



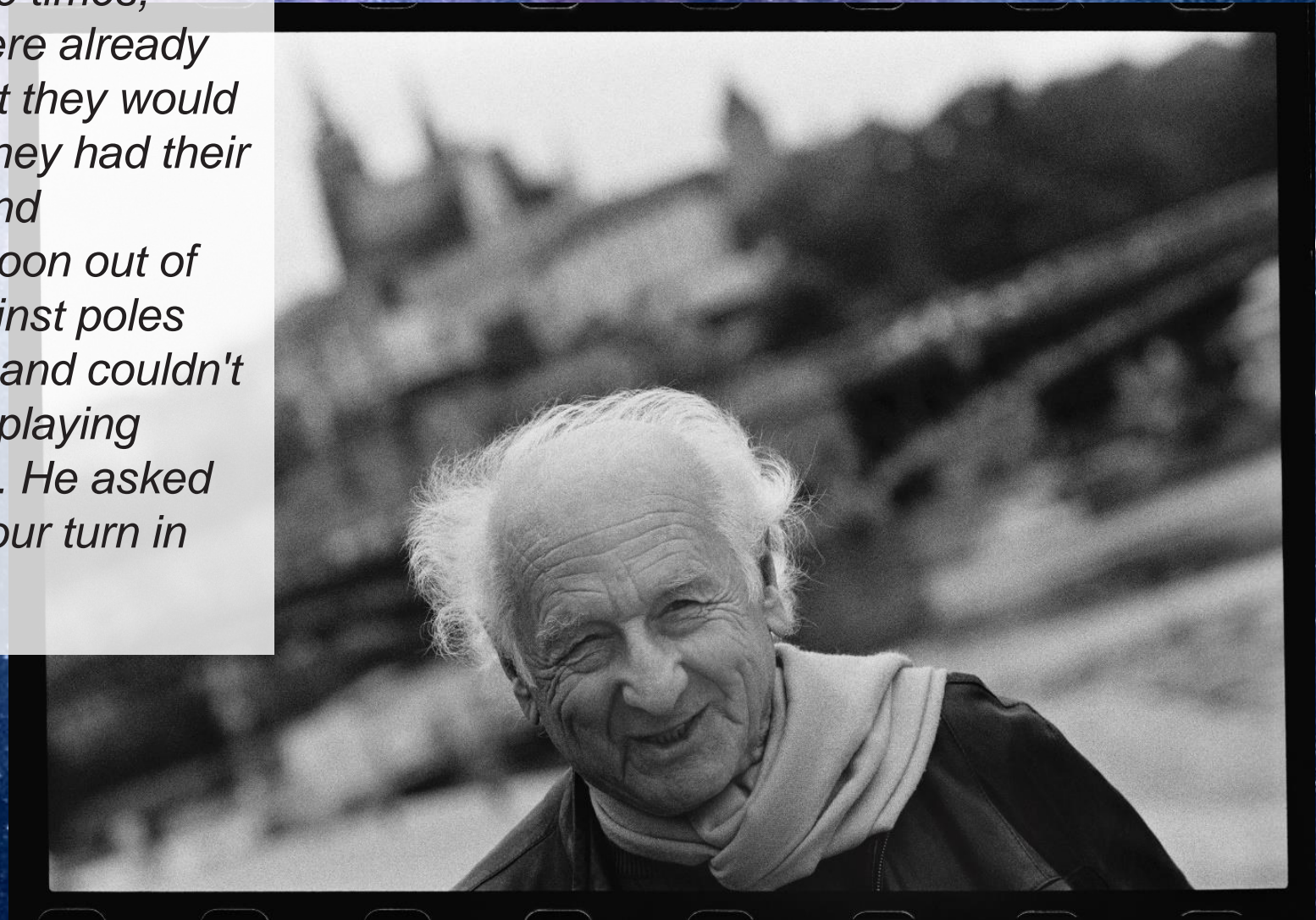
Physicists - humanists

Dr. Lenka Zychová, Royal Belgian Institute for Space Aeronomy



Arnošt Lustig

"During three years in the camps, I was sentenced to death by shooting three times, gassed x times. In Auschwitz, we were already prepared in a special quarantine that they would gas us as soon as it was our turn. They had their hands full. They gassed 400 thousand Hungarian Jews. So we made a balloon out of cloth pieces and played football against poles with high voltage. An SS man came and couldn't believe his eyes. Jewish brats were playing football in the antechamber of death. He asked why, so we told him that waiting for our turn in the chimney is boring."



Exhibition: I want to be a human!

- FR
- «Dure époque que celle où il est plus simple de désagréger un atome préjugé» a affirmé Albert Einstein, un des scientifiques les plus significatifs du siècle passé, membre du conseil d'administration de la Première Société à New York en 1929.
 - «Chacun d'entre nous est dans une perspective précieuse. Si un humain n'est pas d'accord avec vous, laissez-le vivre. Une centaine de milliards de galaxies, vous n'en trouverez pas d'autre» a affirmé Carl Sagan qui est à l'origine du premier message physique lancé dans l'espace lors de la mission Voyager en 1977.
 - En 1970, Joan Feynman a découvert le principe de la genèse des aurores boréales en lien avec l'activité du soleil. Elle soutenait les femmes dans le domaine de la science et reste, à ce jour, une grande source d'inspiration pour beaucoup de jeunes filles.

FR

L'univers a déjà égratigné la "mince couche animale" de la surface terrestre au moins une fois. Il y a 65 millions d'années, la chute d'un astéroïde a éradiqué les dinosaures alors omniprésents sur terre.

NL

Het heelal heeft al minimaal eenmaal een 'dierlijke schil' van het aardoppervlak geschraapt. Het neerstorten van een asteroïde 65 miljoen jaar geleden heeft namelijk destijds de alom aanwezige dinosaurussen uitgeroeid.

