

# Translating Croatian into English: Working on Different Types of Texts

---

**Kršovnik, Jakov**

**Undergraduate thesis / Završni rad**

**2016**

*Degree Grantor / Ustanova koja je dodijelila akademski / stručni stupanj:* **University of Rijeka, Faculty of Humanities and Social Sciences / Sveučilište u Rijeci, Filozofski fakultet u Rijeci**

*Permanent link / Trajna poveznica:* <https://urn.nsk.hr/urn:nbn:hr:186:439379>

*Rights / Prava:* [In copyright](#)/[Zaštićeno autorskim pravom.](#)

*Download date / Datum preuzimanja:* **2024-12-12**



*Repository / Repozitorij:*

[Repository of the University of Rijeka, Faculty of Humanities and Social Sciences - FHSSRI Repository](#)



Jakov Kršovnik

**TRANSLATING CROATIAN INTO ENGLISH:  
WORKING ON DIFFERENT TYPES OF TEXTS**

Submitted in partial fulfilment of the requirements for the B.A. in English Language and  
Literature and Croatian Language and Literature at the University of Rijeka

**Supervisor:**

**dr. sc. Anita Memišević**

September, 2016

## **Abstract**

This thesis covers four English translations of Croatian source texts: The Return to Hannibal, Rijeka during the Napoleonic Wars from 1793 to 1813, It is all... Chemistry and The Regulation about the Publication of the Agreement... Each translated text is preceded by a short introduction, and after the text there are comments on the process of translation and the problems experienced during translation. The purpose of the thesis is to show how the translator has to adapt to different topics and functional styles of the source texts and to examine the problems that the translator experiences while translating. The thesis starts with a general introduction on different theories of translation, followed by the translations and comments. The final part of the thesis is reserved for the conclusion, appendices containing Croatian source texts and bibliography.

## Table of Contents

1. Introduction.....	1
2. Translations.....	5
2.1. Translation 1: The Return to Hannibal.....	5
2.1.1. About the text.....	5
2.1.2. Translation.....	6
2.1.3. Comments.....	17
2.2. Translation 2: Rijeka during the Napoleonic Wars from 1793 to 1813.....	21
2.2.1. About the text.....	21
2.2.2. Translation.....	22
2.2.3. Comments.....	28
2.3. Translation 3: It is all... Chemistry.....	31
2.3.1. About the text.....	31
2.3.2. Translation.....	32
2.3.3. Comments.....	39
2.4. Translation 4: The Regulation about the Publication of the Agreement.....	42
2.4.1. About the text.....	42
2.4.2. Translation.....	43
2.4.3. Comments.....	49
3. Conclusion.....	52
4. Appendices.....	53
4.1. Appendix 1: Povratak u Hannibal.....	53
4.2. Appendix 2: Rijeka za Napoleonovih ratova od 1793. do 1813.....	63
4.3. Appendix 3: Sve je to... Kemija.....	68

4.4. Appendix 4: Uredba o objavi sporazuma između Vlade Republike Hrvatske.....	74
5. Bibliography.....	80

## 1. Introduction

The term translation can refer to three different concepts: it can refer to the general subject field, to a text that has been translated or to the process (the act of producing translation, also known as translating (Munday 5). It is a form of human activity that is socially conditioned and directed towards the society (Ivir 15). I think it is safe to say that the world as we know it would be very different were it not for the translators and translation. The necessity to share knowledge between communities and cultures has always urged people to learn new languages. However, not everyone had the time (or capacity) to learn a foreign language, so the need for translators became apparent.

The first texts on the subject of translation can be dated back to the times of Cicero and Horace (first century BCE) and St. Jerome (fourth century CE) whose writings exerted an important influence on the theory of translation up until the twentieth century (Munday 7). The more important scholars who discussed translation theory after St. Jerome are the German priest Martin Luther, the French scholar Etienne Dolet, the English poet John Dryden and the German theologian Friedrich Schleiermacher. However, despite their efforts and works, the study of the field developed into an academic discipline only in the second half of the twentieth century (Munday7). The formation of a new academic discipline that dealt with translation initiated the need to adequately name the discipline. Eugene Nida, in his book *Toward a science of translating*, used the term “science of translating”, and simultaneously the German term “Uebersetzungswissenschaft” started to appear (Pavlović14). However, the term “science of translating” is out of use in contemporary English and the accepted term is “translation studies”, coined by James S. Holmes.

His paper “The Name and Nature of Translation Studies” is considered to be a crucial work in the development of translation studies as a distinct discipline. In it, he drew attention to the fact that translation research was dispersed across older disciplines and put forward an

overall framework describing what translation studies should cover (Munday 10). Therefore, he divided translation studies into “pure” and “applied”, where the objectives of the “pure” areas of research were the description of the phenomena of translation and the establishment of general principles that would explain and predict such phenomena (Munday11). The “applied” branch in his division included translation training, translation aids and translation criticism.

Holmes was not the only one to engage in the work on translation theory. The 1950s and 1960s are the decades when the translation theory was in the center of interest. The new translation theorists wrote about the issues of meaning and equivalence which were first discussed by Roman Jakobson in 1959. He suggested that interlingual translation involves ‘substitut[ing] messages in one language not for separate code-units but for entire messages in some other language’ (Munday 36). In other words, when there is no full correspondence between words, equivalence can be achieved by expressing the word with the appropriate concepts from the other language.

The second important literary theorist after Jakobson was Eugene Nida who put aside the debate of ‘literal vs. free’ and led the theory of translation into the modern era (Munday 53). He developed techniques to determine the referential, the meaning that focused on analysis of the word structure and to differentiate similar words in related lexical fields (the most prominent ones were hierarchical structuring and componential analysis) (Munday 38). His second significant influence was the emphasis on the importance of context when dealing with metaphorical meaning and complex cultural idioms (Munday 39).

The French Scholars Jean-Paul Vinay and Jean Darbelnet should also be mentioned. They identified two translation strategies- direct translation and oblique translation- that go back to the “literal vs. free” division and debate. They also described seven procedures for translation: borrowing, calque and literal translation that belong to direct translation; and

transposition, modulation, equivalence and adaptation that belong to oblique translation (Munday 56-58). Their classical taxonomy continues to exert influence even today and was useful because it established a wide range of different translation techniques (Munday 69).

In the 1970s and 1980s new functional theories of translation appeared in Germany and moved away from static linguistic classifications. One of the scientists working in this vein, Katharina Reiss, views the text, not the word or sentence, as the level at which communication is achieved and at which equivalence must be sought (Munday 73). She outlined three text types on the basis of Karl Bühler's categorization of language. The first one is the informative text type where the content is the main focus of communication, the second text type is the expressive in which the author uses the aesthetic dimension of language and the third type is the operative, where the aim is to appeal to or persuade the reader to act in a certain way. The fourth category includes audiomedial texts, such as films, which supplement the other three functions with auditory and visual information (Munday 73).

In the 1990s discourse analysis, based on Halliday's systematic functional model, started to appear as an important factor in translation studies. Authors like Juliane House, Mona Baker and Hatim Basil and Ian Mason found their translation theories on discourse and register analysis. Hatim and Mason move beyond House's register analysis and observe in what way the social and power relations are communicated in translation, which is later further developed in the culturally oriented translation theories (Munday 106).

It is obvious that translation studies are a discipline that has experienced substantial growth over the last thirty years. The large number of different translation theories has both facilitated and complicated the work of contemporary translators. A translator can be potentially overwhelmed with the flood of upcoming theories, but he has the freedom to



choose a theory, or parts of more theories, that he deems the most appropriate for his vision of translation.

In my opinion, the translator does not have to be thoroughly acquainted with translation studies; he must be a competent speaker of the source and the target language and then the translation theory can be an upgrade to a strong foundation.

After a short preview of translation theories the thesis continues with the translations of the selected texts: *The Return to Hannibal, Rijeka during the Napoleonic Wars from 1793 to 1813*, *It is all...*, *Chemistry and The Regulation about the Publication of the Agreement*.

## **2. Translations**

### **2.1. Translation 1: The Return to Hannibal**

#### **2.1.1 About the text**

The Return to Hannibal (“Povratak u Hannibal”) is a short story written by Pavao Pavličić, a contemporary Croatian writer known for his post-modernist fiction (“Koraljna vrata”, “Večernji akt” and “Škola pisanja” among others) and his detective novels with Ivo Remetin, a newspaper editor, who helps the police with crime-solving. Pavličić is also a prominent philologist and literary theoretician; he publishes books about Croatian baroque literature, mannerism, modern allegory and other topics. The Return to Hannibal is written in the first person and it can be described as a post-modern story exploring the possibilities of existence and reality. It was first published in the Croatian magazine for literature “Forum” in 1989 and was also included in “Antologija hrvatske kratke priče” edited by Miroslav Šicel, published in 2001.

### 2.1.2. Translation

When I saw between the houses, the river of gray and green, and the orange autumn forest on the other side, blood ran to my head. For, suddenly I felt as if I had spent my whole life here, while at the same time I felt like I was entering my own dream.

I knew very well that I was standing in Hannibal, Missouri, and that what I saw before me was the famous Mississippi river, but, at the same time, it all looked so similar to my hometown Vukovar, that I couldn't escape the impression that it was the Danube that lay before me and that I had returned to the places of my childhood. The color of the water was the same, the color of the forest was the same, and everything in the city was the same: the streets that gently slope down towards the river, the scent of the water, the mud in the shallows and the willow branches. Moreover: opposite the city was an island, called Jackson's Island, in Vukovar simply the Island, and behind it was- both here and there- another, bigger river island that stretched for miles downstream. Everything was A-Okay. And when we went on board and sailed a bit upstream and downstream, the sight of the city, wedged between two hills, was also the same. Even Vuka<sup>1</sup> was here, except that here it was named different and was considered a channel. I remembered then all the things I wrote in my book about the Danube, in which I tried to write about everything that I knew about the most important river in my life, and then it suddenly seemed to me that everything written in there could also be said about Mississippi, here, in Hannibal.

And that kind of seemed the most important to me, and hence I felt as if I were entering my own dream. For in that book of mine, naturally, the Danube was not exactly the real Danube, but something more of a personal dream of the Danube, the image that my love managed to paint. And now I realized that, by dreaming about the Danube, I also dreamed about the Mississippi, the vast and famous river that I hadn't seen ever before. That was what

---

<sup>1</sup> A river in Vukovar

confused me the most, for it looked like one of my literary fictions was turning into reality right in front of my eyes.

For, I have always fantasized that somewhere another city which looks exactly the same as Vukovar exists. This idea had probably occurred to me in my childhood, when I was deeply immersed in books and when I had to place their plot somewhere; and since I wasn't familiar with anything besides Vukovar, I had set the scenes from the books on the banks of Danube. So it probably seemed to me that I understood *Tom Sawyer* better than my peers from other towns. And so I, probably, thought that if the plot of some books fitted so well to the landscapes of Vukovar, somewhere out there must also exist a town that looks like my hometown's twin brother.

Later I tried to expand on that idea, the last time in the summer of 1987, only two months before I, as a member of the International Writing Program of Iowa City, went on an excursion to Hannibal, Missouri. And, of course, as I was walking down the streets of Hannibal on that cloudy October day, I couldn't help but see some sort of a sign in all of that. For, in the text I was writing that summer, there was an episode about a woman who comes to Vukovar from Slovakia, from a city lying on the Danube, and immediately recognizes everything in Vukovar: everything is exactly the same as in her hometown, but it is upside down like in a mirror. In Vukovar, the woman meets the same people from her hometown, only in different roles: the one who she knew as the mayor of her little town is a local drunkard, the one who she knew as a priest is the first cafe violin in Vukovar, the woman whom she knew as a club hostess is a churchgoer in Vukovar. She discovers that she even had a step-sister in Vukovar but finds out that her sister has left for that little town of hers in Slovakia. So she stays in Vukovar and her sister also never comes back home.

Of course, all of that was just a literary construct, but on that October day I felt as if I had entered that construct. It was the classic story about an artist (leaving aside whether I am

an artist or not) who falls victim to his fiction and to his overconfidence in it. And my fiction was, at least to me, at least on that day- very compelling. For, not everything had rested on mere impressions, some things that encouraged the fiction started happening to me and confused me more and more, me as a real, living person who is – mainly because of the ability to create fiction- capable of discerning fiction from reality. Somehow it wasn't easy for me to draw a line anymore, and I walked through the streets of Hannibal as if I was walking through the lines of my book.

It started when I met a man who was carrying a fishing kit. He wore green boots up to his hips, a waterproof wind-jacket and a green hat with an orange feather on top. He was carrying three fishing rods in his hands and a short bent pipe with a shiny perforated lid was protruding from his mouth. He was walking slowly, swaying the rods in his right hand and holding the left hand in the pocket of his wind-jacket. At that moment I caught myself thinking that the man had stopped telling jokes when he had retired (after working for forty years as a vet) and it used to be his main delight back in the day. He might have stopped telling jokes because his two best friends, with whom he was always laughing out loud in the streets, the restaurant owner and the river captain, died recently. Suddenly, I knew that that man's name was Thomas White, that he had four children, and I also knew that he was missing a pinky on his left hand because some dangerous stud had bitten it off.

Of course, while I was following the man down the street I was telling myself to calm down and that it would be better if my fancy worked at my writing desk rather than on my field-trips. But then some elderly gentleman stepped out of the barber shop on the corner and addressed the fellow with the rods: -Hi, Tom, how're you doing?

Alright, that also could have been pure chance. I was standing in front of the souvenir-shop's store-window until they finished talking and parted ways. I decided to follow this Tom fellow because I somehow knew that he lived nearby.

And indeed, he did. He went about fifty yards further, turned the corner and entered a courtyard in front of a white wooden house with a porch swing. When he disappeared in the house I continued my walk down the road, but then I saw the name on the mailbox: WHITE.

Ok, this sort of thing can happen and I was ready to write it all off as a series of coincidences. It is usually said that once is an accident, twice is a coincidence, thrice a rule. Ok, I thought that his name was Tom and it was: an accident. I thought that his last name was White and it was: a coincidence. But now, after this discovery it suddenly seemed to me that I also knew where Mark Twain's house was located and furthermore that I even knew what it looked like.

When we had disembarked, other writers, members of the group, ventured towards the city, and I stayed a bit longer watching the river, the forest, the sight of the town from the shore, and so, when I looked back, I realized that I was alone. Afterwards I went on to follow that Tom White fellow and now, in all likelihood, I was somewhere far away from the others. But at the same time I knew that all I had to do was go past two blocks of buildings, turn left and then right and then I would arrive at Mark Twain's house. And not only that, but by then I also knew in what way and when the famous fence which Tom Sawyer had to paint, from which he profited so well, is usually whitewashed. And, of course, after going two blocks right and one left I set my eyes on it: it was exactly how I imagined it, or more precisely, how I knew it had to be.

I was standing at the corner, watching Twain's house from afar and I didn't know what I was supposed to think. And I didn't have the time, because suddenly a sort of a recollection started emerging and I let it flow, observing it with the interest of a man who stops in front of a shop-window with a TV in it, and stares at the image but doesn't hear the tone, and so tries to guess what is exactly on and what its relation to himself is. He stands there and gazes on, instead of going his own way.

The recollection was very unusual and atypical of the way I usually recollect. I recollected, actually, how my daughter, when she first came to Twain's house exclaimed that she would like to try and climb down the drain pipe like Tom Sawyer used to do and how later my wife and my aunt retold the story to everyone in the family.

I, of course, don't have a daughter, but a son, who prefers theory and does not climb down the drain-pipes; my wife doesn't have dark hair, but has blonde hair and blue eyes, and I don't have a skinny and tall aunt with deep voice, like the aunt in my recollection. But the picture was so clear, the reminiscence so real, that I could even see the pointy red boots on my feet ascending the squeaky stairs to the porch during my last visit to Twain's house in which, as far as my memory serves me, I have never been, nor have I ever worn boots.

Then I remembered one of my literary combinations and again it seemed to me slightly worrying that my own fiction is happening to me again and again. There was a time when I was musing over the idea of writing a story about a man who has trouble making important decisions in life. Whenever he decides to go one way he is overcome with the desire to see what would have happened if he went the other way. If he decides to travel, he wonders what would've happened if he had stayed; if he decides to get married, he is troubled by the question of what could have been if he had stayed a bachelor; if he decides to move, he racks his brains about what would've happened if he had stayed where he was born. And, I thought, that fellow would in the end find a way to see his other potential lives, and would even find a way to somehow try them out. And maybe he would choose the best one. But then I saw Frank Capra's movie *It's a Wonderful Life* in which the protagonist- a little man from a small town just like me and like the potential character from my story- gets a chance to see what would've happened if he hadn't been born. It was so powerful and well executed that I abandoned the idea of writing the story although it seemed to me that by doing so I made an

important decision and I was torturing myself wondering what could've been if I, after all, had written the story.

