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Antigravity based propulsion systems—a new era in astronautics and aeronautics

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Alexander A. Gromov

TU Bergakademie Freiberg

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ANTIGRAVITY BASED PROPULSION SYSTEMS – A NEW ERA IN ASTRONAUTICS AND AERONAUTICS

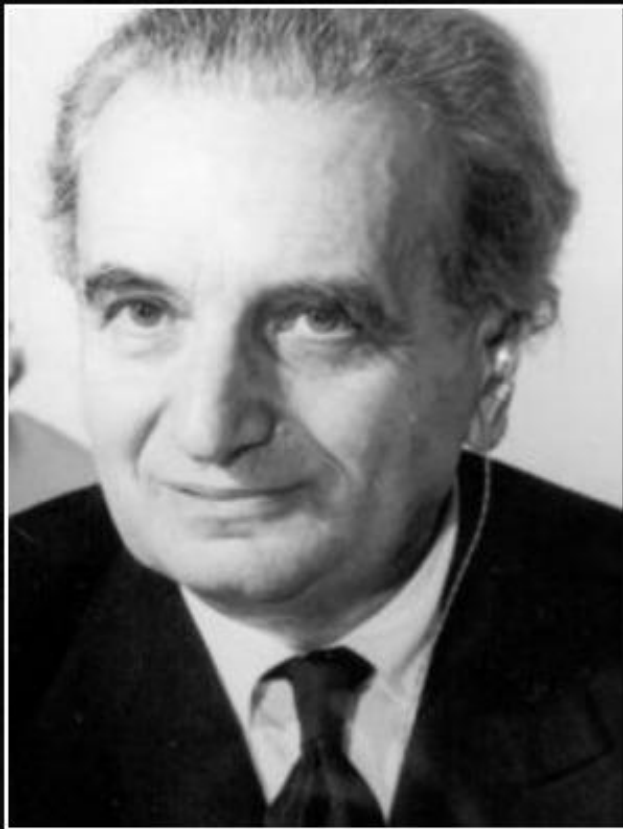
A. Gromov

TU Nuremberg, Nuremberg, Germany

Tomsk Polytechnic University, Tomsk, Russia

alexander.gromow@th-nuernberg.de

FOREWORD

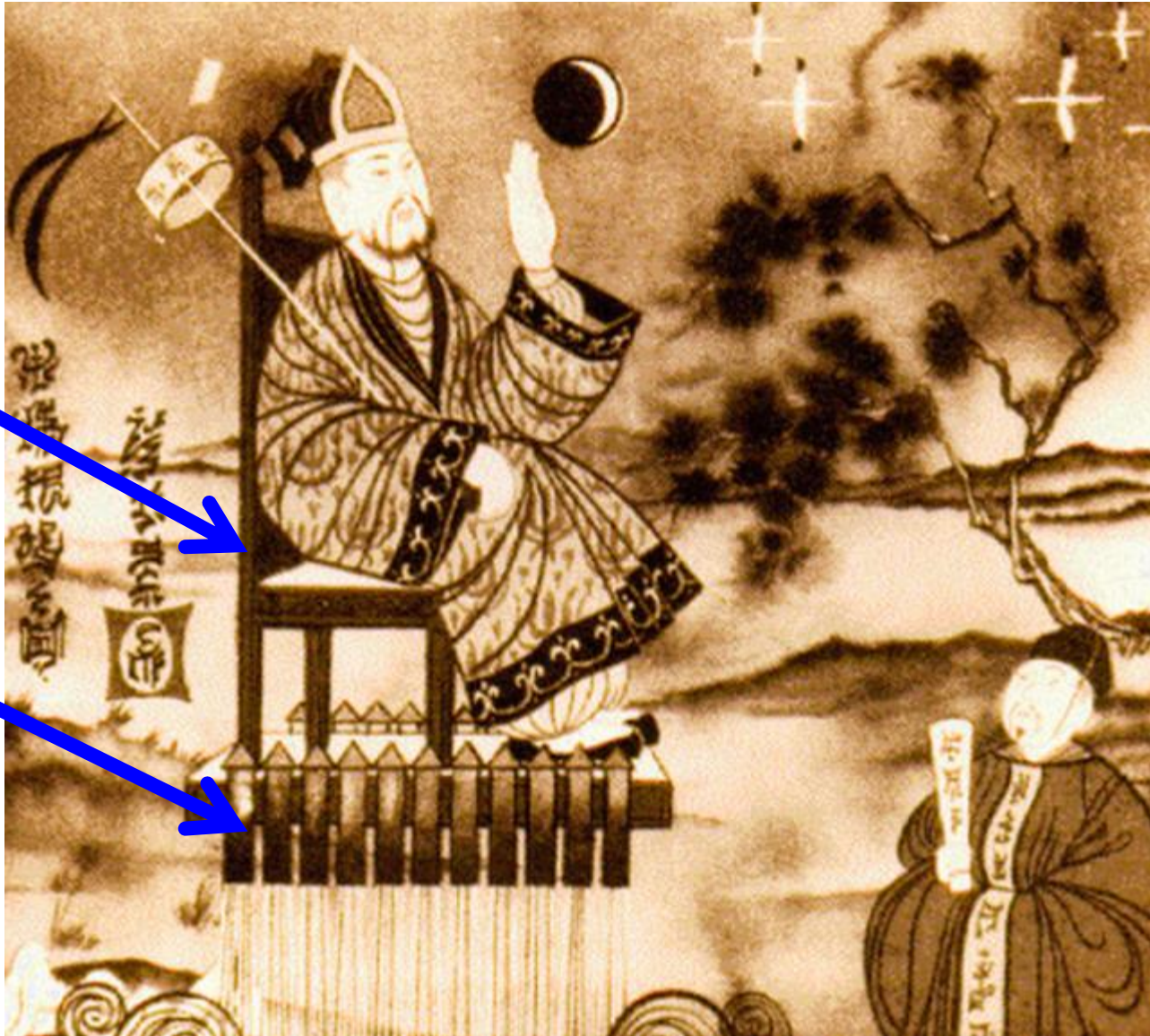


Scientists study the world as it is,
engineers create the world that
never has been.

