

BOOK REVIEW

MILJENKO DUMIĆ, KRUNOSLAV KOVAČEVIĆ

Ogledi o Vladimiru Prelogu

[*Homage to Vladimir Prelog*]

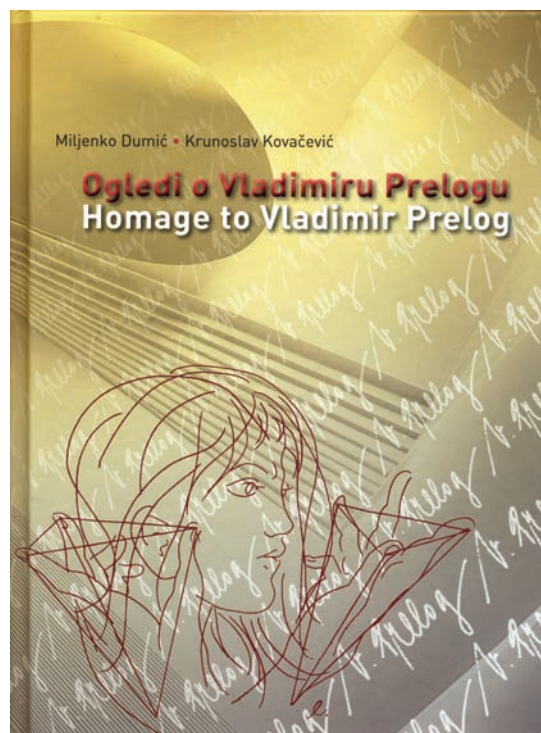
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Professor dr. sc. Miljenko Dumić and dr. sc. Krunoslav Kovačević prepared a wonderful memoir on the life and research of a Croatian Nobelist Vladimir Prelog (Sarajevo, 23 July 1906 – Zürich, 7 February 1998) with a collection of reprints of a number of articles published on Prelog from 1951 to 2008. Book is also supplied with many photographs of Prelog, his parents, his wife Kamila and son Jan, his teachers, his students and collaborators, his Croatian co-workers, etc.

Let me also mention that both authors spent some time in Zürich working with Prelog – Dumić was penultimate Prelog's Croatian co-worker and perhaps his best biographer since he became rather close to Prelog and his family.

The book is structured as follows: Acknowledgements (p. 6), Foreword (pp. 8–31), Homage to Vladimir Prelog (pp. 32–97), Afterword (pp. 98–111), Selected articles (pp. 113–596), Reviews (pp. 597–598), About authors (pp. 599–600), Author index of selected articles (p. 601) and Index of all articles (pp. 602–616). The DVD containing the whole book, the list of all articles and the corresponding texts is attached to the book and has 1529 pages. Sections Acknowledgements, Foreword, Homage to Vladimir Prelog, Afterword, Reviews and About authors are given bilingually in Croatian and English, whilst the section Selected articles in the language they originally appeared. Only in a few cases the English version of the article is given.

In Foreword, authors described how they produced this valuable book. They did not just present the documents they collected over the years, they also analysed the original documents according to their impor-



tance and contents, and also presented their opinion on the material they had in their hands. There is a vast number of sources in which one can find texts about Prelog. In order to keep the book within acceptable size, the authors selected material following several principles of selection, that is, they included all sources about Prelog's person and his research, but did not include the articles from encyclopaedias and lexicons; they arranged the material chronologically; in the case of large articles, the authors presented only relevant parts of the text, whilst the entire text is available on the attached DVD; they did not include newspaper articles and internet articles, except when these articles brought new insights and views regarding Prelog's life and work.

After this introductory words, the authors briefly presented in Foreword the main stages in the Prelog's life: Before 1941; After the World War II, until 1975;



