

# ATLAS CARTOGRAPHY IN CROATIA

Željka Richter, Zagreb



Željka Richter  
The Miroslav Križža  
Lexicographical Institute Zagreb

**ABSTRACT.** *The position of Croatia at the contact of Mediterranean coast and Central and Southeast Europe aroused scientists and cartographers to investigate this region since the prehistoric times. As a result, many beautiful master-pieces in the fields of cartography have been done through the centuries. At the end of our century we have witnessed the disintegration of multinational states and the creation of a large number of smaller states, such as Croatia. All those changes contributed to the new geopolitical structure of Europe and to the fundamental alternation of the European map. For 45 years of so-called communist regime, Croatia was represented as a part of Yugoslavia, so the European knowledge about it has been very skimpy and partly inaccurate. This is an important reason to take a new, systematic, scientific and methodical approach based on the new concept and topics. In this paper the focus is on the new cartographic approach in the Cartographic Department of The Miroslav Križža Lexicographical Institute.*

## A SHORT INTRODUCTION IN THE CROATIAN CARTOGRAPHY

The position of Croatia in the Mediterranean and at the junction of Central and Southeast Europe makes Croatia important from the geotrafic aspect within the wider frame of European relations. As early as the antique period, this position at the intersection of several European cultural, religious, as well as political and geographical spheres aroused scientists and cartographers to investigate this region and illustrate their findings in cartographic drawings. In the 5th century B.C., Greek geographers, desiring to depict the appearance of ancient Hellas and their areas of interest such as Illyricum, made schematic sketches today considered to be the first geographic maps. These certainly were not maps that expressed merely the geographical knowledge of the time but resulted from what was then the philosophical understanding of the world. The greatest contribution to antique cartography was made by Claudius Ptolemy, known and significant to us for his "Fifth Map of Europe" depicting what was then Illyricum and Pannonia. This is considered to be the first known regional map of the Croatian territories with values for the geographical coordinates marked for no less than seventy-eight localities.

In the medieval period of cartography, the Arabs made their contribution to the knowledge of the Croatian regions. I shall mention Idrisi who in 1154 made a rough map of Croatia in which Croatia (Hrvatska) is mentioned by name.

Besides early Christian and monastic cartographic representations of continental regions, at the end of the Middle Ages there was a flowering of nautical charts- portolans and isolars showing the Adriatic coast and islands. These are the works of distinguished Italian cartographers of the 16th and 17th centuries (Vesconte, Benincasa, Roselli, Gastaldi and others) as well as lesser known cartographers of Croatian ancestry, such as the Istrians Petar Kopic (Pietro Coppo), Vicko Dimitrije Volčić, Natal Bonifacić and the Šibenik native Martin Rota Kolunić. In contrast to the coastal part of Croatia generally depicted by Italian and French cartographers, we encounter the hinterland of Croatia and Slavonia on maps made by Austrian and Hungarian cartographers (Lazius, Hirschvogel). These cartographic representations were in large atlas editions published by the famous Dutch cartographers Mercator, Ortelius, de Jode and Blaeu. Since at this time Croatia was an integral part of the Habsburg Empire, several Croatian masters made contributions to the development of cartography of the period. These were Ivan Klobučarić, who in addition to 500 topographic sketches of a large part of Austria and present-day Slovenia made a map of Dalmatia and Istria, and Stjepan Glavač, the author of the Map of Croatia and Slavonia (Karta Hrvatske i Slavonije) dated 1673. Glavač's map is exceptional in terms of its physico-geographic content that surpasses all the representations of the Croatian lands up to that time. It depicts exclusively Civil Croatia (Banska Hrvatska), without the parts under Turkish authority, the so-called Croatian Military Border.

Until the mid 17th century, Croatia was not uniformly represented cartographically. With the exception of the coastal region, Dalmatia and Civil Croatia, the other regions were completely unknown cartographically. Circumstances changed significantly after the Turkish siege of Vienna and the 1699 Peace of Karlovac, with the flowering of the so-called military cartography. The authors of these maps were the emperor's military engineers Stier, Müller, Marsigli and others. From this time come many maps from the border area with Austria and Turkey as well as topographic sketches showing the borders of Croatia south of the Sava River up to the Croatian-Venetian-Turkish border. One of the authors of these sketches was the Croat Pavao Ritter Vitezović.

