

"ASTRONOMY. INSPIRATION. ART"

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Abstract. This paper speculates how poetry and other kind of arts are tightly related to astronomy. Hence the connection between art and natural sciences in general will be discussed in the frame of ongoing multidisciplinary project '**Astronomy. Inspiration. Art**' at Public Observatory in Belgrade (started in 2004). This project tends to inspire (better to say 'infect') artist with a cosmic themes and fantastic sceneries of the Universe.

At the very beginning of the project, Serbian poet and philosopher Laza Lazić (who published 49 books of poetry, stories and novels), as well as writer Gordana Maletić (with 25 published novels for children) were interested to work on The Inspiration by Astronomical Phenomena in Serbian Literature. Five young artists and scientists include their new ideas and new approach to multidisciplinary studies too (Srdjan Djukić, Nenad Jeremić, Olivera Obradović, Romana Vujasinović, Elena Dimoski).

Two books that will be presented in details in the frame of this Project, "**STARRY CITIES**"¹ and "**ASTROLIES**"², don't offer only interesting illustrations, images from the latest astronomical observations and currently accepted cosmological theories – those books induces, provoking curiosity in a specific and witty way, an adventure and challenge to explore and create.

1. "PRESENTATION OF THE PROJECT AT INSPIRATION BY ASTRONOMICAL PHENOMENA (INSAP) CONFERENCE V, CHICAGO 2005"²

"Serbian artists have even six excellent presentations here in Chicago" - with these words *The Chicago Tribune* introduced multidisciplinary work in Serbia, especially in Astronomical Society "Rudjer Bosković"³, Belgrade.

Six presentations at World Conference dealing with astronomy and art included four poster presentations and two oral talks. It is very important to say that Serbia took part in this kind of conference for the first time.

¹<http://zavod.co.yu>

²<http://www.adlerplanetarium.org/INSAPV>

³Ministry of Foreign Affairs of Serbia and Montenegro and Ministry for Diaspora - Republic of Serbia help in travel expences Belgrade - Chicago for the Project Leader, Mrs Stanić who presented her work and work of other five authors.

The first poster, "**Celestial tales**" is a poetic work by Laza Lazić, a book, a poem, or a series of poems with a subject: the expanse of stars, universe, celestial bodies, phenomena and processes in the universe - presenting the way they have been treated and perceived, seen and thought of in all epochs and cultures. In fact, these poems explain man's enthusiasm, joy and rapture brought about by the starry heavens. They express a sort of luminous and solemn exaltation by the phenomenon of infinity. Their lyric poetry speaks of the vast world of which we are part and parcel. At the same time, this book (forthcoming) is educational, edifying, pedagogical, but also entertaining - in a word, exciting work in terms of pure facts and the meaning of universe. "Celestial tales" is first and foremost intended for youth. Nevertheless it is not "children's literature" as one might think, but introduction to the astronomical phenomena and terms, and in the light of all this is a work for readers of all ages interested in THE UNIVERSE. It represents literary shaped personal, authentic, poetic view. As such, with help of its appeal and depth, it should influence aesthetically, edifyingly, ethically on readers attracted and excited by the universe. Its intention is to enchant the reader with its originality and breadth.

The second poster was "**The Secret of The Big Bear**", by Gordana Maletić. In this story we find little pyjamas bears astonished with discovery of existence of the Great Bear in the sky. They share this discovery with teddy bear and another little female toy bear. Meanwhile, a real bear appeared in the town. The teddy bear understood this fact as an opportunity to go after him, and tried to find out something more about this discovery, or a great secret, as they considered it. That is the way the adventure begins. With a help of a dog, teddy bear finds the animal and his master in a village, but their conversation doesn't help much. Therefore he goes to the zoo, as well, not becoming wiser. Finally, he is determined to find real bears in their home in woods, but even they didn't make him nearer to the solution of the problem. Of course, while traveling, he will find out many other things which will enrich his experience and finally, we find him coming home where he speaks to his friends about what he has seen.

