

## SCIENCE AND POLITICS: A CASE STUDY OF THE CROATIAN CHEMICAL JOURNAL

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### Introduction

It is not unusual for a scientific journal to change its name. The *Journal of Inorganic and Nuclear Chemistry*, found in 1955, changed its title to *Polyhedron* in 1982, *Chemistry World* was first published in January 2004 to replace *Chemistry in Britain*, which ran from 1965, etc. However, it is very unusual that a chemical journal in less than three decades (1927-1955) has changed its name six times—nearly as many times as *Liebigs Annalen*, which was continuously published under seven titles, but in the period of 165 years (1832-1997). This journal is *Croatica Chemica Acta* (1-6), the leading chemical journal in Croatia.

### Croatian Journal with a Serbian title

The journal was first published in 1927 as *Arhiv za hemiju i farmaciju* (*Archives for Chemistry and Pharmacy*), as the supplement to the pharmaceutical journal *Farmaceutski vjesnik* (7). Its founder and the first editor was Vladimir Njegovan (1884-1971), the professor of inorganic and analytical chemistry at the Higher Technical School in Zagreb (founded in 1919). Croatian by birth, born and living in the capital of Croatia, Zagreb, Njegovan insisted on the Serbian language in his journal. Even the title of the journal was Serbian (*hemiju* instead of *kemiju*), and he wrote editorials in Serbian, not Croatian. However, papers were published in all three official languages of *Kraljevina Srba, Hrvata i Slovenaca* (the Kingdom of Serbs, Croats and Slovenes), founded imme-

diately after the “Great War“ (on December 1, 1918). The kingdom was ruled by the Serbian Karadorđević dynasty. On October 3, 1929, the new state changed its name to Yugoslavia, after King Aleksandar enforced his personal dictatorship. The new name implied that all the subjects of King Aleksandar belong to the same (Yugoslav) nation. Accordingly, the territory of Yugoslavia was divided into new administrative units (*banovina*) with virtually no reference to historical, i.e. national borders (8).

All the subjects of the Yugoslav king were “Yugoslavs,” but Croats and Serbs had quite different perceptions of their new state, and even more of the nature of Yugoslav nationality. A similar political constellation was also reflected in the foundation of *Jugoslavensko hemijsko društvo* (the Yugoslav Chemical Society) in Zagreb, the publisher of *Arhiv*, which despite its “Yugoslav“ name did not encompass all the chemists in Yugoslavia. The problem was that Serbian chemists already had their society, the Serbian Chemical Society (founded in 1897), which had changed its name on December 31, 1926, to *Hemisko društvo Kraljevine Jugoslavije* (Chemical Society of the Kingdom of Yugoslavia). Croatian chemists insisted on the fusion of the two “Yugoslav” chemical societies, but the Serbian chemists strongly opposed this (9), stating that “A Chemical Society has to be representative of all chemists in the state and accordingly has to have the name of the state, as was recommended by the Constitution and has to have its seat in the capital” (i.e. Belgrade). The problem had even been put to the IUPAC Commission, but nothing was solved (10).

The next editor-in-chief of the journal, elected in 1934, was Franjo Hanaman (1878-1941), professor of inorganic chemistry and technology at the Technical Faculty, known as the inventor of the commercially viable electric bulb with tungsten filament. In 1938 the journal changed its title to *Arhiv za hemiju i tehnologiju* (Archives for Chemistry and Technology), for an obvious reason—the journal hadn't yet published a single paper “from any specific pharmaceutical field” (11). However, nothing essentially was changed. *Arhiv* persisted to be the journal of a wide scope almost exclusively aimed at the members (less than 200) of the Yugoslav Chemical Society—it published mostly short extracts from foreign journals, professional papers and communications to its subscribers. Yet, in 1938 the suggestion that papers in “foreign languages” should also be published was accepted (12).

However, in the same year, 1938, the journal once more changed its title becoming *Arhiv za kemiju i tehnologiju*. The change of a single letter (*hemiju* into *kemiju*) reflected a great turn in Yugoslav internal politics. After the end of the dictatorship of King Aleksandar (who was assassinated in Marseilles, France, on October 9, 1934), an agreement between Croatian and Serbian politicians has been achieved, crowned by the establishment, in October 1939, of the new federal unit, *Banovina Hrvatska* (Figure 1) (13). These events enabled also the establishment of Croatian Chemical Society (*Hrvatsko kemijsko društvo*).