And, now it seemed to me that all this had something to do with my situation here in Hannibal. For, I likewise had left Vukovar (when I was 19 years old I went to study in Zagreb and never came back) and by doing so I annulled the life I could have lived if I had stayed in my hometown. But, since I often visited Vukovar, where my parents live, I felt that my potential life, which I'm not living, was not completely lost, but still somehow existed, admittedly in a suppressed and latent way, but nevertheless it existed. When I would, during the summer, visit Vukovar for a day or two, I would clearly feel, sitting in front of the town coffee-house, what it would be like if I were to sit there every day, year after year. While I was talking to an acquaintance I could exactly imagine what it would be like if I saw him every day. Watching my reflection in the shop-windows on Vukovar's promenade, I was able to imagine what I, my appearance and my thoughts, could have been if my figure reflected in the shop-windows for the entirety of my life. And at times, during those short visits to Vukovar, it seemed to me that everything I write in my novels, that all that fiction I create for myself and for others, is nothing but the descriptions of that second life of mine, the existence which doesn't exist but could.

Of course, all of this is pretty fragile and could look like a sentimental illusion. But here, in Hannibal, while I was looking at a part of the gray and green river between the houses, it felt like I was looking at a small part of Danube between Vukovar's towers, it seemed to me that all of it makes sense and that it explains many things. For, I thought, I had left Vukovar and my life couldn't have continued there, I can only imagine what could've been if I had lived there, and I can never know to what extent my ideas are probable. But, I reasoned further, if that hypothetical life of mine couldn't have unfolded in Vukovar maybe it could have in Hannibal, Missouri? Maybe everything that starts has to have some sort of an



ending, like every real story, and maybe my life progressed peacefully here, in these streets by this big and wise river, without me even being aware of it? And perhaps everybody has some sort of Hannibal somewhere, where their un-lived life unfolds, without them knowing it, and I was the only one lucky enough to find and recognize that place?

Perhaps at last, the real life of each and every one of us is nothing but a realization of someone else's unrealized life, and someone out there is living our life that could have been?

Perhaps we are just trading un-lived lives and perhaps real life doesn't even exist?

Of course, all of this could sound very pathetic and inappropriate for what was actually happening. A man came to Hannibal, Missouri, and the town looked similar to his hometown. All right, so what? He saw some Tom White guy: big deal. He fantasized about a daughter, a wife and an aunt; but, do not many people fantasize and do I myself fantasize rarely? I snapped out of it and left the corner. I put out my cigarette and entered Mark Twain's house. I took the tour of the house, even watched the slides about the writer's life, even though I was guessing everything in advance and even though everything was known to me beforehand, known to the extent to which a building of a cultural importance in a small town can be known to someone who lives in that town. I was patiently watching and listening, trying to shake off my crazy thoughts, knowing that they could ruin my stay in such a beautiful and important town.

But, everything promoted these thoughts, everything encouraged them and strengthened them that day. For, when I finally left Twain's house and began walking down the street again, everything started over. I went forth a few blocks down the river and the wind carrying the well-known scent gave me the familiar goosebumps of my home country. After about 300 yards I was in a neighborhood for which I suddenly somehow knew was mine. It was, in relation to the river, approximately at the same place at which some new buildings in Vukovar, which weren't there when I lived in Vukovar, now stand. I knew with full certainty

what kind of view extends to the river and I also knew how much of the forest, at this water level, can be seen on the other side and of the bank under my feet. I knew that, when I went around the corner, I would see a house with a big plastic doll sitting on the fence of the porch, a window-model, dressed in a black trash bag, because neighbors had complained about the plastic nudity and so it had to be covered.

I looked at it and I knew that I had arrived home. I knew that this was where I lived, or where I would live if I had been born in Hannibal. I knew that the setting would be identical in Vukovar, or at least similar, and that all of this lying before me (the house, the garage in which I knew was a light blue Dodge, the rusted BBQ behind the house, the old furniture in the attic) that it really was, in fact, my life. That it was actually a part of the same life I was really living. I knew that my everyday life, which had led me to the U.S., to Iowa and then to Hannibal, Missouri, wouldn't have been the same, or even wouldn't have been possible, were it not for that house, that manikin on the porch, that uncut garden-grass and the view of the gray and green river. If that house were to be burned down by chance, if something happened to that town (if it were to be destroyed by a flood or an earthquake) my life there in Europe would become completely different.

The only thing I was afraid of, while I was standing there, in the wind, by the river, looking at that common small wooden American house, was that the doors to the house would open and that there would appear a woman with hair curlers or a fatso with suspenders in a plaid shirt, or a boy in sneakers, and ruin everything. For, I started to like this game, I started to believe not only in my fabrications, but also in my fears and subconscious visions, so I now wanted everything to remain the same, I wanted to remember it as it was and I wanted nothing to spoil that image.

Nothing happened. The house was peaceful and deserted, as if it were empty. For a moment I thought- starting to fully surrender to my illusions- that nobody lived in that house,

that it existed only so it could mean something to me, so I would think that it was my house and that it was an inseparable part of my life. If Romantic landscapes are the mirrors of the soul, according to the belief, why then could not a small American house be a materialization of my life, my other life? I stood there for a long time and watched, because nothing happened.

To be more precise, not exactly nothing. For, at the place, where I was standing, was a secondary road, falling steeply to the main road. A truck came by that road, brown and newly washed and so it stopped right beside me, because it had to wait there for a chance to join the traffic. A man with gray hair and a red cap, which had a JOHN DEERE inscription, was in the truck. The front door window was rolled down and he smiled at me through the window happily and in a friendly manner.

- Hi, Paul- he said. - Back from Europe yet?

-Hi- I said, mumbling something confusedly and incoherently, grinning like a fool and hoping that it looked friendly.

At that moment the road cleared, the man waved at me and drove off. I knew that his name was Carl Lench, that he lived at the top of the hill and that he owned a car wash. But still, I did not allow myself to believe it all. For, everything was fine as long as it was about my own illusions, about chance, coincidence, and about my own mood. But, how could have that man known my name, and that I came from Europe? And what did he mean by asking me if I was back from Europe, moreover already back?

I didn't like the fact that the reality and the people in it started acting in accordance with my illusions. I decided to explain everything to myself in a simpler way. Maybe someone had told the man in the truck to tell me all of that? For, earlier on the boat, I was telling some of my fellow writers about the similarity between Hannibal and my Vukovar, about how I felt at home and that I couldn't comprehend it. Maybe they decided to pull a

prank on me to tease me a bit? Maybe one of our hosts and guides even knew that man so it was not hard for them to persuade him into playing a small prank?

I was telling this to myself while I was walking towards the van which was already waiting to take us back to Iowa. I couldn't get out of my head what the man said about returning from Europe: that didn't fit into a prank, or my own fictions, it didn't fit into anything. It was all too strange. Everything was extremely strange to me, and most of all, I was strange to myself.

For, when I returned to the van, Toma and Ksenija, the Yugoslavs, who live in Iowa City and who accompanied us on the trip, were already there. And I, I don't even know why, addressed them in English and started explaining something in great detail.

- What is your problem, man? – Toma asked me, and I looked at him blankly, for I was not aware, because I talk poorly and with difficulty.

- And just hear him talk – Ksenija said. – Like a real Yankee.

Indeed, for those couple of minutes I was talking fluently, even without an accent, however incredible it sounded even to me.

That confused me even more, so I stopped talking and stayed quiet almost the whole ride, up to Iowa City, or I talked about other things. I also talked about other things later, for days and months. And I almost forgot about what had happened to me in Hannibal, Missouri. I would occasionally remember it, but I was mostly ashamed, so I rather thought about something else.

Only when I returned home, and when one day I came over to Vukovar, I again remembered everything. For, my friend Braco from Vukovar told me the moment we met.

- What came over you last fall to act like a fool here in Vukovar and talk in English? Even more, to pretend that you didn't know anyone here?

I didn't understand anything, but a premonition started to grow in my head as soon as he said this. I had to clear things up.

- When during the last fall exactly? – I asked.

- I don't know, somewhere about the tenth of October, about that time.

I persisted and I even raised my voice, as if that would convince him, and moreover myself. I said:

- But I was in America at the time!

- Tell that to someone else – Braco said calmly. – You were here, acting as an American, here in Vukovar, that's where you were. But, that was pretty silly of you, you know.

I didn't answer him. And what could I say? I knew that all of that had to be explained and clarified. And that's when I decided that I had to, sooner or later, return to Hannibal, Missouri.

### 2.1.3. Comments

After I read *The Return to Hannibal* for the first time, I did not expect that I would have as many problems with the translation of the text as I, in the end, did. I would attribute these difficulties to the little experience I have with translation of texts into English and some difficulties I have with the use of tenses and articles in the English language. Although the theme of the story, exploration of reality and the relationship between fact and fiction, could signal a complicated plot and the use of complex and new vocabulary, Pavličić mostly uses a linear plot, with some digressions and understandable vocabulary. One thing that can cause a problem is the fact that Pavličić often uses long sentences with several dependent clauses. I tried to preserve the structure of the sentences because it is a stylistic trait and it influences the rhythm and pace at which the reader reads the text. In one case, however, I transformed a clause into a new sentence, because the sentence was very long and the meaning would have got lost if the sentence had remained the same. It is the sentence on the fifth page starting with “And I didn’t have the time”. It consists of several dependent and independent clauses so I transformed the last part of the sentence into a new sentence to retain coherence.

In the next paragraph I will try and list some of the words and expressions with which I had the most trouble. I will start with the first expression and the clause “krv mi je jurnula u glavu” that I first translated as “I had a rush of blood to the head”, but I later opted for a more simple solution “blood ran to my head.” Furthermore, in the case of the word “nasuprot” in “nasuprot grada bio je otok”, my first solutions were “opposite to the city” and “across the city” but in the end I opted for “opposite the city”. The sentence on the first page that starts with “And that kind of seemed the most important to me” also caused me trouble when it came to the choice of words and the construction. My first solution was: “And that seemed to me as the most important fact, because of which it felt as if I was entering a dream of my

own.” but as my mentor commented it really was clumsy so I rewrote it. When translating the word “ostvaruje” I tried two options- “becoming real” and “coming true”- but these were not the best solutions so the final choice was to use the phrase “was turning into reality”. When I was translating the text for the first time I translated “došao na pomisao” as “came to mind” but, of course, that this was not a satisfactory translation, so I tried to find a better suited word or phrase. I thought about using “considered” or “thought” and in the end opted for “thought”.

The next six passages had some problematic expressions and words but I think I solved them in a satisfactory way with the help of a dictionary and my mentor. “Izokrenuto kao u ogledalu” is the first phrase from this passage and my first solution was to translate it as “inverted like in a mirror”, but this was an unsatisfactory solution so I looked up the collocations of the word “mirror” and found “upside down like in a mirror” and consequently used it. Then in the following sentence there are words: “mjesni pijanac”, “kavanski primaš”, “animir-dama” and “bogomoljka”. My first option for “pijanac” was “bar-goer” but that does not exactly correspond to the original meaning so I looked it up in the Croatian or Serbian English dictionary by Drvodelić and found “drunkard”, “tippler”, “boozier” and “guzzler” as possible choices. I decided to go with “drunkard” as it seemed to me that it is the most commonly used noun in contemporary English for “pijanac”. Because I was not certain of its meaning in Croatian, “Kavanski primaš” was also an interesting phrase to deal with. I looked up the definition in a dictionary and also found a translation in Drvodelić’s dictionary where it was translated as “first violinist (in a Gypsy orchestra)”. I decided to go with “the first café violin” to keep it close to the original meaning. I was also not certain how to exactly define “animir-dama” and in Drvodelić’s dictionary the translation was “night-club hostess”. I decided to drop the prefix “night” and translated “animir-dama” as a “club-hostess”. “Bogomoljka” is of course not praying mantis- the insect- but a term for a woman who goes to church very often, so I decided to translate this noun as a “churchgoer”.

Furthermore, one clause that I had particular trouble with was on page five in the sentence that starts with “And not only that, but by then I also knew in what way”. In Croatian original the clause is “pa je od toga napravio dobar posao”. It may seem simple, but I had trouble with its incorporation into the sentence. I tried with “And not only that, but by then I knew in what way and when the famous fence, out of which Tom Sawyer did good business, is usually whitewashed.” Because “out of which” seemed clumsy I decided to use “from which he profited so well” as a more acceptable solution. Furthermore, as “bijeliti” can be translated both as “whiten” and “whitewash” I looked up which verb Mark Twain used in his book and found that he used “whitewash”, which I then kept as the translation.

The two sentences which also required more effort and concentration start with “While I was talking to an acquaintance” and “Watching my reflection in the shop-windows” on the seventh page. My first translation was: “Talking to a friend I could’ve exactly imagined how it would look like if I saw him every day. Watching my reflection in the shop-windows on Vukovar’s promenade I could’ve imagined how it could’ve been and how would’ve I looked, what would’ve I thought if my figure reflected there for my whole life.” I first adjusted the wrong word choice (friend- acquaintance) and started the sentence with “while” instead of the –ing form and then replaced “how it would look like” with “what it would be like” so that the meaning would be closer to the original. In the next sentence I kept the –ing form as the first word but changed some tenses, words and the construction of the sentence to get the final solution “(...) I was able to imagine what I, my appearance and my thoughts, could have been if my figure reflected in the shop-windows for the entirety of my life.”

I have put just one footnote in the text, regarding the river Vuka. It is not explicitly stated what Vuka is in the text, and the Anglophone readers are probably not familiar with it, so I added a footnote clarifying that it is a river. Also, one of the characteristics of this story is somewhat frequent use of the conjunction “jer” as the opening word of a sentence. I decided



to translate it with the conjunction “for” because it corresponds to the Croatian original both in meaning and length. There were some more problems and difficulties, but due to space restrictions I tried to present just the more interesting ones, and the ones that caused me the most trouble.

## **2.2. Translation 2: Rijeka during the Napoleonic Wars from 1793 to 1813**

### **2.2.1 About the text**

This text is actually a chapter from the book “Povijest Rijeke” (The History of Rijeka) published in 1988 in Rijeka. The book offers an overview of the history of Rijeka from Paleolithic and Mesolithic period up until 1980. The first chapter is a short introduction to the geographical and natural characteristics of Rijeka and its surrounding and in the following chapters the reader finds out about the history of Rijeka from the Paleolithic era, through Illyrian period, thirteenth and fifteenth century, up until contemporary times and the 1970s. I chose to translate the chapter that covers the history of Rijeka from 1793 until 1813 because I wanted to learn more about Rijeka in that period. I had to abbreviate my translation (the whole chapter is ten A4 pages in length), so the following text contains the first six pages of the chapter.

## 2.2.2. Translation

### 1. Troubled times

THE FIRST WAR WITH FRANCE. The war which Austria started against Turkey in 1787 came to an end with the Treaty of Sistova (Bulgaria) in 1791. However, Austria also got involved in a war against France. At first, Austria and her ally Prussia were the only ones to carry the load of that war. The nobility and clergy's fear of a possible, and probable, expansion of revolutionary movements urged them to join the war in 1793. However, the disagreements within the coalition left Austria shouldering the brunt of the war. The Austrian army suffered the biggest losses in Italy, where, from 1796, the French were led by Napoleon Bonaparte.

That war also directly influenced the state of affairs in Rijeka. The fear in the city grew with every defeat of the Austrian army. About twenty cannons and mortars were installed in several fortifications on Rijeka's coast and a lieutenant, 31 gunners and 97 regular soldiers were placed on standby in the town. There were also plans to send about 300 wounded soldiers from Mantova to Rijeka, but the fast progression of the French made that plan impossible. Trieste, which was under an even bigger threat, had already sent their archives to be stored in Rijeka, where the people from Trieste had been retreating.

About twenty soldiers from Rijeka and its surrounding were mobilized in February of 1797, but 16 of them promptly deserted. Rijeka slowly started to succumb to panic, so the city asked the military authorities in Karlovac and Zagreb to send strong troops and arms, as soon as possible. According to the governor's report, in the counties of Istria and Rijeka, 1 355 rifles were issued, 700 of them in Bakar, so only 76 were left in Rijeka's armory.

In March 1797, the major general Pittoni retreated from Trieste together with the garrison, so the governor of Rijeka Paszthory ordered the evacuation of archives from Rijeka to Bjelovar. The governorate treasury was also sent to Bjelovar, and the transport took

altogether 29 days. Meanwhile, around Rijeka, in Lovran, Kastav, Bakar and Vinodol, a substantial army force of border-soldiers and other armed men had assembled.

After an insignificant skirmish around Lipa, on 4 April, general Pittoni continued to retreat, signing cessation of hostilities with the French which was to last for six days. After he retreated to the left bank of Rječina, he was followed by the remaining army from Lovran and Kastav, so the French entered the undefended Rijeka, and stayed there until the 9 April. On the following day, the Austrian army, under the command of colonel Kazimir, entered Rijeka.

On that occasion the army, allegedly, inflicted significant material damage on the property of the local people, but after the evaluation the damage was found to be only 903 forints (for 209 pairs of shoes, 6 120 loafs of bread and about 2 500 liters of wine). The city did not ask for compensation, but later in Rijeka, people talked and wrote only with contempt about that army from Croatia.