Student of Literature, Olivera Obradović (third poster), tried to answer the difficult question - why "**Modern Serbian Literature Doesn't Look at Stars Any More?**" Launching the exploration of astronomic phenomena in modern Serbian prose of the late 20th and the early 21st century we expected to find a myriad of materials (literary and scientific) that, grouped in appropriate units and subjected to analysis and decoding of semiotics, would give adequate results. Figuratively speaking, we presumed to come across a long road through the tunnel and a light on its end. It turned out that the actual situation was much more complicated. General conclusion is colored with pessimism, the stars and the moon, and generally every story about the space and its secrets, vanished from the Serbian prose without a trace. And where they exist, they are mainly mentioned as figures of speech. Rare are the stories thoroughly dealing with astronomic topics. In future work we will try to puzzle out why this happened.

The fourth poster that was shown at INSAP V in Chicago, was "**Cosmic inspiration in Classical Serbian Literature in 19th and early 20th Century**" (Lazić, Maletić, Stanić). A modern review, an absorbing presentation of ideas about universe

and celestial maps - the kind of ideas three great Serbian poets had - could be of great artistic and scientific importance and extremely interesting. Serbian literature, especially its poetry, goes back to early Middle Ages, and has always been focused on spiritual aspects of the world and man. Astronomical knowledge, celestial fantasies, legends and myths of celestial bodies and phenomena contained in the works of Serbian writers are both philosophically and metaphysically impressive. **Petar Petrović Njegos (1813-1851)** in his poem "The Ray of the Microcosm" treats man as duplicate of space, pendant of the universe. In infinite spaces of human psyche there are a constant movement, conflict, and fire going on, and that generates the picture of stars being born and destroyed in light's eternal domination over darkness. Njegos thinks the same way Heraclites does, and besides their deep abstractness, his images of stars are adorned by original poetic inspiration. Especially interesting is the fact that his universal ideas that go back to 19th century don't contradict contemporary ones. Many concepts presented in poetry of **Laza Kostić** could have corresponding equivalents in modern cosmology, quantum physics, and the theory of relativity. Besides his belief that the stars are not the boundary of the universe Kostić also dared to paint out "*the temple beyond the stars*" with his verses. **Vladislav Petković DIS** represents unusual and unique voice in Serbian poetry at the beginning of the 20th century. His modern verses, dark moods, somewhat mystic subjects were not accepted at the time, but today are regarded as deeply thoughtful, and his messages as universal. Considering some of its elements, it can be compared with that of E.A. Poe's. If anyone in Serbian poetry cried for harmony, it was Vladislav Petković. His complete works are expression of that need. Actually, he kept searching for the harmony of light and darkness.

First oral Presentation, prepared by Srdjan Djukić and Nenad Jeremić (unfortunately given by Nataša Stanić) was "**Science Fiction in Serbia from 1873 until today**".

Book "**Starry Cities - galaxies and time travel**" - has been presented as oral presentation too, with related illustrations and artwork. In this book (Stanić 2004), the first book about galaxies written in the Serbian language for general public, the extragalactic worlds are introduced as starry cities. The story about galaxies includes some of the first ideas appeared about 'the island universes', evolution of some of the ideas, first discovered galaxy and The Hubble deep field galaxies, but also contains poems inspired by astronomical phenomena (at the beginning of each chapter), as a wonderful bridge between human mind and vastness of space. On the first page are verses of Edgar Allan Poe: "Here I opened wide the door - Darkness there and nothing more." The Universe as a whole and its evolution (as well as possibility of Multiverse existence) has been described in chapter 7. "Just Imagine you sink upwards, to the vast space abyss, among the crystals of light..." - wrote Serbian famous poet Antić. On the back it is written: Starry cities are sparkling soul of the Universe and contain all the visible matter that has been ever created. Every single page takes you to a journey through mutually inspired worlds of art and science, imagination and reality. You should not be just a reader, peaceful, intelligent and enthusiastic one, but a real 'starry detective' investigating a case of known and unknown and share it with somebody else. Does the sky ever end? Who knows? But do not miss a

chance to travel with this book through the dark night to the beginning (and the end) of the space-time. In order to enlighten the youngest generation of readers to get involved into the science, the chapter 8 introduces 14 smiling and young ‘real starry detectives’ who live and do their researches in Serbia at Astronomical Observatory, Astronomy Department at Faculty of Mathematics (University of Belgrade), Petnica Science Center and Public Observatory and Planetarium (Belgrade).