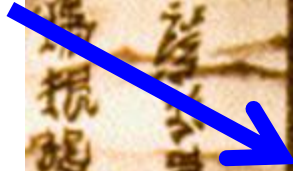
— *Theodore von Karman* —

**Aerospace engineers,
we must look over the horizon!**

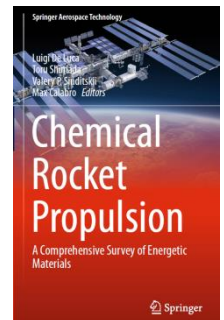
MODERN PROPULSION. HISTORY



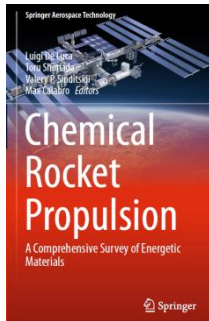
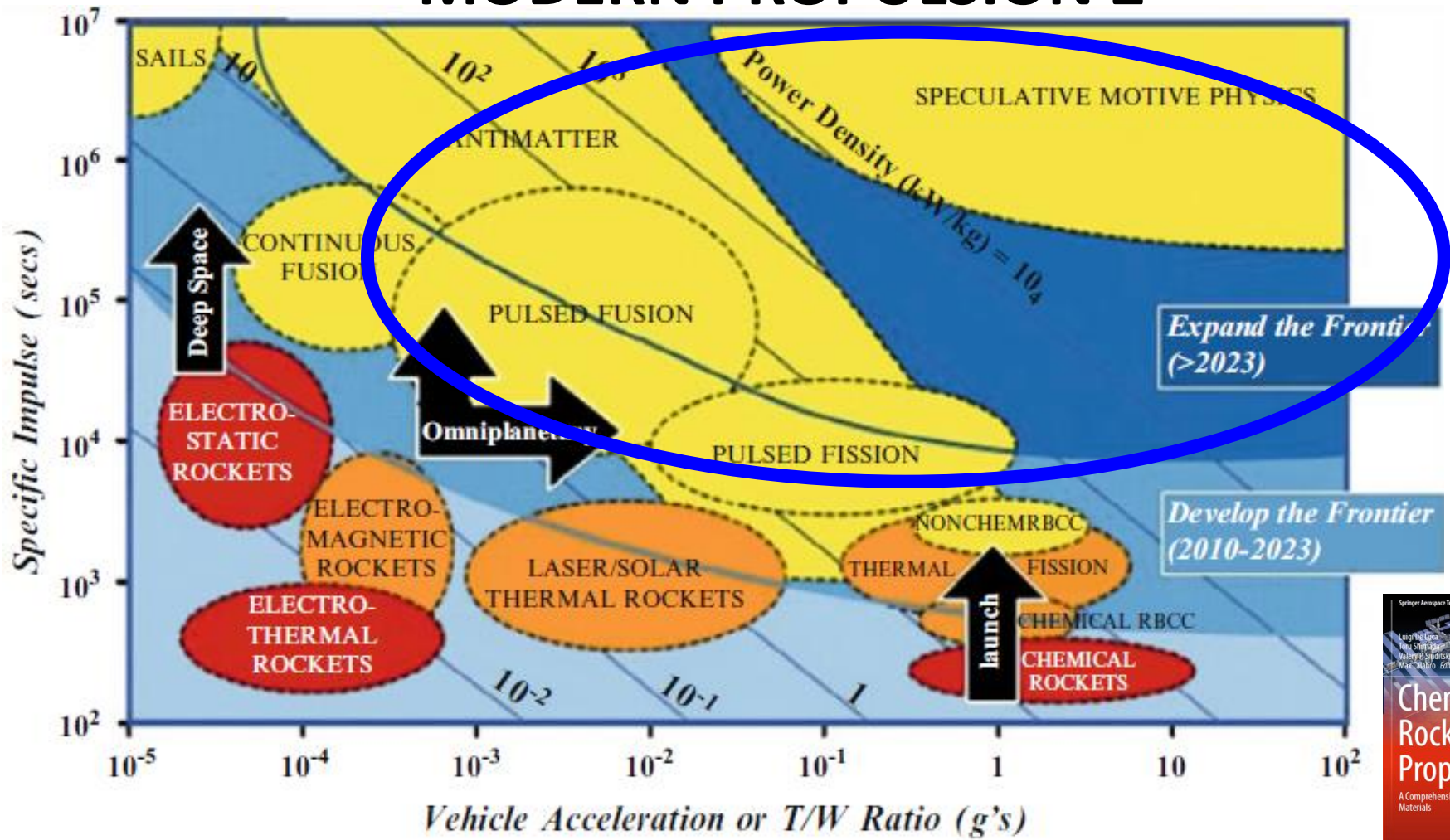
Chair



