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## **“GODIŠNJAK NAŠEG NEBA” AS AN ASTRONOMICAL HERITAGE**

**Abstract:** The first volume of “Godišnjak našeg neba” for the year 1930, published in 1929, has been fully digitized. For the period between 1930 and 1962, we have identified and digitized the cover pages and pages with contents for all other volumes which exist as published issues, except for 1959, 1960 and the last one for 1963. These three volumes have been declared as manuscripts which were not published due to lack of finances.

**Key words:** digitization, astronomical heritage, “Godišnjak našeg neba”

Astronomical Observatory in Belgrade, founded in 1887, is the oldest scientific institute in Serbia. For more than 120 of existence, within various observational services, was gathered a great amount of observational data. Part of the material was published in various publications issued by Astronomical Observatory throughout all these years. One of these publications, “Godišnjak našeg neba” was issued during the 30 years with occasional interruptions, independently or in cooperation with Serbian Academy of Sciences. When we’re speaking of “Godišnjak našeg neba” generally, not referring to the specific issue, in the further text we’ll use the term “Godišnjak”.

Godišnjak is one of the oldest publications of Astronomical Observatory. The first volume of “Godišnjak našeg neba” [1] for the year 1930 was printed in 1929. Godišnjak was designed to resemble foreign journals of that time by contents and function: the French *Annuaire du Bureau des Longitudes*, Spanish *Anuario del observatorio astronomico de Madrid*, German *Himmels-Almanach* and *Astro-Kalender*, Polish *Rocznik Astronomiczny* *Observatorjum Krakowskiego*, English *The observers Handbook*, etc. published by the great European observatories. The task of Godišnjak is to provide the most significant information about astronomical phenomena for the current year which are of interest to the state and individuals, to contribute to educational process and to bring closer one of the oldest and most beautiful sciences – astronomy – to the wider audience, through popular articles on celestial bodies, systems and phenomena on the sky.

The initiative and the greatest part of the expert and organizational work in originating this publication gave Vojislav V. Mišković<sup>1</sup>, the Director of the Astronomical Observatory at

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<sup>1</sup> V.V. Mišković (January 18, 1892, Fužine – November 25, 1976. Belgrade) [2]. In October 1926 returns to Belgrade from Nice (France), where he worked as an astronomer at Belgrade observatory, to accept the position of the Director of Astronomical Observatory. He was elected associate professor of the University of Belgrade in

the time and the professor of Belgrade University. Mišković is not only the founder, but also the editor of all published volumes, except the one from 1951 when the editor was Božidar Popović. Godišnjak is published until 1962, with the break during the World War II (1942–1945) because Mišković, as the main responsible for the publishing of Godišnjak, refused cooperation with the occupational forces, and there were no conditions for publishing Godišnjak in the first years after the war (1946 and 1947). Godišnjak's for 1953, 1959, 1960 and 1963 were not printed, but they still exist as manuscript. Manuscripts for 1959 and 1960 are given to the archives of the Serbian Academy of Science and Arts as a legacy of Professor Mišković, where they are supposed to be up to this day, while the part of the contents of Godišnjak for 1963 was printed in journal "Glas SANU". Volumes of Godišnjak are numbered with roman numbers starting from I for 1930 till XII for 1941, then XIII for 1948 till XXVI for 1962. The publisher for volumes I to XVII is Astronomical Observatory of the University of Belgrade, for volume XVIII the publisher is Astronomical-Numerical Institute of Serbian Academy of Sciences, while the publisher for volumes XIX to XXVI is Astronomical-Numerical section of Mathematical Institute of Serbian Academy of Sciences.

The form of Godišnjak, starting from the front page till the last one together with contents, did not change much over the years. In the first issue of Godišnjak was published the geographical position of the Astronomical Observatory which was situated at that time in Belgrade between streets Miloša Pocerca and Vojvode Milenka which are now Pasterova and Tiršova. Already in the next issue, for 1931, a new geographical position was published for the new Observatory at Zvezdara, the building of which started at that time, and the coordinates for the old Observatory were published for the last time. In the issue for 1930 was published a short retrospective on origin of calendar and the role of astronomy in originating the calendar.

