Computer Science Fiction

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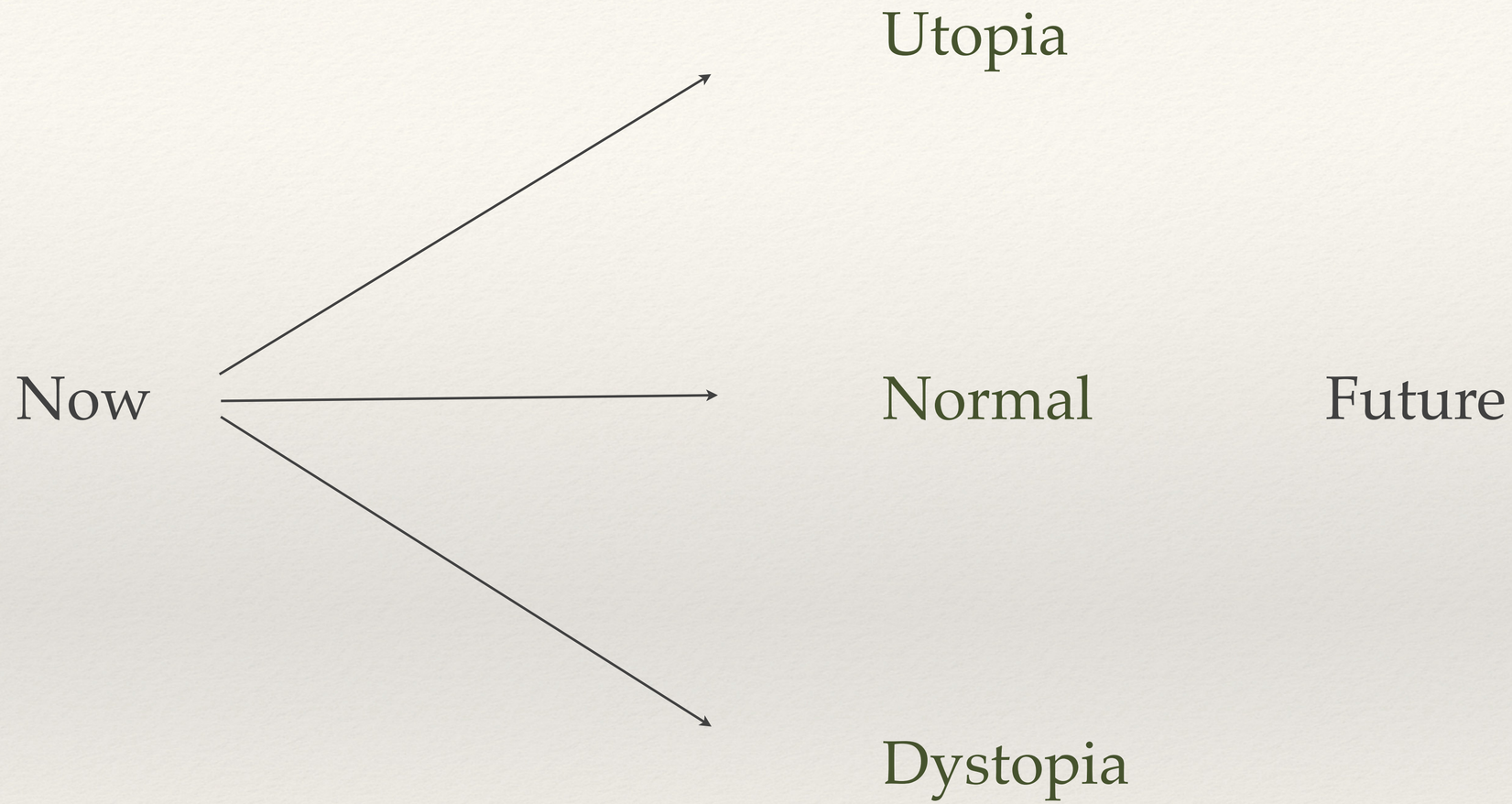
https://github.com/masmangan/cscifi

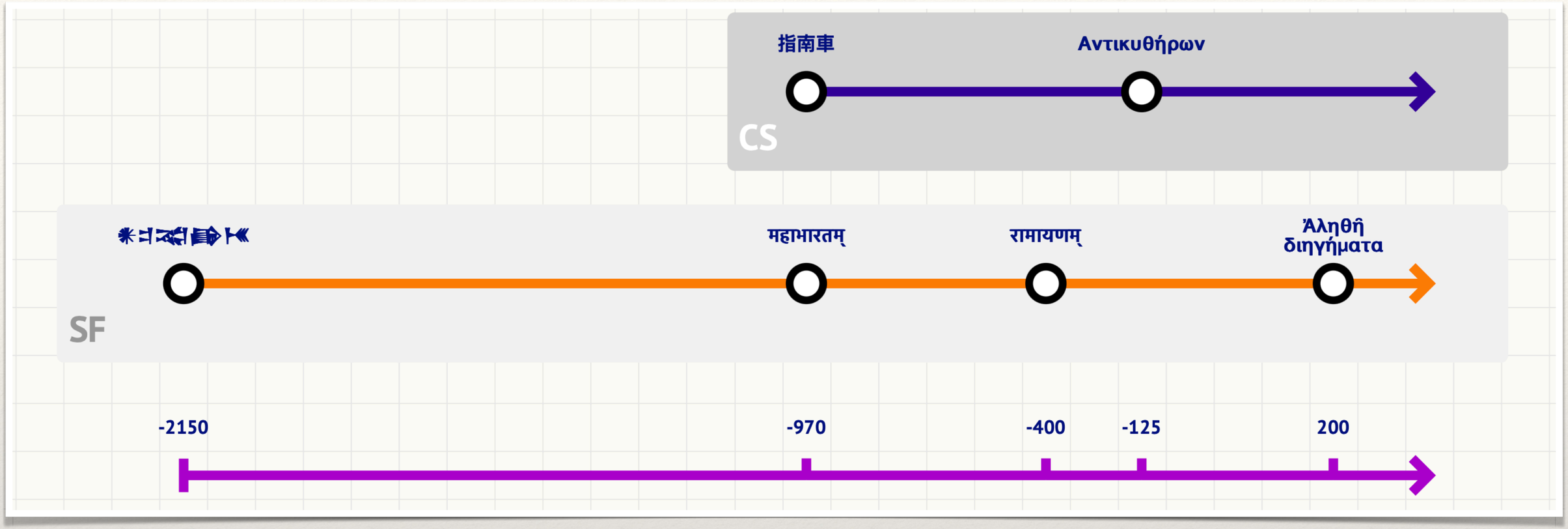
Computer Science

- The study of computers, their underlying principles and use.
  (Oxford Dictionary of Computing)
- The branch of science that deals with the theory of computation or the design of computers.
  (Merriam-Webster.com)