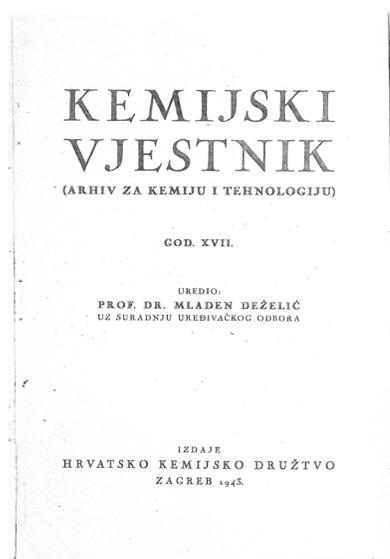
**Figure 1.** Croatia's borders in Banovina Hrvatska (1939-1941) closely corresponded to its borders in the Yugoslav republic (1945-1991), which are in turn identical to the borders of the Republic of Croatia (established in 1991).

## New State—New Title

On April 6, 1941, Germany and its allies attacked Yugoslavia, which formally capitulated on April 17, after only 11 days of fighting. However, on April 10 the puppet state *Nezavisna država hrvatska*—NDH (the Independent State of Croatia) was proclaimed (Figure 2) (14). These turbulent events also had repercussions on Croatian chemists. The Croatian Chemical Society changed its name to *Hrvatsko kemijsko društvo* and the journal's title to *Kemijski vjestnik* (Chemical Herald) (15). However, only one issue of *Kemijski vjestnik* was published (assigned as XV/XVI, 1941-42), with the help of the new editor Mladen Deželić (1900-1989), honorary professor of physical chemistry at the Philosophical Faculty in Zagreb (Figure 3). He replaced Stanko Miholić (1891-1960), obviously for political not professional reasons, because after the war Miholić continued to be the editor of *Arhiv* (1945-1953).



**Figure 2.** The Independent State of Croatia (*Nezavisna Država Hrvatska*—NDH) encompassed larger territory than any Croatian state; however it was a German/Italian protectorate during the WWII (1941-1945).



**Figure 3.** The journal name and its editor-in-chief lasted only one issue: the cover page of the Croatian chemical journal published during World War II.

Professor Deželić was a Croatian nationalist, who was not, because of his political views, permitted to do any responsible job in the Kingdom of Yugoslavia. However, the establishment of the NDH presented him with new opportunities. In 1942 he was quickly promoted to assistant professor and the first Head of the Department of Chemistry at the Zagreb Faculty of Pharmacy, founded the same year, and only after one year, in 1943, he advanced to the position of full professor at the same faculty. But at the end of the war, in 1945, he was expelled from the University and had to be satisfied with the job in controlling the quality of tobacco (16).

The same fate would have befallen Professor Hanaman, but in the NDH, if he had not already died. Namely, the last prewar issue of *Arhiv* was forbidden because of “too nice” an obituary to its late editor, whose “crime” was to be a Freemason. “If Professor Hanaman had been alive, he would surely be arrested, as happened to many of his colleagues at the University,” said Professor Miholić at the first postwar session of the Croatian Chemical Society (17).

### Croatian—but not too Croatian

The “new,” communist Yugoslavia, which emerged in 1945 on the territory of the Kingdom of Yugoslavia, had a peculiar politics toward Croatian nationalism, as well as to nationalism of all major nations in the Yugoslav federation. It was essential to stop both Croatian separat-

ist and Serbian unitary extremists, known—according to names of their movements in World War II—as *Ustashe* (Croats) and *Chetnicks* (Serbs). It was, therefore, even politically incorrect to use the adjective *hrvatski* (Croatian) if it was possible to use the genitive expression *Hrvatske* (of Croatia) instead.

This “in between” politics was reflected in the name of the professional association of Croatian chemists, *Hrvatsko kemijsko društvo* (not *društvo!*), HKD, and the name of their journal, *Arhiv za kemiju* (not *hemiju!*). Moreover, HKD was connected, as a member, to *Hrvatsko prirodoslovno društvo* (the Croatian Society for Natural Science), founded in 1885, and thus lost all formal ties with any possible “Yugoslav” chemical society (18).

