

COLLABORATION IN SOUTH-EAST EUROPE

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FOURTH SOUTH - EAST EUROPEAN SUMMER SCHOOL FOR
HANDS ON PRIMARY SCIENCE EDUCATION

PROCEEDINGS



VINČA Institute – aerial photo



VINČA
Institute



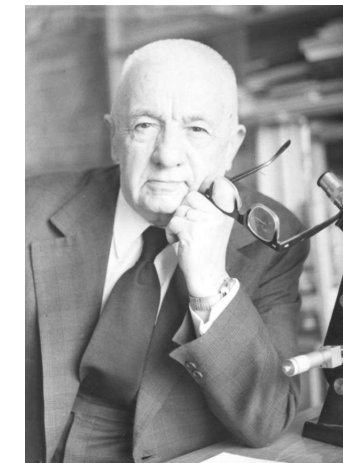
lap



Some pictures from Balkanian wokshops: 1. Visit to Tesla's museume;2. Sven-Olof Holmgren talk for TV Užice;3. In the touristic train Mokra Gora nier Kusturica's vilage;4. Visit to Primary school in Užice



SCIENTIFIC DISCOVERIES IN SOUTH-EAST EUROPE (M. Milankovic, F.Pregl, N. Paulescu, G.Nadjakov)



Georgi Nadjakov

Jane Rajkova, University of Plovdiv, Bulgaria



- Modern offices would never be what they are without the discovery made by the Bulgarian Georgi Nadjakov. Without it modern photocopying machines, television screens without vacuum tube, X-ray dosimeters and satellite photographs would not have come into existence.

Milutin Milanković

Aleksandar Petrović, University of Kragujevac, Serbia



- Serbian mathematician Milutin Milanković is considered to be the founder of the modern astronomical theory of climate change. In 1912, in an article "On the Mathematical Theory of Climate," Milanković introduced, for the first time, advanced mathematics into climatology. In this and subsequent publications, he demonstrated the interrelatedness of celestial mechanics and the earth sciences, thus inaugurating the transformation of climatology and related descriptive sciences into exact ones.

FRITZ PREGL

Dušan Krnel, University of
Ljubljana



Fritz Pregl received the Nobel Prize for chemistry price for chemistry in year 1923 because he had vitally improved earlier methods of quantitative organic microanalysis, thus making possible the study of substances which are available only in small quantities (3-5 mg). The same quantity

Adrian NECULAE

West University of Timisoara, Romania



Daedalus and Icarus (Greek)



Pushpaka Vimana of the Ramayana (Indian)

From the earliest days, humans have dreamed of flying and have attempted to achieve it. The dream of flight was inspired by the observation of the birds even from the early times and was illustrated in myths, fiction (fantasy, science fiction and comic book characters) and art. Greek, Roman or Indian mythology have examples of gods who were gifted with flight. Daedalus and Icarus flew through the air, and Icarus died when he flew too close to the sun.

Henri Marie Coanda



- Aerodynamic pioneer and builder of world's first jet powered aircraft, Coanda-1910

“These airplanes we have today are no more than a perfection of a child's toy made of paper. In my opinion, we should search for a completely different flying machine, based on other flying principles. I imagine a future aircraft, which will take off vertically, fly as usual, and land vertically. This flying machine should have no moving parts. This idea came from the huge power of cyclones.”

“I don't work for my glory, but for the glory of the human genius”

Romanian contributions in aeronautics

Traian Vuia (August 17, 1872 - September 3, 1950)



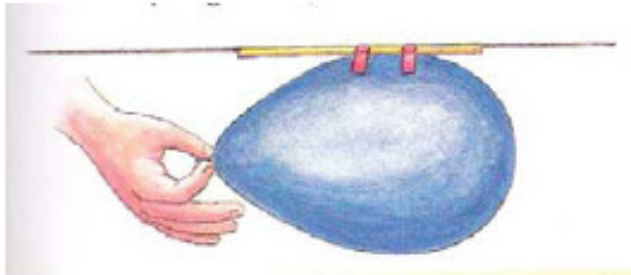
Traian Vuia was a Romanian inventor, who designed and built the first self-propelling heavier-than-air aircraft. This item is disputed, however, given that in the United States, the Wright brothers had already successfully flown the Wright Flyer on December 17, 1903.

Hermann Julius Oberth, Sibiu



Hermann Julius Oberth was along with the Russian Konstantin Tsiolkovsky and the American Robert Goddard, one of the founding fathers of rocketry and astronautics. The three were never active collaborators; instead, their parallel achievements occurred independently to each other.