However, under the pressure from Napoleon, who had conquered northern Italy, and had burst into Styria through Carinthia, Austria signed the armistice at Leoben (7 April 1797). With that treaty, Austria relinquished Belgium and Lombardy, but in return got the Republic of Venice with Istria and Dalmatia, which was later confirmed by the Treaty of Campo Formio (17 October 1797).

Despite the trying times during that warfare, the merchants of Rijeka did not rest. Intensive merchant business was developed because of the need for war supplies. It is estimated that during the years 1786-1809, from the ports of the so called "Hungarian Littoral", about 3 million quintal of grain, in the total value of about 12 million forints, were exported every year. The delivery of grain from the Croatian and Hungarian hinterland intensified the traffic, not only on the Karolina road, but also on the Josephina, the road for Senj, built in 1770.

ADAMIĆ'S INITIATIVE FOR THE REGULATION OF THE KUPA RIVER.THE CONSTRUCTION OF THE LOUISIANA ROAD.A part of hinterland traffic was relocated farther from Rijeka and this stimulated Rijeka's merchant A.L. Adamić to start (1796) the project of the regulation of Kupa, so it could become navigable up to Brod upon Kupa, from where the goods would be transferred by a paved road to Rijeka. With the capital from the richer landowners and from MaksimilijanVrhovac, the bishop of Zagreb, a joint stock company was founded in Vienna. The starting capital of the company was 800 000 forints and its goal was the regulation of the Kupa River. The work of the "Stockholding group for the regulation of the Kupa River from Ladešica to Brod upon Kupa and for the construction of a merchant road from Brod upon Kupa to Rijeka with branches to Bakar and Kraljevica" was approved in 1801, and the construction that began in the same year was led by H. Ph. Charpentier, an engineer invited from France. Already in the following year the works staggered, so the adjustments on Kupa were abandoned despite the fact that half a million forints had already been spent.

The remainder of the capital was invested in the construction of a new, better marked road from Rijeka to Karlovac. F. Vukasović, who distinguished himself with the construction of roads connecting Senj and St. Juraj(1783) and Senj and Novi (1784), was entrusted with the works. The construction began in Rijeka and in 1804, the two Austrian miles of the road, from Čavli to Kamenjak, had already been finished. The construction of the road was continued until 1809, when the French occupied this region. A short, unfinished part of the road in front of Karlovac was finished by the French engineers. In all contemporary descriptions, the project and the construction of the road were praised, because the slopes were maximally flattened and it was even called the most beautiful Alpine road. The cost of the construction was altogether1.5 million forints. The road was named after Maria Luisa, the wife of Napoleon I.

NEW WARS WITH FRANCE. The wars, however, continued. Barely had the truce with the French at Leoben been signed, when the Austrian sovereign demanded new soldiers from his subjects. The new alliance of European countries successfully started a war in Italy and Germany, but as soon as Napoleon returned from Egypt, the Austrians were put to flight at Marengo, so the emperor Francis had to sign a new treaty at Luneville (1801) under the same conditions as the one from Campo Formio.

The third alliance against France (1804-1805) pulled the emperor Francis back into the war. It seems that the new war did not generate as much concern and agitation in Rijeka as the first one did. In Rijeka, the signs of an ongoing war were the January proclamation about the arrests of deserters, the conscription that was introduced in the March of the same year (1805) and similar occurrences. In August the regiments from Glina and Petrinja passed through Rijeka on their way to the battlefield against the French. As early as 9 September, the French units, under the command of the General of Division Seras, arrived to Rijeka, also on their way to the battlefield. The French stayed in Rijeka only from 9 to 13 September, but they collected the contribution totaling 135 515 forints which was collected as a percentage of all of the property in the city, including even the value of the treasury buildings. After the departure of the French, the life in Rijeka resumed its usual course. The arrival of the directive to collect clean washed white cloth for military hospitals was the only reminder of the war.

After the aforementioned passing of the French army through Rijeka in 1805, a cleanly transcribed copy of "The allocation of the French contribution" was left in the city archive. The allocation was carried out on 1 100 contributors, giving 13 forints per thousand forints of property value. The total value of the property in Rijeka according to that contribution was ten million and four hundred thousand forints. The sugar refinery had the biggest assets, totaling 1.7 million forints. The richest citizen, surprisingly, was not L. Adamić (200 000), but Matej Kertica with 300 000 forints of property (the smallest estimated property of 100 forints was

determined for 14 contributors). The distribution was done in alphabetical order and it also listed the professions of 342 contributors. Perhaps the values of properties were unrealistic and lowered, but we believe that the ratios between them are quite realistic.

With the defeat at Slavkov, that war was also lost; with the Peace of Pressburg on 26 December 1805, the Emperor Francis II lost everything that he gained with the Treaty of Campo Formio.

THE UNCERTAINTIES AROUND RIJEKA CONTINUE. Using the short break, the citizens of Rijeka were trying to overhaul the mouth of Rječina and the port in it. In fact, a project for the extension of the port and the construction of two bridges, one made of stone and the other made of wood, for the full price of 187 000 forints, was proposed. The project, of course, was not realized. Another initiative connected with Rijeka ensued in the following year. In the Budim parliament in 1807, the Croatian representatives tried to solve the dispute over the affiliation of Rijeka in favor of Croatia. The parliament accepted their proposal, but the emperor confirmed the legal article (IV; 1807) with a formulation that accentuated the fact that Rijeka was, by the decree issued by Maria Theresa on 9 September 1776, already adjoined to the monarchy. The governor of Rijeka would also be given a seat and the right to vote in the House of Lords and the representatives of the city would get seats in the House of Commons. It remained ambiguous to which monarchy Rijeka was adjoined, Croatian or Hungarian, so the Croatian parliament issued a proclamation in February 1808, which stated that Maria Theresa had adjoined Rijeka to Croatian Monarchy. Therefore the Croatian Commons gave seats and the right to vote in the Croatian parliament to the representatives and the governor of Rijeka. Thus the governor of Rijeka and the town representatives had the right, which they definitely used, to attend both parliaments- Hungarian and Croatian. They also had the right to vote in both parliaments.

ANOTHER WAR. There was, however, a new war on the rise. The loss of territories and the discontent of sovereigns, princes, and magnates in Europe with the lost income and the fear of a definitive dethroning once again united the European reactionary forces against Napoleon and his allies. In order to ensure reinforcements, Austria had already in 1805 begun with the organization of the Home Guard army. All the eligible men between 18 and 45 were included and had to practice rifle handling on Sundays and holidays. A commission started enlisting eligible men in Rijeka in January 1809. In March 1809, the first battalion of the town militia was formed and the commanding officers were patricians and wealthy men. When the general call for arms was proclaimed in March 1809, Rijeka had to provide 22 foot soldiers and a cavalier (the number of soldiers a city had to provide for the Austrian army depended on the annual income of that city).

The uprising in Spain against the French was a sign for Germans, Prussians and Austrians to start a new confrontation with Napoleon. However, Napoleon's breakthrough to Vienna and the total victory at Wagram enabled him to dictate the terms of peace from Vienna. In that war, the Austrian forces, mostly made up of border-soldiers, had limited success in Northern Italy (Predil and Malborghetto). The *Vizekapitän* of Croatia, General Knežević broke into Dalmatia and conquered it for the most part. General Marmont and his army actually left Dalmatia in May 1809, rushing to join Napoleon at Vienna. Having passed Gospić and Senj, Marmont came to Rijeka on 28 May and stayed there for two days. Since Rijeka was under Austria, Marmont actually seized Rijeka, *en passant*, and demanded, as was custom, a war contribution in the amount of 460 000 forints. The requested sum was paid in coins and paper money, and partly in promissory notes. From the municipality of Rijeka, General demanded a further 100 thousand forints for 36,000 salt cellars that he had confiscated from the Austrian state warehouses and left in Rijeka. Having set off for Trieste, Marmont also took four respected citizens of Rijeka as hostages.



### 2.2.3. Comments

This is the second text I translated and I expected to have more difficulties with it than with *The Return to Hannibal* because this is a historical text, written in academic style, and the authors necessarily used the historical jargon, archaisms and historical terms. A specific characteristic of this text is its syntactic structure- most of the sentences are written in inversion and the syntactic structure sometimes differs from the standard. In most cases I did not follow the original sentence structure because this is a scientific text and I wanted to achieve maximum coherence and clarity. For the translation of geographical and historical terms I mostly relied on the afore mentioned Drvodelić's dictionary and Encyclopedia Britannica. If I was not able to find the appropriate translation in these sources, I used other Internet sources that provided me with the solution.

The first phrase which was somewhat problematic was the subtitle of this chapter "Nemirna vremena". I tried to translate it with "Trying times" but this phrase does not exactly coincide with "Nemirna vremena" so my second choice was to use "Troubled times" which corresponds better to the original Croatian phrase. Furthermore, the clause "Austrijska vojska najteže je prolazila u Italiji" also posed some difficulties, because I had to find the appropriate formal translation. My first choices were "had the most trouble" and "was met with the severest difficulties" but the first solution was too informal and the second one was somewhat clumsy, so in the end I opted for "suffered the biggest losses".

A good example of a different sentence structure that I used in the translation can be the sentence: "Porazi austrijske vojske izazivali su sve veći strah." My first solution was to translate it as: "The defeats of the Austrian army were fueling more and more fear.", but since it was clumsy I changed the subject of the sentence to achieve maximum transparency. I turned the direct object "strah" from the Croatian original into the subject and decided to translate the sentence as: "The fear in the city grew with every defeat of the Austrian army."

The defeats of Austrian army which were the subject in Croatian original now belong to the prepositional phrase “with every defeat (...)”.

As I stated before, there are historical and military terms in the text that require the translator to find appropriate translations and some of them are: “mir u Svištovu” (“The Treaty of Sistova”), “uvojačeno” (“mobilized”), “bilo je podijeljeno 1.355 pušaka” (“1,355 rifles were issued”), “oružana” (“armory”), “gubernijska kasa” (“the governorate treasury”), “krajšnici” (“border soldiers”), “regrutacija” (“conscription”), “regimenta” (“regiment”), “divizijski general” (“the General of Division”), “kontribucija” (“contribution”), “velikaška kuća” (“the House of Lords”), “stalešk akuća” (“the House of Commons”), and “domobranska vojska” (“the Home Guard army”).

I did not have trouble just with the first subtitle “Nemirna vremena” but also with “Adamićeva inicijativa za plovnost Kupe” and “Nastavak nejasnoća oko Rijeke”. I first translated “Adamićeva inicijativa za plovnost Kupe” as “Adamić’s initiative for the navigability of Kupa”, but that was very clumsy so I reformulated it to the more acceptable “Adamić’s initiative for the regulation of the Kupa River”. I had the most trouble with the third mentioned subtitle because I was not able to find a suitable sentence structure. I first tried with “The continuation of ambiguities around Rijeka”, but my mentor suggested to me that it appeared clumsy so I had to change it. I mused over some potential solutions and in the end decided for “The uncertainties around Rijeka continue”. When I was changing the structure of the sentence I also looked for a better translation of the noun “nejasnoća”. The Drvodelić’s dictionary offered “indistinctness” “obscurity”, “vagueness” and “abstruseness” as possible translations for “nejasnoća”. I was not satisfied with these solutions so I decided to look up “vagueness” in Roget’s Pocket Thesaurus and found “uncertainty” as one of the proposed synonyms. Since the noun is in plural in the Croatian original I used “uncertainties” as the final solution.

Another sentence that caused me some trouble and took more time to translate was: “Najbogatiji, pak, građanin nije L. Adamić (200 000) nego Matej Kertica, sa 300 00 forinti imovine (najniže procijenjeni imetak bio je 100 forinti, u 14 kontribuenata).” The sentence itself is pretty simple but I had trouble with the clause in brackets. I first translated it as “the lowest property of 100 forints had 141 contributors” but it is not possible to put the object in front of the verb in English, because then it has the function of the subject in the sentence. Therefore, the meaning of this translation was that the property had 141 contributors, which does not correspond to the original meaning and does not make sense. My next solution was “14 contributors had the lowest property of 100 forints” which was also not the best solution. The penultimate solution was “the smallest estimated property was 100 forints, in 14 contributors” but it did not coincide in the best way with the beginning of the sentence so my final solution was “the smallest estimated property of 100 forints was determined for 14 contributors”.

The connection between geography and history is also visible in this text- the events that had happened in the past took place at a certain geographical locality. I translated the names of cities, provinces and countries when there is a difference between the Croatian and the English nomenclature, so for example, the Croatian name for Trieste is “Trst” while English uses the Italian original “Trieste”, the “Koruška” province is “Carinthia”, “Štajerska” is “Styria” and the English name for “Bugarska” is “Bulgaria”. I have left the Croatian original when there is no widespread equivalent in the English language (for example, Rijeka, Lovran, Kastav, Senj...).

In the end I think that I spent less time translating this text than the first one, but simply because this one is five pages shorter. Also, since I am not very experienced with the Croatian to English translation, *The Return to Hannibal* helped me to adapt, which became obvious to me as I worked on this text.

## **2.3. Translation 3: It is all... Chemistry**

### **2.3.1. About the text**

It is all... Chemistry ("Sve je to... Kemija") is an article published in the Croatian magazine "Drvo znanja" (The Tree of Knowledge), No. 162, February 2013. The Tree of Knowledge is a Croatian encyclopedic magazine for younger population, mostly read by the children in elementary schools. The magazine received a positive review from the Ministry of Science, Education and Sports in 2012 which can be found on the following link: <http://www.sysprint.hr/drvo/slike/MZOS%20misljenje%20DZ%202012.pdf>.

The article translated in this B.A. thesis is eleven A4 pages in length and gives a short overview of the history of chemistry and its development over the years, as well as of major breakthroughs in this field of science. The article is written in the third person and mostly in an objective tone (characteristics of a formal style), but the terms and concepts are also explained in simple words so the younger readers can understand them. The writer sometimes comments the discoveries and facts in a more subjective tone which is a characteristic of informal style of writing. Therefore I think it is possible to conclude that this article is written in the journalistic style, a style that comprises both formal and informal characteristics. For the purpose of this thesis I shortened the translation of this article to the first six pages, plus the table that is included in that part of the text.

### 2.3.2 Translation

There are a large number of different substances, but they are all made of a small number of different atoms which are actually made of three main parts: neutrons, protons and electrons.

The issue of the real nature of matter was shrouded in mystery up until 17th century. This was the case because most of the scientists were misled by a theory constructed in the 5<sup>th</sup> century BC. The Greek philosopher Empedocles (~495 - ~435 BC) stated that all substance consisted of various parts of air, earth, fire and water. These were his four elements. This theory had been misleading scientists for centuries. It states that if a substance is changed by heating it means that fire fuses with the substance.

But then, in 1661, the term “element” got a new meaning. An Irish scientist, Robert Boyle (1627-1691), realized that there are many simple substances that can form complex ones. Boyle claimed that these simple substances were the basic building blocks of the world, so he defined them as particles which cannot be disintegrated by chemical reactions.

Boyle’s theory encouraged other scientists to go hunting for new elements. In the following 100 years, 27 new elements were discovered and chemists made significant progress in the understanding of various chemical reactions.

The most prominent among these early chemists was probably Antoine Lavoisier (1743- 1754). He discovered that the weight of some substances (e.g. metals) increases when they are ignited, so he concluded that they must react with something that is found in the air. In the year 1774 the English chemist Joseph Priestley (1733-1804) discovered oxygen and Lavoisier realized that burning is in fact a reaction with a constituent of the air- oxygen. Because of his ground-breaking explanations of the nature of chemical reactions, Lavoisier is nowadays known as the father of modern chemistry.

By the beginning of the 19<sup>th</sup> century it became clear that many elements have similar properties so chemists started to group them. It was discovered that elements are made of atoms and that atoms of different elements have different masses. Hence, one of the obvious ways of classifying elements was to arrange them according to the increase in their atomic weight. In 1863, the English chemist John Newlands (1838-1898) showed that similar properties appear in regular intervals when elements are arranged in the aforementioned way. So, for example, the 3<sup>rd</sup> element (lithium) has properties similar to the 11<sup>th</sup> (sodium) and the 19<sup>th</sup> (potassium). It was discovered that the properties of many elements repeat every eight places. As a result, Newland constructed a table of elements divided into seven columns, in which elements were arranged in accordance with the rise in the atomic weight. This meant that every eighth element belonged to the same group. However, this simple arrangement of elements was not fully applicable to all the elements that were discovered by that time, so Newland didn't receive the deserved recognition from his colleagues.

### **The periodic table**

The first list of chemical elements, elements being defined in a way similar to the one we use to define them today, was devised by A. L. Lavoisier in 1789. However, he also listed some very stable compounds that were indecomposable in his time such as calcium oxide (CaO, quicklime), aluminum oxide ( $Al_2O_3$ , alumina) and silicon dioxide ( $SiO_2$ , flint stone, silica); and he even included non-substances: light and heat (caloric). Thanks to the introduction of a variable which is nowadays called the relative atomic mass (atomic weight), proposed in the works of J. Dalton (1804), J.-L. Proust (1808) and J.-L. Gay-Lussac (1808) and the fast development of analytic chemistry in the first half of the 19<sup>th</sup> century, a large number of elements was discovered. Hence the necessity to arrange (classify) them, in accordance with their physical and chemical properties, emerged.