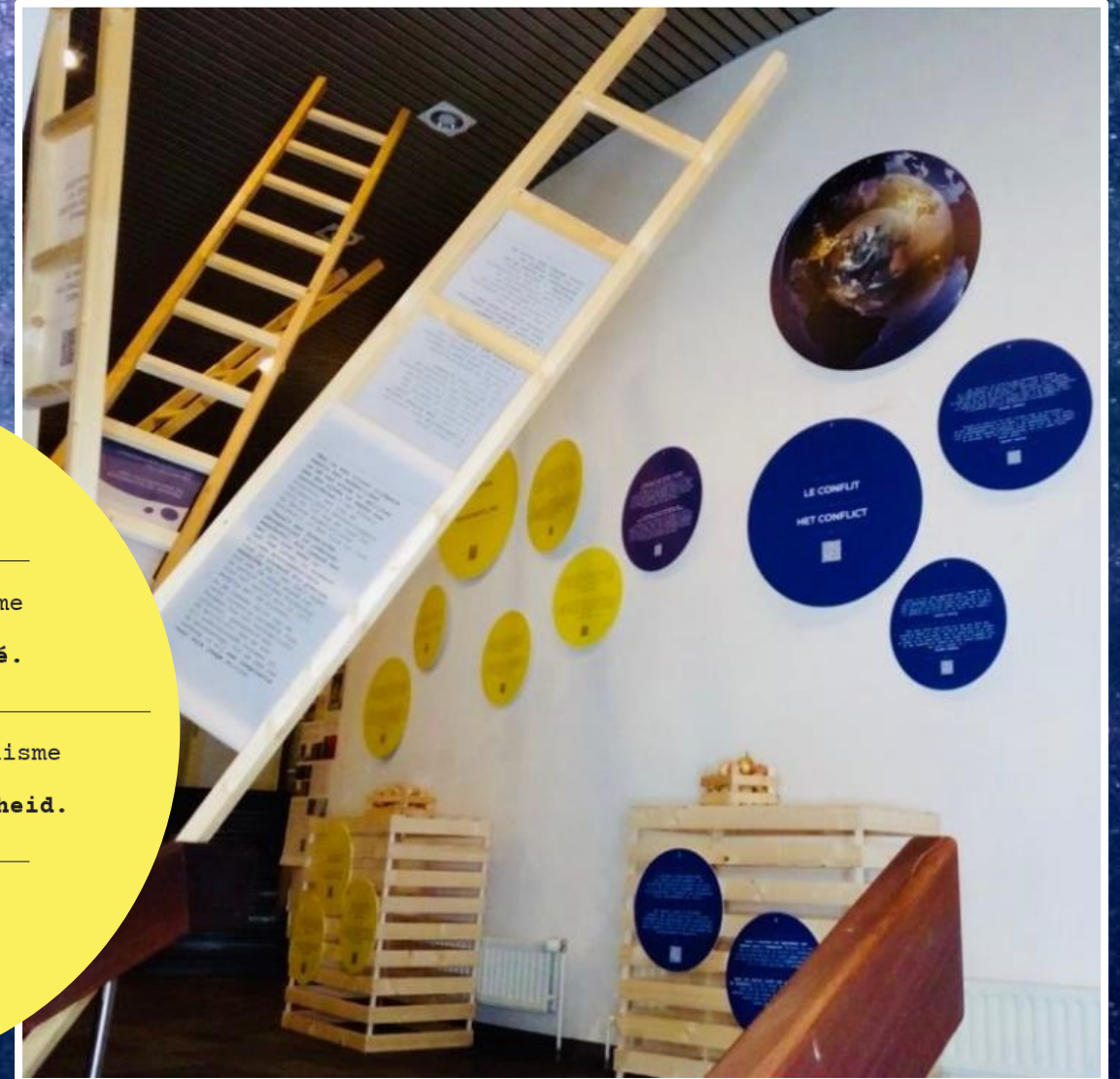


FR

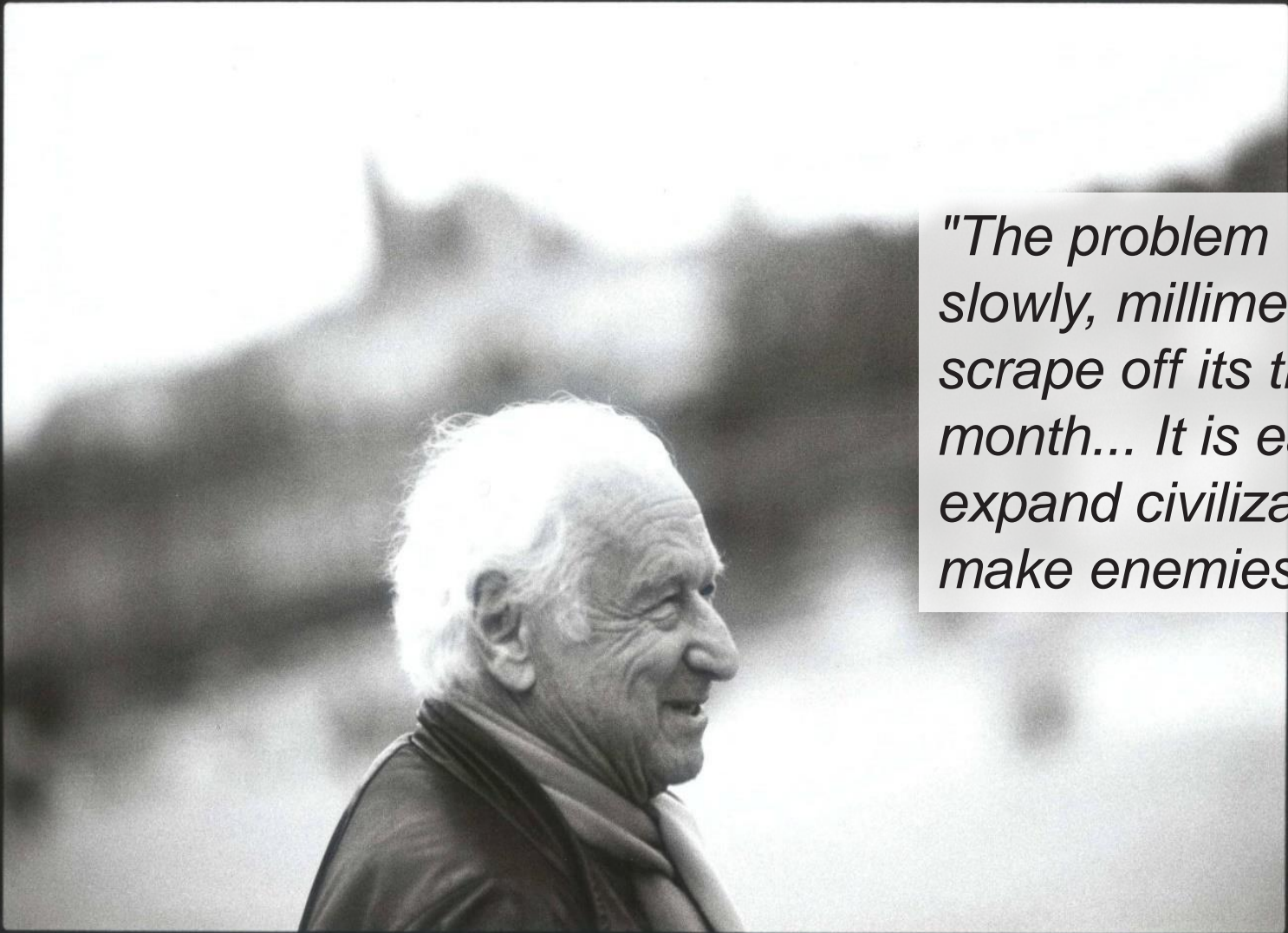
La science et l'humanisme servent la même cause: **le progrès de l'humanité.**

