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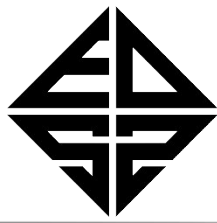


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SCIENTIFIC
AND PRACTICAL
CONFERENCE

NEW HORIZONS
IN SCIENTIFIC RESEARCH:
CHALLENGES
AND SOLUTIONS

NOVEMBER 3-5, 2025, MARSEILLE, FRANCE





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3. Ліхтей І.М. Сазавський монастир і доля слов'янської богослужби в Чеській державі Пршемисловичів (XI ст.). Наукові записки Богословсько-історичного науково-дослідного центру імені архімандрита Василя (Проніна). Вип. 4. Ужгород: Карпати, 2015. С.282–299. URL: <https://dspace.uzhnu.edu.ua/jspui/handle/lib/55129>
4. Мороз Я. Образ Св. Бориса і Гліба в українській середньовічній агіографії. Homo Creator et Receptor Artium. Ksiega pamiatkowa Ksiedzu Profesorowi Stanislawowi Kobilusowi ofiarowana. pod red. M. Wrzesnik, Warszawa 2010. S. 55–74. URL: <https://ucrainistica.blogspot.com/2019/08/yaryna-moroz-limmagine-di-san-boris-e.html>
5. Codex diplomaticus et epistolaris regni Bohemiae. Pragae: Sumptibus comitiorum Regni Bohemiae, MCMIV–MCMVII (1904–1907). Tomus I. Inde Ab A. DCCCCV (805). usque ad A. MCXCVII (1197) / Edidit Gustavus Friedrich. Num.81. P.87–89.
6. Mnich Sázawský. Fontes rerum Bohemicarum. Prameny dějin českých, vydávané z nadání Palackého. Praha: Nákladem musea Království Českého, 1874. Tom II. (Díl II). Fasc. 1. (Svazek 1). Cosmae chronicon Boemorum cum continuatoribus (Kosmův letopis Český s pokračovateli) / Vydavatel Josef Emler; překladatel Václav Tomek. P. 238–269.
7. Sommer P. Svatý Prokop. Z počátků českého státu a církve. Praha: Vyšehrad, 2007. 337 s.
8. Staroslověnské písemnictví na Velké Moravě a ve středověkých Čechách / František Čajka. Praha: Středisko společných činností AV ČR. 2017. 19 s.

REVOLUTION IN SPAIN (1820–1823)

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The first of the revolutions took place in 1820 in Spain. It was there that the restoration of absolutism and medieval feudal orders contradicted the needs of the country's capitalist development. The production and sale of wool involved an increasing number of landowners in trade operations. Some of the landowners were interested in bourgeois transformations. Although the development of trade and industry took place, it was hindered by the narrowness of the domestic market, caused

by the fact that feudal duties absorbed the profits of the peasants and the entire population suffered from severe tax oppression.

At the same time, the collapse of the Spanish colonial empire took place (the rise of the revolutionary-liberation war of the American colonies for independence deprived the Spanish bourgeoisie of colonial markets, its place in trade was occupied by the English bourgeoisie), which dealt a tangible blow to absolutism and played a significant role in the brewing of the revolutionary situation in Spain.

The support of the reaction was the royal court, large landowners, the church with the clergy, some officers and officials. However, absolutism did not have a reliable support in the army, which became the center of the patriotic liberation movement. Great dissatisfaction in the army was caused by the attempt of King Ferdinand VII to expel new expeditionary troops from Cadiz to suppress the revolution in the American colonies. A revolution began among these troops.

On January 1, 1820, Lieutenant Colonel Rafael de Riego and his battalion revolted near Cadiz and proclaimed the constitution of 1812. Colonel Quiroga's detachment joined him. They advanced to Andalusia, but the peasants, who were under the strong influence of the clergy, did not support them.

Revolutionary juntas were created in major cities. March 7 – uprising in Madrid. March 9 – the king had to agree to the restoration of the constitution and appointed a government of moderate liberals. They were the majority in the Cortes, whose meetings were held in July 1820. "Moderate" or "moderados" considered the Constitution of 1812 too radical and feared decisive revolutionary measures, relying on landlords and the big bourgeoisie. Representatives of the middle and petty bourgeoisie formed the political current "exaltados". They were led by Riego. A democratic current emerged from this current, the participants of which called themselves "comuneros" ("comuneros") after the defenders of the liberties of the Spanish troops (petty bourgeoisie, artisans). They were joined by Riego and San Miguel, who demanded that the revolution be brought to an end. However, they did not dare to declare themselves republicans, nor did they insist on an immediate solution to the agrarian issue by seizing landlord and church lands by peasants. The government of "moderates" and the Cortes wanted to slow down the development of the revolution. However, the main question of the abolition of feudal duties in favor of landowners and the church and the transfer of land to peasants remained unresolved.

In 1821, the extreme royalists formed the "Apostolic Junta", which created armed groups to defeat the revolutionary movement. The apostolic junta carried out a coup d'état, achieving the transfer of the throne to the younger brother of Ferdinand VII (who maneuvered and granted concessions to the revolutionaries) Don Carlos. However, within the country, the royalists failed to suppress the revolution. Municipalities did not obey.

In the new Cortes in 1822, the majority of seats were won by "exaltados", Riego headed the Cortes. However, this time too, the revolutionaries did not solve the agrarian

issue, limiting themselves to the law on the distribution of desert lands between soldiers, officers and the poor.

In the Spanish revolution, the agrarian issue was the main one. Although the masses of the people took part in it, they could not put forward their demands properly. The weakness and indecision of the bourgeoisie played an important role.

Unlike the French Revolution of the 18th century, this revolution was not bourgeois-democratic.

In 1820, a revolution also took place in Italy. After the suppression of the Italian revolutions, the Holy Union was preparing a counter-revolutionary intervention in Spain. In the fall of 1822, a new diplomatic congress met for this purpose in Verona (Verona Congress).

According to the decision of the congress, intervention in Spain was entrusted to France, since the geographical position of the country facilitated the invasion, and the French Bourbons were also interested in restoring absolutism in the neighboring country. The representative of France, Chateaubriand, advocated the rapid suppression of the Spanish revolution.

In April 1823, a 100,000-strong French army invaded Spain and passed through the country without encountering armed resistance. The constitutional troops were defeated in Spain, fighting courageously with the interventionists.

The Holy Union temporarily won victories over the revolutionary movement, but this victory was fragile. The revolutions of the 1920s in Europe did not pass without a trace: they contributed to the shaking of feudalism and absolutism and the victory of the national liberation war of the American colonies against the colonial oppression of Spain and Portugal.

References

1. Arturo Perez-Reverte History of Spain 2019. 107 p.
2. Geography and history of Spain : guide to country studies /Kyiv state. linguistic university; structure. A. O. Serebryanska. K. : [b.v], 1998. 269 p.
3. Charles J Esdale Spain in the Liberal Age: From Constitution to Civil War, 1808-1939. John Wiley and Sons Ltd 1999. 448 p.