As early as in 1817, J. W. Döbereiner reported that the average atomic mass of strontium is relatively close to the average of relative atomic masses of calcium and barium. He also found such similarities in “triads”: Cl, BR, I and Li, Na, K. Scientists later expanded his “triads” into larger groups, e.g. F, Cl, Br, I and O, S, Se, Te. On the basis of more precise atomic weights (S. Cannizzaro, 1858), A.-E.-B. de Chancourtois (1862) arranged the elements in the order of increasing atomic weight, putting them on a cylinder drawn on a rectangular area of a round cylinder which had its perimeter divided into 16 parts. J.A.R Newlands (1864), also arranged the elements in order of increasing atomic weights, and noticed that the properties of every eighth member were very similar (“law of octaves”); likewise, he was the first to assign ordinal numbers to elements, anticipating the variable that is today called the atomic number. L. Meyer (1870), while studying the atomic volumes of the elements that were known at that time, drew a diagram in which atomic volumes (atomic volume is the ratio of atomic weight and density), were brought into relation with atomic weights. By doing this, he obtained a curve with five distinct maximums that correspond to alkali metals (Li, Na, K, Rb, Cs) that have very similar chemical properties.

However, D. I. Mendeleev was the first chemist to discover - also by arranging the elements according to their atomic weight - the periodic table of elements. His first table (published in 1869) had 17 columns (“groups”). The first two lines (“periods”) had 7 elements each: (Li, Be, B, C, N, O, F) and (Na, Mg, Al, Si, P, S, Cl). The third and fourth lines were not yet complete at that time and only contained the elements (K, ..., F) and (Rb, ..., I). The next three lines were also incomplete, because many elements (e.g. the noble gases) were not discovered yet. Mendeleev soon published a significantly improved table because he realized that the properties of 17 elements can correlate better if they are moved from the place designated to them in the arrangement according to the atomic weight. Some atomic weights at that time, actually, contained large errors because of the insufficient knowledge about the

stoichiometric relations (“valences”) in reactions that were used for the determination of the atomic weight. Therefore, the new periodic table resulted in a number of errors being corrected.

On this occasion, Mendeleev had also anticipated the existence, and even some properties, of six yet to be discovered elements and he left empty spaces for them in the periodic table. And indeed, when scandium was soon discovered (1879) it corresponded to eka-boron, gallium (1874) was proved to be identical to eka-aluminum, and finally, germanium (1885) corresponded to eka-silicon. After the discoveries of eka-boron and eka-aluminum, the Royal Society of London awarded (1882) D. I. Mendeleev and L. Meyer with the Davy Medal for their discoveries. The predicted elements eka-manganese (technetium), dvi-manganese (rhenium) and eka-tantalum (protactinium) were discovered many years later. The places in the periodic table for the newly discovered elements (e.g. promethium, astatine, francium and hafnium) were found by implementing the same procedure.

### **The atomic number**

E. Rutherford, H. Geiger and E. Marsden (1909) experimented with the dispersion of  $\alpha$ -rays travelling through a golden foil and their experiments led to the first (“planetary”) concept of the atom (E. Rutherford, 1911). According to this concept, the electrons move around the atomic nucleus where almost the entire mass of an atom is concentrated. The measurements of the electric charge of the core showed that, for all elements, the ratio between the nucleus’ and electrons’ charge is approximately equal to the half of the relative atomic mass. Based on this discovery, as well as on Rutherford’s planetary model of the atom, A. van den Broek (1913) concluded that it would be better to arrange the elements in the periodic table according to the core charges rather than according to the atomic weight.

Compelling evidence that supported van den Broek’s thesis was provided by H. G. J. Moseley’s experiments in 1914. He recorded spectrums of x-rays emitted by atoms when



exposed to “bombing” with sufficiently sped up electrons. During the “bombing” every element emits a very distinctive array (series) of spectral lines and the lines appear in a very specific frequency. Every element has a unique spectrum, so it is possible to identify an element according to its x-ray spectrum. During the analysis of the x-ray spectrum, Moseley observed that the frequencies of spectral lines,  $\nu$ , function according to a simple rule: they are equal to the square of the element’s ordinal number.

### **The structure of atoms**

The components and the structure of atoms determine their properties and the ways in which they bind and create compounds. At the center of the atom there is a nucleus typically made of positively charged protons and neutrons that do not have an electric charge. Around the nucleus negatively charged electrons revolve. The number of electrons typically corresponds to the number of protons, so their opposite charges cancel out and the atom stays electrically neutral.

In 1900, with the Planck’s Hypothesis, began one of the two “revolutions” in physical science. It was the time when the development of quantum mechanics, a very successful theory of the micro world (i.e. atoms, molecules and other small particles) started. The basis of this theory was formed around 1926. (The second revolution in physics was Einstein’s theory of relativity).

One of the big successes of the quantum theory was the reliable mathematical description of the movement of electrically negative electrons around the positive atomic nucleus. Unlike the classical physics, where a system of electrical charges, such as the one of the atom, would be very unstable, the quantum theory states that every electron of the atom is situated in one of the stationary states (i.e. in a position of stable energy). Although the exact positions of electrons cannot be determined beyond dispute, the quantum theory states that, generally, the average distance between an electron and the nucleus is bigger when the

electron is in a state of higher energy than when it is in a state of lower energy. Therefore, the groups of close energetic states are sometimes metaphorically called “shells” and marked (by the increase in energy): K, L, M, N, O, P, Q and particular stationary positions are called “subshells”. When an electron “descends” from a higher subshell to a lower one, a “packet” (quant) of electromagnetic radiation is emitted; the energy of a quant ( $\epsilon$ ) defines the frequency of radiation ( $\nu$ ), according to Planck’s well-known formula:  $\epsilon = h \cdot \nu$ , where  $h$  is the Planck constant.

If the subshells belong to different shells then the x-ray radiation will be emitted, i.e. the frequency of emission will be between  $10^{16}$  Hz and  $10^{19}$  Hz. Since, clearly, the energies of states depend on the nucleus’ charge, Moseley’s results become understandable.

The second important result of the quantum theory is the notion that only a limited number of electrons can find themselves in each energetic state (see Table 1).

Now the only thing left to do is to explain the differences in the sequence of atomic weights and atomic numbers. J. J. Thomson (1913) observed that all atoms of a single element do not have the same weight. After the discovery of proton (W. Wien, 1898, J. J. Thomson, 1910) and neutron (J. Chadwick, 1932) it was understood that the atomic nuclei are made of protons and neutrons, and that the number of protons and neutrons is, obviously, the same as the effective nuclear charge,  $Z$ . The masses of protons and neutrons are approximately equal and significantly (about 1800 times) bigger than the mass of electrons ( $m_e = 9.1 \cdot 10^{-31}$  kg). After these discoveries it was not difficult to conclude that atomic nuclei can contain somewhat different numbers of neutrons, which was previously confirmed with the help of mass spectrometry. Atoms with different masses, but with the same atomic number are called isotopes. Since, usually, natural substances contain more than one isotope of a particular element, the atomic weight is not a whole number multiple of the mass of protons and/or neutrons, but it is an average of masses of all atoms. This average is determined by the

percentage of particular isotopes, so even the mentioned anomalies (K/Ar, Co/Ni, Te/I, Th/Pa) can be explained with the isotope share.

Table 1- The maximum number of electrons in electron shells and the number of elements in the periods

Shell label	Max. number of electrons	Period	The number of elements in the period
K	2	1	2
L	8	2	8
M	8	3	8
N	18	4	18
O	18	5	18
P	32	6	32
Q	32	7	25

\*There are still undiscovered elements in period 7

### 2.3.3. Comments

After the first two texts- a short story and a chapter about the history of Rijeka, I decided to translate an article written primarily for the pupils in elementary schools. The article is about chemistry and since it is written for children, the topic of the article is explained in a simpler manner. Despite the fact that it is written for a younger audience, the article is not lacking in chemical terminology which I had to translate appropriately. The main resources for the translation of the terminology and the text were the same as those that I used for the previous text: Encyclopedia Britannica and Drvodelić's Croatian or Serbian- English dictionary. Furthermore, I mostly followed the sentence structure from the Croatian original because the style seemed clear and understandable to me and therefore I did not feel the need to alter it.

I think I did not have as many problems with this text as with the previous ones, because the author wrote in an understandable and clear style and alternated the use of short and long sentences well. Nevertheless, there were some expressions and constructions that caused me trouble so I am going to list them.

Already in the first sentence there were two somewhat problematic phrases "pitanje kakva je prava narav" and "bilo je obavijeno velom tajne" which I first translated as "the question about the real nature" and "was under the veil". Since my mentor suggested to me that there were better suited solutions I mused over some ideas. I decided to translate "tajna" as "mystery" and then looked up the collocations of mystery in the Oxford Collocations Dictionary where I found "be shrouded in mystery" and used it as the final solution. On my mentor's suggestion I translated the first clause as "the issue of the real nature". One specific clause in this part of the text also was "opeke iz kojih je sazdana sva priroda". I did not think that it would be appropriate to translate "opeke" with the literal translation "bricks" and therefore I translated the whole clause as "the basic building blocks of the world".

Also, in the fourth paragraph, I did not manage to successfully translate the clause “koje se mogu spajati u složene” on the first try. I translated it as “that together can combine more complex ones” but it was ungrammatical so I simplified it to “that can form complex ones”. Furthermore, I also had trouble with the sentence “On je otkrio da neke tvari (primjerice metali) izgaranjem dobivaju na težini (...)”. My first translation was “He discovered that some substances (e.g. metals) get heavier when burning” but the part “get heavier when burning” was clumsy so I had to rewrite it. I decided to change the subject of the sentence “substances” to “the weight of some substances”, so the final translation of the clause was “He discovered that the weight of some substances (e.g. metals) increases when they are combusted”. However, “combusted” was not the best solution so I changed it to “ignited”.

The clause “pa su ih kemičari počeli dijeliti u skupine” was also problematic and I only translated it in a satisfactory way on the third try, although the solution now seems pretty obvious and simple to me. My first solution was “so the chemists started to distribute them into groups” where I first amended the wrong use of article “the” and erased it. I then substituted the verb “distribute” with “dividing” and got “so chemists started dividing them into groups”. Then I realized that “dividing into groups” can be expressed with just “grouping”, so I got the final solution “so chemists started to group them”.

One sentence which I also want to highlight is “(...) de Chancourtois (1862.) poredao je elemente po rastućim atomskim masama, smjestivši ih duž uzvojnice nacrtane na plaštu kružnog valjka čiji je opseg bio podijeljen u 16 dijelova.” The term “atomska masa” was mentioned earlier in the text, so I knew that I had to translate it as “atomic weight”, but I was not acquainted with the English translations for the terms “uzvojnica”, “plašt”, “kružni valjak” and “opseg”. After I found the translations for these terms I connected them into a sentence and got “de Chancourtois (1862) arranged the elements in order of increasing atomic

weight, putting them on a cylinder drawn on the rectangle area of a round cylinder which had perimeter divided into 16 parts.” Then I corrected a few mistakes, added the article in front of “order”, transformed “rectangle” into an adjective “rectangular”, changed the article in front of “rectangular” and added “its” in front of “perimeter”, to obtain the final solution.

After these problematic sentences and expressions I will list some chemical terms that demanded adequate translations. For example, “atomska masa” had to be translated as “the relative atomic mass”, “atomska težina” as “atomic weight” “pravilo oktava” as “law of octaves”, “molarna masa” also as “atomic weight”, “gustoća” as “density”, “alkalijske kovine” as “alkali metals”, “stehimetrijski odnosi” as “stoichiometric relations” and “röntgenske zrake” as “x-rays”. As I stated before, I did not have many problems with the translation of this text because the author’s style is concise and coherent.

## **2.4. Translation 4: The Regulation about the Publication of the Agreement...**

### **2.4.1. About the text**

The following document is the Regulation about the publication of the Agreement between the Government of the Republic of Croatia and the Government of the Republic of Serbia on collaboration in the field of environmental protection and conservation of nature. It was signed on 8 June 2015 in Zagreb by Mihael Zmajlović, the Croatian Minister of Environmental Protection and Nature and Snežana Bogosavljević Bogović, the Serbian Minister of Agriculture and Environmental protection. The original text of the document can be found in the appendix of this thesis as well as on the web pages of the Croatian Official Gazette: [http://narodne-novine.nn.hr/clanci/medunarodni/2015\\_10\\_6\\_52.html](http://narodne-novine.nn.hr/clanci/medunarodni/2015_10_6_52.html). The following text is a complete English translation of the original Croatian text.

## **2.4.2. Translation**

The Government of the Republic of Croatia

52

Pursuant to Article 30 paragraph 1, of the Law about the conclusion and execution of international treaties (Official Gazette 28/96), the Government of the Republic of Croatia at its session on 26 August 2015 has adopted the following

### **REGULATION**

**ABOUT THE PUBLICATION OF THE AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF CROATIA AND THE GOVERNMENT OF THE REPUBLIC OF SERBIA ON COLLABORATION IN THE FIELD OF ENVIRONMENTAL PROTECTION AND CONSERVATION OF NATURE**

#### **Article 1**

The Agreement between the Government of the Republic of Croatia and the Government of the Republic of Serbia on collaboration in the field of environmental protection and conservation of nature, concluded in Zagreb, 8 June 2015, originally written in Croatian and Serbian language is hereby published.

#### **Article 2**

The text of the Agreement from Article 1 of this Regulation, in Croatian original, reads:

**THE AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF CROATIA AND THE GOVERNMENT OF THE REPUBLIC OF SERBIA ON COLLABORATION IN THE FIELD OF ENVIRONMENTAL PROTECTION AND CONSERVATION OF NATURE**

The Government of the Republic of Croatia and the Government of the Republic of Serbia (hereinafter “contracting parties”),



aware of the regional and the global importance of environmental protection and conservation of nature, of the importance of finding economical and permanent solutions for these issues through international cooperation and of the importance of the coordination of joint activities of the two countries;

pursuant to the goals and principles stated in the Rio Declaration on Environment and Development, the Johannesburg Declaration on Sustainable Development and the Plan of Implementation of the World Summit on Sustainable Development and the final document of the United Nations Conference on Sustainable Development “Rio+20”;

convinced that the cooperation between the contracting parties in the field of environmental protection and the conservation of nature is mutually beneficial and that it will promote the development of friendly relations between the two countries;

aware of the responsibility to ensure ecologically sustainable development for the present and future generations;

taking into account the fact that consequences of events can have impact on the other side of the border;

have come to the following agreement:

#### Article 1

The contracting parties shall develop and expand the cooperation in the field of environmental protection and conservation of nature in the best interest of both countries, and promote further development of economic, scientific and technological contacts, with the goal of resolving regional and global ecological problems.

#### Article 2

The contracting parties will cooperate in the following fields:

- protection of the air;
- waste management;

- water protection;
- management and protection of ecologically sensitive areas, including the protected areas;
- implementation of international conventions and agreements in the field of environmental protection;
- exchange of experiences in the transposition of the legislation of the European Union;
- education in the field of environmental protection and sustainable development;
- study and research of the environment and the development of environment friendly technologies;
- support for the communication between environmental industries;
- instruments of environmental protection and their implementation in economic policies;
- transboundary transport of dangerous substances;
- any other area which the contracting parties deem appropriate.

#### Article 3

The cooperation between the contracting parties of this Agreement will be implemented in the following ways:

- preparation and implementation of joint projects;
- exchange of relevant information and materials on environmental protection;
- exchange of experts, scientists, delegations and trainees;
- joint organization of seminars, workshops and meetings with the participation of scientists, experts and other interested parties;
- other forms of cooperation agreed upon.

#### Article 4

To ensure the implementation of this Agreement the contracting parties will encourage agencies, organizations and companies for the environmental protection and conservation of nature from their countries to establish and develop mutual direct contacts.

## Article 5

Both contracting parties shall, within three months from the date of the entry into force of this Agreement, appoint a coordinator responsible for the coordination of activities pursuant to this Agreement.

In principle, the coordinators shall hold regular meetings every two years alternately in the Republic of Croatia and in the Republic of Serbia.

To ensure efficient implementation of this Agreement the contracting parties shall make arrangements for biannual programs of cooperation. These biannual programs of cooperation reinforce the scope and the content of activities of cooperation, delivery and dates of delivery (if any exist), products and results, the level of funding and the amount of funds which the cooperating parties have to provide for every activity of that type and all other aspects of activities which coordinators deem appropriate.

## Article 6

The Ministries of the Republic of Croatia and the Republic of Serbia that have jurisdiction over environmental protection and conservation of nature, have jurisdiction over the coordination and the organization of cooperation that shall proceed under this Agreement.

## Article 7

Pursuant to the legislation and the international obligations of the contracting parties, the results and information that have ensued within the framework of this Agreement, can be made available to a third party with the approval of the contracting parties.

## Article 8

The costs related to the implementation of this Agreement shall be financed by the contracting parties.