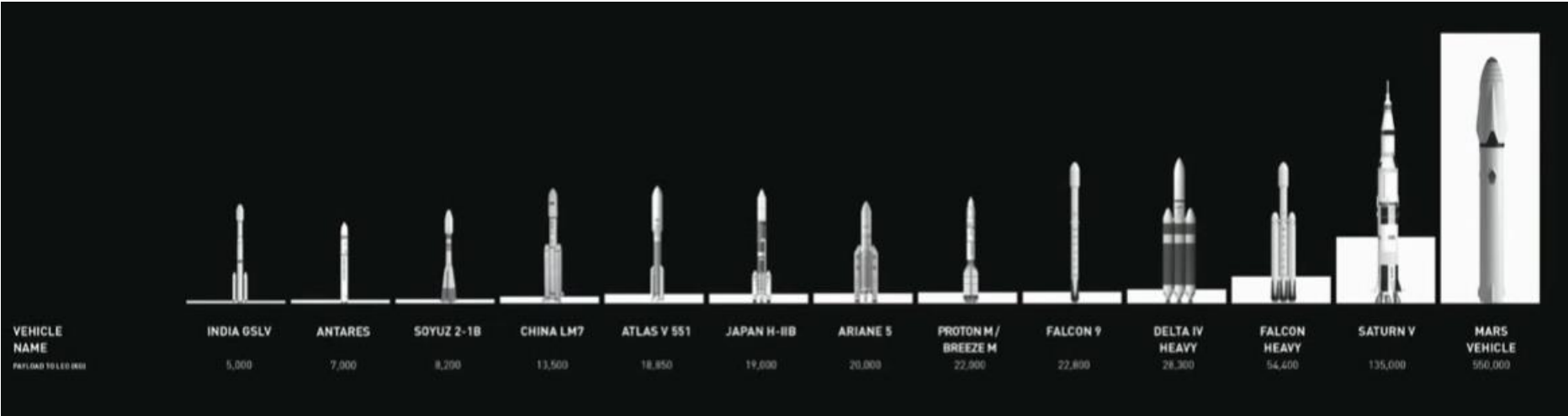
Pyrotechnic rockets



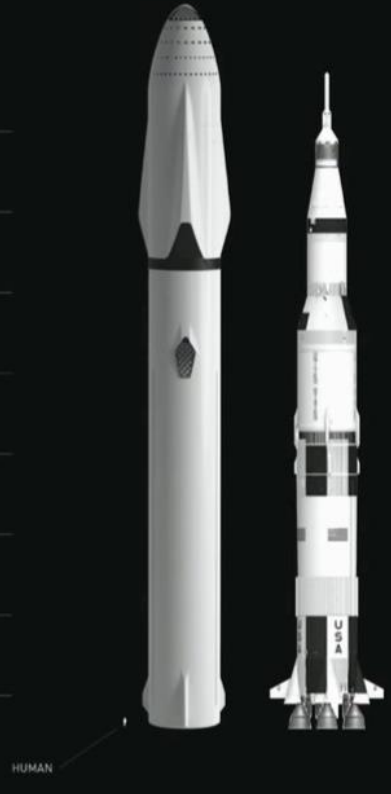
MODERN PROPULSION 2



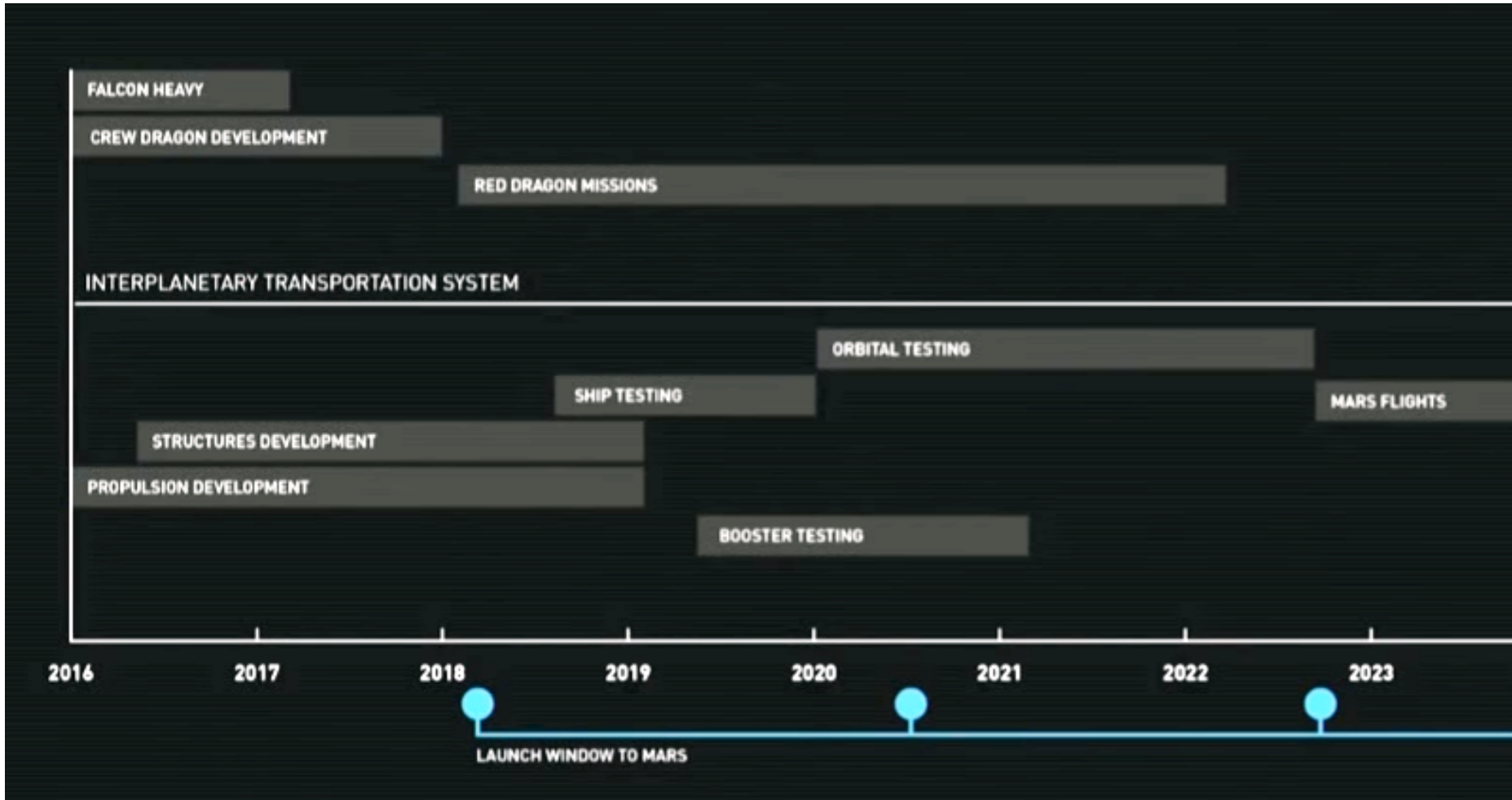
MODERN PROPULSION 3



	MARS VEHICLE	SATURN V	RATIO
GROSS LIFT-OFF MASS (t)	10,500	3,039	3.5
LIFT-OFF THRUST (MN)	128	35	3.6
LIFT-OFF THRUST (t)	13,033	3,579	3.6
VEHICLE HEIGHT (m)	122	111	1.1
TANK DIAMETER (m)	12	10	1.2
EXPENDABLE LEO PAYLOAD (t)	550	135	4.1
FULLY REUSABLE LEO PAYLOAD (t)	300	-	-



MODERN PROPULSION 4



MODERN PROPULSION (summary)

Sorry, but from the engineering point of view...

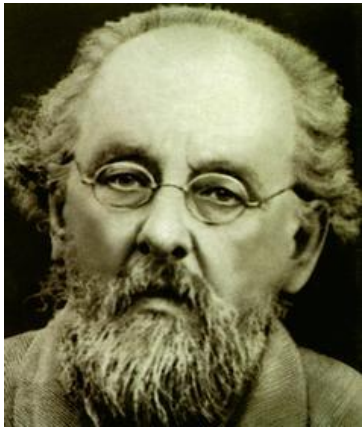


1500 B.C.

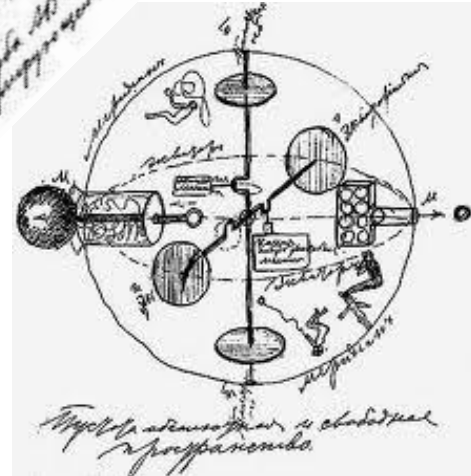
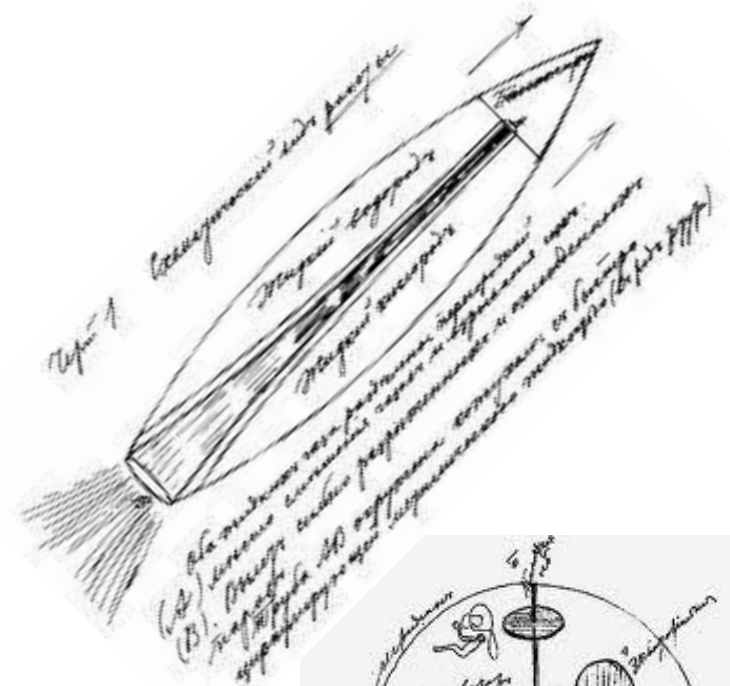
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2017