NL

De wetenschap en het humanisme dienen hetzelfde doel: **de vooruitgang van de mensheid.**



Arnošt Lustig



"The problem with civilization is that it grows slowly, millimeter by millimeter, and you can scrape off its thin skin in a week, in a month... It is easier to destroy than to expand civilization, just as it is easier to make enemies than friends..."

***Opening of the exhibition:
Royal Observatory of Belgium, Space Pole***

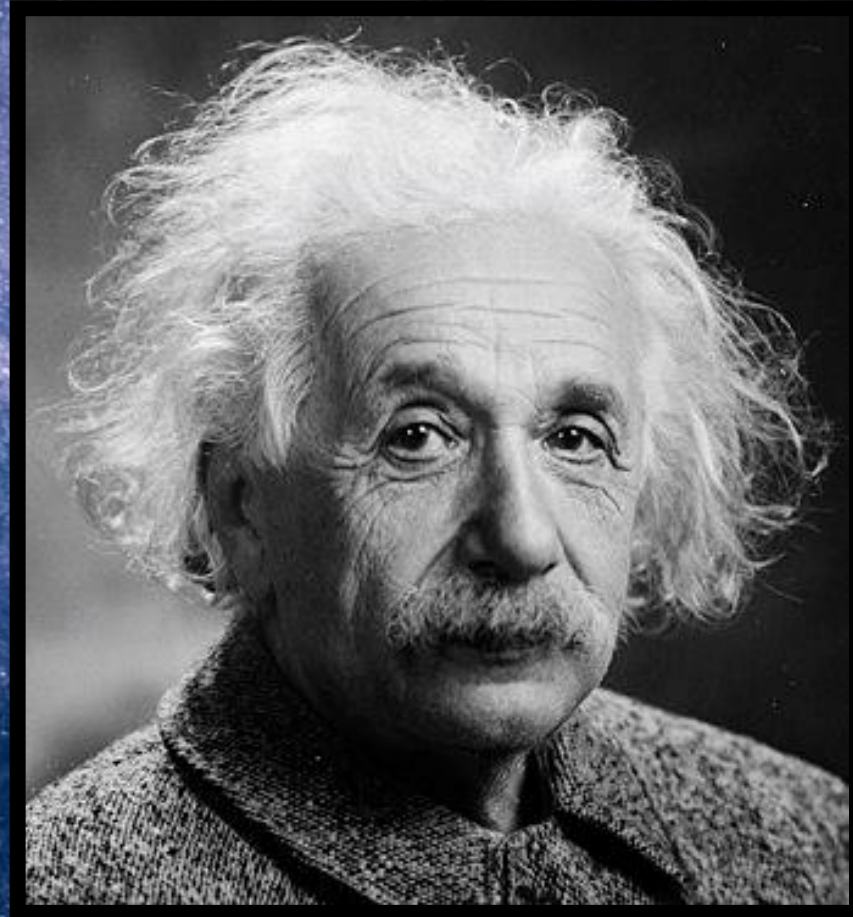


Albert Einstein