Participation at the meetings shall be financed in the following way:

- the costs of transport and accommodation shall be borne by the contracting party- sender

- the costs related to the organization of meetings shall be borne by the contracting party-receiver.

In some cases, the contracting parties may agree on different sources of funding.

#### Article 9

Disputes concerning the interpretation or implementation of this Agreement shall be resolved by direct negotiations between the contracting parties.

#### Article 10

This Agreement does not influence the rights and obligations of the contracting parties that ensue from other bilateral or multilateral international contracts that bind them.

#### Article 11

This Agreement may be amended at any time by mutual written consent of the contracting parties.

The amendments shall enter into force in accordance with the procedure stipulated in Article 12, paragraph 2 of this Agreement.

#### Article 12

This Agreement shall enter into force on the date of receipt of the last written notification by which the contracting parties notify each other, through diplomatic channels, of the fulfillment of their internal legal requirements which are a prerequisite for this agreement to enter into force.

This Agreement is concluded for an indefinite period.

Either contracting party can cancel this Agreement at any time with a written notification to the other contracting party through diplomatic channels. In that case, this Agreement shall be terminated six (6) months from the date of receipt of the cancellation notice. The termination of this Agreement does not affect the completion of the activities agreed upon and initiated prior to its dismissal, unless the contracting parties agree otherwise.

Done at Zagreb on 8 June 2015 in two originals, both in the Croatian and Serbian language, both texts being equally authentic.

FOR THE GOVERNMENT

OF THE REPUBLIC OF CROATIA

Mihael Zmajlović, m.p.

Minister of Environmental Protection

and Nature

FOR THE GOVERNMENT

OF THE REPUBLIC OF SERBIA

Snežana Bogosavljević Bošković, m.p.

Minister of Agriculture and

Environmental protection

### **Article 3**

The implementation of the Agreement referred to in Article 1 of this Regulation is within the scope of authority of the central government body responsible for environmental protection and nature.

### **Article 4**

On the date of entry into force of this Regulation, the Agreement from Article 1 of this regulation shall not be in force. The information on its entry into force shall be published in accordance with Article 30, paragraph 3 of the Act on conclusion and implementation of international treaties.

### **Article 5**

This Regulation shall enter into force on the eighth day from the publication in the Official Gazette.

Class: 022-03/13-11/55

Reg: 50301-05/25-15-12

Zagreb, 26 August 2015

The President of the Government of the Republic of Croatia

Zoran Milanović, m.p.

### 2.4.3. Comments

The last translation is the Agreement between Croatian and Serbian Government on collaboration in the field of environmental protection and conservation of nature. I did not expect many problems with the translation of this text since this is a legal document written in administrative style and therefore bound to use already given forms and vocabulary. The main resource used in the translation of this text was “Priručnik za prevodenje pravnih propisa Republike Hrvatske na engleski jezik” (A Handbook for the translation of legal rules and regulations of the Republic of Croatia to English). It was published in Zagreb in 2006 by the Ministry of Foreign and European Affairs. The URL to this handbook can be found in the bibliography of this thesis. I followed the handbook in the translation of legal terms and phrases, but in some cases I had trouble with the choice of words that do not belong to the legal terminology and jargon.

I will first comment on some expressions and terms which were less familiar to me before the translation, continue with the problematic words and conclude with a few examples of problematic sentence structures. For example, the official journal of the Republic of Croatia “Narodne novine” should be translated as “the Official Gazette”, which I found out in the Handbook. It is written there that “Narodne novine” is “often translated in many ways, in both italics and quotation marks” but that it should always be translated without quotation marks. Since I first translated it with quotation marks I amended that and removed them. I translated the Croatian verb “donijeti”, in “Vlada je na sjednici donijela (...)”, as “the Government at its session has adopted (...)”, since “adopt”, in the legal sense, corresponds to the Croatian original. Furthermore, since the use of both names of the Governments: “the Government of the Republic of Croatia and the Government of the Republic of Serbia” is impractical, the term “ugovorne stranke” is used in the original document and I used the phrase “contracting parties” in the translation.

For the translation of the titles of the Declarations mentioned on the second page, about the protection of environment and sustainable development, I consulted the web pages of the United Nations in order to use the correct titles. Moreover, my first translation of the phrase “na temelju” was “on the basis of”, but that was not the correct solution, so I replaced it with the correct “pursuant to”.

Additionally, the clause “posljedice događaja mogu imati prekogranični utjecaj” was somewhat problematic since I first translated it as “consequences of events can have impact over the border” but it was clumsy so I replaced it with “consequences of events can have impact on the other side of the border.” The following statement “sporazumjele su se kako slijedi” was also somewhat problematic because my first inappropriate translation was “came to an agreement as it follows” later replaced with a more suitable “have come to the following agreement”. The first solution for the phrase “ostali zajednički oblici suradnje” was “other agreed forms of cooperation” but in the final version I changed it to a better solution: “other forms of cooperation agreed upon”.

My first translation of the phrase “S ciljem provedbe ovog Sporazuma” was “In order to implement this Agreement”, but that seemed clumsy and inappropriate so I changed it to “To ensure the implementation of this Agreement”. On the last page under Article 3, I first translated the word “djelokrug” as “the scope”, but in this form it lacked information so I added the noun “authority” and the final translation is “the scope of authority”.

Some specific words that I was not able to translate appropriately on the first try include: “pitanja” in the sense of problems on the first page which I first translated as “questions” and later amended to the more suitable “issues”; “okolišna održivost” which I first translated as “ecological viability” and then amended to the correct “ecologically sustainable development”; the adjective “odgovarajući” which I translated as “adequate” and later corrected to a more suitable “appropriate”. Moreover, I translated the noun “oblici” on

the second page of the Croatian original (the third page of the English translation) with “forms” and later corrected it to “ways”. The first choice for the translation of the phrase “u načelu” was an informal, and consequently inappropriate, “generally”. The second and final solution was to translate “u načelu” as “In principle”. Considering the tenses, the future tense in legal documents is always expressed with “shall” so I have adhered to this rule in the translation of the text. Furthermore, I first translated Article 1 on the first page, “Objavljuje se Sporazum između Vlade Republike Hrvatske (...)”, with “Publication of the Agreement between the Government of the Republic of Croatia (...)”, but the word “publication” is a noun, and the meaning and the structure of the sentence required a verb. Therefore, I started the sentence with the subject “The Agreement between (...)” and put the verb at the end of the sentence: “(...) is hereby published.”

Despite the aforementioned problems, I think I had the least problems with the translation of this text. The format was predetermined and I only had to follow the constructions given in the Croatian original and translate them with the appropriate English equivalents.



### 3. Conclusion

For the purposes of this thesis I translated four texts that belong to different styles and deal with different topics. The first translation is that of a literary text, a short story by Pavao Pavličić. When I was translating it I tried to preserve the syntactic structure and the rhythm of the story because they are important stylistic characteristics of literary work. I have to acknowledge that I had problems with the translation of this text, some because of my issues with tenses and articles, and some because Pavličić uses long sentences with up to five or six clauses that have to be appropriately transposed into English.

The second text is a chapter from the book “Povijest Rijeke” and it is a historical, scientific text on the conditions in Rijeka from 1793 to 1813. The author of this text often used inversion and somewhat atypical word order, which I did not completely follow. I justify this by the fact that this was a scientific text and I thought it was important to make the translation clear and coherent.

The third text is an article from the Croatian magazine “Drvo znanja” and is, in fact, a short overview of history of chemistry and chemical discoveries. The article was written mainly for younger population (pupils of elementary schools), so the author has communicated the most important chemical discoveries in a simpler, but still very informative manner.

The last text is a legal document that regulates the publication of the Agreement between the Governments of Croatia and Serbia on collaboration in the field of environmental protection and conservation of nature. I had the least problems with this text because I simply followed the predetermined structures and forms.

In the end, I think that I adequately presented how the translator has to adapt to texts of different styles and themes, and what some possible problems that can appear during the process of translation are.

## 4. Appendices

### 4.1. Appendix 1: Povratak u Hannibal

Kad sam između kuća ugledao sivo-zelenu rijeku i narančastu jesensku šumu na drugoj strani, krv mi je jurnula u glavu. Jer, odjednom sam se osjećao kao da sam tu proveo čitav život, a istodobno i kao da ulazim u svoj vlastiti san.

Dobro sam znao da se nalazim u Hannibalu, Missouri, i da je to što pred sobom gledam slavna rijeka Mississippi; ali, istodobno, sve je bilo toliko slično kao u mome rodnom Vukovaru, da se nisam mogao oteti dojmu da je to preda mnom Dunav i da sam se vratio na mjesta svoga djetinjstva. Boja vode bila je ista, boja šume bila je ista, kao što je i u gradu sve bilo isto: ulice što se u blagom nagibu spuštaju prema rijeci, miris vode, glib u plićacima i vrbovo granje. I još: nasuprot grada bio je otok, koji se ovdje zvao Jackson's Island, a u Vukovaru naprosto Otok, a iza njega bila je – i ovdje i tamo – druga, veća ada koja se pružala kilometrima nizvodno. Sve je štimalo. A kad smo se ukrcali na brod i malo plovili uzvodno i nizvodno, i pogled s vode na grad, zavučen između dvaju brežuljaka, bio je sasvim isti. Čak je i Vuka bila tu, samo što se ovdje zvala nekako drugačije i smatrala se kanalom. Sjetio sam se tada svega onoga što sam napisao u svojoj knjizi o Dunavu, pokušavajući da u njoj kažem sve što znam o najvažnijoj rijeci u mome životu, i tada mi se odjednom učinilo da bi se sve što ondje stoji moglo reći i za Mississippi, ovdje, u Hannibalu.

I to mi se učinilo nekako najvažnije, i zato mi je bilo kao da ulazim u vlastiti san. Jer u toj mojoj knjizi, naravno, Dunav baš i nije bio pravi Dunav, nego je prije nekakav moj san o Dunavu, slika što ju je moja ljubav uspjela naslikati. A sad sam postao svjestan da sam, sanjajući o Dunavu, sanjao i Mississippi, veliku i glasovitu rijeku koju nikad prije nisam vidio. A to me je najviše i zbunilo, jer je izgledalo kao da se pred mojim očima ostvaruje jedna od mojih literarnih fikcija.

Jer, ja sam zapravo oduvijek maštao o tome da negdje postoji drugi grad koji je isti kao Vukovar. To mi je palo na pamet valjda još u djetinjstvu, kad sam pohlepno gutao knjige i kad sam njihovu radnju morao nekamo smjestiti; a budući da nisam poznavao ništa drugo osim Vukovara, ja sam prizore iz knjiga zamišljao na Dunavu. Zato mi se valjda i činilo da razumijem *Toma Sawyer* bolje nego moji vršnjaci iz drugih mjesta. Tako sam, pretpostavljam, došao na pomisao da, ako se radnja nekih knjiga tako dobro uklapa u vukovarske krajolike, negdje mora postojati grad koji je mome rodnome mjestu posve nalik. Poslije sam tu misao više puta pokušavao razraditi, a posljednji put u ljeto 1987, samo dva mjeseca prije nego što sam kao član Međunarodnog programa pisaca u IowaCityju stigao na izlet u Hannibal, Missouri. I, naravno, dok sam toga oblačnog oktobarskog dana hodao ulicama Hannibala, nisam mogao da i u tome ne vidim nekakav znak. Jer, u tekstu što sam ga pisao toga ljeta pojavljuje se epizoda o ženi koja stiže u Vukovar iz Slovačke, iz nekoga grada na Dunavu, i u Vukovaru odmah sve prepoznaje: sve je isto kao u njezinu gradu, samo što je izokrenuto kao u zrcalu. Ta žena u Vukovaru nalazi i iste ljude kao u svom zavičaju, samo u različitim ulogama: onaj koga je u svome gradiću poznavala kao gradonačelnika, u Vukovaru je mjesni pijanac, onaj koga je znala kao svećenika, u Vukovaru je kavanski primaš, žena koju je znala kao animir-damu, u Vukovaru je bogomoljka. Otkriva čak da je u Vukovaru imala i polusestru i saznaje da je ta sestra otputovala u onaj njezin gradić u Slovačkoj. Tako ostaje živjeti u Vukovaru, a ni njezina se sestra više ne vrati kući.

Naravno, sve je to bila samo literarna konstrukcija, ali ja sam se toga oktobarskog dana u Hannibalu osjećao kao da sam ušao u tu konstrukciju. Bila je to klasična priča o umjetniku (bio ja umjetnik ili ne bio) koji postaje žrtvom svoje vlastite fikcije i prevelikog povjerenja u nju. A moja je fikcija – barem meni, barem toga dana – bila silno uvjerljiva. Jer, nije sve ostalo samo na dojmovima, počele su mi se događati stvari koje su sve više podržavale moju književnu fikciju, a sve više smučivale mene kao realnu i živu osobu koja je

– zapravo zato što stvara fikcije – sposobna da razlikuje izmišljotinu od zbilje. Nekako mi više nije bilo lako da povučem crtu, i hodao sam ulicama Hannibala kao da šecem po recima vlastite knjige.

Počelo je tako što sam susreo čovjeka s ribičkim priborom. Imao je na nogama zelene čizme do kukova, nosio je vjetrovku od impregniranog materijala i zeleni šešir sa zataknutim narančastim perom. Nosio je u ruci tri ribička štapa, a iz usta mu je virila kratka, svijena lula sa sjajnim rupičastim poklopcem. Hodao je polako, malo njišući svoje štapove u desnoj ruci, dok je lijevu držao u džepu vjetrovke. U tome sam času uhvatio sebe gdje mislim kako je taj čovjek otkako je otišao u mirovinu (nakon što je četrdeset godina radio kao veterinar) prestao pričati viceve, što mu je nekad bila omiljena zabava. Možda je prestao s vicevima i zato što su mu nedavno umrla dva najbolja prijatelja, s kojima se uvijek glasno smijao na ulici, vlasnik restorana i kapetan riječne plovidbe. Odjednom, ja sam znao da se taj čovjek zove Thomas White i da ima četvoro djece, a znao sam i to da mu nedostaje mali prst na lijevoj ruci jer mu ga je odgrizao nekakav opasni pastuh.

Naravno, dok sam hodao za čovjekom niz ulicu što vodi od rijeke, govorio sam sebi kako treba da se smirim i kako bi mi bilo bolje da mi mašta radi za pisaćim stolom, a ne okolo po izletima. Ali, tada je iz brijanice na uglu izašao nekakav stariji gospodin i obratio se mome čovi sa štapovima: - Hi, Tom, how're youdoing?

Dobro, i to je moglo biti slučajno. Stajao sam pred izlogom prodavaonice suvenira dok oni nisu završili razgovor i rastali se. Odlučio sam pratiti toga Toma, jer sam nekako znao da on stanuje u blizini.

I doista, stanovao je. Prešao je još nekih pedesetak metara i skrenuo za ugao, pa ušao u dvorište ispred bijele drvene kuće koja je na trijemu imala klupu za ljuljanje obješenu o strop. Kad je nestao u kući, ja sam nastavio niz ulicu, a onda sam na poštanskom sandučiću kraj ulaza u vrt ugledao ime: WHITE.

U redu, takve stvari se događaju, i ja sam bio spreman da sve to otpišem na stjecaj okolnosti. Kažu da to ide ovako: jednom je slučaj, dvaput je koincidencija, triput je pravilo. U redu, pomislio sam da se zove Tom i zvao se Tom: slučaj. Pomislio sam da mu je prezime White, i bilo je White: koincidencija. Ali sad, nakon tog otkrića, odjednom mi se učinilo i da znam gdje je kuća Marka Twaina, pa da čak znam i kako izgleda.

Kad smo sišli s broda, ostali pisci, članovi grupe, zaputili su se u smjeru grada, a ja sam još malo motrio rijeku, šumu, vidik s obale na grad, i tako, kad sam se osvrnuo, vidio sam da sam sam. Potom sam stao slijediti onoga Toma Whitea, i sad sam po svojoj prilici bio negdje daleko od ostalih. A istodobno, znao sam kako samo treba da pređem dva bloka zgrada, da skrenem lijevo pa potom desno i da ću stići do kuće Marka Twaina. I ne samo to, nego sam već tada znao i na koji se način, i u koje doba godine, obično bijeli ona čuvena ograda koju je Tom Sawyer u romanu morao farbati, pa je od toga napravio dobar posao. I, naravno, nakon dva bloka desno i jednoga lijevo, ugledao sam je: bila je točno onakva kakvu sam je zamišljao, ili, još bolje, kakva sam znao da mora biti.

Stajao sam na uglu, gledao Twainovu kuću izdaleka i nisam znao šta treba da mislim. A nisam imao ni kada, jer odjednom mi se počelo javljati nekakvo prisjećanje i ja sam ga pustio da teče, ogledavajući ga sa zanimanjem kao što čovjek zastane pred izlogom u kojem je upaljen televizor, pa bulji u sliku a ne čuje ton, i nastoji pogoditi o čemu je tamo zapravo riječ i u kakvoj je to vezi s njim koji stoji ondje i pilji, umjesto da ide svojim putem.