15 STEPS OF TSIOLKOVSKI'S COSMONAUTIC PROGRAM (1880^s)



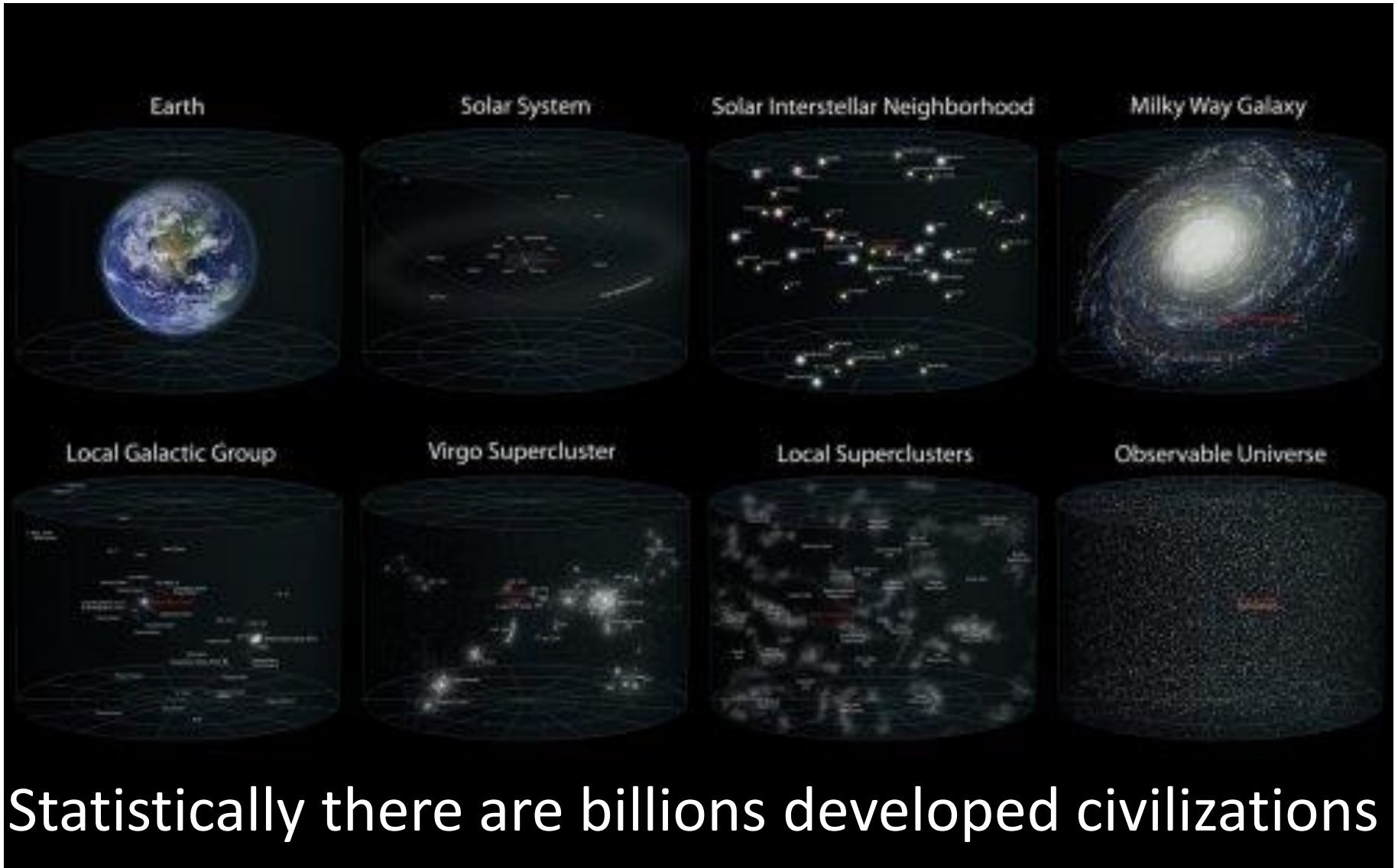
1. Arranged rocket ('RAKETOPLAN') for flight training on it.
2. Subsequent aircraft wings are reduced, speed increase.
3. Penetrate very close atmosphere.
4. Flights above the atmosphere and low-gravity planning.
5. Create satellites that return to Earth after the flight.
6. Satellites are settled around the Earth, but can come back to Earth.
7. Provide breathing and feeding cosmonauts by plants.
8. Landing modules, satellites for broadcasting and connection.
9. Widely used greenhouses to ensure the independence of man from the Earth.
10. Arranging of extensive settlements around the Earth.
11. Use solar energy, not only for a comfortable life, but also to move through the solar system (Solar sails).
12. Founded the colony in the asteroid belt and other places of the solar system.
13. Develop and expand the number of space colonies.
14. The population of the solar system is multiplied. Settling around the Milky Way starts .
15. Sun is cooling down. Mankind is removed to other Suns.

20

21

??

UNIVERSE



Statistically there are billions developed civilizations

$156 \cdot 10^9$ light years, billions of stars and planets

PROPULSION OF THE (NEAREST?) FUTURE



Non-gravitational

Non-inertial

Non-reactive-
force based

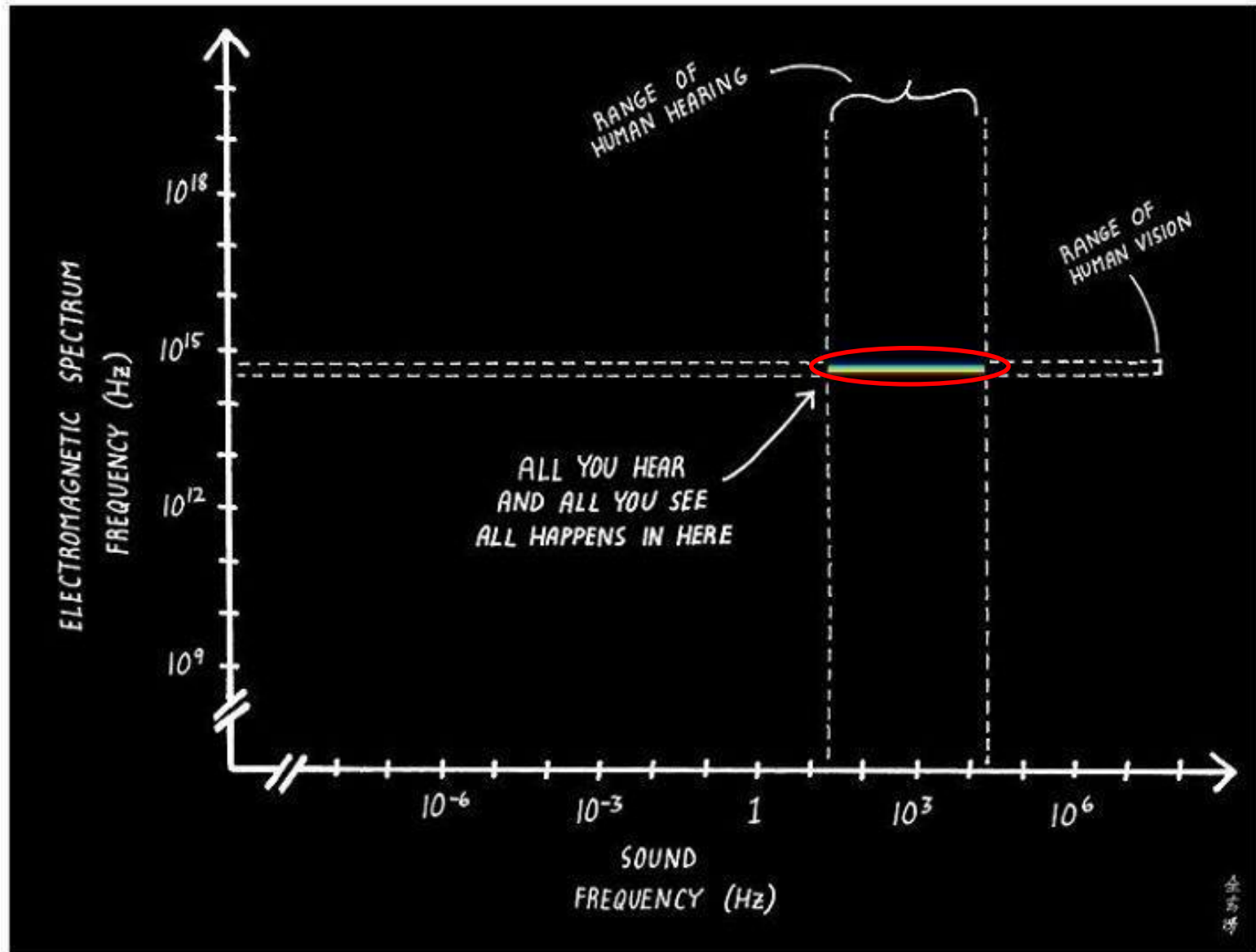
Non-visible

Non-chemical

Nearest targets:

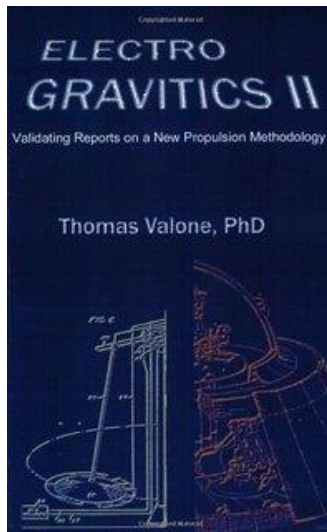
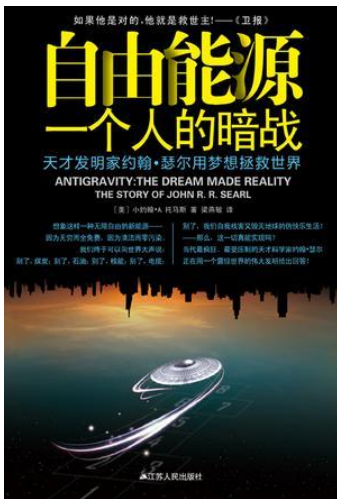
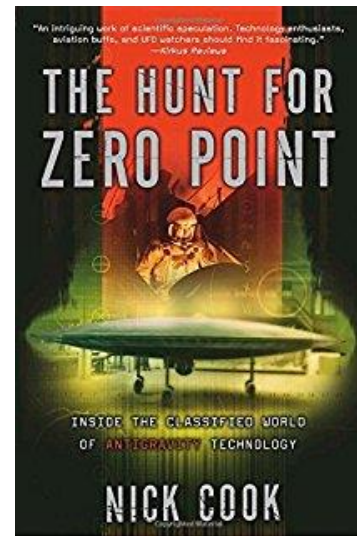
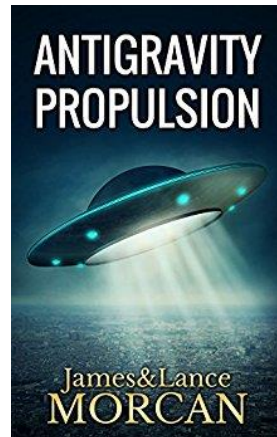
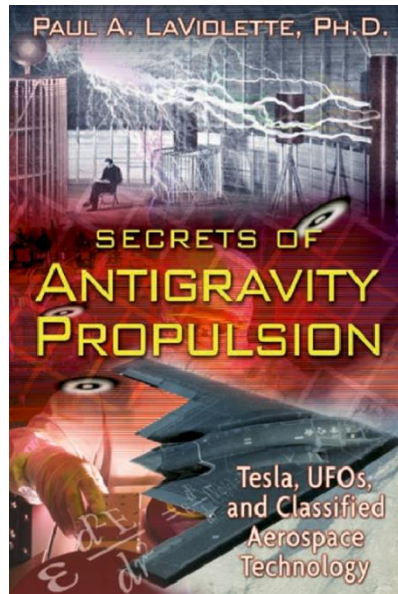
Mars, Venus, Jupiter and proxima Centauri

UFOs ARE STRANGE ???



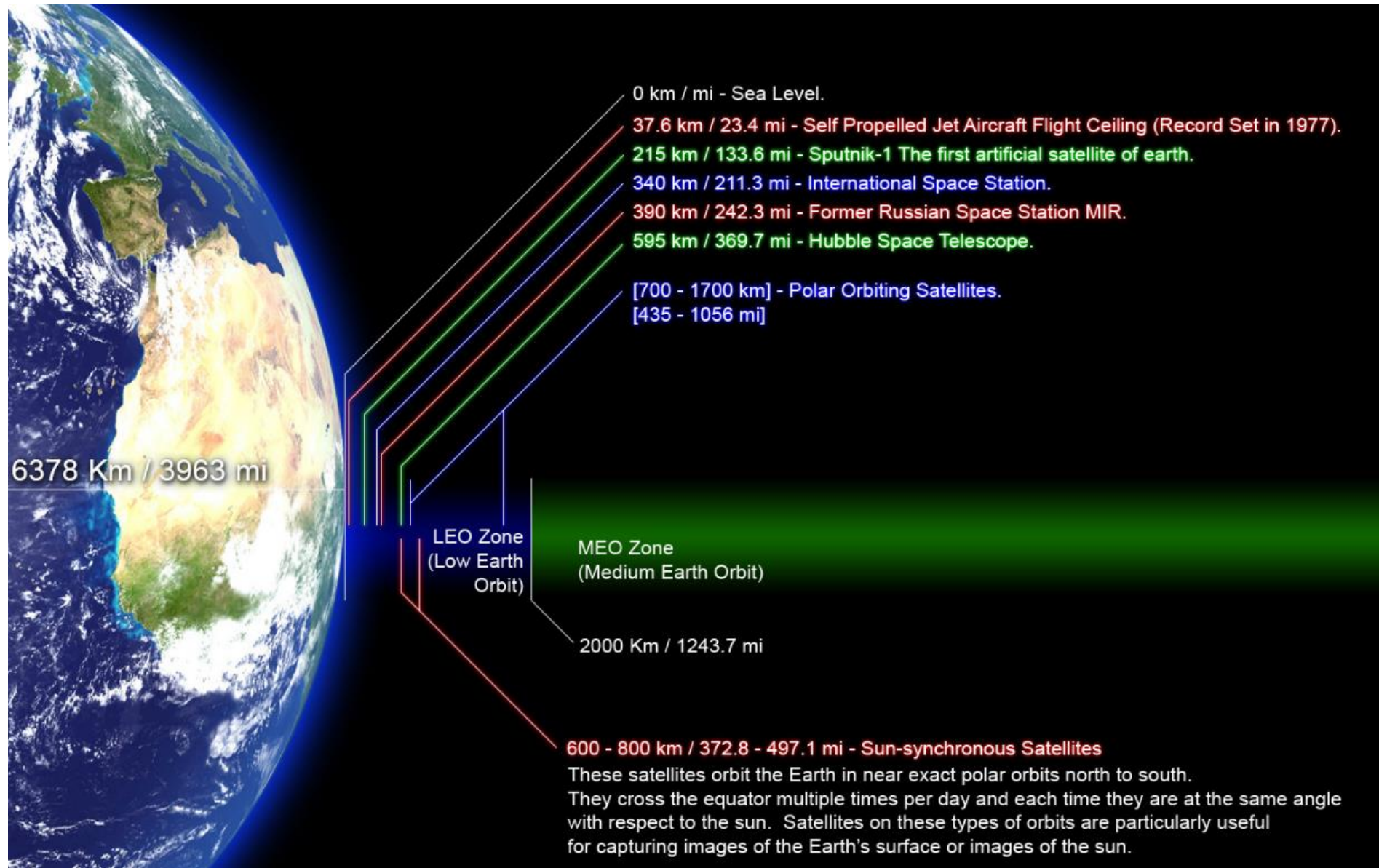
In the grand scheme of things,
we're all pretty much blind and deaf.