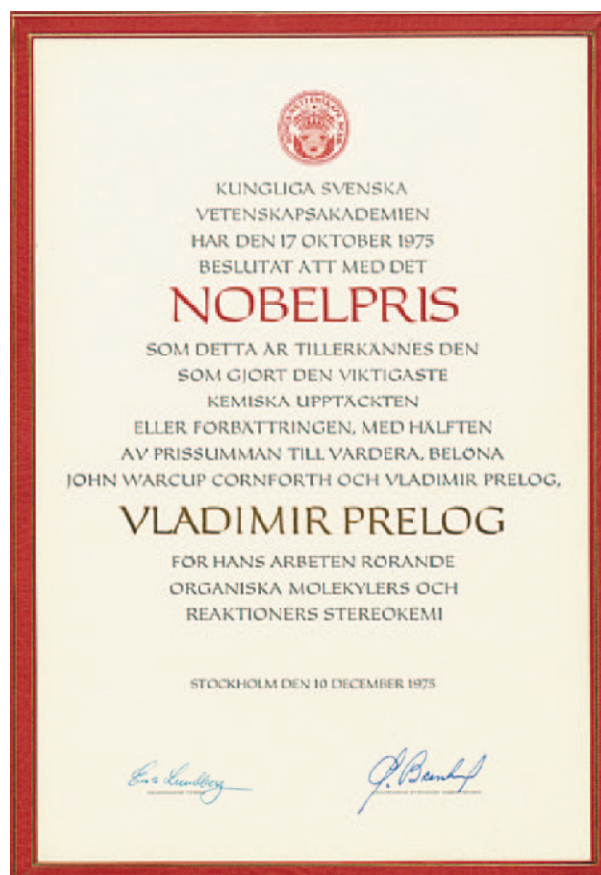
Vladimir Prelog in 1940.

After receiving the Nobel Prize in 1975; 1986 – Birth anniversary symposia in Rehovot, Zagreb and Zürich; Prelog's last visit to Zagreb in 1989; Year 1991 and later; Celebrating Prelog's 90th birthday in 1996; After Prelog's passing away in 1998 and References. Out of all this, I wish to point out here only two things. First is Prelog's role in year 1991, when Croatian people defended the homeland against the Serbian and Montenegrin aggression. 112 Nobel laureates from all over the world signed the famous "Appeal for Peace in Croatia". Prelog was among the first to sign to sign this document. Actually, he was the ninth signer in the Appeal for Peace in Croatia (see G. Pifat-Mrzljak, Editor, *Nobel Laureates for Peace in Croatia*, Zagreb, 1992; signatures are given on pages 15–24). The Appeal was also published in New York Times on January 14, 1992 (it is reprinted in this book, p. 173). Prelog was deeply distressed by the war suffering of Croatia and supported Croatian efforts for the independence. Second point is related to his nonagerian celebration. In 1996, Prelog was 90 years old. The journal *Croatica Chemica Acta* (CCA), published by Croatian Chemical Society, produced a special issue dedicated to Prelog that was called the *Surprise Festschrift* (CCA **69** (1996) I–X, 379–739). This issue of CCA was edited by Miljenko Dumić, Vitomir Šunjić and Nenad Trinajstić and it contained Greetings, Reminiscences and Research Papers. The contributions have been prepared by seven Nobel Lau-

reares and a number of Prelog's students, collaborators and friends. Miljenko Dumić delivered the *Surprise Festschrift* to Prelog in Zürich during the Prelog's birthday celebration, held on 29 July 1996 in his honour.

In *Homage to Vladimir Prelog*, the authors present Prelog not only as the world-class scientist but also as a person. They tell us rather tersely about Prelog's personality, his high position in the history of chemistry in the last century, his pioneering role in the development of pharmaceutical chemistry, stereochemistry, chemical topology, CIP rules. He got the Nobel Prize in Chemistry for his research on stereochemistry of large organic and biological molecules. He is the originator of the chirality concept in chemistry as described in his Nobel Lecture entitled *Chirality in Chemistry* (see the reprinted lecture by permission of the Nobel Foundation in CCA **79** (2006) XLIX–LVII). Earlier this article has been translated by Professor Krešimir Balenović and published in the issue of CCA dedicated to Prelog on occasion of his 70th birthday, see CCA 48 (1976) 195–206.

Prelog has been inspiring teacher and his influence on Croatian chemistry is felt even today, 70 years after he left Croatia and 12 years after he died. The authors described the *Prelog's School of Organic Chemistry* in Zagreb and listed 20 of Prelog's Zagreb students and



Diploma of Prelog's Nobel Prize.