Prisjećanje je bilo posve neobično i netipično za način na koji se ja inače prisjećam. Prisjetio sam se, naime, kako je moja kći, kad su je prvi put doveli u Twainovu kuću, izjavila da bi se rado pokušala spustiti niz oluk, kao što je to Tom Sawyer običavao raditi, i kako su to poslije moja žena i moja teta prepričavale svima u obitelji.

Ja, naravno, nemam kćerku, nego sina, koji više voli teoriju i ne spušta se niz oluke, moja žena nije crnokosa, nego ima plavu kosu i plave oči, kao što nemam ni mršavu i visoku

tetu duboka glasa, kakva je bila teta u mome sjećanju. Ali, slika je bila tako jasna, sjećanje toliko živo, da sam čak mogao vidjeti šiljkaste crvenkaste čizme na svojim nogama kako se uspinju škripavim stepenicama na trijem prilikom mojeg posljednjeg posjeta Twainovoj kući, u kojoj, koliko znam, nikada nisam bio, kao što nikada nisam nosio čizme.

Onda sam se prisjetio jedne od svojih literarnih kombinacija, i opet mi se učinilo pomalo jezivo što mi se moje vlastite fikcije počinju događati jedna za drugom. Svojedobno sam se bavio idejom da napišem priču o čovjeku koji zazire od važnih odluka u životu. Kad god odluči da krene jednim putem, njega strašno muči želja da vidi što bi bilo da je krenuo drugim. Ako odluči da otputuje, zanima ga što bi bilo da je ostao; ako odluči da se oženi, muči ga pitanje što bi bilo da je ostao momak; ako odluči da se preseli, razbija glavu oko toga što bi bilo da je ostao gdje se rodio. I, mislio sam, taj bi čovo na kraju pronašao način da vidi te svoje druge, potencijalne živote, pa da ih čak nekako i iskuša. I da možda izabere najbolji među njima. Ali, onda se dogodilo da sam vidio film Franka Capre *Divan život*, u kojem glavni junak – mali čovjek iz malog grada, baš kao i ja i potencijalni lik u mojoj priči – dobiva priliku da vidi što bi bilo da se nije ni rodio. To je bilo tako snažno i tako dobro izvedeno, da sam ja zamisao o svojoj priči napustio, premda mi se činilo da sam time donio jednu važnu odluku, i počelo me je mučiti pitanje što bi bilo da sam priču ipak napisao.

I, sad mi se činilo da sve to ima neke veze s tom mojom situacijom u Hannibalu. Jer, ja sam jednako odselio iz Vukovara (kad mi je bilo devetnaest godina otišao sam studirati u Zagreb i više se nisam vratio), i time sam poništio onaj život koji sam mogao živjeti da sam ostao u rodnom gradu. Ali, s obzirom da sam često svraćao u Vukovar, gdje mi žive roditelji, ja sam osjećao da taj moj potencijalni život, koji ne živim, nije posve izgubljen, nego da on ipak nekako postoji, doduše u nekom potisnutom i latentnom stanju, ali ipak postoji. Dogadalo mi se da ljeti dođem u Vukovar na dan ili dva i da, sjedeći ispred glavne kavane, jasno osjetim kako bi to bilo da tako sjedim svaki dan iz godine u godinu. Razgovarajući s

nekim znancem, mogao sam točno zamisliti kako bi izgledalo da ga viđam svakoga dana. Gledajući svoj odraz u staklima izloga na vukovarskom korzu, mogao sam zamisliti kakav bih bio i kako bih izgledao, što bih mislio, da se moj lik ondje odražuje čitavog života. I na trenutke mi se, za tih kratkih posjeta Vukovaru, znalo činiti da sve ono što pišem u svojim romanima, da sve one fikcije koje stvaram za sebe i za druge, nisu ništa drugo nego opis toga mog drugog života, te egzistencije koje nema, ali bi mogla biti.

Naravno, sve je to prilično krhko i može izgledati kao sentimentalna tlapnja. Ali tamo, u Hannibalu, dok sam između kuća gledao komad sivo-zelene rijeke kao da gledam komadić Dunava između vukovarskih tornjeva, meni se činilo da sve to ima smisla i da štošta objašnjava. Jer, mislio sam, ja sam iz Vukovara otišao i tamo se moj život nije mogao odvijati, ja mogu samo zamišljati što bi bilo da sam živio ondje, i nikad ne mogu znati koliko je to što zamišljam vjerojatno. Ali, mislio sam dalje, ako se taj moj hipotetični život nije mogao odvijati u Vukovaru, možda je mogao u Hannibalu, Missouri? Možda sve što započne mora imati nekakav završetak, kao svaka prava priča, i možda je moj drugi život mirno tekao ovdje, na ovim ulicama, kraj ove velike i mudre rijeke, a da ja to nisam ni znao? I možda svatko negdje ima takav neki Hannibal, gdje se ovija njegov neproživljeni život, a da to i ne sluti, a ja sam jedini imao sreću da to mjesto nađem i prepoznam? Možda, napokon, stvarni život svakoga od nas i nije ništa drugo nego ispunjenje nečijega neostvarenog života, kao što netko drugi proživljava naš neostvoreni život? Možda mi samo razmjenjujemo neproživljene živote, i možda pravi život i ne postoji?

Naravno, sve to može zvučati veoma patetično i neprimjereno stvarnome povodu. Došao čovjek u Hannibal, Missouri, grad mu se učinio sličan njegovu rodnom gradu. U redu, pa što? Vidio nekoga Toma Whitea; čudna mi čuda. Fantazirao o nekakvoj kćeri, ženi i tetki; ali zar malo ljudi fantazira i zar i ja sam rijetko fantaziram? Trgao sam se i krenuo s onoga ugla. Ugasio sam cigaretu i ušao u kuću Marka Twaina. Obišao sam je i razgledao, čak sam

pogledao i slajdove o piščevu životu, premda sam sve unaprijed pogađao i premda mi je sve bilo unaprijed poznato, koliko već može biti poznata kulturna znamenitost maloga grada nekome tko u tome gradu živi. Strpljivo sam gledao i slušao, nastojeći da se otresem svojih luckastih misli, znajući da bi mi one mogle pokvariti boravak u tome tako lijepom i važnom gradu.

Ali, tim je mislima, toga dana sve išlo u prilog, sve ih je podržavalo i osnaživalo. Jer, kad sam napokon izašao iz Twainove kuće i stao opet šetati ulicama, sve je krenulo iz početka. Otišao sam nekoliko blokova niz rijeku, dok mi je vjetar poznata mirisa izazivao poznate, zavičajne žmarce. Nakon nekih tri stotine metara našao sam se u kvartu za koji sam odjednom nekako znao da je moj. Nalazio se, u odnosu na rijeku, otprilike na onome istom mjestu na kojem se u Vukovaru nalaze neke nove zgrade kojih nije bilo dok sam ja tamo stanovao. Točno sam znao kakav je vidik prema rijeci, a znao sam i koliko se, pri ovome vodostaju, može vidjeti od šume na drugoj strani i od obale pod mojim nogama. I znao sam da ću, kad zađem iza ugla, ugledati kuću kojoj na ogradi trijema sjedi velika plastična lutka, maneken za izlog, odjevena u crnu vreću za smeće, i to zato što su se susjedu bunili zbog te plastične golotinje pa ju je valjalo sakriti.

Ugledao sam je i znao da sam stigao kući. Znao sam da tu živim, ili da bih tu živio da sam rođen u Hannibalu. Znao sam da bi i u Vukovaru bilo tako, ili nekako slično, i da je ovo što tu pred sobom gledam (ta kuća, garaža u kojoj je, znao sam svijetloplavi *dodge*, pa zardali roštilj iza kuće, stari namještaj na tavanu), da je to zapravo moj život. Da je to zapravo dio onoga istog moga života koji doista živim. I znao sam da ni ovaj moj obični, svakodnevni život, koji me doveo u SAD, u Iowu, pa u Hannibal, Missouri, ne bi bio isti, pa čak da ne bi bio ni moguć, da nema te kuće, te lutke na trijemu, te nepokošene trave u vrtu i toga vidika na sivo-zelenu rijeku. Da ta kuća slučajno izgori, da se tome gradu nešto dogodi (da ga uništi poplava ili potres), moj bi život tamo, u Evropi postao drugačiji.



Jedino čega sam se bojao dok sam stajao ondje, na vjetru, nadomak rijeke, i gledao tu malu, običnu, drvenu američku kuću, bilo je da će se na kući otvoriti vrata i da će iznutra ispasti kakva žena s viklerima ili kakav debeljko s naramenicama i u kariranoj košulji, ili dječak u tenisicama, i da će sve pokvariti. Jer, cijela mi se ta igra počela sviđati, počeo sam vjerovati ne samo u vlastite izmišljotine, nego i u vlastite strahove i nesvjesne predodžbe, pa sam zato sad želio da sve to ostane isto, da sve zapamtim takvo kakvo jest, i da ništa ne pokvari tu sliku.

Ništa se nije dogodilo. Kuća je bila mirna i pusta, kao da u njoj nikoga nema. Na trenutak sam pomislio – prepuštajući se već sasvim svojim tlapnjama - da u toj kući nitko i ne živi, da ona postoji samo zato da bi meni nešto značila, da bih ja mislio kako je to moja kuća i kako je ona nerazdvojan dio moga života. Ako su krajolici stanja duše, kako su vjerovali romantičari, zašto onda ne bi jedna mala američka kuća bila materijalizacija moga života, moga drugog života? Stajao sam ondje dugo i gledao, jer se ništa nije dogodilo.

Točnije, ne baš ništa. Jer, na mjestu gdje sam stajao, jedan je sporedni put, strmo se spuštajući, izlazio na glavnu cestu. Tim je putom naišao kamionet, smeđ i svježe opran, pa se zaustavio točno kraj mene, jer je ondje morao pričekati priliku da se uključi u promet. U kamionetu je sjedio sijed čovjek s crvenom kapom na kojoj je pisalo JOHN DEERE. Staklo na vozačkoj strani bilo je spušteno i on mi se kroz prozor nasmijao veselo i prijateljski.

- Hi, Paul – rekao je.- Backfrom Europe yet?

- Hi – rekao sam, pa promrsio nešto zbunjeno i nejasno, nacerivši se kao budala i želeći da to bude ljubazno.

Uto se cesta oslobodila, čovjek mi je mahnuo i odvezao se. Ja sam znao da se on zove CarlLenoch, da stanuje na vrhu brežuljka i da ima praonicu automobila. A ipak, nisam sebi dopuštao da u to vjerujem. Jer, sve je bilo u redu dotle dok se radilo o mojim vlastitim iluzijama, o slučajnostima, podudarnostima i o mome subjektivnom raspoloženju. Ali, odakle

je taj čovjek mogao znati kako se ja zovem, i da sam došao iz Evrope? I što mu je značilo ono da sam se vratio, i to već?

Nisam volio da se zbilja i ljudi u njoj počnu ponašati u skladu s mojim iluzijama. Radije sam sve to sebi objasnio na običniji način. Možda je onoga čovjeka u kamionetu netko nagovorio da mi ono kaže? Jer, ja sam nekim kolegama piscima još na brodu govorio o sličnosti između Hannibala i moga Vukovara, o tome da se osjećam kao kod kuće i da mi sve to ne ide u glavu. Možda su napravili vic, da me malo zezaju? Možda je netko od naših domaćina i vodiča čak i poznao onoga čovjeka, pa mu nije bilo teško da ga nagovori na malu šalu?

Tako sam sebi govorio dok sam išao prema kombiju koji je već čekao da nas poveze natrag u Iowu. Nikako mi nije išlo iz glave ono što je čovjek rekao o povratku iz Evrope: to se nije uklapalo ni u vic koji bi netko napravio, ni u moje vlastite fikcije, ni uopće, ni u što. Sve je to bilo odviše čudno. Sve mi je bilo čudno, a najviše sam bio čudan sam sebi.

Jer, kad sam se vratio do kombija, tamo su već bili Toma i Ksenija, Jugovići koji žive u IowaCityju i koji su došli skupa s nama na izlet. I, ja, sam im se, ni sam ne znajući kako, obratio na engleskom, i počeo nešto pripovijedati nadugačko i naširoko.

- Šta je tebi, čoveče? – upitao me Toma, a ja sam ga pogledao blijedo, jer nisam bio svjestan, budući da govorim loše i teško.

- A, čuj ga samo kako priča – rekla je Ksenija. – K'o Amer.

Zbilja, tih sam nekoliko minuta govorio tečno, pa čak i bez akcenta, koliko god to nevjerojatno zvučalo i meni samome.

To me je još više smutilo, i tako sam zašutio, pa sam šutio gotovo cijelim putom, sve do IowaCityja, ili sam razgovarao o drugim stvarima. O drugim stvarima sam razgovarao i poslije, danima i mjesecima. I gotovo da sam zaboravio na ono što mi se dogodilo u

Hannibalu, Missouri. Povremeno bih se toga sjetio, ali me je uglavnom bilo stid, pa sam radije mislio o čemu drugom.

Tek kad sam se vratio kući, i kad sam jednoga dana svratio u Vukovar, opet sam se sjetio svega. Jer, moj tamošnji prijatelj Braco rekao mi je čim smo se sreli.

- A što je tebi bilo da prošle jeseni po Vukovaru izigravaš budalu i da govoriš engleski? I još da se praviš kako nikoga tu ne poznaješ?

Ništa nisam razumijevao, ali se neka slutnja pomalo počela pomaljati čim je to rekao. Morao sam to istjerati na čistac.

- Kad prošle jeseni? – upitao sam.

- A šta ja znam, negdje oko desetog oktobra, tu negdje.

Nisam se dao, čak sam i povisio glas, kao da ću time uvjeriti njega, a još više sebe. Rekao sam:

- Pa ja sam tada bio u Americi!

- To ti pričaj nekome drugome – rekao je Braco mirno. – Ovdje si ti izigravao Amerikanca, u Vukovaru, eto gdje si bio. Samo to ti je bilo prilično blesavo, znaš.

Nisam mu ništa odgovorio. A i što sam mogao? Samo sam shvatio da sve to treba razjasniti i raščistiti. I tada sam odlučio da se kad-tad moram vratiti u Hannibal, Missouri.

## **4.2. Appendix 2: Rijeka za Napoleonovih ratova od 1793. do 1813.**

### 1. Nemirna vremena

PRVI RAT S FRANCUSKOM. Rat što ga je 1787. god. Austrija započela s Turskom prekinut je mirom u Svištovu (Bugarska) 1791. godine. Međutim, Austrija se umiješala i u rat s Francuskom. Taj je rat isprva pao samo na teret Austrije i njene saveznice Pruske. Da se priključe tom ratu 1793. godine, potakao ih je strah plemstva i svećenstva od mogućeg, i vjerojatnog, širenja revolucionarnih gibanja. Ipak, neslaganja su u toj koaliciji glavni teret rata ostavila Austriji. Austrijska vojska najteže je prolazila u Italiji, gdje je od 1796. god. Francuze vodio Napoleon Bonaparte.

Taj rat utjecao je izravno i na prilike u Rijeci. Porazi austrijske vojske izazivali su sve veći strah. U nekoliko utvrda na obali pred Rijekom smješteno je dvadesetak topova i mužara, a u gradu su cijelo vrijeme bili u pripravnim stanju jedan poručnik, 31 topnik i 97 običnih vojnika. Planirano je da se u Rijeku pošalje i oko 300 ranjenika iz Mantove, ali je brzo napredovanje Francuza taj plan učinilo bespredmetnim. Jače ugroženi Trst već je ranije bio poslao svoj arhiv na pohranu u Rijeku, kamo je bježalo i tršćansko stanovništvo.

S riječkog područja uvojačeno je u veljači 1797. god. dvadesetak vojnika, ali se 16 odmah razbježalo. Rijeku postupno hvata panika, pa grad traži od vojnih vlasti u Karlovcu i Zagrebu neka što prije pošalju jaku posadu i naoružanje. Prema izvještaju guvernera, u istarskom i riječkom okrugu bilo je podijeljeno 1.355 pušaka, u Bakru 700, tako da ih je u riječkoj oružani ostalo svega 76.

U ožujku 1797. god. povukao se iz Trsta vojni zapovjednik general Pittoni, skupa s garnizonom, pa je riječki guverner Paszthory naredio da se arhivi iz Rijeke evakuiraju u Bjelovar. U Bjelovar je otpremljena i gubernijska kasa; za njezin prijevoz bilo je potrebno ravno 29 dana. U međuvremenu se oko Rijeke, u Lovranu, Kastvu, Bakru i Vinodolu, bila sakupila prilična vojska krajišnika i ostalih naoružanih ljudi.

Nakon neznatne čarke oko Lipe, 4. travnja, general Pittoni nastavio je povlačenje, sklopivši prije toga primirje s Francuzima na šest dana. Nakon što se povukao na lijevu obalu Rječine, slijedila ga je i ostala vojska iz Lovrana i Kastva, a u otvorenu Rijeku ušli su Francuzi koji su tu ostali do 9. travnja.