General theory
of relativity

Light quanta

Brownian motion

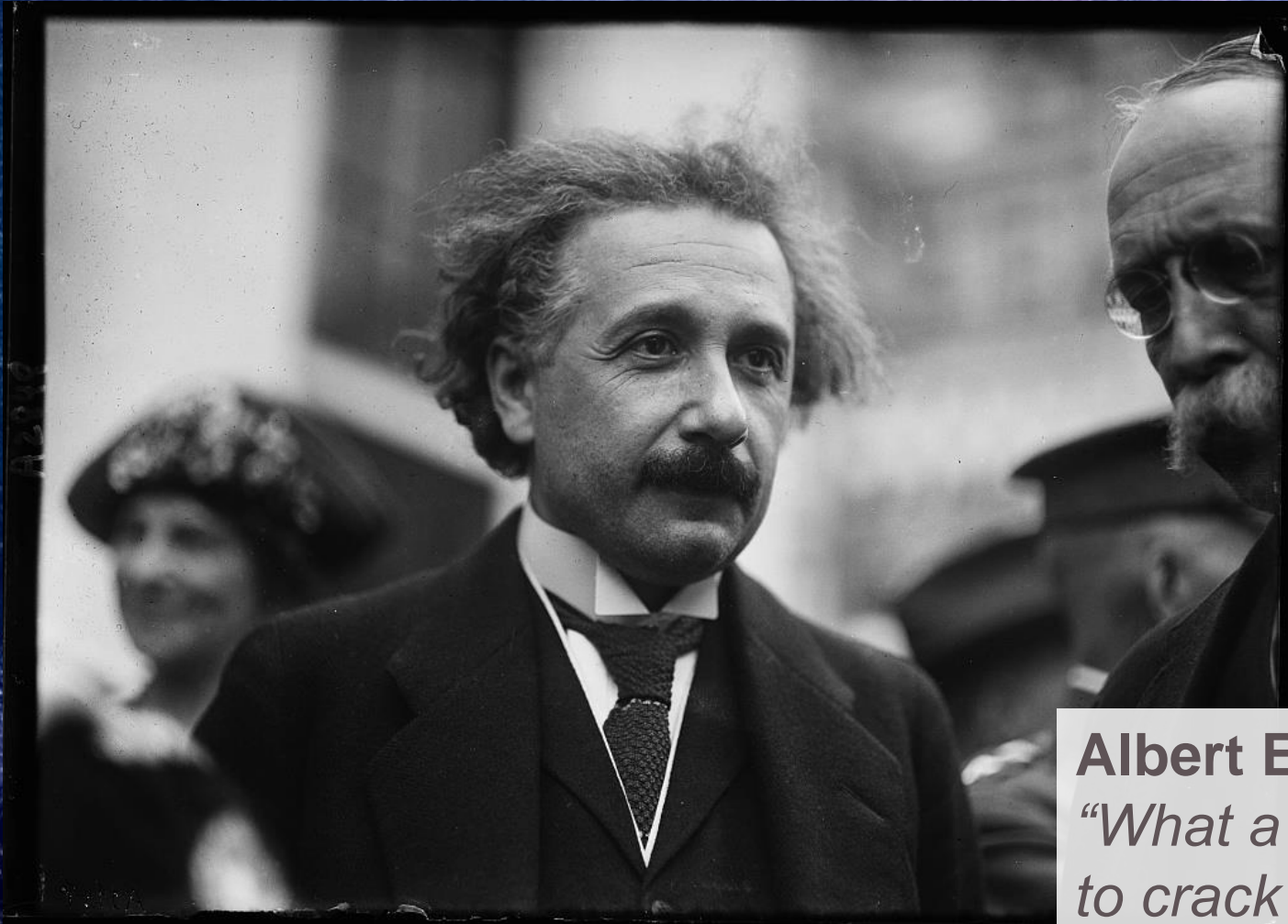


Special theory
of relativity

Photoelectric effect

Nobel Prize in
Physics

Albert Einstein



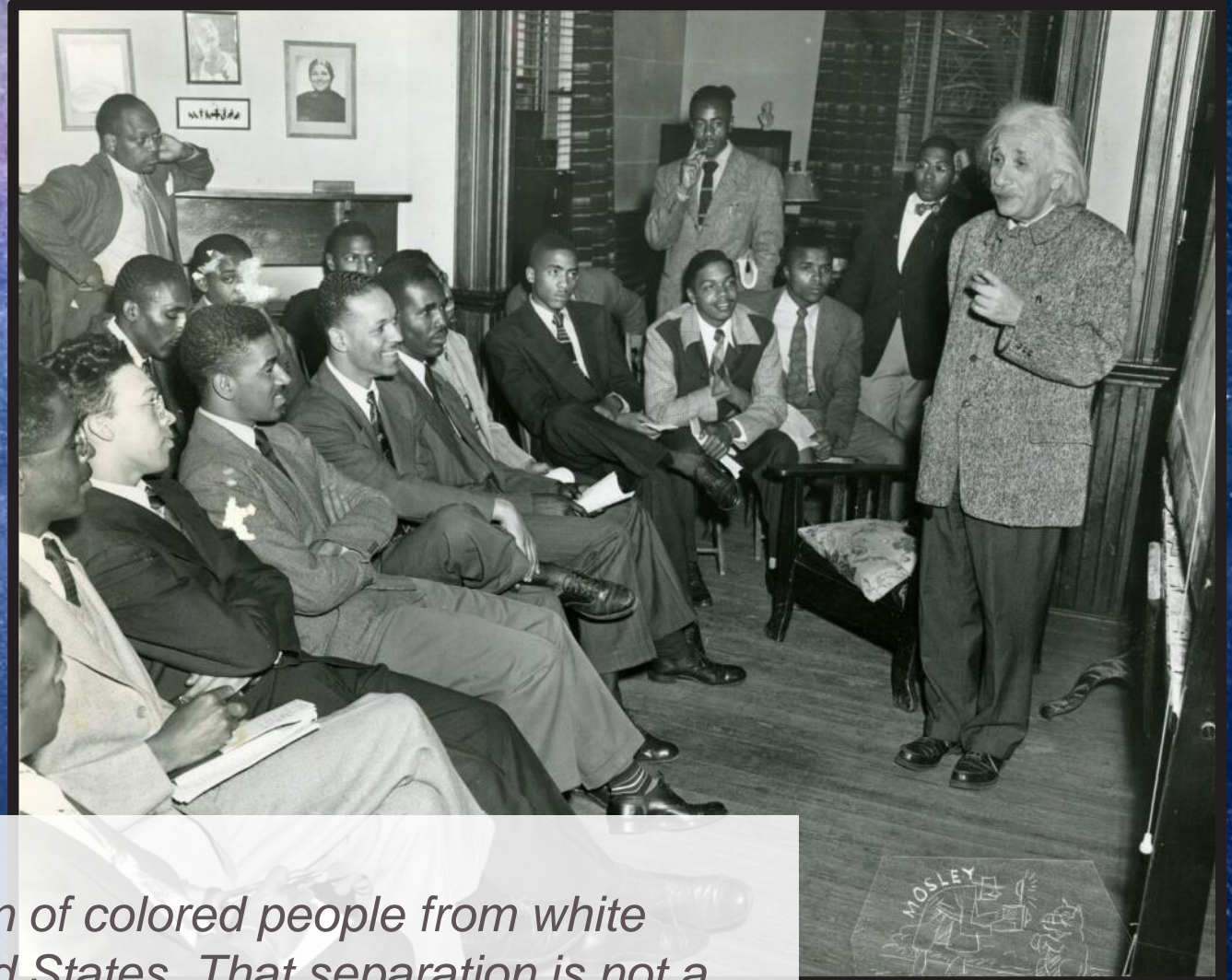
- supported the **Ethical Culture movement**
- a founder member of the **First Humanist Society of New York**
- an Honorary Associate of the **Rationalist Press Association**
- **Russell–Einstein Manifesto** (→ Pugwash Conferences on Science and World Affairs)