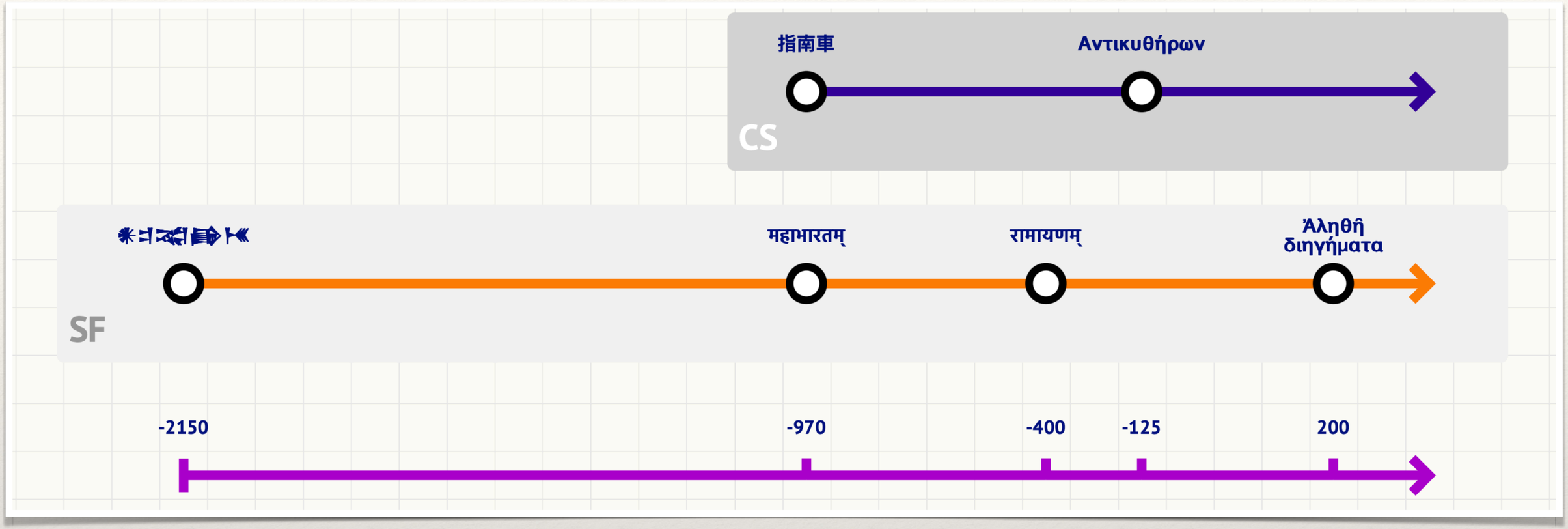
Science Fiction

- Fiction dealing principally with the impact of actual or imagined science on society or individuals or having a scientific factor as an essential orienting component.
  (Merriam-Webster.com)