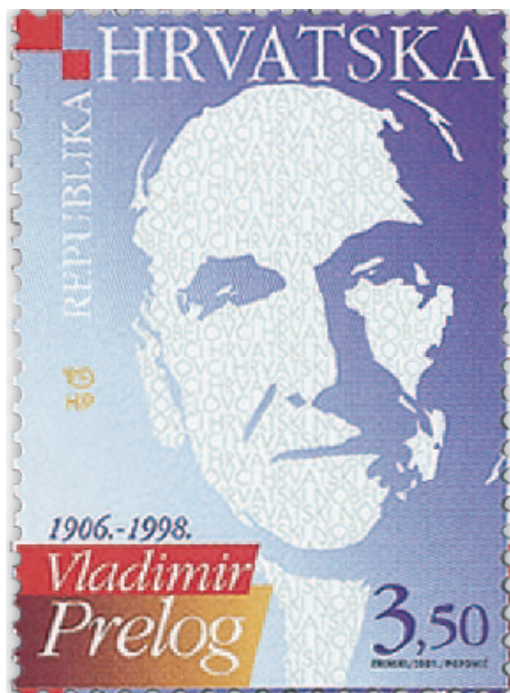
collaborators (p. 61). Most of them made names in chemistry. The authors also listed the names of 17 Prelog's students and collaborators from Croatia in Zürich (p. 61). From this list, we see that the first author, Mi-ljenko Dumić, was Prelog's postdoctoral student in the school years 1983–1985 and the second author, Krunoslav Kovačević, was Prelog's predoctoral student in the school year 1981–1982. The authors also briefly discussed Prelog's collaboration with pharmaceutical and chemical company "Kaštel" that later was renamed "Pliva" and his role in the early meetings of Croatian chemists. Besides getting the Nobel Prize in Chemistry, Prelog received a numerous awards and honors. Here we just mention *The Prelog Lecture* at ETH in Zürich which takes place every year since 1986. The laureates receive the *Prelog Gold Medal*, a work of artist Henri Jacot. They are all listed up to 2009 (pp. 38–39). On the occasion of Prelog's 90th birthday, PLIVA and Croatian Chemical Society established the yearly *Vladimir Prelog Award for Organic Chemistry* to be given to chemists not older than 35 years. A list of the laureates from 1996 to 2008 is also given (p. 73). It would be interesting to learn where these people are now, and what are doing?

Prelog became honourable citizen of Zagreb (in 1989), Sarajevo (in 1992) and Osijek (in 1994). Streets in Zagreb and Sarajevo are named after him and his bust is in the public garden in Osijek together with the busts of Josip Juraj Strossmayer and Leopold Ružička. Prelog also appeared on stamps of Croatia and Bosnia and Herzegovina, but not of Switzerland.

In Zagreb, there is *Vladimir Prelog Science School* since 2005. There is also established in 2004 Academic Choir "Vladimir Prelog". This choir started in 1991 as *Academic Choir Chemicae ingeniariae alumni* whose members were graduates of the chemical technology studies. Prelog was a fellow of the Croatian Cultural Society "Napredak". Since another Croatian Nobel, writer Ivo Andrić (who got the Nobel Prize for literature in 1961), was also fellow of "Napredak", in honour of Andrić and Prelog "Napredak" established the *Ivo Andrić and Vladimir Prelog Scholarship* for supporting education of youth. I wish also to mention the "Millennium Photo" of 289 Croatian chemists and chemical engineers (pp. 82–83) within Prelog's profile, taken by distinguish photographer Šime Strikoman (who lives in Vodice, a summer resort close to Šibenik). I missed this picture taking, since I had health problems. The authors also pointed out that Prelog was agnostic, but knew the bible well judging by the biblical quotes he often used. His feeling about religion are perhaps best explained in the letter he sent to American school girl who asked him about his religious beliefs where he stated that he is agnostic who dislike militant zealots of any kind.

In Afterword, the authors pointed that Prelog, the living history of chemistry, went quietly into the history of chemistry.

The main part of the book is a section entitled Selected articles (483 pages), where are collected selected writings on Prelog. Most articles appear in the language



Postage stamps of Croatia and Bosnia and Herzegovina with Prelog's portrait.

they were originally published, only few are translated in English. Thus, there are articles in Croatian, English, German, Czech, Spanish, Portuguese and French.

This section starts with a short article, entitled Vladimir Prelog (p. 114) which appeared in the *Journal of Chemical Education* (**28** (1951) 575) and has been written by Ralph E. Oesper from the University of Cincinnati (Ohio). It briefly describes Prelog's life, education and his achievements in organic chemistry up to 1951, when Prelog was only 45 years old. On DVD there are three documents of earlier date: one from 1940 and two from 1943.

Among the first articles about Prelog's life and work is my article entitled *Professor Vladimir Prelog, Co-winner of the Nobel Prize* that appeared in *Kemija u industriji* (Vol. **25** (1976) 295–298), see pp. 123–126. Why I wrote this article? When Prelog in 1975 shared (with John Warcup Cornforth) a Nobel Prize in Chemistry, I was expecting to see an article (or articles) on his life and work in Croatian science journals. Nothing appeared. Therefore, I decided to amend this situation by preparing such an article. This was also a starting point of my interest in the contemporary Croatian history of chemistry.

