

From the laboratory to the field, from senses to social change: Development and perspectives of Croatian psychology

DINKA ČORKALO¹

Summary

In 1999, the Department of Psychology at the University of Zagreb celebrated the 70th anniversary of its existence and a relatively long history of formal education of psychologists in Croatia. It was an opportunity for psychological profession to look back, to see where it stands in the light of its own history but also in the light of the development of the European psychology. It also was an opportunity for Croatian psychology to view perspectives of future development of the discipline.

During its history, psychology in Croatia went through important changes in several aspects. Regarding education, these changes could be followed from its relatively modest beginnings in 1929 when Ramiro Bujas established psychology as an independent university program. The founders of the so called *Zagreb psychological school* insisted from the very beginning on a scientific ground of the discipline, an empirical approach and especially on the experiment as the basic method. Experimental tradition and general methodological rigorousness have remained the most important characteristic of Croatian psychology. In the beginning of its development, psychology in Croatia was relatively isolated within laboratory. The most prominent research activity in those days was in the area of “simple” psychological processes like galvanic skin response and the research of senses. However, this research had an important echo in a wider professional audience. With the development of the discipline, enlargement of the number of psychologists and with opening of psychological laboratory to the real-life problems, many psychologists turned to more applied issues in the areas of educational and industrial psychology and clinical practice. In the last decade the course of development was strongly marked by social changes and war. While maintaining an empirical discourse and scientific criticism, psychologists started to research intensively social phenomena that have emerged from general social changes. Until then relatively rarely investigated issues like ethnic distance, national identity and nationalism, changes of value system, organizational changes and others, came to the focus of intensive research activity. With the beginning of the war, psychologists being involved directly in helping the war victims, formulated their knowledge and experiences in well elaborated programs of psychosocial help. This

¹ Dr. Dinka Čorkalo, Assistant Professor, Department of Psychology, Faculty of Philosophy, I. Lucica 3, 10000 Zagreb, Croatia; E-mail: dinka.corkalo@ffzg.hr

practical work was accompanied by extensive research on the impacts of war on mental health. So we can say, not without proud, that many Croatian psychologists today are recognized in a wider professional community as distinguished experts.

Key words: History of psychology, Zagreb psychological school, psychology in Croatia, future perspectives of psychology

In 1999, the Department of Psychology at the University of Zagreb celebrated the 70th anniversary of its existence and a relatively long history of formal education of psychologists in Croatia. The beginning of psychology in Croatia was relatively modest, as well as it was in other countries throughout Europe and in the United States. Croatian psychology as a science and profession went through equally hard ways of becoming an independent discipline and separating itself from other disciplines. For the foundation of Croatian psychology, all credit goes to Ramiro Bujas, born in 1879, one year after the founder of American behaviorism, John Watson, was born. The year of death of the founder of European psychology, Wilhelm Wundt, who died in 1920, was the very same as when, in Croatia, Ramiro Bujas founded the first psychological laboratory following the examples of similar laboratories in Europe, first and foremost following the example of Wundt's laboratory in Leipzig. The laboratory was founded within the Department of physiology at the School of medicine in Zagreb, thanks to professor of physiology, Fratišek Smetanka. Ramiro Bujas was his research assistant and Smetanka recognized the common research ground of psychology and physiology. Most of the research equipment necessary for studying psychophysical phenomena, like sensitivity, sensory adaptation and reaction time was constructed by Ramiro Bujas himself (Bujas, 1973). Some other great persons in psychology had the same destiny, like Watson, who made himself all of his apparatus for studying animal behavior. Nine years later, in 1929, the chair of psychology was founded at the Faculty of Philosophy and Ramiro Bujas was appointed as its first principal. This is the very same year when Ivan Pavlov at the International Conference of Physiology presented his technique of conditioning to American colleagues and met the other significant person who will mark the psychology permanently – Burrhus Skinner (Hothersall, 1990).

From this very brief comparative overview, it could be seen that the beginning of psychology in Croatia was more or less parallel with the development of European psychology, and its general development as a scientific discipline followed the favorable climate in the science of the second half of the 19th century. As Ben-David (1986) pointed out, the development of social sciences was not an answer to demands of the society, but the logical consequence of the predominant spirit of positivism in sciences during those days. Following this spirit, social scientists tried to apply scientific knowledge for the explanation of human behavior, as just one form of natural phenomenon. Such a general climate is probably the main reason why psychological laboratories in Europe, as well as in Croatia were founded at medical schools and physiological departments.