Utopia
Now
Normal
Future
Dystopia

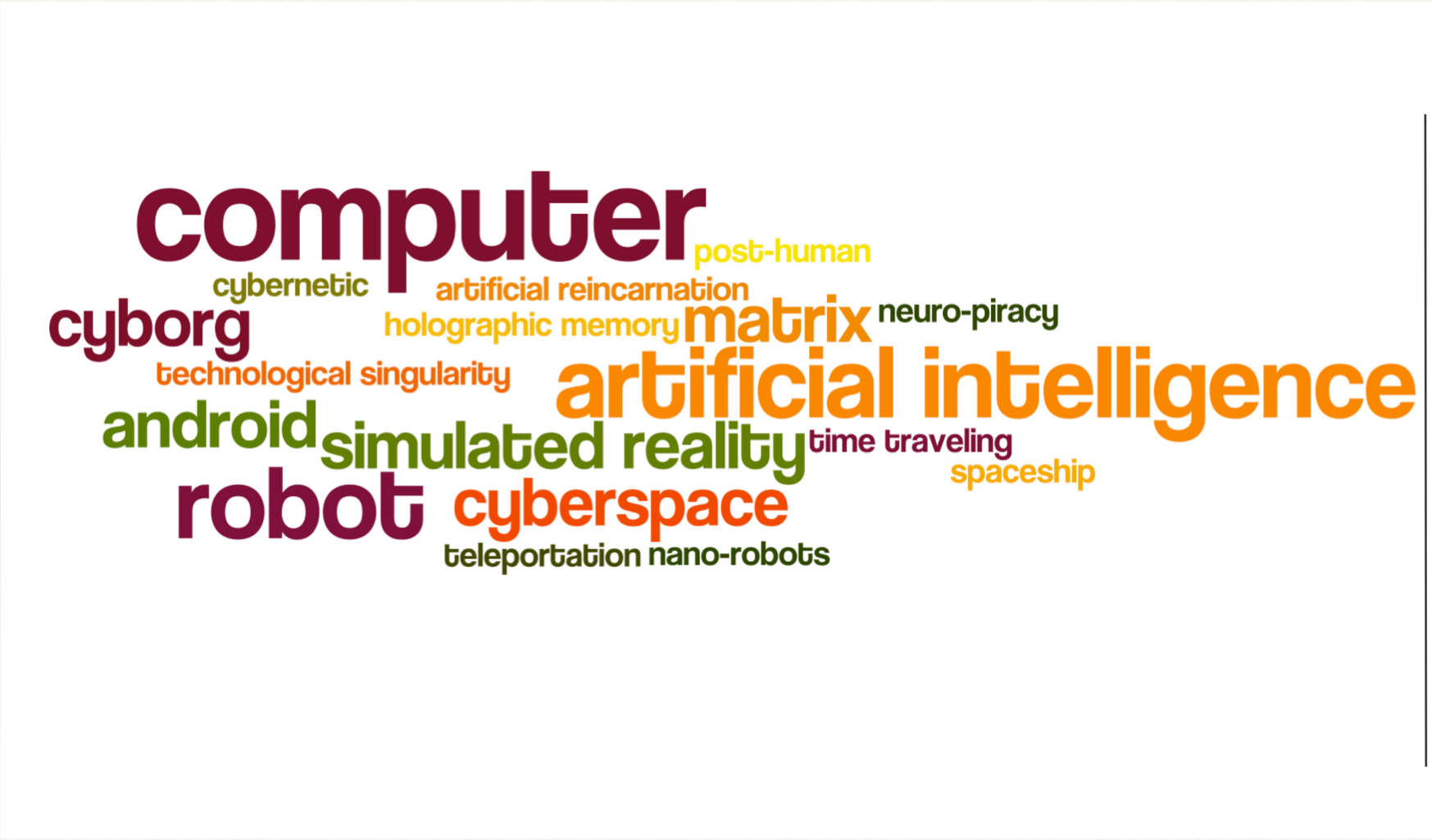

指南車
Αντικυθήρων
CS
महाभारतम्
रामायणम्
Ἀληθῆ διηγήματα
SF
-2150
-970
-400
-125
200

First works



Find twelve concepts!

Shared Concepts



Computer Scientists

Church 1903-1995

The calculi of lambda-conversion 1941

- Underlying the formal calculi which we shall develop is the concept of a function as it appears in various branches of mathematics, either under that name or under one of the synonymous names, “operation” or “transformation.”

  Church (1941) The calculi of lambda-conversion

Turing 1912-1954

On computable numbers, with an application to the Entscheidungsproblem 1936
Computing machinery and intelligence 1950

- The “computable” numbers may be described briefly as the real numbers whose expressions as a decimal are calculable by finite means.

  Turing (1936) On computable numbers, with an application to the *Entscheidungsproblem*

- I propose to consider the question, 'Can machines think?' This should begin with definitions of the meaning of the terms 'machine' and 'think'.

  Turing (1950) Computing machinery and intelligence

von Neumann 1903 - 1957

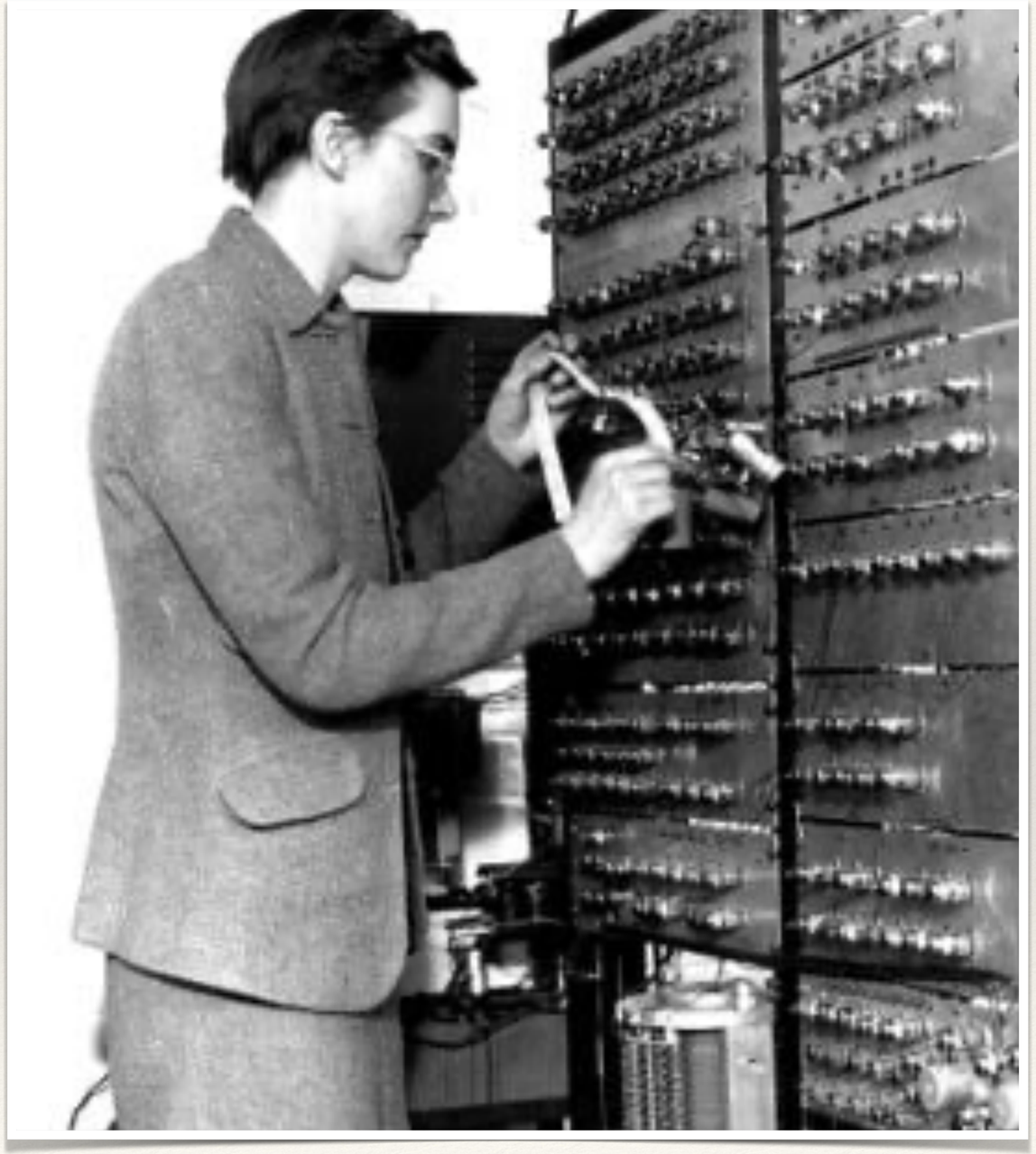
First Draft of a Report on the EDVAC
1945

- The considerations which follow deal with the structure of a *very high speed* automatic *digital computing system,* and in particular with its *logical control*.

  von Neumann (1945) First Draft of a Report on the EDVAC

Booth 1922-2022

Coding for A.R.C. 1947



- The advantage of this arrangement is obvious, we shall be able to transfer any problem which has been coded for A.R.C, directly to the electronic machine when this becomes available.