Important articles are by people who known well Prelog (e.g., articles by Dumić and Kovačević) as well as those who knew Ružička and Prelog. A good representative of later articles is the following written (in Croatian) by Rativoj Seiwerth (1916–2009) and entitled *Our Winners of the Nobel Prize for Chemistry – Leopold Ružička and Vladimir Prelog* (*Hrvatski znanstveni zbornik* **2** (1993) 107–123), see part of it on pages 177–186, the whole article is on DVD (see pages 324–340). Later Seiwerth produced another article, this time in English, see R. Seiwerth, Prelog's Zagreb School of Organic Chemistry, *Croat. Chem. Acta* **69** (1996) 379–397, see pp. 205–223. Seiwerth was student of Prelog and they together prepared *adamantane*, a tricyclic cage molecule $C_{10}H_{16}$, whose preparation in those days was regarded as a sensation. Amusing article is by the late Edgar Heilbronner, Catherine Maikoff and Foil A. Miller on famous chemists, among them Ružička and Prelog, and their works on stamps, see pp. 435–445.

The authors also reproduced my article entitled *Correspondence with Professor Vladimir Prelog* (*Kem. ind.* **48** (1999) 151–157), see pp. 362–368. In this article, I published only a part of my correspondence with Prelog, avoiding letters in which still alive people were mentioned. Important article on Prelog appeared in *Biographical Memoirs of Fellows of the Royal Society* (**46** (2000) 443–464), prepared by Dulio Arrigoni, Jack D. Dunitz and Albert Eschenmoser, former Prelog's colleagues from ETH. The article was entitled *Vladimir Prelog (23 July 1906 – 7 January 1998)* and was published in *Biographical Memoirs* because Prelog was

Foreign Member of the Royal Society since 1962. Here is reprinted on pages 370–389. Professor István Hargittai interviewed Prelog in March, 1995 and published this interview in 2000, see I. Hargittai, Vladimir Prelog, in: *Candid Science: Conversations with Famous Chemists*, Imperial College Press, London, 2000, pp. 138–147. This interview is reprinted in this book, see pp. 391–400.

As I already mentioned, valuable articles on Prelog are those by Dumić and Kovačević. Here I point some of their articles: M. Dumić, *Obituary - Vladimir Prelog (Sarajevo, July 23, 1906–Zürich, January 7, 1998)*, *CCA* **71** (1998) A1–A7, see in this book pp. 301–310; M. Dumić, *Vladimir Prelog – A Nobel Laureate and a Teacher of Generations of Croatian Organic Chemists*, in: *Distinguished Croatian Scientists in the World*, edited by J. Herak, Croatian-American Society, Zagreb, 2005, pp. 248–259, see in this book pp. 449–459; K. Kovačević, *In Memoriam – Prof. dr. Vladimir Prelog, Medicus* **7** (1998) 147–150, see in this book pp. 315–318; K. Kovačević, *Professor Vladimir Prelog, Mentor to Croatian Chemists*, *Chimia* **53** (1999) 134–137, see in this book pp. 356–359; K. Kovačević, *Nobelprize Winner Vladimir Prelog-Teacher of Croatian Chemists*, *Kem. ind.* **56** (2007) 109–113; reprinted in this book on pp. 533–537.

It is worth mentioning contribution by Professor Krešimir Jakopčić, *Vladimir Prelog and the Department of Organic Chemistry* (at the Department of Chemical Technology), *Kem. ind.* **56** (2007) 95–107, here is reprinted on pages 520–532. In this article is outlined the development of organic chemistry at the chemical-technology studies in Zagreb and the role of Prelog when he was teaching there in years 1934–1941. It is rather interesting article by science historian George B. Kauffman, *In Memoriam Vladimir Prelog (1906–1998): Some Personal Reminiscences*, *The Chemical Educator* **3** (2) (1998) 1–9, see in this book pp. 326–334. In this article, the author described how he met Prelog in 1963, Prelog's life and research and his Croatian origins. Near the end of this section there is an amusing cartoon *I want be as Prelog* by D. Macan, see pp. 538–544.

I cannot end this review without mentioning the superb job done Snježana Engelman Džafić who creatively designed this book and the LASERplus people for the attractive book's final layout. Book represents a really excellent workmanship.

Finally, I congratulate to authors Professor dr. sc. Miljenko Dumić and dr. sc. Krunoslav Kovačević for masterly preparing this important contribution to history of the chemical science in Croatia. I cannot imagine that there will be some Croatian chemists without possessing this book.

Nenad Trinajstić