However, it would be wrong to conclude that there was no psychology in Croatia before Ramiro Bujas. It was taught at the University, although within philosophy, but as early as in 1908 the two-volume book entitled *Experimental psychology* by Pajo Radosavljević was published. He spent most of his time in the United States teaching psychology (Pečjak, 1984).

In 1909, Croatia has already had the first woman with Ph.D. degree in psychology, Dr. Elza Kučera, who earned it in Zurich in Switzerland (Kolesarić, 1999). Her biographers call her “the first Croatian experimental psychologist”. She worked in Zagreb, where she had a small psychological laboratory in her private apartment and where she studied experimentally psychogalvanic reflex, emotions and thinking (Lahman-Kuzmič, 1973). In the thirties, Dr. Kučera taught experimental psychology to psychology students. It could be said that the foundation of psychology and the beginning of university psychology programs in Croatia were not only the result of favorable European influences. There was certainly no tradition of psychological experimental work, but as we have seen, there were few important pioneers who started to study psychological processes and made it easier to establish a new discipline. Ramiro Bujas continued to use the experimental method, firmly determined that it was possible to establish psychology as an objective science, based on empirical, experimental and objective data. In 1929, when the chair for psychology was finally founded, Ramiro Bujas presented his research on psychogalvanic reflex at the 11th conference of experimental psychology in Vienna. He considered the psychogalvanic reflex as an objective indicator of emotional experience (Pečjak, 1984). His results were published later in the jubilee-edition of *The American Journal of Psychology* in 1937, on the occasion of its 50th anniversary. This important recognition witnessed the good reputation of Ramiro Bujas’s work in the international professional community.

His theoretical and experimental work in the area of research of senses was also important. In his *Theory of senses*, published in 1927, Ramiro Bujas argued that the senses were function of a dynamic relationship between the activity in sensory organs and environmental activity. The continuation of the activity in the sensory organs, after the stimulus activity from the environment stopped, is responsible for the after-images (Szabo, 1999). Since 1932, Croatian psychology had had psychological journal – *Acta Instituti Psychologici Universitatis Zagradiensis* – also established by Ramiro Bujas. It was published till the mid-eighties in the form of monographs, publishing the most important empirical research of Croatian psychologists. The journal was published in English and French enabling international exchange of knowledge from the very beginning.

The research of psychophysiology of senses has remained an important and very active field of research at the Zagreb Department of psychology till today. The most important work in this area was done by the heir of Ramiro Bujas, his son Zoran, who was the student of the French psychologist Pieron. With his research activity and his teaching, Zoran Bujas mostly influenced the new generations of Croatian psychologists. After retiring in 1984, he has continued the fruitful research activity in the Laboratory for Investigation of the Structure and Function of Sense Organs within the Croatian Academy of Sciences and Arts, and has published with his collaborators numerous scientific papers in the most prestigious international journals like *Perception and Psychophysics*, *Journal of Experimental Psychology*, *Physiology and Behavior* and many others. Research career of Zoran Bujas was equally fruitful as the career of his father, and his research has had an important echo in the international community. The Slovene professor of psychology, Vid Pečjak, in his book *The foundation of psychology* said about Zoran Bujas “There is almost no single monograph on sensory processes which includes taste sensation, without mentioning and describing the results of Z. Bujas” (p. 378). As a member of the younger generation of Croatian psychologists, I can hardly not feel proud while reading such an acknowledgment. I have not been so lucky to have professor Bujas as my