After the war the journal restored its former name, but with deletion of *i tehnologiju* (and technology), obviously for pure professional reasons. However, about the next change of its title there was much ado.

The first glimpse came from the first editorial of the new editor. Božo Težak (1907-1980), professor of physical chemistry at the Zagreb Faculty of Science and the pioneer of information sciences in Croatia (19, 20), tried from the very beginning to promote the central Croatian chemical journal as an international periodical. It is noteworthy that he wrote his first editorial bilingually (Croatian and English) (1):

Today *ARHIV ZA KEMIJU* is almost exclusively a scientific periodical: as a rule, papers published in *ARHIV* are original contributions which have not been published elsewhere before. The papers are published either in Croatian with a summary in a foreign language, or in a foreign language with a summary in Croatian. Publication of scientific papers in Croatian (or any other of the Yugoslav languages) is allowed in order to develop our scientific terminology and to stimulate the work of our research schools.

And what about unitarity in chemistry? In this respect Professor Težak is clear (1):

Only under particularly favourable conditions where the views on science have become uniform, we may expect a superstructure such as *Acta Chemica Scandinavica*, published by the chemical societies of Scandinavia. We are endeavouring to achieve the same, though on a smaller scale, in our [federal] republic, by concentrating in *ARHIV* all scientific production in the field of chemistry.

The argument seems to be dubious. Why could Scandinavia, much more scientifically productive and far less politically coherent than Yugoslavia, have

its common chemical journal, and Yugoslavia couldn't? The problem was that the Serbian chemists had a similar journal, founded in 1930 as *Glasnik Hemiskog društva Kraljevine Jugoslavije* (Bulletin of the Chemical Society of the Kingdom of Yugoslavia; now *Journal of the Serbian Chemical Society*) and the chemists of both nations, Croatian and Serbian, were faced with a problem very similar to that of fusion of the two "Yugoslav" chemical societies.

The argument for the change of the name of the journal, presented at the Annual Plenary Meeting of the Croatian Chemical Society (February 16, 1955) was strictly technical (21). Professor Težak pointed out that the Swedish *Arkiv för Kemi* had nearly the same abbreviation, *Arkiv Kemi*, as the Croatian journal (*Arhiv Kem.*), and that might possibly make problems for the efforts to propagate the Croatian journal in foreign countries. He thus proposed the new title whose abbreviation cannot be confused with the abbreviation of any other journal: *Croatica Chemica Acta*—*Croat. Chem. Acta*. He also argued that other nations have journals with the similar names, e.g. *Helvetica Chimica Acta*.

"I want to say concerning this point that I recall the talk with Professor Težak, about a year ago, when we both were scandalized by the fact that we had changed the name of our journal five times," said Professor Hrvoje Iveković (1901-1991) at the meeting. "I think that 27 years in the life of a journal is quite enough time for its consolidation, at least concerning its name." Obviously, despite both professors being "scandalized," they took opposite positions. Professor Krešimir Balenović (1914-2003) contradicted Iveković: "Concerning the fact