In every issue were published calendars for that year: Julian, Gregorian and church calendar, until 1941, and later on, only Julian and Gregorian calendar. In the extended version, monthly calendar tables contain mundane date in the new style, the name of the day of the week, church date in the new style, the name of the holiday in the Orthodox and Catholic Churches. Apart from that, the ordinal numbers of the days in the current year were given, days in the parts of the tropical year and the days of Julian period, as well as the length of the day in Belgrade, i.e. interval of time that lapsed between the sunrise to the sunset for Belgrade horizon for the mundane conditions.

In continuation of Godišnjak were given the basic data about the Sun, after which follow the solar and lunar tables. For every day in a month they contain the moments of sunrise, transit through the meridian of Belgrade, the moment of sunset, the length of semi-daily arc of sunrise and sunset, apparent right ascension and declination of the real Sun, sidereal time, duration of civil twilights and other data. Similar tables were given for the Moon as well. Basic astronomical data for the Moon precede those tables. In the last column of the right side of the table are given data in the shape of symbols about astronomical phenomena in the Solar System related to the 7 planets and lunar phases. In continuation follow monthly tables of the major planets. Data were given for every day in the month at midnight of universal time. For every planet the tables contain right ascension and declination, apparent radius, parallax, distance from Earth in astronomical units, longitude and latitude and distance

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the same year. In 1929 he becomes member in correspondence of the Serbian Academy of Sciences, and in 1935 he becomes a regular member. He was chosen a full professor of the Faculty of Philosophy of the University of Belgrade in 1939.

from the Sun. In the second part of tables are the times of rise, transit through Belgrade meridian and set in the Central European Time.

Except astronomical data, there are also geodetic data, like the length of the meridian arc and parallel and radius of the Earth ellipsoid in meters for various geographical latitudes. Data in the table titled “Geographic Coordinates” (“Geografske koordinate”, ser.), are taken from the Military Geographic Institute and they represent geographic latitude and longitude of the bigger towns in the Kingdom of Serbs, Croats and Slovenes (Yugoslavia) as well as of the greater European Observatories.

Since, among other things, *Godišnjak* had the purpose of popularization of astronomy as a science, in the first part were published expert and popular articles about the planets of the Solar System, comets, time, calendars, about stars and stellar systems and about Earth.

Second part of *Godišnjak* brings specialized articles and results of observations among which stands out the work of Milorad Terzić (“*Godišnjak našeg neba*” for 1930 [3]), brigade general and the chief of astronomical section of Military Geographic Institute. The article refers to determining absolute coordinates based on astronomical observation. The general theory of almucantarats was given in the article and its application in determining time and geographical latitude, and theory of determining azimuth and difference of geographic longitudes. In short was described the construction of chronometer, its keeping, collation and determining its quality. Entire presentation featured descriptions and examples of personal (practical) observations – said in the language of that time: perceptions. In appendix of *Godišnjak* were published his original observations that he performed during September 1927 on the territory of the town of Ramno. Except raw observational data, the entire process of their processing was given, with sketches, tables, formulae. Since Terzić’s task was determining geographical latitude and longitude, from his work one can see which methods were used for such calculations then.

As an appendix to the first issue, the stellar map of the northern sky was printed, with marked constellations and magnitudes of the stars of the northern sky. The map was done for the epoch B1900.0.

“*Godišnjak našeg neba*” is one of the first publications of this kind in the Serbian language that can be found in this part of the world and in the wider area of the Serbian language, which realizes the idea that astronomical information should be available to the wider audience.

## References

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КАО АСТРОНОМСКА БАШТИНА**

**Сажетак:** Извршена је дигитализација првог тома “Годишњака нашег неба за годину 1930”. За период 1930. до 1963. године идентификовали смо и дигитализовали насловне стране и садржаје за све остале годишњаке који су изашли из штампе. Годишњаци који постоје у рукопису су за 1959, 1960. и за 1963. годину. Они нису дигитализовани јер се до рукописа није могло доћи. Годишњаци за 1942. до 1947. нису прављени.

**Кључне речи:** дигитализација, астрономска баштина, “Годишњак нашег неба“.

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