Albert Einstein:

“What a sad epoch when it is harder to crack prejudice than an atom.”

Albert Einstein

- renounced his German citizenship
- **National Association for the Advancement of Colored People (NAACP)**
- **the American Crusade Against Lynching (ACAL)**



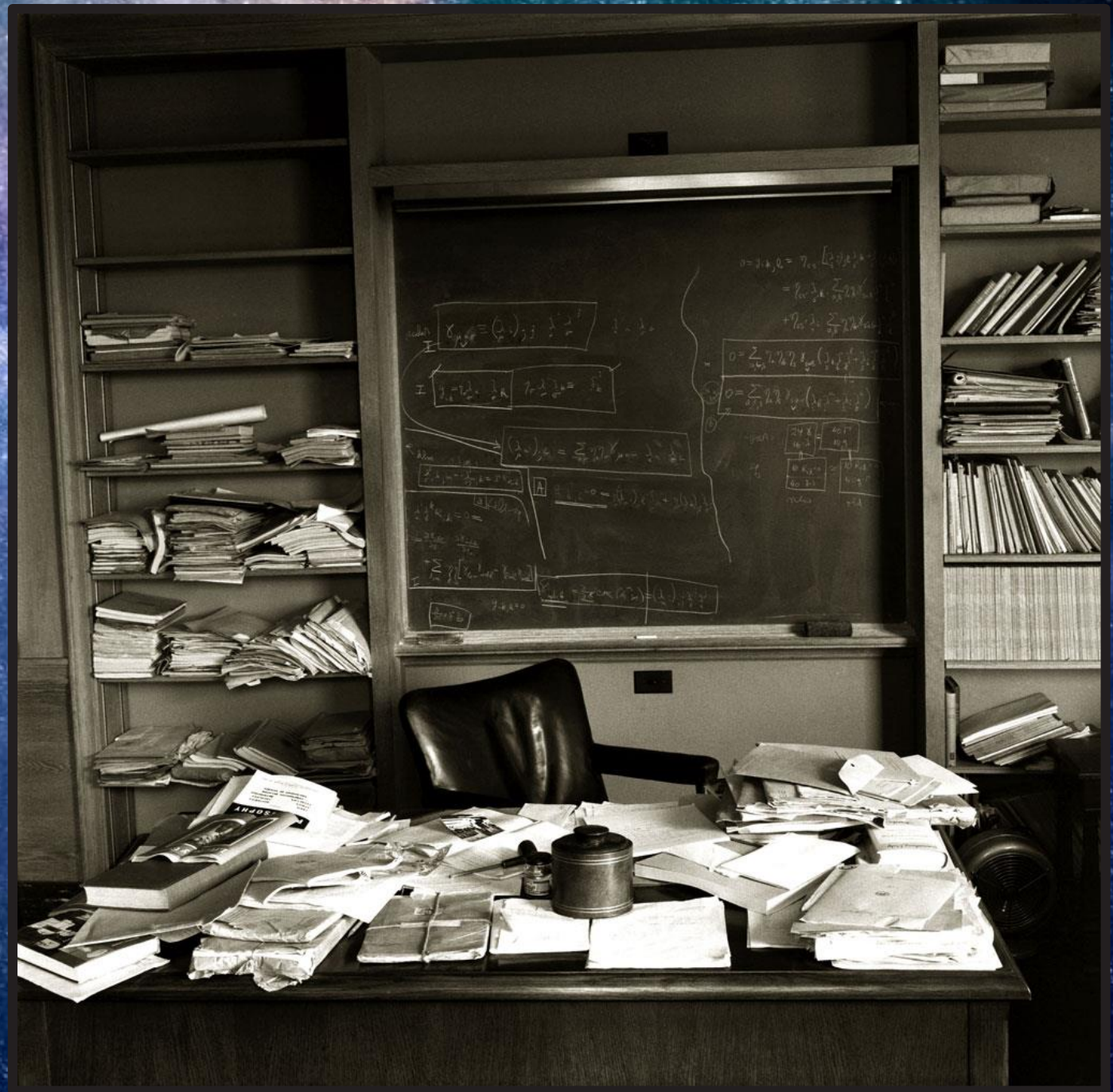
Albert Einstein:

“There is separation of colored people from white people in the United States. That separation is not a disease of colored people. It is a disease of white people. I do not intend to be quiet about it.”

Albert Einstein

Albert Einstein:

“...the most important factor in giving shape to our human existence is the setting up and establishment of a goal; the goal being a community of free and happy human beings who by constant inward endeavor strive to liberate themselves from the inheritance of anti-social and destructive instincts. In this effort the intellect can be the most powerful aid. The fruits of intellectual effort, together with the striving itself, in cooperation with the creative activity of the artist, lend content and meaning to life.”