  Andrew e Kathleen (1947) Coding for A.R.C.

Backus 1924-2007

The syntax and semantics of the proposed international algebraic language of the Zurich ACM-GAMM Conference 1959

Can programming be liberated from the von Neumann style? 1977

- This paper gives a tutorial summary of the syntax and interpretation rules of the proposed international algebraic language put forward by the Zurich ACM-GAMM Conference, followed by a formal, complete presentation of the same information.

  Backus (1959) The syntax and semantics of the proposed international algebraic language of the Zurich ACM-GAMM Conference

- Conventional programming languages are growing ever more enormous, but not stronger.

  Backus (1977) Can programming be liberated from the von Neumann style?

Some more Computer Science Writers

- Shannon, Hopper, McCarthy, Busch, Samuel, Engelbart, Wilkes, Simon, Zuse.

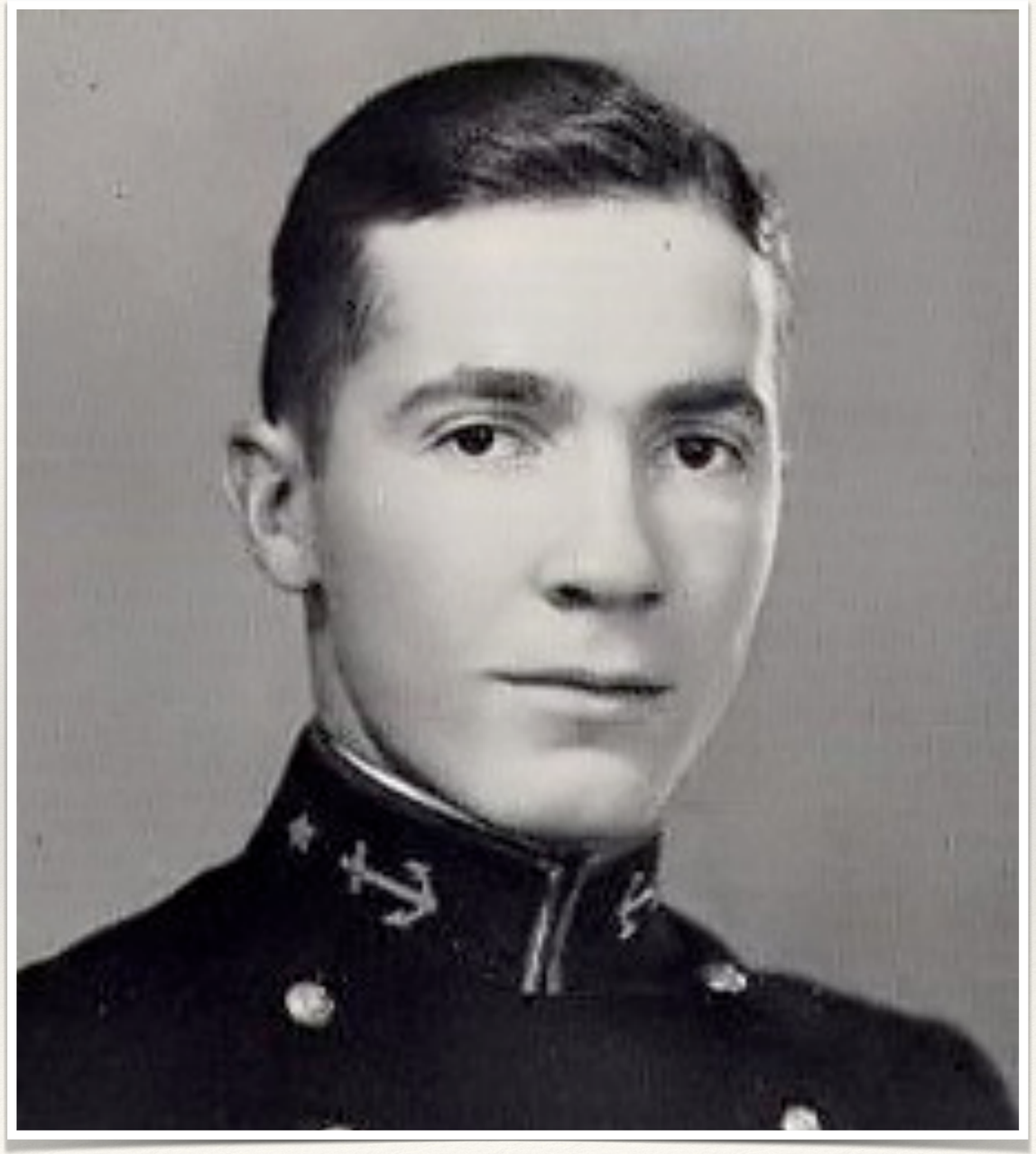
Science Fiction Writers

Čapek 1890 -1938

Rossumovi univerzální roboti 1920

Heinlein 1907-1988

All You Zombies 1958
Starship Troopers 1959
Stranger in a Strange Land 1961



Moore 1911 -1987

Shambleau 1933
No Woman Born 1944

Boulle 1912-1994

La Planète des Singes 1963

Clarke 1917- 2008

The Sentinel 1948
2001: A Space Odyssey 1964

Bradbury 1920-2012

The Martian Chronicles 1950
Fahrenheit 451 1953

Asimov 1920-1992

Foundation 1951

Tomorrow
10h30
This same room!