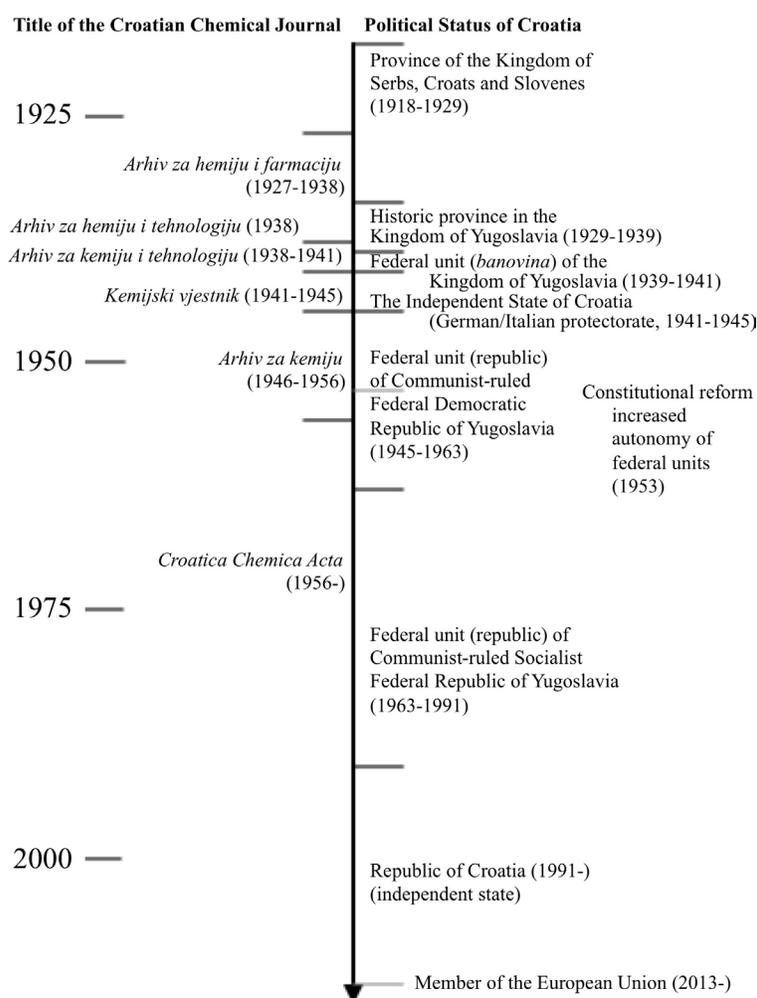


Figure 4. Timeline of the Croatian Chemical Journal.

that the journal has changed its title six times so far, I cannot see nothing tragic in it. In these 30 years the political system in Yugoslavia was changed, and many other things were changed, so it is not at all surprising that the names of our journal were also changed" (21).

But what about with the word *Croatica* (Croatian) in the proposed name of the journal? If the journal were proclaimed as Croatian, "it seems to me that it would discourage the people from Slovenia, Bosnia and Herzegovina, and other federal republics to publish in this journal," said Iveković, obviously the major opponent of the proposal. "This question has now political implications which—as

it seems to me—nobody expected," said Dina Keglević (1922-2012), asking "Comrade Rector," i.e., Professor Iveković, who was apparently a member of the Communist Party, if the name "*Croatica*" were legal at all. It is legal, of course, answered "Comrade Rector," but "I have only pointed to the possibility that some not fully informed members could be for the change of title *also because* [his emphasis], i.e., because of such a title." In short, the word *Croatica* is not illegal, but it might cause political problems (21).

After the poll, 60% of altogether 458 members of the Croatian Chemical Society agreed to change the name of the journal, to a name—as Professor Težak said in the first editorial of the new (old) journal—that suggests the articles would be published in world languages (because of the Latin title) and indicates the closer territorial and national relation (22).

So ended the saga of the name of the Croatian chemical journal showing that in the history of chemistry political factors could be sometimes more influential than the purely professional ones.