ANTIGRAVITY

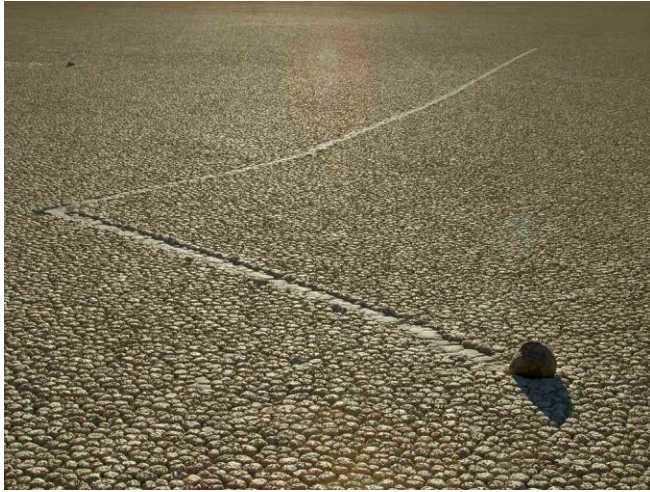


We want continue to ignore?

GRAVITY

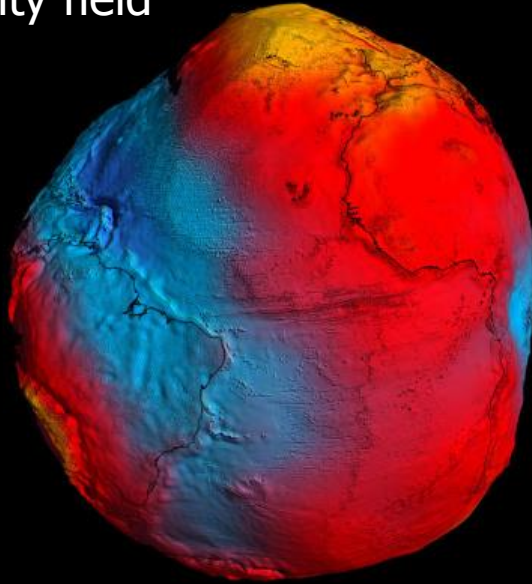


GRAVITY JOKES



Sailing stones of Death Valley, USA

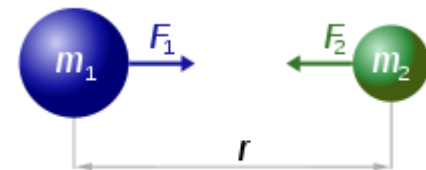
Earth gravity field



ESA



1. Gravity is strongly non-uniform
2. Gravity anomalies exist
3. Since Newton we learned nearly nothing more than



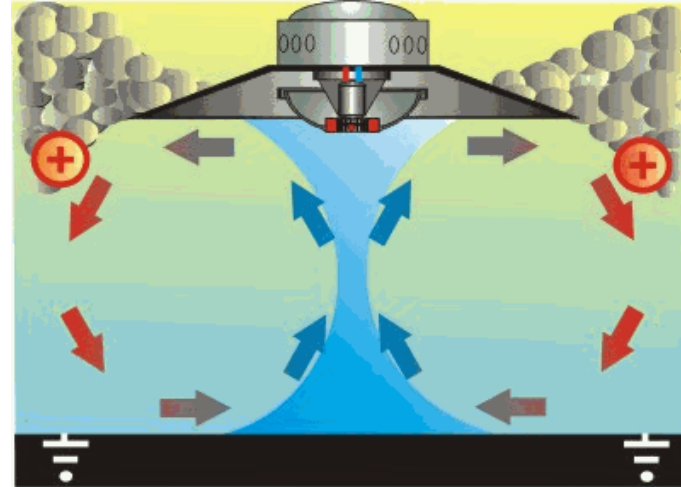
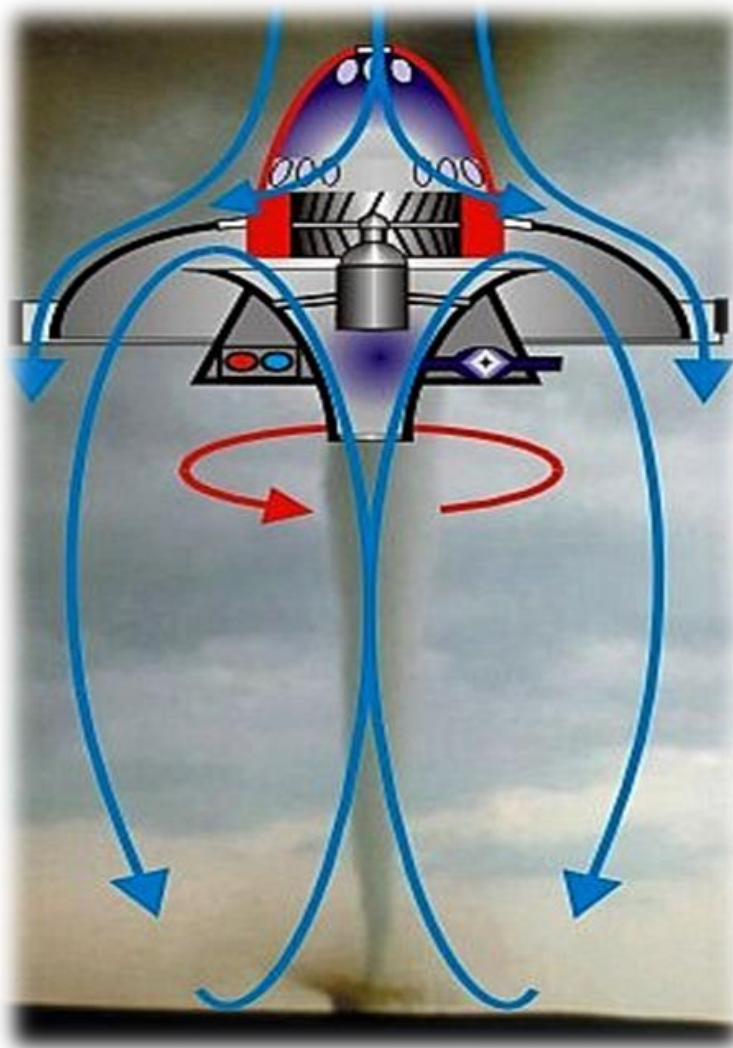
$$F_1 = F_2 = G \frac{m_1 \times m_2}{r^2}$$

FLYING SAUCERS GRANDFATHER (1940th, Germany)



ANTIGRAVITY PROPULSION (1940th, Germany)

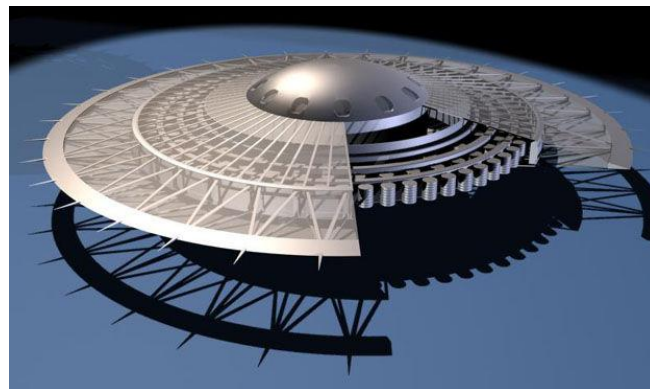
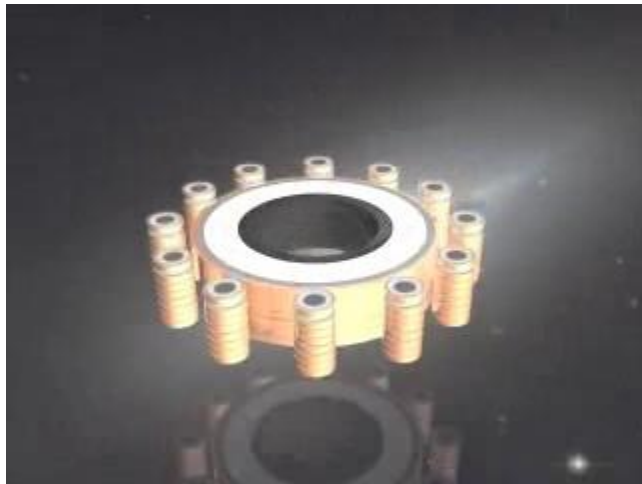
Schauberger's sauser (vortex energy)



evgars.com

ANTIGRAVITY PROPULSION (1960th, UK)