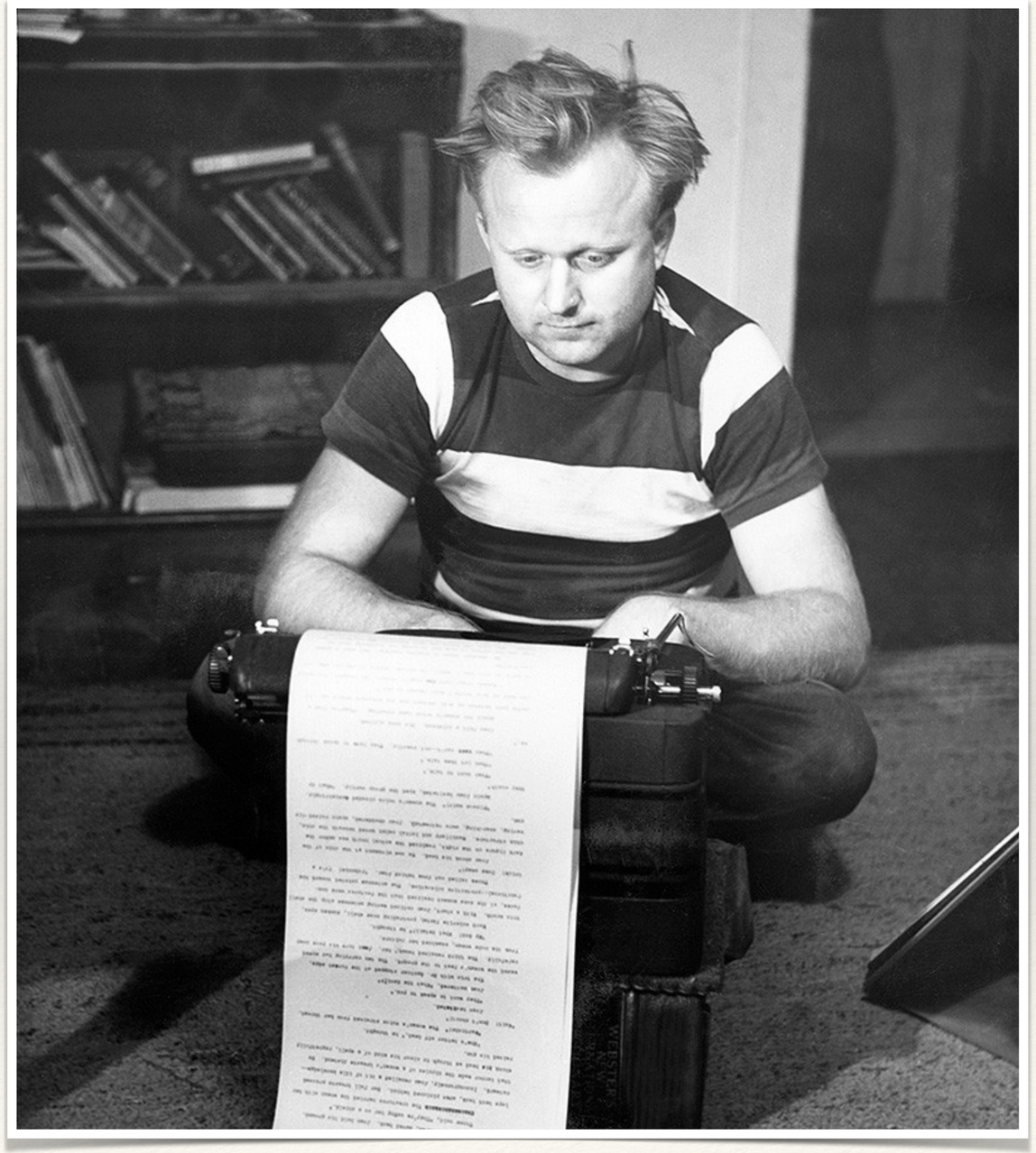
Lem 1921-2006

Solaris 1961

Pamiętnik znaleziony w wannie 1961

Herbert 1920-1986

Dune 1965
Destination Void 1966
The Dosadi Experiment 1977



Dick 1928-1982

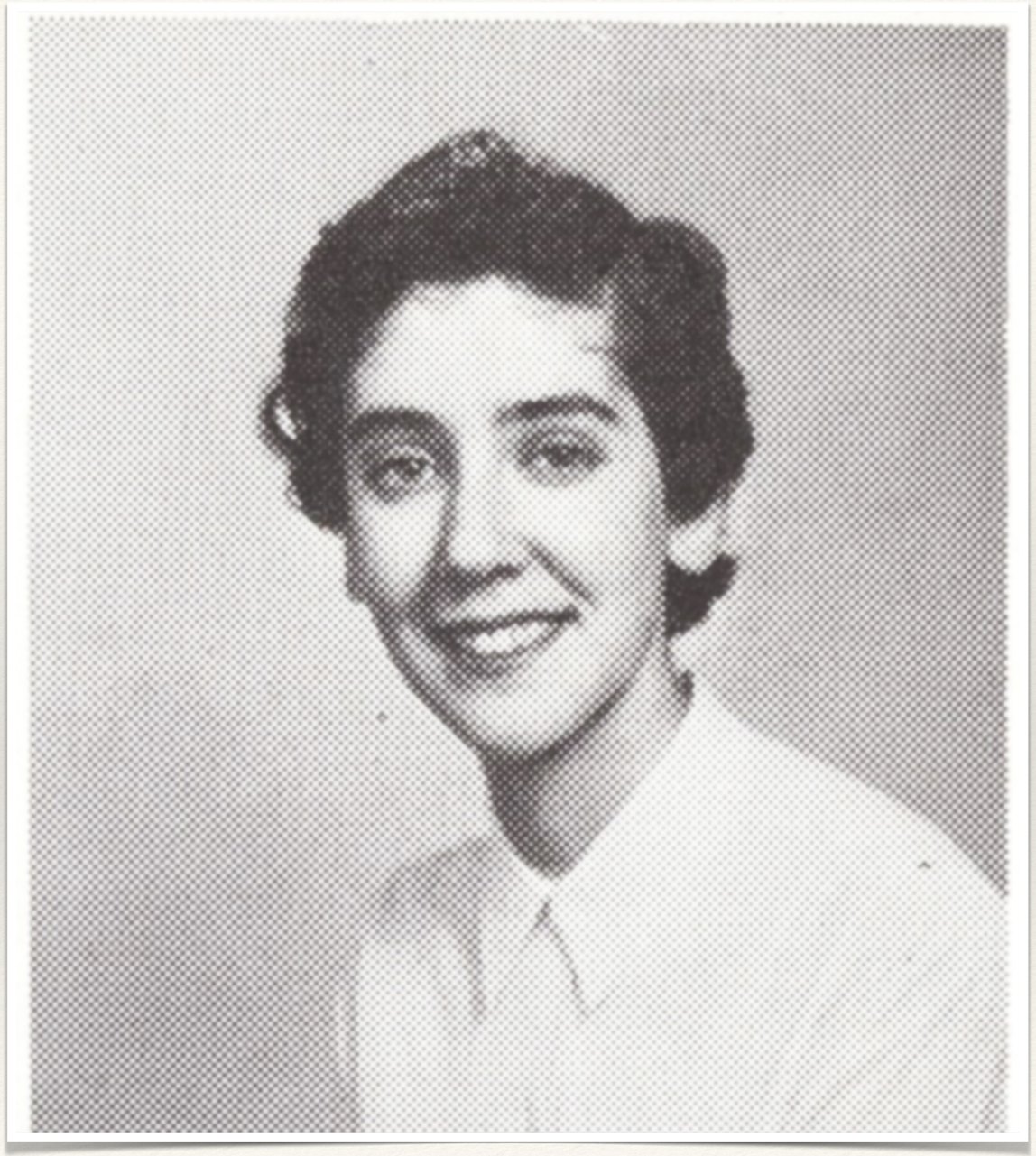
The Minority Report 1956
We Can Remember It for You Wholesale 1966
Do Androids Dream of Electric Sheep? 1968