teacher. But I had the opportunity of attending few of his plenary sessions, and I was deeply impressed by the vitality of his old age and his lecturing skills. He is not at the Department anymore, but his influence is still strong even today. It can be recognized in the spirit what we are trying to pass to our students: psychology we offer is worthy as much as the methods we use in collecting our data are. There is no such sophisticated technique of data analysis which can hide the weaknesses in their collection and which can compensate the shortcomings in research design. And the subject of research, no matter how interesting it is and how deeply we are involved, is never more important than scientific objectivity. Firm methodology and devotion to well-done rather than attractive research is what has secured the psychology which has been taught in Zagreb the name *Zagreb psychological school*. We are not talking about any great psychological system here. I would almost dare to say that there has been no academic psychologist in Croatia who would have supported passionately any of so-called great schools in psychology. It seems to me that Croatian psychology has taken the best from positivism, behaviorism and cognitive psychology, but with no dogmatism and never introducing them as the absolute truth. However, I believe that there may be some colleagues from the former Yugoslav countries, where the psychology has had somewhat different patterns of development and even some Croatian colleagues practitioners, who would describe Zagreb psychology as being too firm and too empirically oriented. It could be the matter of attitude, even the matter of taste. However, I wonder whether one can graduate the empirical orientation of sciences and whether there could be the non-empirical science at all? During my senior student years, I sometimes also felt like complaining about a certain narrowness of the research areas which have been studied more thoroughly. Psychophysiology of senses was the absolutely dominant research area till the mid-seventies, although a significant body of research was carried out in some other fields as well: in work psychology, school psychology, and especially in the area of testing and measurement of human abilities. Numerous cognitive tests were constructed at the Department of Psychology and these researches were also led by professor Bujas. He argued that intelligence is an ability to recognize the imbalance in various problem situations. He advocated tests with good theoretical background and inductive approach and offered cognitive tasks closer to real-life problem situations. Many of the tests constructed during these researches, and there were more than forty of them, are today in standard use and are widely accepted in psychological practice and research (Kulenović, 1999). However, there are some other approaches and models of human intellectual abilities which also have been tested and verified at the Department of Psychology in Zagreb. For example, a recently retired member of Zagreb Department, professor Fulgosi, collaborated closely with John Guilford in testing his model of intellect.

One of the reasons responsible for self-containment of psychology in Croatia after World War II and its isolation within the laboratory was surely the constant struggle with philosophy and pedagogy for separate and independent place of empirical psychology in the scientific surrounding. The scientific nature of psychology was not in question anymore, the question was, whether it was natural or social science, and in the line with this dilemma the question arose of how psychology should be taught (Bujas, 1973). Namely, after 1945, psychology in Croatia was established as the separate group of subjects at the Faculty of Science, and two years later was moved back to the Faculty of Philosophy.

The second reason which made the contribution of psychology in Croatia relatively modest with respect to the explanation of the relevant social phenomena till the mid-seventies

is probably the social system itself. It has left us deprived of having scientific data of the relevant social phenomena in those days, the phenomena that would be interesting to compare with today's state of affairs. On the other side, academic psychologists have succeeded in keeping distance from politics and making psychology in Croatia almost completely apolitical. However, it would be wrong to conclude that in the research of social phenomena psychologists were not present at all, for example in the public opinion research. This kind of research has been carried out continuously from the mid-sixties. Historical distance from events in those days, some of them even very dramatic, enables us to look at them more objectively. The same historical distance allows us to look at some of the interpretations with knitting the brow. If I had to interpret the very same data today, it is most probable that I would do it differently. This kind of examples reminds us again of the necessity of the scientific objectivity, but also of questioning our ability to make our professional judgments value-free and independent from the social circumstances we work in. I believe my colleagues from the other Eastern-European countries ask very similar questions regarding their past and present social experience. However, I also believe that psychology in western countries is not spared from the very same questions.

The third reason for a relatively late move of psychology outside the laboratory was probably due to influence of professor Bujas, who had succeeded to keep the interests of his research team for the psychophysical phenomena. Most of my senior distinguished colleagues made their MA and Ph. D. thesis in the area of psychophysics.

The serious move of psychology in Croatia outside the laboratory has happened in the eighties and especially in the nineties, following the processes of social change. The social change is one reason. The other reason is probably the scientific maturation of the younger generation of psychologists with different research interests. Social psychology has progressed especially propulsively, and traditional research problems in experimental social psychology like social facilitation, minority influence, attitude measurement and attitude change have been replaced with more applied issues (Kljaić, 1999). For example, at the end of the eighties, Croatia already had a serious research on AIDS-related attitudes, knowledge and behavior of the youth, only few years after disease had appeared. The results were published in the book in 1991, and special attention was paid to the evaluation of various preventive programs. This research is surely one of the first of this kind carried out in Europe.

The fresh and until then neglected research subjects have been opened, like authoritarianism, and Croatian scholars participated readily in the very actual debate on "left-wing" and "right-wing" authoritarianism. As it is well known, in the early nineties, this debate revived in the work of the Canadian psychologist Bob Altemayer, who collaborated with psychologists and sociologists from Eastern-European countries, especially from Russia. An especially productive field of research in Croatia in these days is the phenomenon of nationalism. The scale for measuring national identity was constructed, contributed to the operationalisation of this concept examined rarely within psychology. It is currently being tested in few European countries. The factors contributing to interethnic tolerance have also been examined, and new theoretical explanations of the development and maintenance of the stereotypes have been tested, like social judgeability theory.