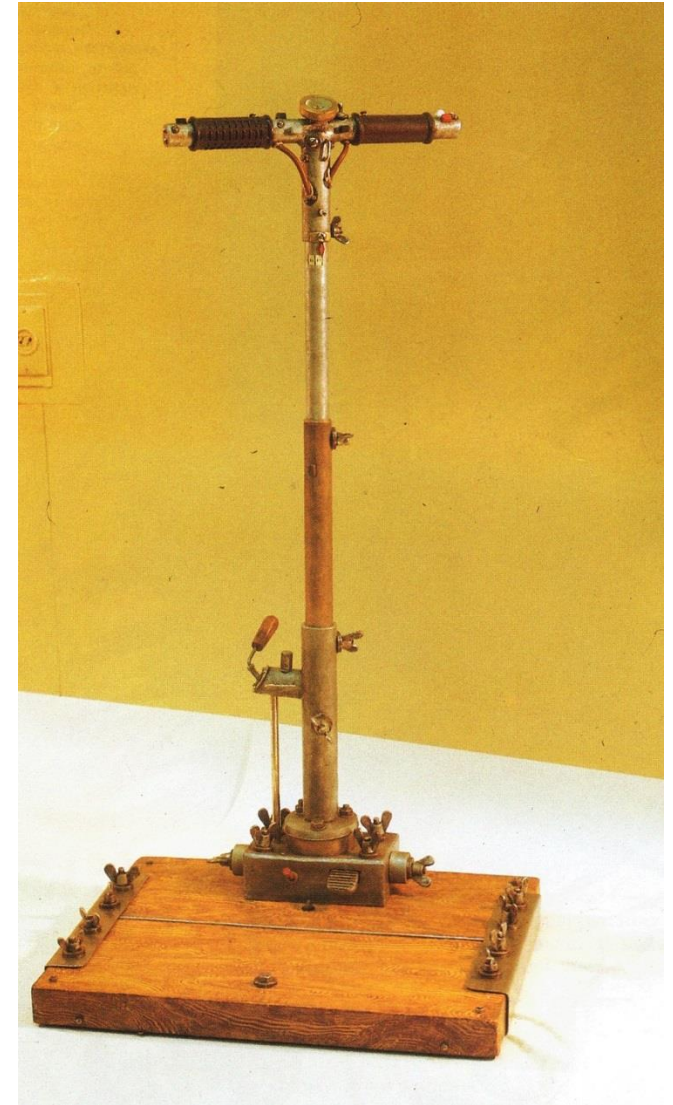
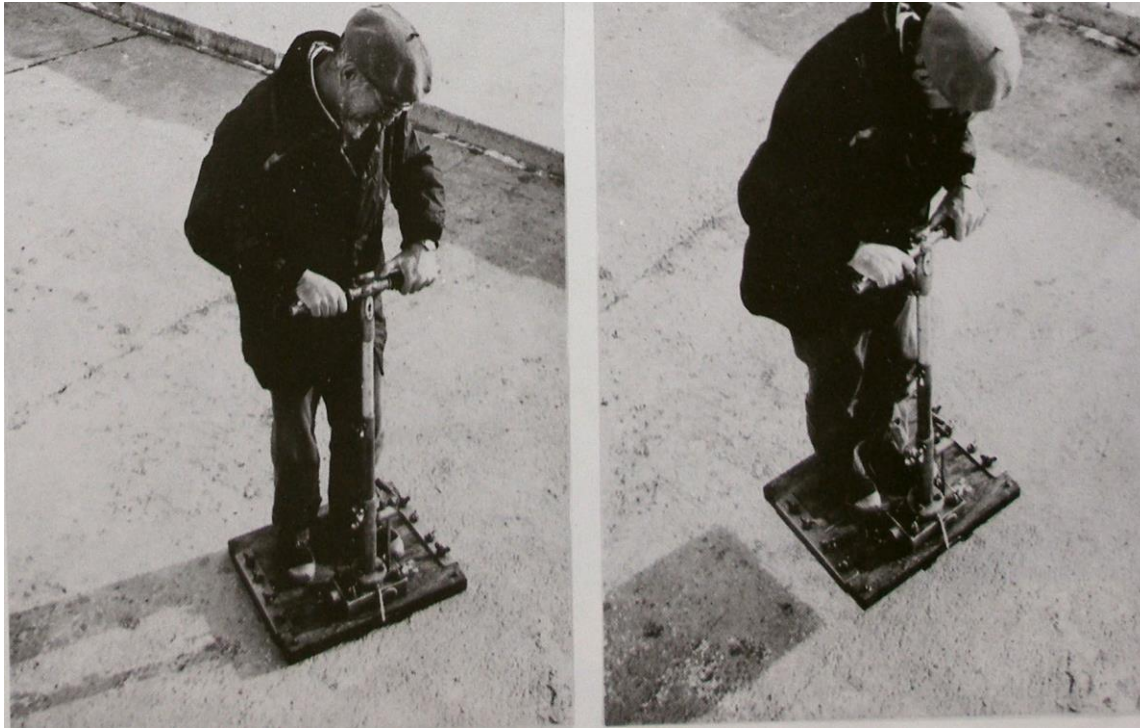
Searl magnet generator



searlsolution.com

ANTIGRAVITY PROPULSION (1980th, USSR)

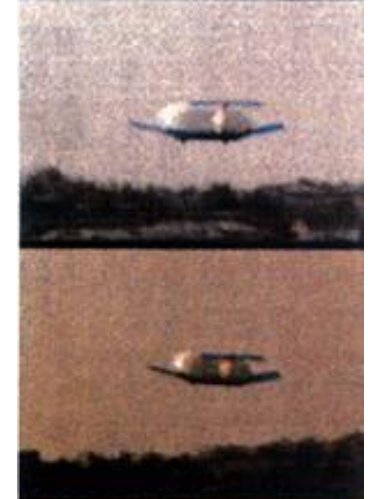
Grebennikov antigravity desk



matri-x.ru

ANTIGRAVITY PROPULSION (1990th, Russia)

EKIP



www.ekip-aviation-concern.com

RESPONSE FROM THE AEROSPACE COMMUNITY

Future propulsion



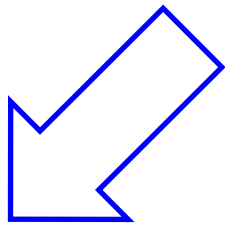
Existing propulsion

LEVITATION OF HEAVY NOT MAGNETIC OBJECTS (2010TH, Russia)

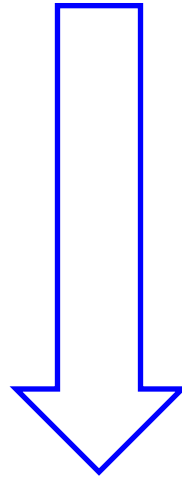


CLASSIFICATION

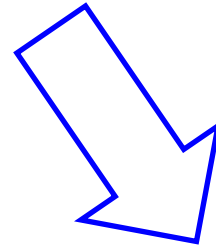
Antigravity devices (non-reactive basis)