Le Guin 1937-2011

The Left Hand of Darkness 1969
The Dispossessed 1974

Russ 1937-2011

And Chaos Died 1970
The Female Man 1975



Atwood 1939-

The Handmaid's Tale 1985
The Testaments 2019

Gibson 1948-

Burning Chrome 1982
Neuromancer 1984
The Difference Engine 1990

The Symbiosis of Computer Science and Science Fiction

- Sci-Fi Inspiring Technology Science fiction visions from authors like Asimov, Gibson, and Clarke have inspired real-world technological developments, from Al to VR.
- Computer Science Advancing Sci-Fi Ideas Technological advancements in AI, robotics, and virtual worlds reflect concepts explored in classic sci-fi
- Key Shared Concepts Artificial intelligence, robotics, virtual realities, and ethics are central themes shared by both fields. literature.

AI and Robotics: From Turing to Asimov

- **Alan Turing's AI Foundations**. Turing's work on computable numbers and AI laid the groundwork for modern robotics and artificial intelligence.
- **Asimov's Ethical Framework**. Asimov's Three Laws of Robotics provided an ethical foundation that continues to influence debates on Al responsibility.
- **Real-World AI Applications**. Modern Al systems, from autonomous robots to decision- making systems, reflect the scientific and ethical principles discussed by Turing and Asimov.

Virtual Worlds: From Gibson's Cyberspace to Modern Computing

- **William Gibson's Cyberspace**. Gibson's 'Neuromancer' introduced the concept of cyberspace, influencing the development of virtual and education, and industry.
- **Virtual and Augmented Reality**. Today Modern computing has brought Gibson's vision to life with VR/AR technologies used in gaming, integrating physical and digital worlds.
- **The Future: The Metaverse**. The concept of the metaverse, an interconnected virtual universe, expands on Gibson's cyberspace, augmented reality technologies.

Predictive Algorithms: Psychohistory and Big Data

- **Asimov's Psychohistory**. In Asimov's Foundation series, psychohistory is a mathematical tool to predict the behavior of large populations.
- **Big Data and Predictive Analytics**. Today's big data and predictive algorithms draw parallels to psychohistory by analyzing large datasets to forecast trends and behaviors.
- **Ethical Concerns**. Asimov explored the ethical dilemmas of prediction and control. Similarly, modern predictive technologies raise concerns about privacy and manipulation.

Cybersecurity and Digital Ethics

- **Sci-Fi's Warnings on Cybersecurity**. Works like 'Neuromancer' predicted many cybersecurity threats, from hacking to digital surveillance.
- **Real-World Cyber Threats**. Cybercrime, ransomware, and government surveillance are today's real-world digital threats, reflecting sci-fi's predictions.
- **Ethical Challenges**. The ethical responsibilities of programmers and companies are crucial in ensuring data privacy and preventing exploitation.

Some More Science Fiction Writers

- Atwood, Anderson, Barjavel, Bogdanov, Burroughs, Crichton, Huxley, Kipling, Le Guin, Lovecraft, Lukyanenco, Machado de Assis, Nimoy, Orwell, Poe, Pohl, Rand, Shatner, Sheer & Dalton, Shelley, Stapledon, Stephenson, Tepper, Verne, Vonnegut, Yaco, Weir, Wells, Zamyatin...

Some Brazilian Science Fiction

- Joaquim Manuel de Macedo 1820-1882, ”O Fim do Mundo" (1857)
- Emília Freitas 1855-1908, Rainha do Ignoto (1889)
- Monteiro Lobato 1882-1948, O Presidente Negro (1926)
- Adalzira Bittencourt, 1904-1976, Sua Excia. A Presidente da República (1929)
- Giba Assis Brazil 1957-, Ana Luisa Azevedo 1959-, Jorge Furtado 1959-, Paulo Perdigão 1939-2006, Barbosa (1988)

Short Stories

- Asimov, Little Lost Robot (1947)
- Clarke, The Sentinel (1948)
- Clarke, The Nine Billion Names of God (1953)
- Yaco, No Moving Parts (1960)