In the late eighties and in the nineties, a new discourse has been brought in the field of work psychology. Unlike earlier research, focused mainly on the problems of fatigue, work accidents and with issues of vocational selection and guidance, new research discourse responded to the large changes in the ownership relations and to the general social change. Organizational climate and culture, organizational commitment and work-related values have become in the focus of research interest.

Changes in education of psychologists in Croatia

We have already pointed out that the beginning of formal education of psychologists in Croatia was in 1929. However, psychology was taught even earlier, although within philosophy and pedagogy. In those days, it was not taught by professors with formal training in psychology, but since 1922, Ramiro Bujas started with teaching psychology subjects to university students. After the foundation of the graduate study in psychology, Ramiro Bujas established a university program based on scientific approach to the research of psychological phenomena, introducing subjects like General Psychology, Animal psychology, Physiological foundations of psychological processes, and several methodological subjects. It is interesting to notice that since 1938/39, Introduction to applied psychology had been established as an obligatory course, although in modest size (Kolesarić, 1999).

Today, the university program in psychology in Zagreb is organized as a four-year program with methodological courses and courses in fundamental psychological disciplines during the first two years, and with more applied courses in the senior years of the study. A significant number of optional courses, about forty of them, enable students to direct their study according to their own interests. In the late seventies, two new departments of psychology were established in Zadar and Rijeka, also at faculties of philosophy, with curricula very similar to that of the Zagreb Department. So, the enrollment of psychology students in Croatia is about 120 per year. Postgraduate studies are held only at the Department of psychology in Zagreb, with a two-years MA program and a three-years Ph. D. program. There is also a two-year professional training or specialization in the area of clinical psychology, educational and preschool psychology and work psychology. Postgraduate studies are organized biannually, with the enrollment of about 30 students per generation. Traditionally their interests are the highest for two research oriented-programs.

If we can talk about changes in the course of the development of the education of psychologists in Croatia, then these changes are most noticeable in terms of quantity. The number of courses is multiplied, as well as the number of teachers and research assistants. However, the original orientation of the study, aimed to provide students with good general knowledge of fundamental and applied fields of psychology and with strong emphasis on methodology, has not been changed. The study organized in such a way follows the contemporary conception in training of psychologists, certainly contributes greatly to the readiness of Croatian psychologists to solve creatively various professionals problems and to respond to challenges of social change.

Future perspectives of Croatian psychology

Transition to the 21st century has induced many scientists to reconsider and analyze their own fields of expertise and professions, but also the “state of arts” in sciences in general and the role scientists have in contemporary society. Numerous psychology conferences held at the end of this century and millennium, have suggested with their general topics that psychology also has questioned its future perspectives and directions. Because of that, the future and perspectives of psychology in Croatia could be considered in the line with the perspectives of psychology in general. There is no reason to believe that Croatian psychology will not follow the European and more general trends, in the same way as it has done it up to now.

The younger generation of psychology teachers and scholars in the research institutions in Croatia who will be exponents of future perspectives have been educated in strong empirical tradition and raised to strive for the highest methodological, professional and ethical standards. The current psychology in Croatia is a well-established discipline, with no burden of struggling for its place in the world of science. This position makes it possible for psychologists to be more open to other disciplines and other perspectives than it has been the case previously. An additional necessity for this openness is certainly the fact that the growing body of knowledge on “human nature” does not allow to anybody who is “invited” in the world of science to be closed-minded and open to only his/her own profession, treating it as being the only one or even sufficient for explaining the complexity of phenomena we face. Therefore, the trend we can expect is multidisciplinary with the beauty of combining and integrating methodologies, explanations and perspectives. Some indicators of this trend are present even today. Psychologists are more and more active in multidisciplinary teams, giving their contribution and collaborating with other experts, mostly in sociology, political science, anthropology, economy, and medicine.

Sometimes we sadly claim that the era of great and powerful theories is behind us. Psychology is developing rapidly, methodological approaches become more and more complex (I wonder whether you also ask yourself where the beauty of simple, elegant experiments has disappeared, as I sometimes do.). I hope we agree that the 20th century was the century of science, century of great theories and great scientists. The century we are facing will certainly be the century of technology. Fascinated by technique and by the power of computers, we use more and more complex methods of data analysis, which enable us to encompass larger and larger samples and to include more and more variables in our research designs. Within our own profession, we can feel how fashionable some techniques have become. In the seventies, the factor analysis was a queen; in eighties we gladly used regression analysis; today the new kings are structural and causal modeling and we hope we are a step closer to the goal – to discover a causal sequence of phenomena and events and to improve our ability for prediction. Sometimes it seems to me that while reading scientific paper we judge it depending on whether our colleagues use some currently fashionable technique of data analysis or not. I myself teach methodology to the second-year students and I like to make a distinction between research methodology and research technology. I want to say that fascination with technology has its limits; from the other side the methodological seriousness and rigorousness should not have them. Faced with the complexity of our research subject-psychological world of the individual and his/her functioning in the society we can hardly expect the feasibility of crucial experiments. However, methodological seriousness is what makes our discipline so