In the 18th century, there was a sudden development in cartography as the result of numerous economic and cultural reforms and the appearance of topographic maps in the scale of 1:28 800. In the second half of the century, the first systematic topographic measurements of our regions were made. The cartographic presentations of Civil Croatia and Slavonia, the Croatian Military Border, Venetian Dalmatia and the Republic of Dubrovnik as well as topographic plans of the larger cities of Croatia and Slavonia (Zagreb, Varaždin, Bjelovar, Križevci etc.) were made.

Cartography of the 19th century in the Croatian region is characterized by numerous works by Croatian authors. Thus, in the middle of the century the first printed Zagreb editions of maps appeared with titles and place names in Croatian language. One of the more significant Illyrian geographers and cartographers of that time, Dragutin Seljan, published the first printed map in the Croatian language. All the geographic names were used as written and pronounced among the Croats. It is interesting that a map by Petar Kružić and Josip Pataš "Map of the Entire Ancient Kingdom of Croatia" (Zemljovid stare cjelokupne kraljevine Hrvatske) dated 1862 is written entirely in the Croatian language. It was followed by a number of maps of Croatian counties (županije), a total of six, by Ivan Steklasa. His maps were prepared and printed in Zagreb in 1888. In terms of the production and contents, we place them among the first physical regional maps. In the second half of the last century, the first atlases in the Croatian language began to be published in Zagreb. These atlases were primarily intended for school use. One of the first was Kozenn's "Geographical Atlas for Secondary Schools" (Geografski Atlas za srednje škole) published in 1899, with the edition prepared by A. Dobrilović. Until 1943, the editions of this atlas were intended for the use in secondary schools. The production of thematic maps was also present in the Croatian cartography of the 19th century. In addition to forestry, historical, postal, administrative and road maps, of particularly practical value were school, mining and geologic maps, as well as nautical charts of the Adriatic Sea. There is also the oldest map for school use in Croatia dating from this period, made by J. R. Kvaternik in 1838. The quality and the quantity are the distinguishing characteristics of the Croatian

cartography of the 19th century, so that maps from this period paved the way for the new geographic investigations in the coming period. Croatia no longer had to be discovered but the existing maps had to be updated.

### **CARTOGRAPHY OF THE 20TH CENTURY WITH PARTICULAR ATTENTION TO EDITIONS OF ATLASES**

The development of cartographic methods and printing and the introduction of GIS technology of mapmaking in the 1980's significantly contributed to the appearance, quality and content of maps and atlases.

Multiple measurements of the terrain resulted in a large number of cadastre plans prepared according to uniform regulations and methodology of cartographic representation. In 1920, the Military Geographic Institute of the Kingdom of Serbs, Croats and Slovenians was founded with the task of revising the topographic maps of the Viennese Military Geographic Institute for the territory of Slovenia, Croatia and Bosnia-Herzegovina and the publication of a uniform topographic map of Yugoslavia in the scale of 1:100 000 in 1934.

During the Second World War, German, Italian, British and Soviet editions of this same map were published. After the war, a new socialistic order was established. With the creation of the Socialist Federal Republic of Yugoslavia and the division of the country into six socialist republics and two autonomous provinces, the Military Geographic Institute with headquarters in Belgrade continued making new topographic maps for military purposes as well as, to some extent, for civilian use. These maps had scales of 1:25 000, 1:50 000, 1:100 000, 1:200 000, 1:300 000 and overview topographic map of 1:500 000. Croatia has separate topographic maps with scales of 1:20 000 and 1:50 000 for the territories of Zagreb, Rijeka and Pula.

In addition to topographic maps, constituting the basis for the preparation of other maps, in the cartographic fund of Yugoslavia there were also other types of general geographical, specialized and thematic maps as well as atlases that were prepared and published in the specialized cartographic institutions (The Miroslav Krleža Lexicographical Institute, Učila, Institute for Cartography at the Faculty of Geodesy in Zagreb, Hydrographic Institute in Split etc.).