Free books and audiobooks

- Gutenberg
  - https://www.gutenberg.org/ebooks/62
  - https://www.gutenberg.org/ebooks/68283
- LibriVox
  - https://librivox.bookdesign.biz/book/164426
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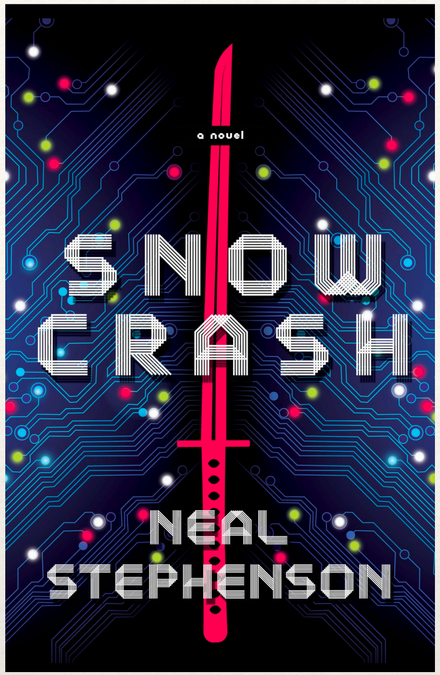
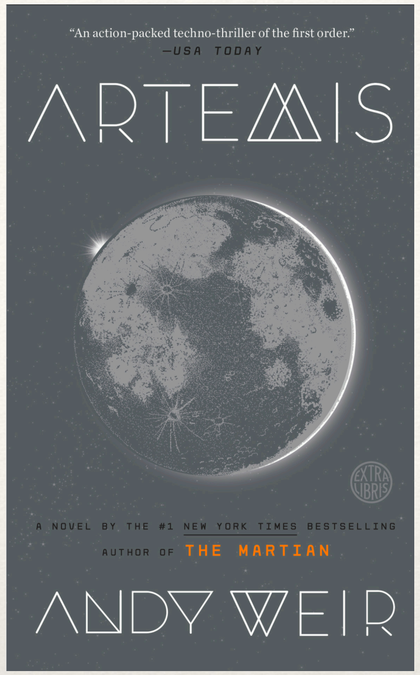
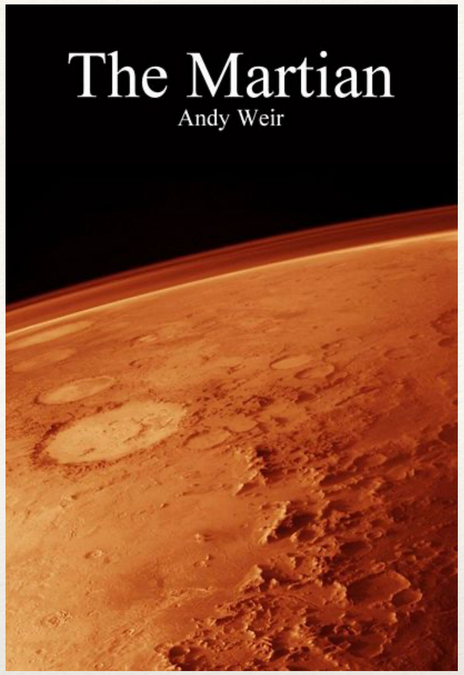
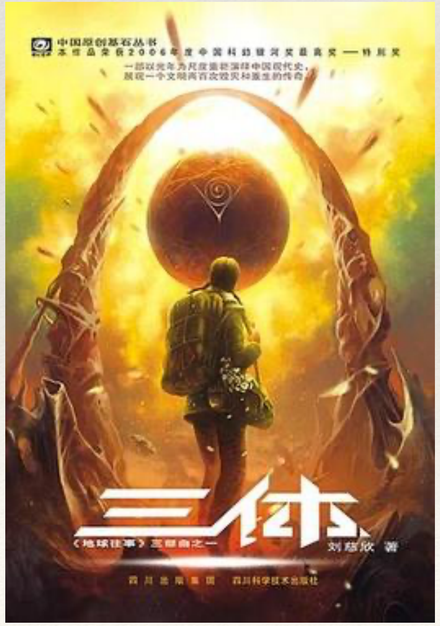
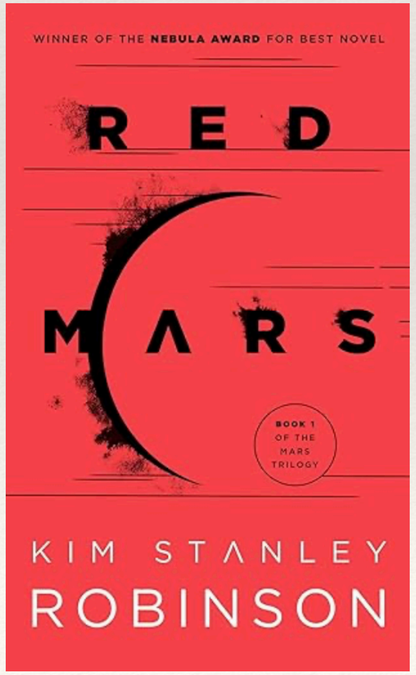
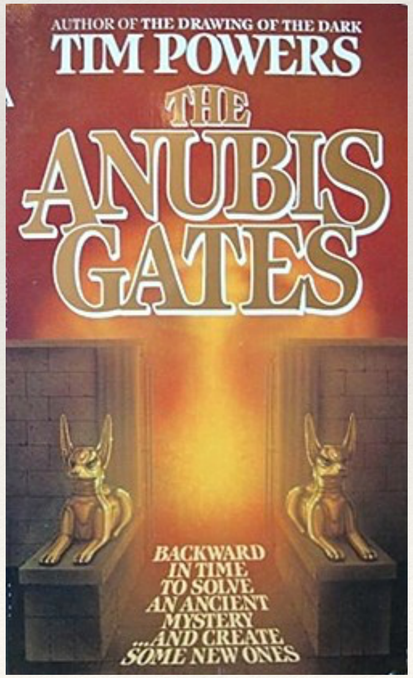

a novel
SNOW CRASH
NEAL STEPHENSON


"An action-packed techno-thriller of the first order."
—USA TODAY
ARTEMIS
A NOVEL BY THE #1 NEW YORK TIMES BESTSELLING
AUTHOR OF THE MARTIAN
ANDY WEIR


