



A Room of One's Own: 10 Views



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Photography: Lucie Mlynářová
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Print: Ka-Ma s.r.o.

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ISBN 80-7330-076-1
Institute of Sociology, Academy of Sciences CR, 2005

A Room of One's Own: 10 Views

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A Room of One's Own: 10 Views has been published thanks to the support of the Ministry of Education, Youth and Sports of the Czech Republic.

The Woman of the Month project ran from Spring 2002 until the end of 2004.

Interviews presented in the publication are ordered chronologically.

Contents

Marie Čermáková

I thought that for a person to succeed, it requires ability, hard work, diligence and talent

Eva Syková

Activities supporting women in science have been long in coming

Soňa Nevšímalová

Neurology has always attracted me as an interesting and elegant discipline

Martina Pachmanová

There is no one, true and correct history

Věra Kůrková

I have never longed for success, I have longed to have my work, my spiritual child that would make me happy

Terezie Fučíková

A woman cannot beat a man because she can't win, but this is not true in science

Ludmila Křivánková

For a long time I have been the only woman among men

Věra Majerová

A large part of what can be called my scientific career came after 1989

Ludmila Fialová

Prominent scientists should rank at least in the upper-middle, socio-economic classes

Blanka Říhová

In elementary school I longed to sing and dance through life

When we launched the Woman of the Month project in 2002, our main goal was to give visibility to women scientists who have achieved prominence in their fields. It was important for us to map, however partially this can be done on a monthly basis, women's contributions to Czech science and to present the experiences of extraordinary women achievers. At the same time, we wanted to show young women researchers what it means to do science from the perspective of women who have managed to break through the 'glass ceiling', how they live science and what their life histories are. We also assumed that we would learn more about how the former political regime deformed science and what strategies people in science developed to survive and how the scientific space changed after 1989, as seen through the eyes of those who have formed it. When preparing this publication and reading the individual interviews, we realised that each of the women researchers needed her own space for her scientific work and to build her career, space that Virginia Woolf described as early as 1929 in her essay *A Room Of One's Own*. For Virginia Woolf, one's 'own room' served as a metaphor for the space that every woman needs in order to grow intellectually and personally.

We wanted to show, then, how successful women researchers built and furnished their own rooms, and what circumstances entered into this process. In the interviews presented here, the room is never a sanctuary that all are forbidden to enter, but rather a crossroads of private worlds and work self-fulfilment which complement each other and intersect.

For us, this experience was inspiring but often also very frustrating. The experience of women scientists is not necessarily always unproblematic, and from our perspective it was crucial to see how these women scientists reflected upon their own success and involvement in science, the extent to which the problems that we see as being structural and inherent to how science has historically been set up they learnt to perceive as their own personal affair, as something they had to deal with themselves, on a personal level.

We also encountered an unbelievable amount of modesty – humility toward the subject of research, humility toward themselves and to their own place in the process of knowledge production. Often we did not know how to react to the fact that women who have achieved international renown in the field of science, question their success and the influence of their findings. At the same time, from the position of those who are just starting their scientific career, we had the opportunity to realise the extent to which it is continually necessary to negotiate our space in science in terms of the different social experience of women, in terms of our own and other people's expectations and in terms of the institutional assumptions and structures which these women scientists also represent.

National Contact Centre – Women and Science team

Marie Čermáková

A senior researcher and, since 2001, the director of the Institute of Sociology, Academy of Sciences CR. In 1990 she introduced a new scientific discipline in the Czech Republic – Gender Studies in Sociology. She is the head of the “Gender and Sociology” research department at the Institute of Sociology, Academy of Sciences CR. She studies the position of women in Czech society, the position of women on the labour market, family-related social policies, equal opportunities policies for men and women, the issue of women’s potential in science, the position of young people in science, gender inequalities related to human resources development and the conditions for the empowerment of women’s elite. She was the primary investigator of many research projects concerning gender equality, funded by Czech and foreign grant agencies. She is a member of the Council of the Government of the Czech Republic for Equal Opportunities for Men and Women and a member of the National Steering Committee for Women and Science appointed by the Ministry of Education, Youth and Sports of the Czech Republic. Since the mid-1990s she has taught university courses on feminist sociology and gender in sociology. She co-operates with many foreign universities and publishes in national and foreign journals.