Joan Feynman

Detection of CME

Climate change
and solar activity



The principle
behind auroras

Space environmental
hazard model

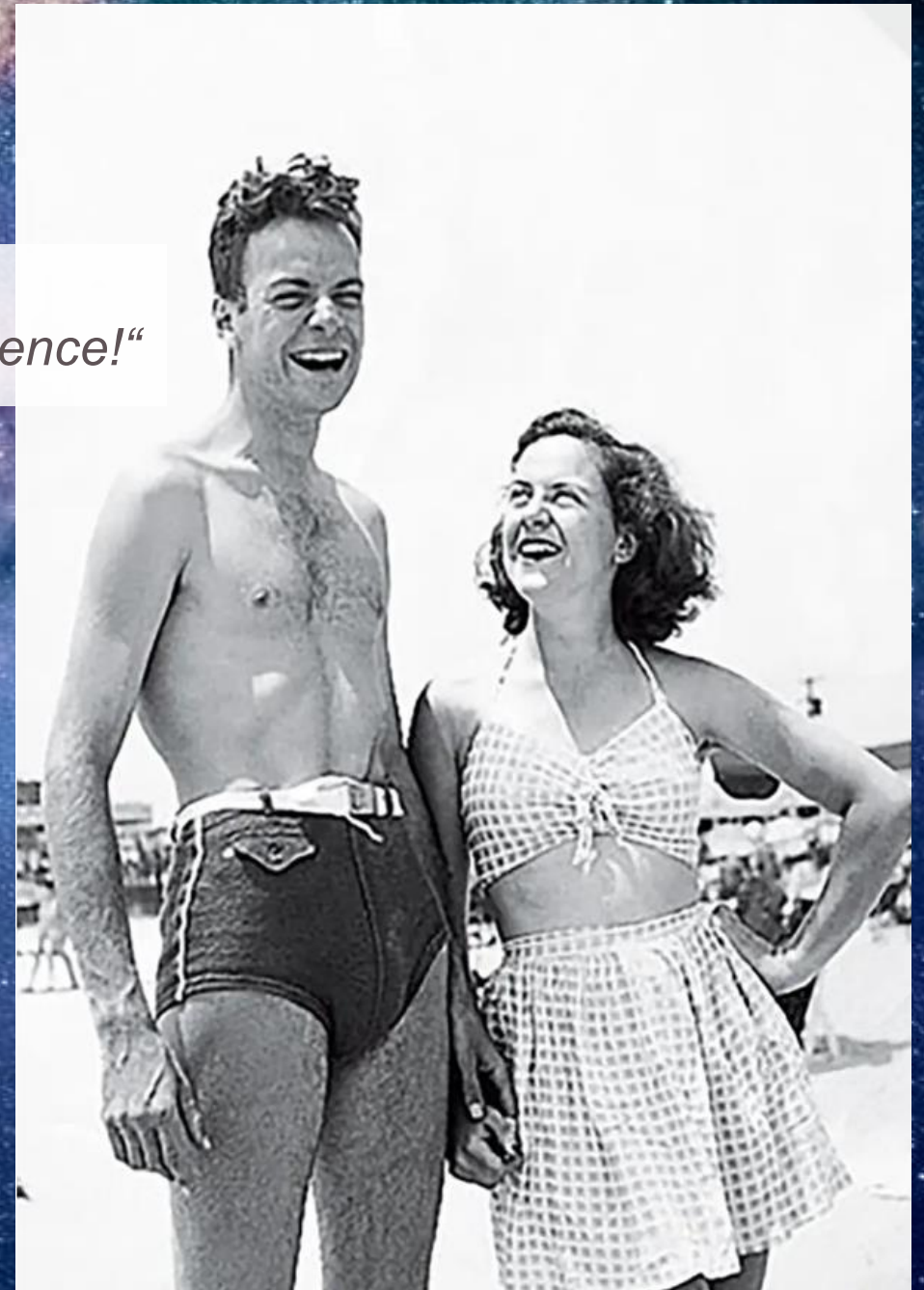
NASA's Exceptional Achievement Medal

Joan Feynman

Joan Feynman:

“The secret was out: women can do science!”

- Mother: **“Their brains can’t do it.”**
- **Cobwebs** vs. Absorption of Infrared Radiation in Crystals of Diamond-Type Lattice Structure
- Naval Research Lab: **tested if being a competent scientist**
- **discriminatory gender policies** at the American Geophysical Union



Joan Feynman



Joan Feynman:

Proverb: "a virtuous woman considereth a field, and buyeth it: with the fruit of her hands she planteth a vineyard."

"It DOES NOT say that she seeth a vineyard, and it looks pretty good to her, so she goes and asks her husband whether they should think about buying it."