Vojska je tom prilikom, navodno, počinila veliku štetu građanima; međutim, nakon procjene vidjelo se da je iznosila svega 903 forinte (za 209 pari cipela, 6.120 hljebova kruha i oko 2.500 litara vina). Za to grad nije tražio nadoknadu, ali je zato kasnije u Rijeci o toj vojsci iz Hrvatske pisano i govoreno sve najgore.

Međutim, pod pritiskom Napoleona koji je osvojivši sjevernu Italiju prodro preko Koruške u Štajersku, Austrija je sklopila primirje u Leobenu (7. travnja 1797). Austrija se tom prilikom odrekla Belgije i Lombardije, ali je, zauzvrat, dobila Mletačku Republiku s Istrom i Dalmacijom, što je potvrđeno mirom u CampoFormiju (17. listopada 1797).

Unatoč teškim prilikama za toga ratovanja, riječki trgovci ne miruju. Zbog ratne opskrbe razvija se intenzivan trgovački promet. Računa se da se u godinama 1786-1809. iz luka tzv. Ugarskog primorja godišnje izvozilo oko 3 milijuna stara žitarica, u vrijednosti oko 12 milijuna forinta. Doprema žita iz unutrašnjosti Hrvatske i Mađarske intenzivirala je ne samo promet Karolinom nego i Jozefinom, cestom za Senj, sagrađenom još 1770. godine.

ADAMIĆEVA INICIJATIVA ZA PLOVNOST KUPE. GRADNJA LUJZINSKE CESTE. Udaljavanje jednog dijela prometa iz unutrašnjosti od Rijeke, potaklo je riječkog trgovca, A. L. Adamića da pokrene (1796) projekt uređenja Kupe, kako bi Kupa postala plovna do Broda na Kupi, odakle bi se roba, dobrom cestom, prevozila do Rijeke. S kapitalom jačih feudalaca i zagrebačkog biskupa Vrhovca osnovano je u Beču, s tim ciljem, dioničko društvo sa 800.000 forinti. Rad „Akcijskog društva za regulaciju rijeke Kupe od Ledašice do Broda na Kupi i za gradnju trgovačke ceste od Broda na Kupi do Rijeke s odvojcima na Bakar i Kraljevicu“ odobren je 1801, a radovima započetim iste godine upravljao je inženjer H. Ph.

Charpentier, pozvan iz Francuske. Već iduće godine rad je zapeo, pa se od uređenja Kupe odustalo, unatoč činjenici što je za to bilo utrošeno pol milijuna forinti.

Preostali dio kapitala uložen je u izgradnju nove, povoljnije trasirane ceste od Rijeke prema Karlovcu. Radovi su povjereni F. Vukasoviću, koji se iskazao gradnjama cesta iz Senja za Sv. Juraj (1783) i iz Senja za Novi (1784). Radovi su započeti u Rijeci, a 1804. god. bile su već dovršene dvije austrijske milje ceste, preko Čavala prema Kamenjaku. Gradnja ceste nastavljena je do 1809. godine, kada je došlo do francuske okupacije ovih krajeva. Kratak, nedovršeni dio ceste pred Karlovcem, dovršili su francuski inženjeri. U svim suvremenim opisima hvaljeni su projekti i izvedba ceste, jer su usponi na njoj do maksimuma ublaženi, pa je nazivana i najljepšom alpskom cestom. Trošak izgradnje iznosio je ravno 1,5 milijuna forinti. Cesta je prozvana po Mariji Lujzi, ženi Napoleona I.

NOVI RATOVI S FRANCUSKOM. Ratuje se, međutim, i dalje. Jedva što je došlo do primirja s Francuzima u Leobenu, već je austrijski vladar od svojih podanika zatražio nove vojnike za rat. Novi savez evropskih država započeo je s uspjehom rat u Italiji i Njemačkoj, no čim se Napoleon vratio iz Egipta, Austrijanci su potučeni kod Marenga, pa je car Franjo morao sklopiti novi mir u Lunevillu (1801) pod istim uvjetima kao i onaj u Campo Formiju.

Treći savez protiv Francuske (1804-1805) uvukao je cara Franju II ponovno u rat. Novi rat, po svemu se čini, nije izazvao toliko nemira i uzbuđenja u Rijeci kao onaj prvi. O ratu se u Rijeci znalo po tome što je u siječnju objavljen proglas o hvatanju dezertera, što je u ožujku iste (1805) godine izvršena regrutacija i sl. U kolovozu prošle su kroz Rijeku glinska i petrinjska regimenta odlazeći na bojište protiv Francuza. Već 9. rujna stigle su u Rijeku, pod zapovjedništvom francuskoga divizijskog generala Serasa, francuske jedinice koje su, također, odlazile na bojište. Francuzi su u Rijeci ostali samo od 9. do 13. rujna, ali su za to naplatili kontribuciju u ukupnom iznosu od 135.515 forinti, koja je raspodijeljena na vrijednost sve imovine u gradu, čak i na vrijednost erarskih zgrada. Nakon odlaska Francuza

život se u Rijeci nastavio uobičajenim tokom i poslovima. Na rat je podsjećala još pristigla naredba o skupljanju bijelih, čisto opranih krpa za vojne bolnice.

Nakon spomenutog prolaza francuske vojske kroz Rijeku 1805. god. ostala je u riječkom arhivu uredno prepisana „Raspodjela francuske kontribucije.“ Raspodjela je izvršena na 1.100 kontribuenata sa po 13 forinti na tisuću vrijednosti imovine. Ukupna vrijednost riječke imovine po toj kontribuciji iznosila je deset milijuna i četiri stotine tisuća forinti. Najveću imovinu imala je rafinerija šećera, 1,7 milijuna forinti. Najbogatiji, pak, građanin nije L. Adamić (200.000) nego Matej Kertica, sa 300.000 forinti imovine (najniže procijenjeni imutak bio je 100 forinti, u 14 kontribuenata). U raspodjeli izvršenoj alfabetskim redom naznačeno je i zanimanje za 342 kontribuenta. Možda su vrijednosti imovine nerealne, snižene, ali vjerujemo da su odnosi među njima prilično realni.

I taj je rat bio porazom kod Slavkova izgubljen; mirom u Požunu, 26. XII 1805, izgubio je Franjo II sve ono što je bio dobio mirom u Campo Formiju.

**NASTAVAK NEJASNOĆA OKO RIJEKE.** Koristeći kraći predah, Riječani pokušavaju 1806. god. urediti ušće Rječine i luku u njemu. Bio je, naime, predložen projekt za produženje luke i izgradnju dvaju mostova, jednoga kamenog, a drugoga drvenog, sve skupa za svotu od 187 tisuća forinti. Projekt, dakako, nije ostvaren. Iduće godine teče i druga inicijativa povezana s Rijekom. Na Budimskom saboru 1807. god. pokušali su, naime, hrvatski zastupnici opet riješiti pitanje pripadnosti Rijeke u korist Hrvatske. Sabor je prihvatio njihov prijedlog, no car je potvrdio taj zakonski članak (IV; 1807) formulacijom koja ističe da je već odredbom Marije Terezije, od 9. rujna 1776, Rijeka utjelovljena kraljevini i da će se riječkom guverneru dati slobodno mjesto i glas u velikaškoj, a zastupnicima grada Rijeke u staleškoj kući. Time je opet ostalo nejasno kojoj je kraljevini Rijeka utjelovljena, Hrvatskoj ili Ugarskoj, pa je Hrvatski sabor u svome proglasu, u veljači 1808. godine, jasno istaknuo da je Marija Terezija Rijeku neposredno utjelovila kraljevini Hrvatskoj. Stoga su hrvatski staleži

dodijelili mjesto i glas u Hrvatskom saboru guverneru grada Rijeke i zastupnicima. Na taj su način riječki guverner i gradski zastupnici mogli dolaziti, a i dolazili su, na oba sabora, Ugarski i Hrvatski, i na oba imali pravo glasa.

JOŠ JEDNA VOJNA. Na redu je međutim, novi rat. Gubici cijelih pokrajina i nezadovoljstvo vladara, knezova i magnata u Evropi zbog izgubljenih prihoda i straha od definitivnog svrgavanje opet su udružili evropske reakcionarne snage protiv Napoleona i njegovih saveznika. Da bi osigurala pojačanje, Austrija je već 1805. god. pristupila organizaciji domobranske vojske. U nju su bili uključeni svi sposobni muškarci od 18 do 45 godina, koji su morali o nedjeljama i blagdanima vježbati rukovanje oružjem. U Rijeci je komisijski popis sposobnih muškaraca započet u siječnju 1809. godine.

Ustanak u Španjolskoj protiv Francuza bio je znak za Nijemce, Pruse i Austrijance da krenu u novi obračun s Napoleonom. Međutim, Napoleonov prodor do Beča i konačna pobjeda kod Wagrama omogućili su mu da iz Beča diktira uvjete mira. U tom su ratu austrijske snage, uglavnom krajiške, imale nekih uspjeha u sjevernoj Italiji (Predil i Malborghetto). Potkapetan Hrvatske, general Knežević, provalio je u Dalmaciju i dobrim je dijelom zauzeo. Dalmaciju je, naime, u svibnju 1809. god. s vojskom napustio general Marmont, u hitnji da se pridruži Napoleonu pod Bečom. Prošavši kroz Gospić i Senj, Marmont je 28. svibnja stigao u Rijeku, gdje se zadržao dva dana. Kako je Rijeka u to vrijeme bila austrijska, Marmont je u prolazu, zapravo, osvojio Rijeku i zatražio, po običaju, ratnu kontribuciju od 460.000 forinti. Zatražena svota isplaćena mu je u kovanom i papirnom novcu, djelomično i u obveznicama. Od riječke općine general je zahtijevao još 100 tisuća forinti za 36 tisuća kadnića soli što ih je bio zaplijenio u austrijskim erarskim skladištima i ostavio u Rijeci. Pošavši za Trst, Marmont je sa sobom poveo i četiri ugledna Riječana kao taoce.



### 4.3. Appendix 3: Sve je to... Kemija

Postoji velik broj različitih tvari, no sve su one sazdane od malog broja različitih atoma koji se pak sastoje od samo tri glavna sastojka: neutrona, protona i elektrona.

Pitanje kakva je prava narav materije bilo je obavijeno velom tajne sve do 17. stoljeća. Bilo je to stoga što je većinu znanstvenika zavela teorija nastala još 400 godina prije Krista. Tada je grčki filozof Empedoklo (oko 495. - oko 435.? pr. Kr.) izrazio mišljenje da su sve tvari sastavljene od različitih dijelova zraka, zemlje, vatre i vode. Bila su to njegova četiri elementa. Ta je teorija stoljećima stvarala veliku pomutnju. Prema njoj, ako se tvar mijenja zagrijavanjem, to znači da se vatra spaja s tom tvari.

Ali je onda, godine 1661. izraz element dobio novo značenje. Irski znanstvenik Robert Boyle (1627-1691.) shvatio je da postoje mnoge jednostavne tvari koje se mogu spajati u složene. Boyle je tvrdio da su te jednostavne tvari opeke iz kojih je sazdana sva priroda, pa ih je definirao kao supstancije koje se ne mogu dalje razlagati kemijskim postupcima.

Boyleova je teorija potakla druge znanstvenike da krenu u lov na nove elemente. Tako je za 100 godina otkriveno 27 novih elemenata, i kemičari su uvelike uznapredovali u svom razumijevanju raznovrsnih kemijskih reakcija. Najznatniji od tih kemičara vjerojatno je bio Francuz Antoine Lavoisier (1743.-1794.). On je otkrio da neke tvari (primjerice metali) izgaranjem dobivaju na težini, pa je zaključio da se zacijelo spajaju s nečim iz zraka. Godine 1774. engleski je kemičar Joseph Priestley (1733.-1804.) otkrio kisik, pa je Lavoisier shvatio da je gorenje zapravo spajanje s kisikom iz zraka. Zbog toga svog pionirskog posla u objašnjavanju kemijskih reakcija, Lavoisier je proglašen ocem moderne kemije.

Do početka 19. stoljeća postalo je jasno da mnogi elementi imaju slična svojstva, pa su ih kemičari počeli dijeliti u skupine. Shvatilo se da se elementi sastoje od atoma, te da atomi različitih elemenata imaju različite mase. Zbog toga je jedan od očitih načina klasificiranja elemenata bilo njihovo slaganje prema rastućoj atomskoj masi. Godine 1863. engleski je

kemičar John Newlands (1838.-1898.) pokazao da se kod tako poredanih elemenata slična svojstva pojavljuju u pravilnim razmacima. Tako je, primjerice, treći element (litij), svojim svojstvima sličan 11. (natriju) i 19. elementu (kaliju). Opaženo je da se svojstva mnogih elemenata ponavljaju nakon svakih osam mjesta. Zato je Newlands zamislio tablicu elemenata podijeljenu u sedam stupaca, u koje se elementi bili poredani prema rastućoj atomskoj masi. To je značilo da svaki osmi element pripada istoj skupini. Međutim, to jednostavno slaganje elemenata nije sasvim važno za sve tada otkrivene elemente, pa tako Newland za svoj rad nije dobio zaslužno priznanje od svojih kolega.

### **Periodni sustav**

Prvi popis kemijskih elemenata (počelâ), definiranih na način sličan današnjemu, sastavio je A. L. Lavoisier 1789. godine. (Ipak, on je među elemente uvrstio i neke vrlo postojane, tada nerazložive, tvari poput kalcijeva oksida [CaO, vapno], aluminijska oksida [ $Al_2O_3$ , „alumina“] i silicijeva dioksida [ $SiO_2$ , „kremen“, „silika“], pa i ne-tvari: svjetlost i toplinu [„kalorik“]). Zahvaljujući uvođenju veličine zvane danas atomskom masom („atomskom težinom“), potaknutomu radovima J. Daltona (1804.), J.-L. Prousta (1808.) i J.-L. Gay-Lussaca (1808.) te brzom razvitku analitičke kemije u prvoj polovici XIX. Stoljeća, otkriven je veći broj elemenata, pa se javila potreba da se oni razvrstaju (klasificiraju) u skladu s njihovima fizikalnim i kemijskim svojstvima.

Već je 1817. godine J. W. Döbereiner izvijestio da je atomska masa stroncija razmjerno bliska proesjku masa kalcija i barija, a slično je našao i za „triade“: Cl, Br, I, te Li, Na, K. Kasnije su drugi njegove „triade“ proširili u veće skupine, npr. F, Cl, Br, I, te O, S, Se, Te. Na osnovi točnijih atomskih masa (S. Cannizzaro, 1858.), A.-E.-B. de Chancourtois (1862.) poredao je elemente po rastućim atomskim masama, smjestivši ih duž uzvojnice nacrtane na plaštu kružnog valjka čiji je opseg bio podijeljen u 16 dijelova. J. A. R. Newlands (1864.), također poredavši elemente po rastućim atomskim masama, primijetio je da su

svojstva svakog osmog člana prilično slična („pravilo oktavâ“); također, on je prvi elementima pridružio redne brojeve, anticipirajući tako veličinu koja se danas naziva atomskim brojem. Proučavajući atomske volumene tada poznatih elemenata, L. Meyer (1870.) nacrtao je dijagram u kojemu je nacrtao „atomske volumene“ („atomski volumen“ je omjer molarne mase i gustoće), u ovisnosti o atomskim masama. Tako je dobio krivulju s pet izrazitih maksimuma, koji odgovaraju alkalijskim kovinama (Li, Na, K, Rb, Cs), koji imaju vrlo slična kemijska svojstva.

Ipak, tek je D. I. Mendelejev došao – također redajući elemente redoslijedom njihovih atomskih masa – do otkrića periodnog sustava elemenata. Njegova je prva tablica (objavljena 1869.) sadržavala 17 stupaca („skupinâ“). Prva dva retka („periode“) sadržavala su po 7 elemenata: (Li, Be, B, C, N, O, F) i (Na, Mg, Al, Si, P, S, Cl). Treći i četvrti redak, tada još nisu bili potpuni, sadržavali su elemente (K, ..., F) i (Rb, ..., I), a daljnja tri bila su manjkava, jer mnogi elementi (npr. plemeniti plinovi) nisu još bili otkriveni. Uskoro je Mendelejev objavio znatno poboljšanu tablicu, jer je uočio da se svojstva čak 17 elemenata mogu bolje korelirati ako se pomaknu s mjesta koje bi im pripadalo po redoslijedu atomskih masa. Naime, neke su atomske mase tada još uvijek sadržavale i povelike pogreške, zbog nedostatnog poznavanja stehiometrijskih odnosa („valencijâ“) u reakcijama koje su se rabile pri određivanju atomskih masa. Tako je novi periodni sustav potaknuo ispravljanje niza pogrešaka.