important, and what brings us, beyond our specific knowledge, in multidisciplinary teams. In this respect it could be expected even more inclusion of psychologists in some fundamental research areas, like neuroscience and cognitive science in general. Their current presence in the medical research teams makes me even more confident in supporting this thesis. It is to expect a more and more important role of psychology in raising the quality of life of ill people, but in the prevention of illness as well.

A trend of the development of psychology in Croatia will be surely determined by the general social context. During the rule of Communism, Croatian psychology has succeeded in keeping distance from the politics, what cannot be said for some other social science disciplines. However, it is also true that socially and politically sensitive issues have not been studied greatly till the early eighties. When they have been studied, for example social distance, everything remained on modest descriptions, with no interpretations. Fortunately, time has changed, and psychologists are engaged more actively in finding ways for the society to cope with the difficulties during the period of transition, additionally burden with the tragedy of war. Unfortunately, psychosocial consequences of the war will occupy the research and professional attention of Croatian psychologists for a long time. Long-term consequences of the war trauma in various segments of the population will demand a long-term professional help and engagement of psychologists. Many of our psychologists have already shared their experiences and expertise with colleagues in different parts of the world and are invited to help in conflicts. In this line we may well say that Croatian psychology is deeply embedded in the world psychological community.

One more step further is the development of community psychology and I hope this trend will continue in future. Psychosocial help to various segments of population during the war has turned shortly afterwards in the more comprehensive assistance to communities, in order to help them to cope with war traumas and their consequences. Various groups of people were included in numerous programs of psychosocial help, and almost parallel with the work of overcoming the consequences of war, various preventive programs were also developed: programs for the prevention of substance abuse, programs for the prevention of aggressive and delinquent behavior etc. Although the initiators of these programs were in the beginning psychologists from the academic community, a ten-years period was long enough to educate and train a large number of professionals, making them competent and responsible community psychologists. At this moment the most important programs are those, dealing with the establishment of mutual trust between former conflicted parties and the programs aimed to help people in the process of the resettlement in the war-torn areas. However, the programs dealing with peace education, various preventive programs, programs of structured leisure time for children and youth are not rare either. Their good results and their acceptance in local communities give us hope that community psychology will become a propulsive field in the future of Croatian psychology, making it capable to stand side by side with more developed countries.

Another direction of development, which could be foreseen is an engagement of psychologists in the process of overcoming a deep economy crisis the Croatian society is faced with. The unemployment is as high as 20 percent and it is really hard to predict a turning-point at which we could expect any downward trend. Where is the place of the psychology and psychologists in this respect? A lot of engagement could be expected in monitoring of

organizational changes, in helping to retrain a large number of employees who lost their jobs, in helping middle-range and top management to cope with professional stress in the process of privatization and restructuring of the economy. The fact that some of the biggest companies in the country, faced with the problem of massive layoffs, have established their own centers for retraining of their former employees, in which psychologists have the leading role, supports my expectation that this field of community psychology is to be developed.

In the last decade, one more important activity of psychologists has been noticeable and I would like to see it becoming a usual practice. The war period has literary catapulted psychology and psychologists in the center of public attention. Psychologists have participated actively in the psychosocial help and this is the main reason that their recognizability has become more and more intense. The same reason is probably responsible for the permanent presence of the psychologists in the media where they explain and give their professional opinions about relevant social issues and phenomena in the interviews, talk shows and educational programs. An extremely important role of psychologists in this activity is the promotion of the values of interethnic tolerance and their dedication to build a multicultural society. Taking into account that the war finished only recently, that the number of victims is countless and that so many people have been deeply hurt, we can assume that the hard work of psychologists in this area, but many other professionals as well, will be needed for a long time. The public awareness of the capacities of the psychology, but of its limits as well, will certainly contribute to people's readiness to seek psychologists' advises and services more intensively, with no prejudice so often connected to our profession in the past. It opens a space for comprehensive and systematic work in mental health care.