Carl Sagan

Contact

Exobiology

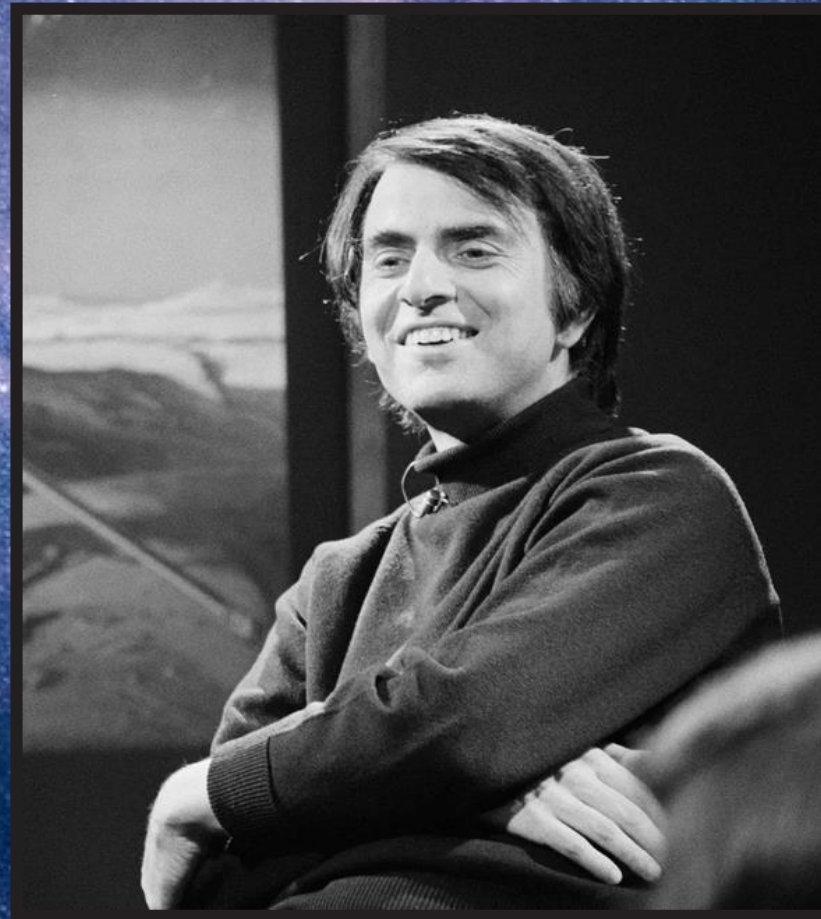
Production of amino acids by radiation

SETI

Pioneer plaque

Cosmos: A Personal Voyage

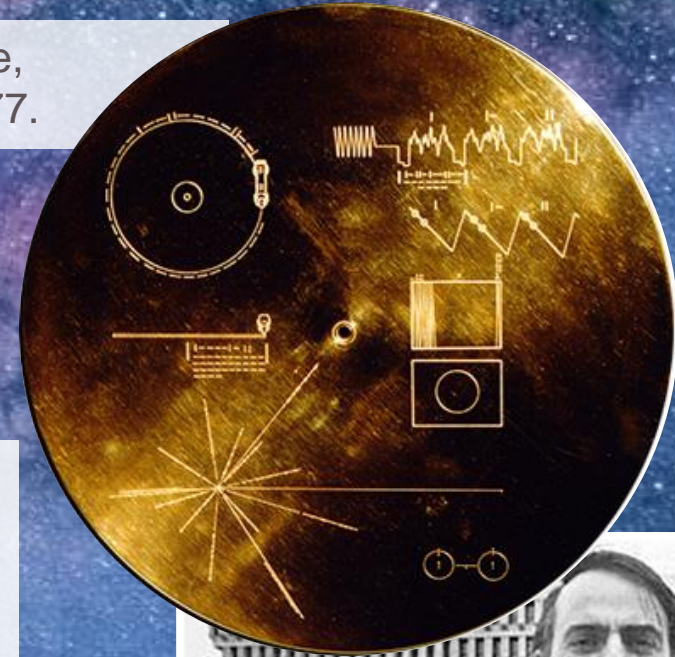
Voyager Golden Record



Venus & greenhouse effect

Carl Sagan

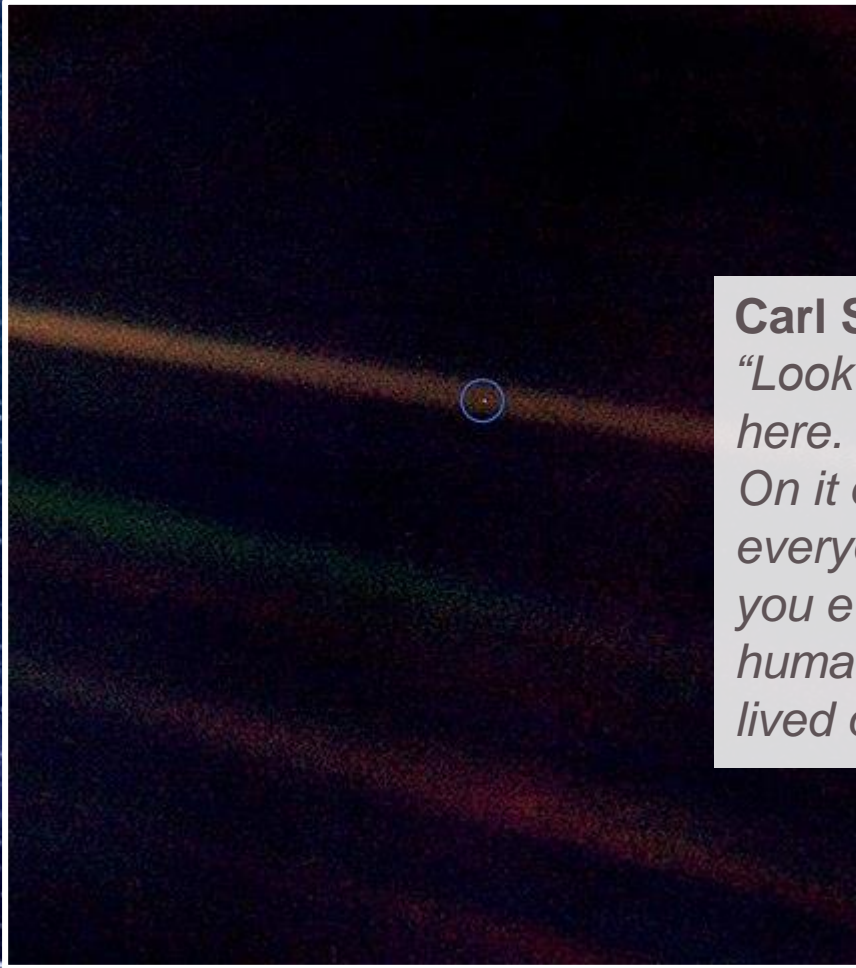
Voyager Golden Plate,
Voyager mission, 1977.