Vortex type



High-rotation speed type



Other

ANTIGRAVITY IN PERIODICALS

LETTERS TO NATURE

The mass of spinning rotors: no dependence on speed or sense of rotation

T. J. Quinn & A. Picard

Bureau International des Poids et Mesures, F 92312 Sèvres Cedex,
France

ANOMALOUS mass reductions in spinning gyroscopes have been reported by Hayasaka and Takeuchi¹. For one sense of rotation about a vertical axis the mass of the gyroscope appeared to be a linear function of the speed of rotation (albeit with non-zero intercept); in the other direction it did not. In the absence of any theoretical explanation of such behaviour these results are very puzzling. Here we present the results of weighing a 330-g spinning rotor as it freely spins down from speeds of 8,000 r.p.m. We observe some changes in its apparent mass, which are a function of both speed and sense of rotation, but they amount to only $\sim 5\%$ of what would be required for consistency with ref. 1. If corrections are made for the effects of the friction couple slowing the rotor, and for changes in temperature, the observed effect is reduced by more than a factor of ten, and is no longer significant.

NATURE · VOL 343 · 22 FEBRUARY 1990

Acoustophoretic contactless transport and handling of matter in air

Daniele Foresti, Majid Nabavi, Mirko Klingauf, Aldo Ferrari, and Dimos Poulikakos¹

Department of Mechanical and Process Engineering, Laboratory of Thermodynamics in Emerging Technologies, Eidgenössische Technische Hochschule Zürich, CH-8092 Zurich, Switzerland

Edited by William R. Schowalter, Princeton University, Princeton, NJ, and approved June 8, 2013 (received for review January 30, 2013)

Levitation and controlled motion of matter in air have a wealth of potential applications ranging from materials processing to biochemistry and pharmaceuticals. We present a unique acoustophoretic concept for the contactless transport and handling of matter in air. Spatiotemporal modulation of the levitation acoustic field allows continuous planar transport and processing of multiple objects, from near-spherical (volume of 0.1–10 μL) to wire-like, without being limited by the acoustic wavelength. The independence of the handling principle from special material properties (magnetic, optical, or electrical) is illustrated with a wide palette of application experiments, such as contactless droplet coalescence and mixing, solid-liquid encapsulation, absorption, dissolution, and DNA transfection. More than a century after the pioneering work of Lord Rayleigh on acoustic radiation pressure, a path-breaking concept is proposed to harvest the significant benefits of acoustic levitation in air.

levitation potential [the sum of the acoustic potential (20) and the gravitational potential; *SI Text*, section 1]. This varies non-monotonically between the emitting surface and reflector. If it is strong enough to overcome the gravitational force, small amounts of matter can be levitated and trapped in its minima (nodes). An acoustic potential node can correspond to an acoustic pressure node or antinode, depending on the density and compressibility of the levitated sample (ρ_s and β_s) and of the surrounding medium [ρ_0 and β_0 (21)]. To this end, note that $\rho_s > \rho_0$ and $\beta_s < \beta_0$ in the overwhelming majority of envisioned applications in air (*SI Text*, section 1).

The acoustic levitation and handling concept is realized with the help of a discretized planar resonator platform and a single flat reflector placed at a uniform distance H . Each discrete resonator element is a specially designed and optimized Langevin piezoelectric transducer (LPT) excited by a single sinusoidal signal voltage of ultrasound frequency f (Fig. 1 and *Methods*). A

PNAS | July 30, 2013 | vol. 110 | no. 31 | 12549–12554

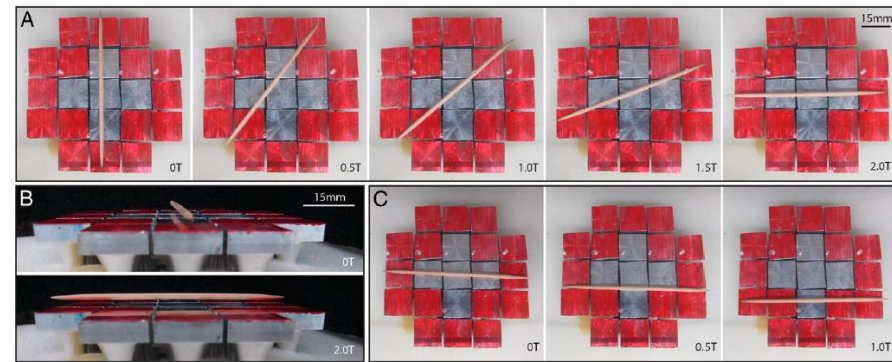


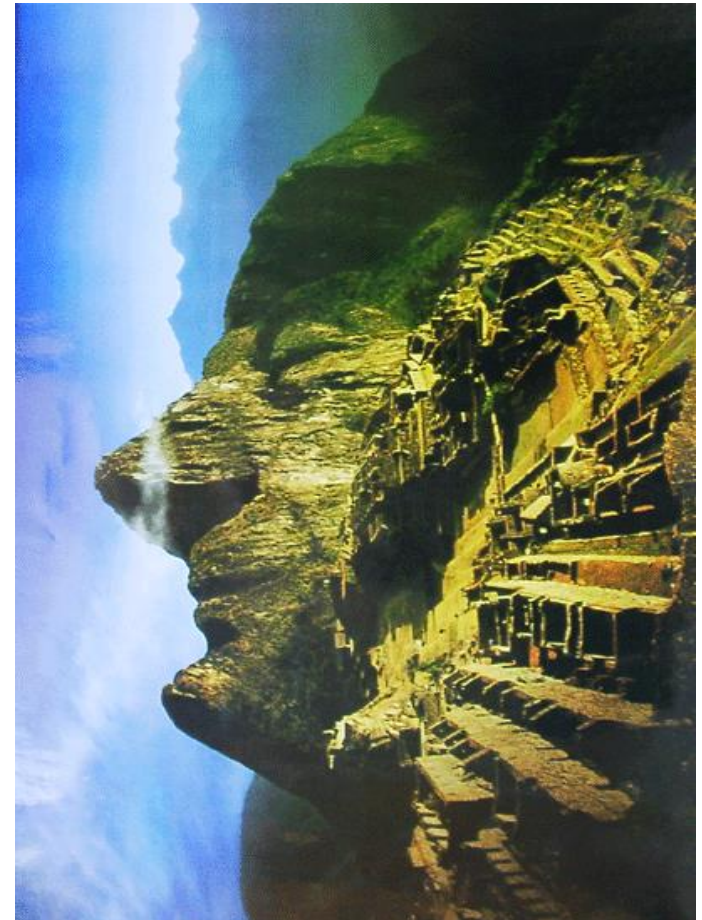
Fig. 4. Contactless transport of an elongated object (a toothpick with $L = 8 \text{ cm} \approx 6\lambda$, $H \approx \lambda$). Controlled rotation: top view (A) and side view (B). (C) Controlled translation: top view. In principle, there is no limit to the length of the object that can be handled.

RESUME

1. Modern reactive force propulsion system is the same as 5000 years ago.
2. The antigravity propulsion systems are common and used by Nature and UFOs.
3. Hopefully, modern civilization will substitute reactive force based rockets to antigravity ASAP and we can achieve the level of the previous Earth's civilizations.



Face of Machu Picchu (Peru)



THANKS FOR YOUR ATTENTION