Istom je prilikom Mendelejev pretkazao postojanje, pa čak i neka svojstva, šest još neotkrivenih elemenata i za njih ostavio prazna mjesta u periodnom sustavu. I doista, kada je uskoro bio otkriven skandij (1879.), on je identificirao kao *ekabor*, galij (1874.) pokazao se identičnim *ekaaluminiju* te, konačno, germanij (1885.) *ekasiliciju*. Nakon otkrića ekabora i ekaaluminija, D. I. Mendelejev i L. Meyer bili su u znak priznanja odlikovani Davyjevom medaljom Engleskoga kraljevskog društva (1882.). Pretkazani elementi,

*ekamangan*(tehnecij), *dvimangan* (renij) i *ekatantal* (protaktinij), pronađeni su znatno kasnije. Analognim su postupkom nađena mjesta u periodnom sustavi i za druge novootkrivene elemente (npr. prometij, astat, francij, hafnij).

### **Atomski broj**

Pokusi E. Rutherforda, H. Geigera i E. Marsdena (1909.) s raspršenjem  $\alpha$ -zrakâ pri prolasku kroz zlatni listić doveli su do prvoga („planetarnog“) modela atoma (E. Rutherford, 1911.) prema kojemu se elektroni gibaju oko atomske jezgre, u kojoj je pak koncentrirana gotovo sva masa atoma. Mjerenja električnog naboja jezgre pokazala su da je, za sve elemente, omjer naboja jezgre i elektrona otprilike jednak polovini relativne atomske mase. Na osnovi toga eksperimentalnog nalaza, kao i Rutherfordova planetarnog modela, A. van denBroek (1913.) zaključio je da je prirodnije poredati elemente u periodni sustav po naboju jezgara, ne po atomskim masama.

Uvjerljiv dokaz u prilog van den Broekovoj tezi dali su pokusi što ih je izveo H. G. J. Moseley (1914.). On je snimao spektre röntgenskih zraka što ih emitiraju atomi elemenata pri „bombardiranju“ dostatno ubrzanim elektronima. Svaki element pritom emitira jasno odijeljene nizove (serije) spektralnih linija, od kojih se svaka pojavljuje na točno određenoj frekvenciji. Spektri različitih elemenata među sobom se razlikuju, pa je moguće prepoznati element po njegovu röntgenskom spektru. Analizirajući röntgenske spektre, Moseley je uočio da se frekvencije spektralnih linija,  $\nu$ , ravnaju po jednostavnom zakonu: proporcionalne su kvadratu rednog broja elementa.

### **Građa atoma**

Sastav i građa atoma određuju njegova svojstva, pa tako i načine njihova vezanja i stvaranja spojeva. U središtu atoma nalazi se jezgra koja je, u tipičnom slučaju, sastavljena od pozitivno nabijenih protona i nenabijenih neutrona. Oko te jezgre kruže negativno nabijeni elektroni. Broj je elektrona u normalnom stanju jednak broju protona, tako da se njihovi

raznoimeni naboji poništavaju, pa je sam atom električki neutralan. Godine 1900. Započela je (Planckovom hipotezom) jedna od dviju „revolucijâ“ u fizikalnoj znanosti. Tada se, naime, počinje razvijati kvantna mehanika, vrlo uspješna teorija mikrosvijeta (tj. atomâ, molekulâ i sličnih sićušnih čestica) kojoj je osnovica oblikovana već oko 1926. godine. (Druga je golemâ promjena u fizici Einsteinova teorija relativnosti.)

Jedan je od velikih uspjeha kvantne teorije pouzdan matematički opis gibanja (električki negativnih) elektronâ oko (pozitivne) atomske jezgre. Za razliku od klasične fizike, u kojoj bi sustav električnih nabojâ poput atoma bio vrlo nepostojan, kvantna teorija uči da se svaki elektron u atomu nalazi u nekomu od stacionarnih stanja (tj. stanjâ stalne energije). Iako se točni položaji elektrona ne mogu utvrditi, iz kvantne teorije proizlazi da je, u načelu, prosječna udaljenost elektrona od jezgre veća kada se on nalazi u stanju više energije nego kada je u stanju niže energije. Stoga se skupine bliskih energijskih stanja katkad metaforički nazivaju „ljuskama“ i označuju (redosljedom rastućih energija): K, L, M, M,..., a pojedina stacionarna stanja „podljuskama“. Kada se elektron „spusti“ iz više podljuske u nižu, emitira se „paketić“ – tzv. kvant – elektromagnetskog zračenja; energija kvanta ( $\epsilon$ ) određuje frekvenciju zračenja ( $\nu$ ) prema poznatoj Planckovoj formuli:  $\epsilon = h \nu$ , gdje je  $h$  Planckova konstanta. Ako pritom podljuske pripadaju različitim ljuskama, emitirat će se röntgensko zračenje, tj. frekvencija zračenja nalazit će se između  $10^{16}$  Hz i  $10^{19}$  Hz. Budući da, očigledno energije stanjâ ovise o naboju jezgre, Moseleyevi rezultati postaju razumljivi.

Drugi je važan rezultat kvantne teorije spoznaja da se u svakomu energijskom stanju može nalaziti ograničen broj elektronâ (v. Tablicu 1): Preostaje još samo protumačiti razlike u redosljedu atomskih masa i atomskih brojeva. Već je J. J. Thomson (1913.) uočio da svi atomi istog elementa nemaju jednaku masu. Nakon otkrića protona (W. Wien, 1898, J. J. Thomson, 1910.) i neutrona (J. Chadwick, 1932.) shvatilo se da su atomske jezgre građene od protonâ i neutronâ, a pritom je, očigledno, broj jednak jezgrinu nabojnom broju, Z. Mase pak

protona i neutrona približno su jednake i znatno su (oko 1800) puta veće od mase elektrona ( $m_e = 9,1 \cdot 10^{-31}$ kg). Odatle nije bilo teško zaključiti da atomske jezgre mogu imati ponešto različit broj neutronâ, a to je već ranije bilo potvrđeno metodama masene spektrometrije. Atomi različitih masa, ali jednakog atomskog broja nazivaju se izotopima. Budući da, u pravilu, prirodne tvari sadržavaju više od jednog izotopa nekog elementa, atomska masa nije cjelobrojni višekratnik mase protona i/ili neutrona, već je ona prosjek masâ svih atoma. Taj je prosjek određen udjelima pojedinih izotopa, pa se i spomenute anomalije (K/Ar, Co/Ni, Te/I, Th/Pa) mogu objasniti izotopskim sastavom.

Tablica 1. Maksimalan broj elektronâ u ljuskama i broj elemenata u periodama:

Oznaka ljuske	Maks. broj elektronâ	Broj periode	Broj elemenata u periodi
K	2	1	2
L	8	2	8
M	8	3	8
N	18	4	18
O	18	5	18
P	32	6	32
Q	32	7	25

\*Do sada nisu još poznati svi elementi iz 7. periode.

#### **4.4. Appendix 4: Uredba o objavi sporazuma između Vlade Republike Hrvatske**

VLADA REPUBLIKE HRVATSKE

52

Na temelju članka 30. stavka 1. Zakona o sklapanju i izvršavanju međunarodnih ugovora (»Narodne novine«, broj 28/96), Vlada Republike Hrvatske je na sjednici održanoj 26. kolovoza 2015. godine donijela

UREDBU

O OBJAVI SPORAZUMA IZMEĐU VLADE REPUBLIKE HRVATSKE I VLADE REPUBLIKE SRBIJE O SURADNJI U PODRUČJU ZAŠTITE OKOLIŠA I OČUVANJA PRIRODE

##### **Članak 1.**

Objavljuje se Sporazum između Vlade Republike Hrvatske i Vlade Republike Srbije o suradnji u području zaštite okoliša i očuvanja prirode, sklopljen u Zagrebu, 8. lipnja 2015. godine, u izvorniku na hrvatskom i srpskom jeziku.

##### **Članak 2.**

Tekst Sporazuma iz članka 1. ove Uredbe, u izvorniku na hrvatskom jeziku glasi:

SPORAZUM IZMEĐU VLADE REPUBLIKE HRVATSKE I VLADE REPUBLIKE SRBIJE O SURADNJI U PODRUČJU ZAŠTITE OKOLIŠA I OČUVANJA PRIRODE

Vlada Republike Hrvatske i Vlada Republike Srbije (u daljnjem tekstu »ugovorne stranke«), svjesne regionalnog i globalnog značaja pitanja zaštite okoliša i očuvanja prirode, važnosti pronalaženja ekonomičnih i trajnih rješenja za ova pitanja putem međunarodne suradnje te važnosti koordinacije zajedničkih aktivnosti dviju zemalja;

na temelju ciljeva i načela navedenih u Deklaraciji iz Rija o okolišu i razvoju, Deklaraciji iz Johannesburga o održivom razvoju i Planu provedbe Svjetskog sastanka na vrhu o održivom

razvoju, kao i završnom dokumentu Konferencije Ujedinjenih naroda o održivom razvoju »Rio+20«;

uvjerene da je suradnja između ugovornih stranaka u području zaštite okoliša i očuvanja prirode od međusobne koristi te da će promicati razvoj prijateljskih odnosa između dviju zemalja;

svjesne odgovornosti za osiguravanje okolišne održivosti za sadašnje i buduće naraštaje;

uzimajući u obzir činjenicu da posljedice događaja mogu imati prekogranični utjecaj;

sporazumjele su se kako slijedi:

#### Članak 1.

Ugovorne stranke će razvijati i proširivati suradnju u području zaštite okoliša i očuvanja prirode u interesu objiju država, kao i promicati daljnji razvoj gospodarskih, znanstvenih i tehničkih kontakata, s ciljem rješavanja regionalnih i globalnih ekoloških problema.

#### Članak 2.

Ugovorne stranke će surađivati u sljedećim područjima:

- zaštita zraka;
- gospodarenje otpadom;
- zaštita voda;
- upravljanje i zaštita ekološki osjetljivih područja, uključujući zaštićena područja;
- provedba međunarodnih konvencija i sporazuma u području zaštite okoliša;
- razmjena iskustava u prenošenju zakonodavstva Europske unije;
- obrazovanje u području zaštite okoliša i održivog razvoja;
- izučavanje i istraživanje okoliša te razvoj okolišu prihvatljivih tehnologija;
- podrška komunikaciji između okolišnih industrija;
- instrumenti zaštite okoliša i njihova ugradnja u gospodarske politike;
- prekogranični prijevoz opasnih tvari;



– svako drugo područje koje ugovorne stranke smatraju odgovarajućim.

### Članak 3.

Suradnja između ugovornih stranaka ovog Sporazuma provodit će se u sljedećim oblicima:

- priprema i provedba zajedničkih projekata;
- razmjena odgovarajućih informacija i materijala o zaštiti okoliša;
- razmjena stručnjaka, znanstvenika, izaslanstava i vježbenika;
- zajednička organizacija seminara, radionica i sastanaka uz sudjelovanje znanstvenika, stručnjaka i drugih zainteresiranih sudionika;
- ostali zajednički dogovoreni oblici suradnje.

### Članak 4.

S ciljem provedbe ovog Sporazuma ugovorne stranke će poticati agencije, organizacije i poduzeća za zaštitu okoliša i očuvanje prirode u svojim državama na uspostavu i razvijanje međusobnih izravnih kontakata.

### Članak 5.

Svaka će ugovorna stranka, u roku od tri mjeseca od datuma stupanja na snagu ovog Sporazuma, imenovati koordinatora odgovornog za koordinaciju aktivnosti temeljem ovog Sporazuma.

U načelu, koordinatori će svake dvije godine održavati redovite sastanke naizmjenice u Republici Hrvatskoj i Republici Srbiji.

S ciljem osiguranja učinkovite provedbe ovog Sporazuma ugovorne stranke će dogovarati dvogodišnje programe suradnje. Ovim dvogodišnjim programima suradnje utvrđuje se opseg i sadržaj aktivnosti suradnje, isporuke i datumi isporuke (ako postoje), proizvodi i rezultati, razina financiranja i iznosi sredstava koje ugovorne stranke trebaju osigurati za svaku takvu aktivnost te svi ostali aspekti aktivnosti koje koordinatori mogu smatrati odgovarajućim.

#### Članak 6.

Za koordinaciju i organizaciju suradnje koja će se odvijati u okviru ovog Sporazuma nadležna su ministarstva Republike Hrvatske i Republike Srbije koja su nadležna za zaštitu okoliša i očuvanje prirode.

#### Članak 7.

U skladu sa zakonodavstvom i međunarodnim obvezama ugovornih stranaka, rezultati i informacije proizašli iz suradnje u okviru ovog Sporazuma, mogu biti dostupne trećoj strani uz suglasnost ugovornih stranaka.

#### Članak 8.

Troškove u vezi s provedbom ovog Sporazuma financirat će same ugovorne stranke.

Sudjelovanje na sastancima financirat će se na sljedeći način:

- troškove prijevoza i smještaja snosit će ugovorna stranka šiljateljica,
- troškove vezane uz organizaciju sastanaka snosit će ugovorna stranka primateljica.

U pojedinim slučajevima ugovorne stranke se mogu sporazumjeti o drukčijim načinima financiranja.

#### Članak 9.

Sporovi u vezi s tumačenjem ili primjenom ovog Sporazuma rješavat će se izravnim pregovorima ugovornih stranaka.

#### Članak 10.

Ovaj Sporazum ne utječe na prava i obveze ugovornih stranaka koji proizlaze iz drugih dvostranih ili mnogostranih međunarodnih ugovora koji ih obvezuju.

#### Članak 11.

Ovaj Sporazum može se izmijeniti i dopuniti u svako doba uzajamnim pisanim pristankom ugovornih stranaka.

Izmjene i dopune stupaju na snagu u skladu s postupkom propisanim člankom 12. stavkom 1. ovog Sporazuma.

#### Članak 12.

Ovaj Sporazum stupa na snagu datumom primitka posljednje pisane obavijesti kojom ugovorne stranke obavještavaju jedna drugu, diplomatskim putem, o ispunjenju njihovih unutarnjih pravnih uvjeta za stupanje ovog Sporazuma na snagu.

Ovaj Sporazum sklapa se na neodređeno vrijeme.

Svaka ugovorna stranka može u svako doba otkazati ovaj Sporazum pisanom obaviješću drugoj ugovornoj stranci diplomatskim putem. U tom slučaju ovaj Sporazum prestaje šest (6) mjeseci od datuma primitka obavijesti o otkazu.

Prestanak Sporazuma ne utječe na dovršenje aktivnosti dogovorenih temeljem ovog Sporazuma i započetih prije njegova otkaza, osim ako se ugovorne stranke ne dogovore drugačije.

Sastavljeno u Zagrebu dana 8. lipnja 2015., u dva izvornika, svaki na hrvatskom i srpskom jeziku, pri čemu su oba teksta jednako vjerodostojna.

ZA VLADU

ZA VLADU

REPUBLIKE HRVATSKE

REPUBLIKE SRBIJE

Mihael Zmajlović, v.r.

Snežana Bogosavljević Bošković, v.r.

ministar zaštite okoliša i prirode

ministrica poljoprivrede i zaštite okoliša

#### Članak 3.

Provedba Sporazuma iz članka 1. ove Uredbe u djelokrugu je središnjeg tijela državne uprave nadležnog za poslove zaštite okoliša i prirode.

#### **Članak 4.**

Na dan stupanja na snagu ove Uredbe Sporazum iz članka 1. ove Uredbe nije na snazi, te će se podaci o njegovom stupanju na snagu objaviti sukladno odredbi članka 30. stavka 3. Zakona o sklapanju i izvršavanju međunarodnih ugovora.

#### **Članak 5.**

Ova Uredba stupa na snagu osmoga dana od dana objave u »Narodnim novinama«.

Klasa: 022-03/13-11/55

Urbroj: 50301-05/25-15-12

Zagreb, 26. kolovoza 2015.

Predsjednik

Zoran Milanović, v. r.

## **Bibliography**

- Drvodelić, Milan. 1982. *Hrvatsko ili srpsko-engleski rječnik*. Zagreb: Školska knjiga.
- Farlex. 2016. *The Free Dictionary*. Webpage. <<http://www.thefreedictionary.com/>> Accessed 30<sup>th</sup> August 2016.
- Ivir, Vladimir. 1978. *Teorija i tehnika prevođenja: Udžbenik za I i II god. pozivnouslymerenog obrazovanja i vaspitanja srednjeg stupnja prevodilačke struke*. Sremski Karlovci: Centar "Karlovačka gimnazija".
- Mawson, C. O. Sylvester. 1946. *ROGET'S Pocket Thesaurus*. New York: Pocket Books.
- Munday, Jeremy. 2001. *Introducing Translation studies: Theories and Applications*. London and New York: Routledge.
- OXFORD Collocations: dictionary for students of English*. 2016. Webpage. <<http://oxforddictionary.so8848.com/>> Accessed 30<sup>th</sup> August 2016.
- Pavlović, Nataša. 2015. *Uvod u teorije prevođenja*. Zagreb: Leykam international d.o.o.
- PRIRUČNIK za prevođenje pravnih propisa Republike Hrvatske na engleski jezik*. 2006. Zagreb: Ministarstvo vanjskih poslova i europskih integracija.
- Thesaurus.com*. 2016. Webpage. <<http://www.thesaurus.com/>> Accessed 30<sup>th</sup> August 2016.