Illustrations and artwork: Aleksandra Jovanić (master of art and mathematician, University of Art, Belgrade), Marica Radojčić (professor of Programming and Mathematics at Faculty of Mathematics and professor of Digital Art at University of Art, Belgrade), Petar Kubičela (academic painter, telescope maker and high school professor of Drawing and Mathematics, Novi Sad), Jose Francisco Salgado (Astronomer, Adler Planetarium, Chicago) and Ivan Stanić (electrical engineer and photographer).

The last chapter (9) shows eight astonished artistic visions of ‘starry cities’ by three the most important artists who have given, together with the book designer Deniza Letić (master of art), an incredible energy and unique sign to this book: Aleksandra Jovanić, Marica Radojčić and Jose Francisco Salgado.

2. BOOK TO COMMUNICATE WITH THE PUBLIC - ”ASTROLIES”⁴

Misleading between astronomy and astrology should be the key point of popularization of astronomy in Serbia. Unfortunately, at the beginning of the 21st century general public is still confused with the terminology of astrology and astronomy, as well as methods of testing those disciplines. Misleading between astronomy and astrology has never been studied enough in details from the historical, scientific and psychological point of view at the same time (Stanić and Tadić 2005). In the era of very aggressive expansion of horoscopes and other kinds of superstition and quasi science in media, authors feel an obligation to explain the difference between rational and irrational conception of the world. Professor Milutin Tadić, Faculty of Geography, University of Belgrade, considered that most important task of popularization of science is not to concentrate on new astronomical theories and discoveries, but to pay attention on two basic problems: why so many people still read horoscopes every day and can we (scientists and science communicators) offer them something else to read instead? In the first chapter there is a table that directly compares astronomical and astrological interpretation of the five planets, the Sun and the Moon. An introduction to the celestial sphere, constellations and Zodiac are given too. Astrology appeared in the mythological epoch of the human history when it didn’t have to be approved in any way. But with the beginning of modern era in astronomy with Copernicus, Brae, Kepler and Galileo Galilee, science has given many essential explanations about the world we live in, convincingly enough, that nobody should believe in horoscope today. Important contribution to this book has been given by eminent professional astronomers who wrote their own opinions about astrology. Milan M. Ćirković (Research Professor, Astronomical Observatory Belgrade) compared **Alchemy and Astrology** in his first contributed paper, while the second one was

⁴<http://www.zavod.co.yu>



Figure 1: See the text.

titled by **Comets and Catastrophic theories**, Aleksandar Kubičela (Astrophysicist at Astronomical Observatory Belgrade) wrote about **Astrology as a matter of quackery and superstition**, Miodrag Dačić (Astronomer at Astronomical Observatory Belgrade) introduced an inverse problem - if astrology is serious science we should be able to read properties of stars just looking at people, and Jose Francisco Salgado (Astronomer at Adler Planetarium, Chicago) exposed **problem of constellations** as imaginative pictures on the sky without real physical meanings. Clear conclusion and suggestions are given at the end of the book: common people need much more news from latest astronomical events and astonish cosmic phenomena in media instead of 'mental drugs' as astrology and numerology are. Furthermore, common people need to experience modern planetarium technology that can present, in an extraordinary and unforgettable way, all achievements of telescopes (on the Earth and in orbit), space probes and scientific theories in so called '3D cinema'.

Illustrations and artwork: Aleksandra Jovanić (master of art and mathematician, University of Art, Belgrade), Petar Kubičela (academic painter, telescope maker and high school professor of Drawing and Mathematics, Novi Sad), Jose Francisco Salgado (Astronomer, Adler Planetarium, Chicago) and Ivan Stanić (electrical engineer and photographer). Designer: Gorana Raičević. Cover page artwork: Jose Francisco Salgado & Nataša Stanić.

3. FUTURE WORK ON THE PROJECT "ASTRONOMY. INSPIRATION. ART"

In the frame of Global Cornerstone Projects for International Year of Astronomy 2009 (IYA2009), future work will be based on cooperation between Public Observatory and Planetarium with other relevant artistic and educational institutions and societies in Serbia and abroad. One of ideas is to organize school sections, both in literary and painting, specially inspired by astronomical phenomena and cosmic themes. Those artworks from would be presented as part of the IYA2009 Global Cornerstone Project **The Universe - from The Earth** (www.astronomy2009.org/Serbia). Some of eminent Serbian artist will be included in this project too.

To give some suggestions, new ideas or enter the Project, please send your contact to stanic.natasa@gmail.com.

References

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