Atlas cartography from the so-called communist period is characterized by a large number of atlases primarily intended for elementary and secondary schools, several different editions of a World Atlas (six editions of the World Atlas were published by the Lexicographical Institute in 162 000 copies) and Road Atlases by numerous publishers. Out of a more complex geographic-cartographic representation that characterized the past forty-five year period, in addition to the aforementioned World Atlas, I would single out the "Geographic Atlas of Yugoslavia" (Geografski Atlas Jugoslavije) published in 1962 and the "Large Geographic Atlas of Yugoslavia" (Veliki Geografski Atlas Jugoslavije) published a quarter of a century later. A map block was comprised of a topographic map with a scale of 1:500 000 of all the parts of Yugoslavia and thematic maps that represent various natural-geographic and socioeconomic characteristics of the area shown. The text improves the knowledge of the geographic characteristics of Yugoslavia, but also of the geographic regions, republics and provinces.

With the breakup of the multinational states in Central and Southeast Europe at the beginning of the 1990's, we have witnessed the creation of a large number of smaller states. One of the fifteen or so newly emerged states is the independent Republic of Croatia. The changes mentioned have contributed to a new geopolitical composition in Europe and fundamental revision of the European maps. During the forty-five years communist regime, Croatia was represented exclusively as a part of the former Yugoslavia. Therefore, it is understandable that European knowledge about Croatia is very meager and somewhat inaccurate. Since Croatia, in terms of its position as well as its cultural and historical heritage, is an inseparable part of Central Europe, a need has arisen for a systematic, conceptual and substantially new scientific-methodological presentation in which we shall cor-

rect inaccuracies and misconceptions about our country. One of the most suitable manners of presentation is certainly the one being of geographic and cartographic nature. In this paper, I shall concentrate exclusively on the new cartographic editions of "The Miroslav Krleža Lexicographical Institute". In the palette of the lexicographic and encyclopedic editions of this distinguished publisher in Croatia, an important place is occupied by the atlas editions and other cartographic publications. In addition to the existing cartographic material (six editions of a World Atlas, fourteen editions of a Road Atlas of Yugoslavia with a scale of 1:500 000, numerous cartographic works in encyclopedic editions), and in the light of new geopolitical changes, the Cartographic Department of the Lexicographical Institute has planned three atlas projects as a continuation of the atlas tradition, but also as a complex and substantial innovation.

## **NEW ATLASES OF THE MIROSLAV KRLEŽA LEXICOGRAPHICAL INSTITUTE**

### **A Concise Atlas of the Republic of Croatia (& of the Republic of Bosnia and Hercegovina)**

This atlas was completed and printed in English language in 1993. In terms of content and conception, it is intended for foreign readers, either for professional or personal purposes. Together with experts from the Lexicographical Institute, the project involved many eminent scientists from various fields. A rich palette of information referring to the general, geographic, demographic and economic significance of the Croatian territory and a complete chronology of the important historical events is supplemented by suitable thematic maps. Thematically, the atlas is divided into seven chapters. The largest part of the atlas consists of a map block with eleven two-page topographic maps with a scale of 1:500 000 and six maps of the macroregional centers of Croatia and the neighbouring independent Republic of Bosnia-Hercegovina with a scale of 1:200 000. The block of thematic maps is exclusively of the territory of Croatia, with the exception of individual themes (diaspora, history, dialects of the Croatian language), and is accompanied by suitable text. This is followed by a chapter with general data, history, state organization, statistics and a map index.