### References and Notes

1. B. Težak, "Dvadeset i peto godišće 'Arhiva za kemiju'" ("The Twenty Fifth Anniversary of 'Arhiv za kemiju'"), *Arhiv Kem.*, **1953**, 25, I-XI.
2. N. Trinajstić, "'Croatica Chemica Acta'—najjači hrvatski časopis u prirodnim znanostima" ("'Croatica Chemica Acta'—The Most Prominent Croatian Journal for Natural Sciences) in N. Trinajstić, *Ogledi o znanosti i znanstvenicima (Essays about Science and Scientists)*, Matica hrvatska, Zagreb, 1998, pp 125- 142.
3. M. Kaštelan-Macan, "75. obljetnica izlaza prvog broja časopisa *Arhiv za hemiju i farmaciju*" ("75th Anniversary of the Publishing of the First Issue of the Journal *Arhiv za hemiju i farmaciju*"), *Kem. Ind.*, **2002**, 51, 244-246.
4. Croatica Chemica Acta, <http://pubweb.carnet.hr/ccacaa/geni.html/> (accessed Aug. 6, 2015).
5. N. Trinajstić, S. Paušek-Baždar, N. Raos and D. Škare, "Hrvatska kemija u XX. stoljeću. IV. Hrvatski kemijski časopisi" ("Croatian Chemistry in the 20th century. IV. Croatian Chemical Journals"), *Kem. Ind.*, **2008**, 57, 465-479.
6. B. Lučić and N. Trinajstić, "Most Cited Papers in Croatica Chemica Acta," *Croat. Chem. Acta*, **2010**, 83, CCCVII-CCCXII.
7. However, *Arhiv* was not the first Croatian chemical journal. In 1921 Svetozar Varičak (1894-1932), assistant professor at the *Gospodarsko-šumarki fakultet* (Faculty for Agronomy and Forestry) in Zagreb founded *Udruženje jugoslavenskih kemičara* (the Society of Yugoslav Chemists), which published *Revue Chimique*. The journal lasted only one year; 16 issues were published with 200 pages in all. In 1925 Njegovan reformed the society as *Jugoslavensko kemijsko društvo* (K. Balenović, "Lavoslav Ružička: Stara domovina i kemija u Hrvatskoj 1918-1988" ("Lavoslav Ružička: His Home Country and Chemistry in Croatia 1918-1988"), *Rad Jugoslav. Akad. Znan. Umjet., Kem.*, **1989**, [443]7, 131-198; V. Njegovan, "Iz redakcije" ("From the Editorial Board"), *Arhiv Hem. Farm.*, **1927**, 1, 48).
8. I. Banac, *The National Question in Yugoslavia: Origin, History, Politics*, Ithaca, NY, 1984.
9. Proceedings of the Annual Plenary Meeting of the Yugoslav Chemical Society, *Arhiv Hem. Farm.*, **1930**, 4, 45-46; **1932**, 6, 148-150; **1933**, 6, 72-76; **1940**, 14, 204-208. Small differences between Croatian *kemijsko*, Serbian *hemisko*, and Njegovan's *hemijsko* ought to be noted. Apparently, Professor Njegovan didn't know Serbian properly, so his language was a strange mixture of both languages.
10. K. Balenović, *Op. cit.*, Ref. 7.
11. V. Njegovan, "Reč urednika (Editorial)," *Arhiv Hem. Farm.*, **1933**, 7, 1-2.
12. Proceedings of the Annual Plenary Meeting of the Yugoslav Chemical Society, *Arhiv Kem. Tehnol.*, **1939**, 13, 168.
13. J. B. Hoptner, *Yugoslavia in Crisis, 1934-1941*, Columbia University Press, New York, 1962.
14. J. Tomasevich, *War and Revolution in Yugoslavia, 1941-1945: Occupation and Collaboration*, Stanford University Press, Stanford, CA, 2001.
15. The new Croatian spelling must be noted (*društvo* instead of *društvo*, and *vjestnik* for *vjesnik*). Croatian orthography was, and still is, strictly phonetic. The new nationalistic regime introduced etymological orthography to make the Croatian language as different as possible from Serbian (in which phonetic orthography is also in use). The change of *Arhiv* into *Vjestnik* should also be attributed to the new linguistic politics which preferred genuine Croatian words.
16. N. Trinajstić, "Mladen Deželić—zaboravljeni hrvatski prirodoslovac" ("Mladen Deželić—A Forgotten Croatian Scientist"), in N. Trinajstić, *Op. cit.*, Ref. 2, pp 31-49.
17. Proceedings of the Annual Plenary Meeting of the Croatian Chemical Society, *Arhiv Kem.*, **1946**, 18, 123-126.
18. Proceedings of the Annual Plenary Meeting of the Croatian Chemical Society, *Arhiv Kem.*, **1947**, 19, 150-154.
19. Đ. Težak, *Profesor Božo Težak, lučonoša znanosti* (Professor Božo Težak, the Lighthouse of Science), Hrvatska sveučilišna naklada, Zagreb, 2007.
20. N. Trinajstić, "Božo Težak—čovjek za sva vremena" ("Božo Težak—A Man for all Seasons"), in N. Trinajstić, *Op. cit.*, Ref. 2, pp 51-80.
21. Proceedings of the Annual Plenary Meeting of the Croatian Chemical Society, *Arhiv Kem.*, **1955**, 27, A1-A30.
22. B. Težak, "Croatica Chemica Acta (On the Occasion of the Change in the Title of the Journal)," *Croat. Chem. Acta*, **1956**, 28, 3-4.

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