Concluding remarks

It is obvious, that Croatian psychology is flourishing: in terms of research it is well developed, with intensive international exchange of knowledge and experiences. Croatian researchers publish their work in high-profile international professional journals, although this kind of our participation in the wider professional community is still not enough. Croatian psychologists participate in different international projects on equal foot with their European and American colleagues, and many of them are invited as distinguished experts to deliver plenary lectures at respectable international conferences. In this respect it is important to emphasize the international recognition of Croatian psychologists in the areas of traumatic stress, psychosocial help, organizational psychology etc.

Today, there are three university programs in psychology and psychologists are employed in practically all fields of activity. It could be expected that the employment of psychologists will be on an upturn. This will make it possible to develop any so far neglected disciplines within psychology and to combine fundamental research and their applications more closely. Taking into account the overall population of about 4,5 million, Croatia with its about 2000 psychologists stands side by side with more developed and wealthier European countries. It certainly speaks for itself about the level of recognition and importance of psychology in Croatia today.

References

1. Ben-David, J. (1986). Uloga znanstvenika u društvu. (The scientist's role in Society: A comparative study). Zagreb: Školska knjiga. (in Croatian)
2. Bujas, Z. (1973). Ramiro Bujas začetnik nastave i znanstvenog rada na području psihologije u Hrvatskoj. U: Stručni skupovi psihologa Dani Ramira Bujasa (Ramiro Bujas, the founder of education and scientific work in psychology in Croatia. In: Proceedings of a psychological meeting "Ramiro Bujas' Days"). Zagreb: Društvo psihologa Hrvatske, pp. 9-13 (in Croatian).
3. Hothersall, D. (1990). History of psychology. New York: McGraw-Hill, Inc.
4. Kolesarić, V. (1999). Počeci obrazovanja psihologa u Hrvatskoj. U: Ajduković, D. (Ur.). Psihologija, znanost za čovjeka 21. stoljeća: 70 godina Odsjeka za psihologiju Filozofskog fakulteta u Zagrebu. (The beginnings of the education of psychologists in Croatia. In. Ajduković, D. (Ed.). Psychology, the science for the humans of the 21st century: 70th anniversary of the Department of Psychology Faculty of Philosophy in Zagreb.) Zagreb: Odsjek za psihologiju. (in Croatian)
5. Kljaić, S. (1999). Istraživanja socijalno-psiholoških pojava. U: Ajduković, D. (Ur.). Psihologija, znanost za čovjeka 21. stoljeća: 70 godina Odsjeka za psihologiju Filozofskog fakulteta u Zagrebu. (Research on socio-psychological phenomena. In. Ajduković, D. (Ed.). Psychology, the science for the humans of the 21st century: 70th anniversary of the Department of Psychology Faculty of Philosophy in Zagreb.) Zagreb: Odsjek za psihologiju. (in Croatian)
6. Kulenović A. (1999). Istraživanje i mjerenje ljudskih sposobnosti. U: Ajduković, D. (Ur.). Psihologija, znanost za čovjeka 21. stoljeća: 70 godina Odsjeka za psihologiju Filozofskog fakulteta u Zagrebu. (Research and measurement of the human abilities. In. Ajduković, D. (Ed.). Psychology, the science for the humans of the 21st century: 70th anniversary of the Department of Psychology Faculty of Philosophy in Zagreb.) Zagreb: Odsjek za psihologiju. (in Croatian)
7. Lahman-Kuzmić, N. (1973). U spomen dr. Elzi Kučera, Prvi hrvatski eksperimentalni psiholog. (In memory of dr. Elza Kučera, the first Croatian experimental psychologist). Zagreb: Informacije DPH, 1, 38. (in Croatian)
8. Pečjak, V. (1984). Stvaranje psihologije: knjiga razgovora. (The foundation of psychology: The book of talks). Sarajevo-Beograd: Zavod za udžbenike i nastavna sredstva. (In Bosnian).
9. Szabo, S. (1999). Psihofizika i psihofiziologija osjeta. U: Ajduković, D. (Ur.). Psihologija, znanost za čovjeka 21. stoljeća: 70 godina Odsjeka za psihologiju Filozofskog fakulteta u Zagrebu. (Psychophysics and psychophysiology of senses. In. Ajduković, D. (Ed.). Psychology, the science for the humans of the 21st century: 70th anniversary of the Department of Psychology Faculty of Philosophy in Zagreb.) Zagreb: Odsjek za psihologiju. (in Croatian)