The Martian
Andy Weir


三体
刘慈欣 著

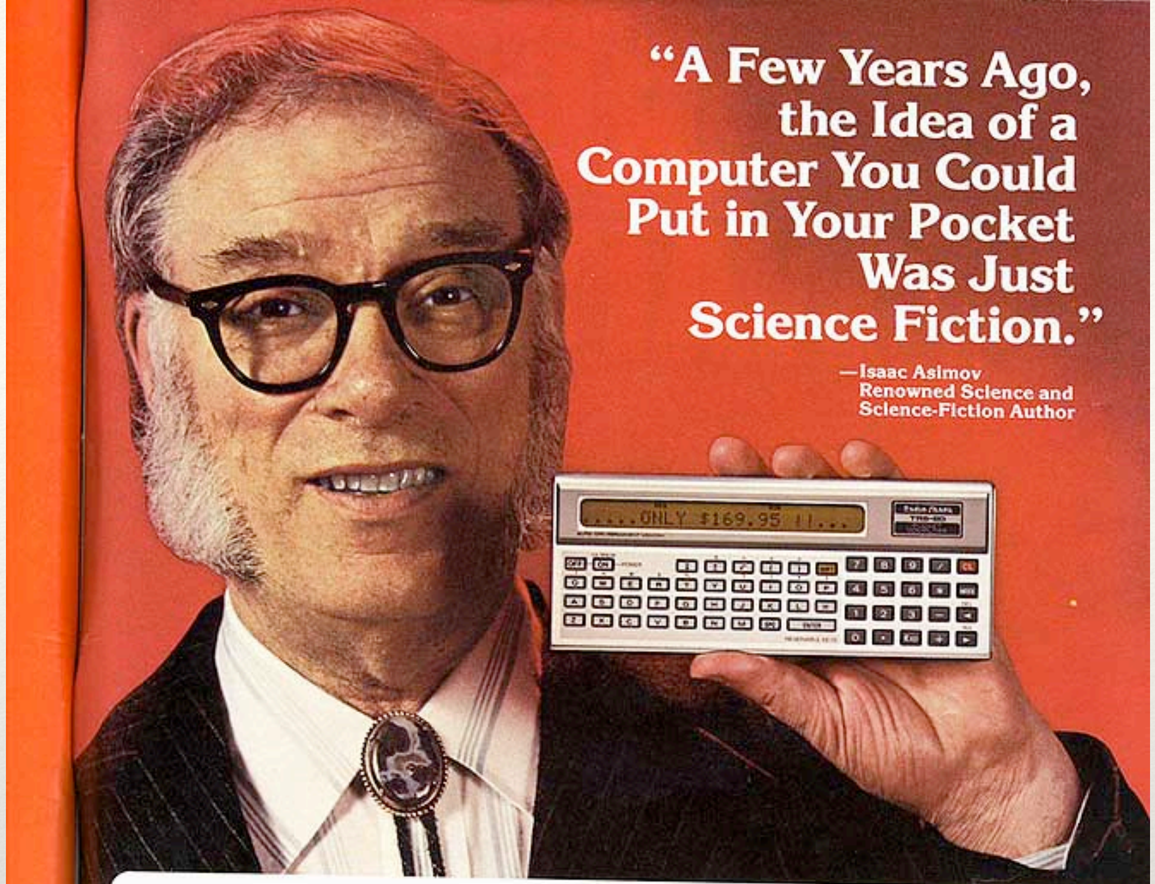

WINNER OF THE NEBULA AWARD FOR BEST NOVEL
RED MARS
BOOK 1 OF THE MARS TRILOGY
KIM STANLEY ROBINSON


AUTHOR OF THE DRAWING OF THE DARK
TIM POWERS
THE ANUBIS GATES
BACKWARD IN TIME TO SOLVE AN ANCIENT MYSTERY ...AND CREATE SOME NEW ONES


Pulsar
Os Melhores Contos Brasileiros de
FICÇÃO CIENTÍFICA
Editado por Roberto de Sousa Causo
MACHADO DE ASSIS GASTÃO CRULS
DOMINGOS CARVALHO DA SILVA ANDRÉ CARNEIRO
JERÔNYMO MONTEIRO LEVY MENEZES
RUBENS TEIXEIRA SCAVONE FINISIA FIDELI
JORGE LUIZ CALIFE RICARDO TEIXEIRA

Computer Science 2034-2044

- 1. Bio-computing and DNA-based Programming
- 2. Quantum-Classical Hybrid Computing
- 3. Self-Designing Systems
- 4. Neuro-symbolic AI Development
- 5. Cognitive Programming (Brain-Computer Interfaces in Programming)
- 6. Meta-programming in Virtual Worlds
- 7. Energy-Aware Software Development
- 8. Molecular Manufacturing Software (Nanotechnology)
- 9. Post-Linguistic Programming
- 10. Digital Ethics by Design



Today, Just $169.95 Buys a Radio Shack TRS-80® Pocket Computer—And That's a Fact!

Back when computers filled entire rooms, Isaac Asimov was writing about computers you could hold in your hand. "Radio Shack's TRS-80 Pocket Computer turned my dreams into reality. Now I can take the power of a true computer with me wherever I go," says Asimov.

The TRS-80 Pocket Computer is programmable in BASIC. Isaac, however, would rather write novels than programs. "If you're like me, you'll want to get a low cost interface that lets you use Radio Shack's ready-to-run programs." There are programs for engineering, finances, statistics—even real estate and aviation.

Programs and data stay in memory even when the Pocket Computer is turned off. And it can also function just like a calculator—something a desktop computer *can't* do.

"With a TRS-80 Pocket Computer, you can hold the future in the palm of your hand." Add our $79.95 Minisette®-9 cassette recorder and a Cassette Interface for $29.95, or a Cassette Interface with built-in printer for $127.95. They're all as close as your nearby Radio Shack store, dealer or Computer Center.

Radio Shack®
The biggest name in little computers℠

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Radio Shack, Dept. 82-A-367
1300 One Tandy Center
Fort Worth, Texas 76102

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

Some References

- Encyclopedia of Science Fiction. https://sf-encyclopedia.com/entry/brazil
- The Hugo Awards. https://www.thehugoawards.org/hugo-history/
- The Nebula Awards. https://nebulas.sfwa.org/award-year/2022/