The reaction balloon (the air propulsion)



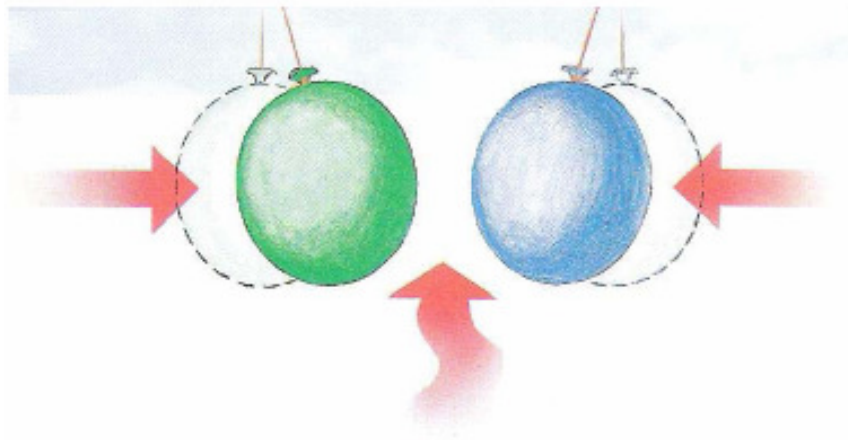
We need:

- a wire
- scotch tape
- a balloon
- a straw

The “magic” blow

We need:

- two balloons
- a wire
- a straw

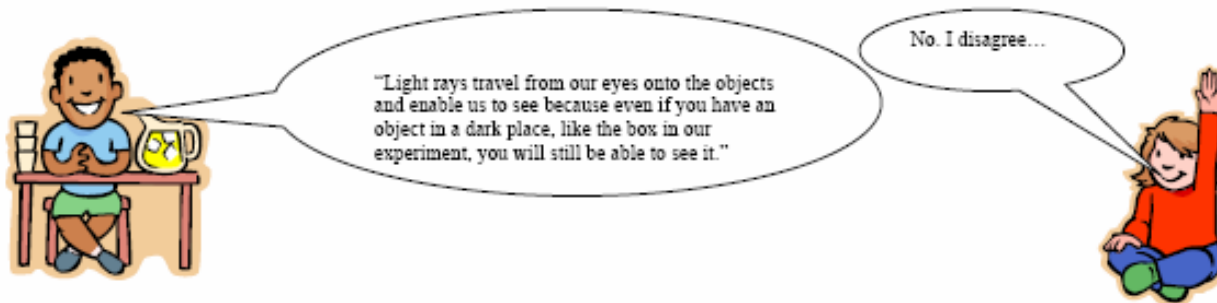


ARISTOTELES

Luci Avraamidou, University of Nicosia, Cyprus
Charalambos Shekeris, University of Bristol, UK

Question 2:

Andrew and Kelly are discussing some of the experiments in their science class.



Your task is to rank these 6 different challenges in terms of how strong you think they are, hence what you rank as 1 is what you believe that Kelly should say. Remember that you can only rank one challenge as 1, one challenge as 2, and so on.

Part 1

Your ranking

- | | | |
|-----|---|---|
| (a) | ...because the light does not travel from our eyes [counter-claim only] | 5 |
| (b) | ...light does not travel from our eyes. Our eyes absorb light that is reflected off objects. [rebuttals against thesis no grounds] | 4 |
| (c) | ...because your observation is wrong. When we were doing the experiment with the box we noticed that we could see the object in the box. We made a hole in the box and then we could see the object. This hole on the box was allowing the light could come in. [rebuttals against grounds no grounds] | 2 |
| (d) | ...because you can not see an object in a completely darkness. When we had the object in the box and we were trying to see it from the small hole that was not possible. When we made another hole and the light could come in the box then we could see it. So it is not the light that travels from our eyes but the other way around. [rebuttals against grounds with grounds] | 1 |
| (e) | ...the light does not travel from our eyes because if it did then we would be able to see all the objects. But when we had the object in the box and we were trying to see it from the small hole that was not possible because there was no light. [rebuttals against thesis with grounds] | 3 |

Feza Gürsey, Turkey

by Fatih TASAR, Gazi Universitesi, Ankara



- His scholarly works spanned a large spectrum from high energy physics to mathematical physics to statistical physics and his contributions opened new horizons in 20th century physics

WE MUST MAKE MORE BRIDGES IN THIS REGION

