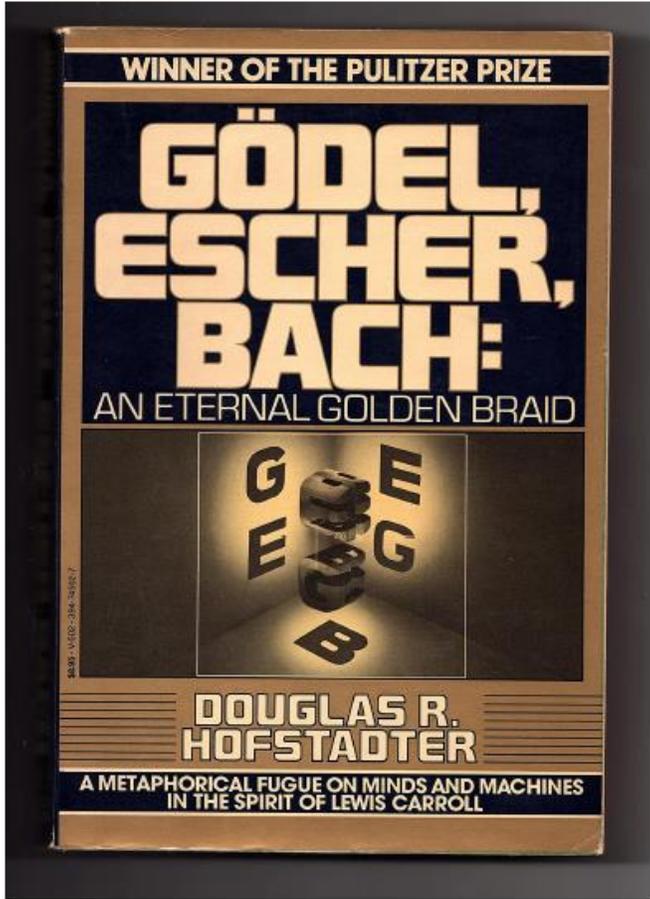


Figure: Gödel, Escher, Bach by Douglas Hofstadter

Limits of Materialism?

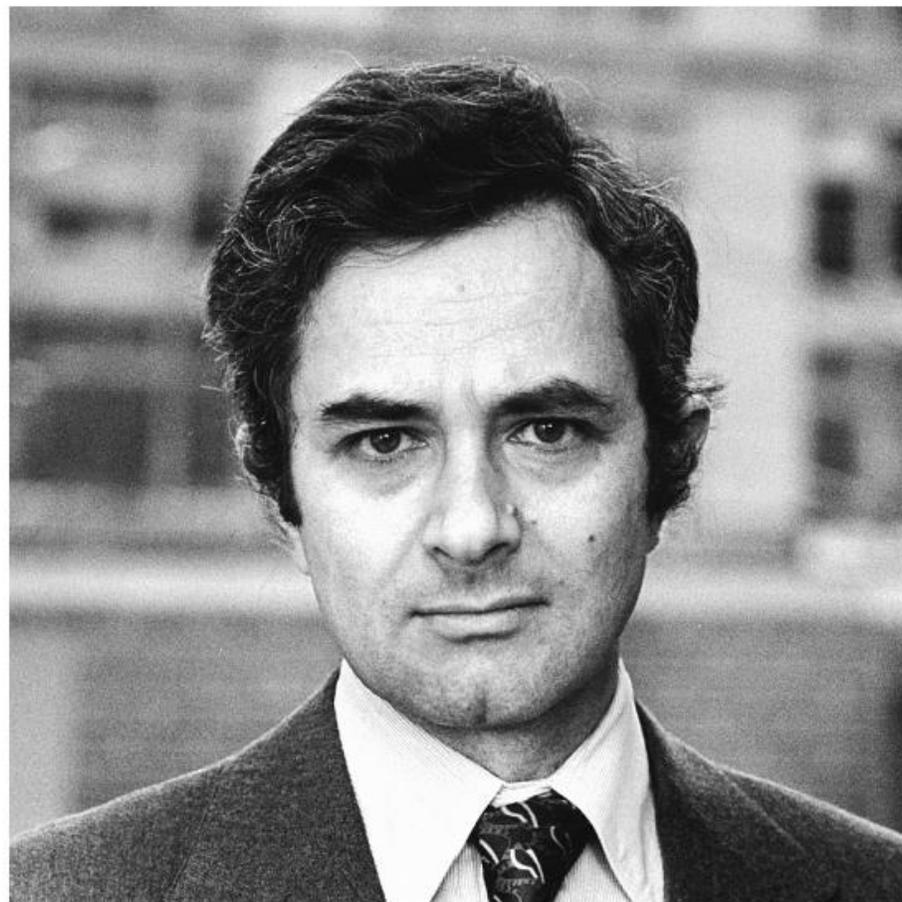


Figure: Thomas Nagel (1937–)

Unreasonable Effectiveness

The image shows a screenshot of the PNAS (Proceedings of the National Academy of Sciences) website. At the top, there is a blue header with the PNAS logo and the text 'Proceedings of the National Academy of Sciences of the United States of America'. A search bar is located in the top right corner with the placeholder text 'Keyword, Author, or DOI' and a magnifying glass icon. Below the header, there is a navigation menu with options: Home, Articles, Front Matter, News, Podcasts, and Authors. The 'Articles' tab is selected. Below the navigation menu, there is a section for 'NEW RESEARCH IN' with three dropdown menus: 'Physical Sciences', 'Social Sciences', and 'Biological Sciences'. The 'Biological Sciences' dropdown is selected. Below this, the article title 'The unreasonable effectiveness of deep learning in artificial intelligence' is displayed in large, bold black text. The author's name 'Terrence J. Sejnowski' is shown below the title. To the right of the title, there are several icons and links: 'Article Alerts', 'Email Article', 'Citation Tools', 'Request Permissions', 'Share', 'Tweet', 'Like 153', and 'Mendeley'. Below the author's name, there is a 'Submit' button. At the bottom of the article information section, there are three tabs: 'Article', 'Figures & SI', and 'Info & Metrics', with a PDF icon to the right. Below the tabs, the word 'Abstract' is visible. At the bottom right of the article information section, there is a sign-up form for the PNAS Highlights newsletter, with the text 'Sign up for the PNAS Highlights newsletter—the top stories in science, free to your inbox twice a month:' and a 'Sign up' button.

Figure: Paper by Computational Neurobiologist Terrence Sejnowski, January, 2020

The Human Mind



Figure: William Wordsworth (1770-1850)

The Human Mind

*Prophets of Nature, we to them will speak
A lasting inspiration, sanctified
By reason and by truth; what we have loved
Others will love, and we may teach them how:
Instruct them how the mind of man becomes
A thousand times more beautiful than the earth
On which he dwells, above this frame of things
(Which, 'mid all revolutions in the hopes
And fears of men, doth still remain unchanged)
In beauty exalted, as it is itself
Of substance and of fabric more divine.*

Wordsworth, *The Prelude*, Book 13