Carl Sagan:

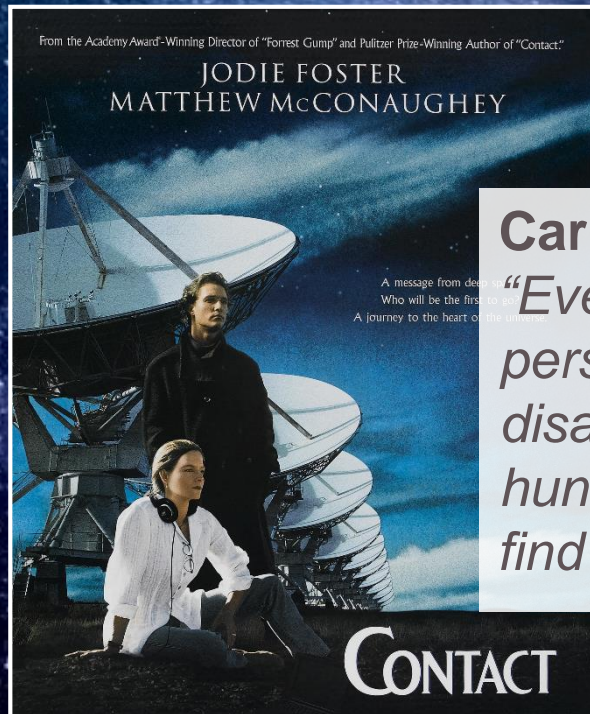
“Look again at that dot. That's here. That's home. That's us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives...”

Pioneer Plaque, Pioneer 10 and 11
missions in 1972 and 1973



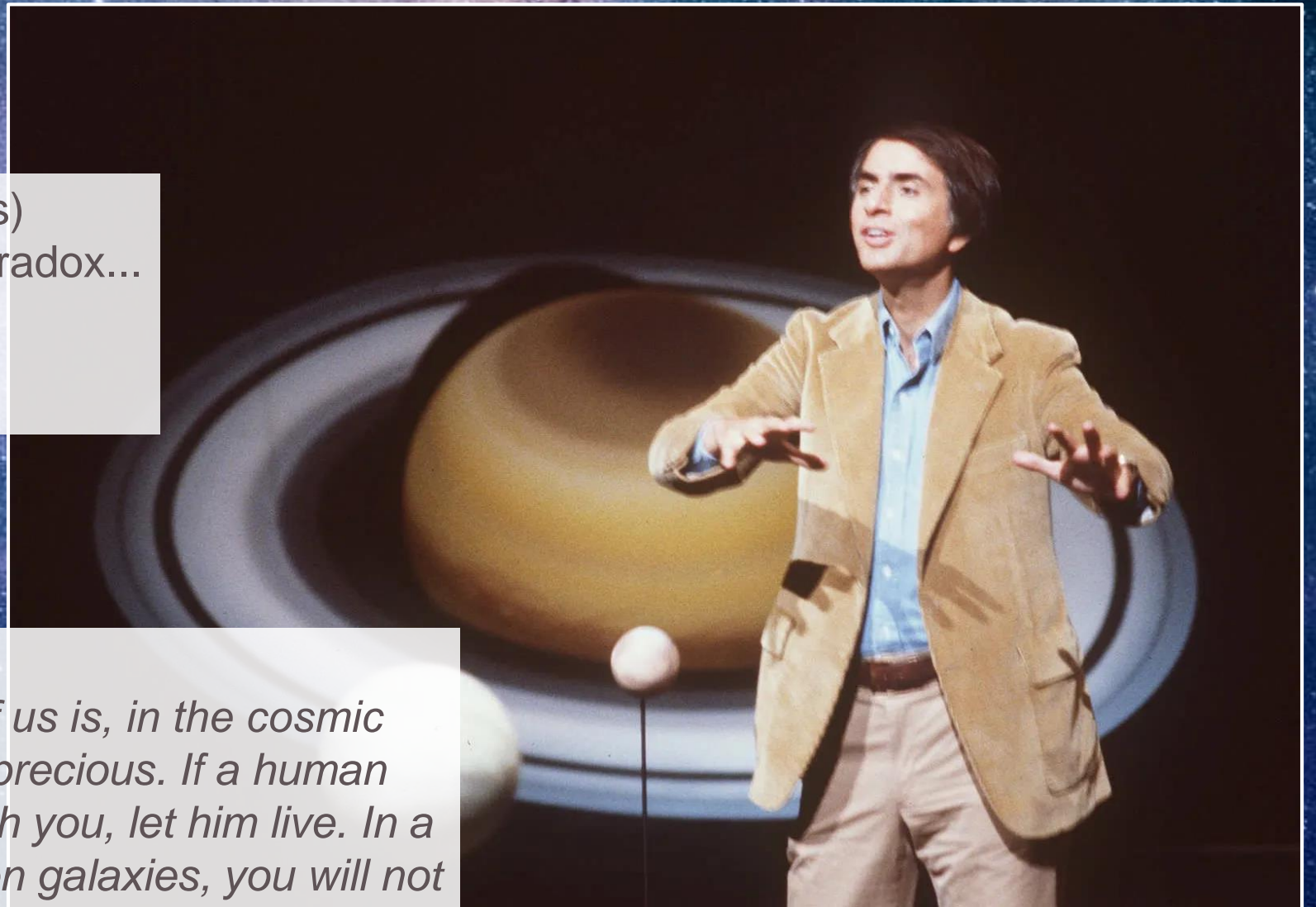
Carl Sagan

- Near-Earth objects (NEOs)
- Drake equation, Fermi paradox...
- Nuclear disarmament
- Science communication



Carl Sagan:

“Every one of us is, in the cosmic perspective, precious. If a human disagrees with you, let him live. In a hundred billion galaxies, you will not find another.”





Thank you!

Recommended books:

- A. Einstein: The World As I See It
- A. Einstein: Essays in Humanism
- C. Sagan: Pale Blue Dot: A Vision of the Human Future in Space
- C. Sagan: Dragons of Eden: Speculations on the Evolution of Human Intelligence
- C. Sagan: Contact

Recommended articles & webs:

- A. Behmard: [Feynman, Harassment, and the Culture of Science](#)
- Humanist Heritage: <https://heritage.humanists.uk/>

Recommended interviews:

- Web of Stories - Life Stories of Remarkable People: [Joan Feynman](#)
- Jordyn Rozensky: [Reflecting with Dr. Joan Feynman](#)