### **Auto-atlas Hrvatske (Road Atlas of Croatia)**

This atlas is a continuation of the tourist editions. Conceptually it is based on the previous Auto Atlas Jugoslavije (Road Atlas of Yugoslavia) with a scale 1:500 000. It is understandable that the existing maps have been revised to conform to the new geopolitical situation in our country. Briefly, the Auto-atlas Hrvatske consists of a map of Europe, legend, map of Croatia divided into several pages, twelve two-page topographic maps with a scale of 1:500 000 with roads (main, regional and local roads) and numerous entries on the distances between individual crossroads. This is followed by fourteen pages of plans of all the county seats and important tourist communities of Croatia as well as maps of Ljubljana and Sarajevo. The purpose of this atlas is to simplify travel and orientation through the individual parts of Croatia and to contribute to a better geographic knowledge of the areas shown. The atlas will be completed in mid 1995 and it is expected to be published in six languages (Croatian, Slovenian, Hungarian, German, English and Italian).

### **Atlas Europe**

This project was conceived in early 1993 as a link between the Institute traditions and an innovative atlas that is primarily specialized in a thematic direction. Briefly, it is planned as a very broad undertaking in the range of the natural scientific themes through demographic and economic to cultural-historical and military topics. Particular emphasis will be placed on the geopolitical content as a result of the numerous geopolitical changes on the European map. Conceptually, this atlas is conceived in three large, mutually different, but supplementary units (Appendix 1). These are a

macropaedical representation of Europe with a large number of thematic maps and photographs in colour; a map block; entries on countries in alphabetical order in which for each country there will be relevant data on the natural basis, population, history, state system, economy, military forces and geopolitics.

The first section of the atlas, the macropaedical presentation of Europe, consists of nine chapters divided into smaller subheadings and corresponding thematic maps, as the greatest innovations. In each chapter of this work the atlas will deal suitably with Croatian questions. In this manner, it will be possible to examine the role and position of Croatia within Europe from many aspects. A number of changes have resulted in the need for the graphic revision of part of the atlas, especially those in the European macropaedia. This work should differ to some extent from other atlases and encyclopedic editions of The Miroslav Krleža Lexicographical Institute that have retained strictly columnar organizational content. However, the section dealing with separate countries, on the contrary, will consist of the traditional multi-columnar page layout.

Undoubtedly Atlas Europe will be an original work among domestic books in terms of the contents. The atlas will provide its eventual users with a comprehensive picture of new Europe. Since a similar publication has not existed in Croatia, considerable interest can be anticipated. Additional editions are planned in order to incorporate all future changes, and the atlas will maintain its informative value for many years.

## REFERENCES

- Čanković, D., Lovrić, P. (1988): Geografski atlasi zagrebačkih izdavača, Povodom izdanja atlasa Jugoslavije, Geodetski list, 131-143.
- Klemenčić, M. (1933): O zamisli i sadržaju Atlasa (nove) Europe (About the conception and contents of the Atlas of the (new) Europe), Radovi Leksikografskog zavoda "M. Krleža" 3, pp. 15-22, Zagreb.
- Lovrić, P. (1988): Opća kartografija, Zagreb.
- Marković, M. (1975): Razvitak kartografskih upoznavanja današnjih Jugoslavenskih zemalja, Prvi dio. Zavod za kartografiju geodetskog fakulteta Sveučilišta u Zagrebu.
- Marković, M. (1993): Descriptio Croatiae, Naprijed, Zagreb.
- Novosel-Žic, P., Richter, Ž. (1988): Our cartographers of 16th and 17th centuries, 16th International Conference IMCoS "Five centuries of Croatian maps", Zagreb.

## APPENDIX I ATLAS EUROPE - CONTENTS

Europe	Map Block	Countries
1. Understanding Europe European thought and culture European territory	Overview map Maps Legend	General data Natural base Population
2. Natural base Geologic composition Relief Hydrography Climate Vegetation Natural conservation Ecologic problems	Index	History Social system Economy Military Geopolitics
3. Population Distribution and numerical trends Migrations National, linguistic and religious composition City and urbanization		
4. Economy Agriculture and agrarian regions Fishing and fisheries Mining and energetics Industry Commerce Tourism		
5. Traffic Roads Railroads Inland waterways Nautical traffic Air traffic		
6. Regions Regions and regionalism Types of organizations and integrations		
7. European organizations		
8. Political systems		
9. Geopolitics European political map Borders and territories Maritime policy Geostrategy The geography of power Geographic-traffic relations Border areas		