The interview was published in April 2002.



I thought that for a person to succeed, it requires ability, hard work, diligence and talent

I wanted to liberate myself from the provincial environment that constrained me

NCC-WS: When you started your studies, how did you imagine your future career?

I definitely thought that I would have a career because I wanted to liberate myself from the provincial environment that constrained me and made me unhappy. I thought that I would gain something if I entered a new environment. I had great self-confidence and over-estimated myself.

NCC-WS: Why do you say you over-estimated yourself?

I did not know what I would encounter; I was truly from a provincial environment. I thought that for a person to succeed, it requires ability, hard work, diligence and talent. I did not expect that you also need contacts, capital, acquaintances etc. I did not expect this and did not know anyone.

NCC-WS: Was there anything that surprised you when you started your scientific career?

I was not yet eighteen when I started my university studies. I studied philosophy and history and things gradually became clear. My naiveté soon disappeared. Reality showed me that I over-estimated myself. This had a political dimension. When I finished my studies in 1969, I had to come to terms with the fact that not only would I not build my career but that it would be difficult for me to even find a job. I had to change what I wanted to research. I wanted to specialise in philosophy, to teach philosophy, but this was not possible in 1969 or later without a 'Party Book' [translator's note: the party book was issued to all members of the Czechoslovak Communist Party to indicate their membership status]. So I had to focus on the other discipline I studied, and that was sociology. And that's where I started.

NCC-WS: Where did you start after your studies?

In January 1970 I started working at the Institute for Social Analysis. This was a special "hybrid", a remnant from the liberal years of the Prague Spring. It focused on the sociology of labour and research in enterprises, which I enjoyed. Immediately from the beginning I had the opportunity to do independent research, which I wouldn't have had otherwise. I had independent research studies and projects, which very few people at the time had. There were mostly young people; in fact, I received a degree in Sociology in the first year that such degrees were given. And then there were some older researchers who had to leave research institutes for political reasons. The institute was built on a friendly basis, which was very important for the launch of my scientific career.

NCC-WS: Was there any co-operation with older colleagues?

Not much, but the institute strove for a scientific approach to research. We organised many conferences, seminars and support activities to increase one's qualifications; there was a lot of competitiveness and a high degree of criticism. I got used to this. The institute was closed in 1977 and I had to leave.

NCC-WS: Where did you go?

I just want to add that my employment at the institute was very important because I contributed to more than thirty, maybe forty sociological research studies, and only a few people had such an opportunity back then. And not only me, but all the young people contributed to many research studies. I then went for an interview at the Research Institute of Labour and Social Affairs. This was a turning point because I had to do something completely different and, more importantly, the working atmosphere there was completely different. My field was social policy and research into social groups subject to special protection (for example, research on the elderly, disabled people, released prisoners and such). I had to build expertise in this field. I came as a regular employee, and for the entire time that I remained at that institute I was a regular employee; I was never able to do independent research there. I contributed to projects, initiated, implemented and interpreted research findings, but basically I had to work for my bosses. People worked for bosses and the bosses signed the results (projects and publications).

NCC-WS: Was this the only research institute where you could have worked at that time?

Definitely. I did not have a Party Book and still, in 1977, it was very difficult to find a job in the field. I wanted to leave. I applied to the School of Economics, won the position, was accepted. I wanted to teach, but then the head of the department decided that they would not hire a female but a male. This was in 1973. I still have that piece of paper at home. A lot of things happened on the telephone. The female deputy head of the department called me to say I was accepted but that, unfortunately the Comrade Professor decided to hire a man. Then I received a letter from the School of Economics saying I was hired. But on the telephone they said that this was no longer true. It was a farce.

NCC-WS: Was it somehow justified?

Only by the fact that the professor had the power to decide who would be hired for the faculty. I never talked to the head of the department. It was the department of Management and Sociological Research.

My family just happened

NCC-WS: Your scientific work was important for you. Did you think you would have a family?

I hadn't really given much thought to having a family. My family just happened. My friends had families, but with

me, the family just happened. I never imagined that I would have a family, that I would have children, that I would take care of them. And then I had them and I took care of them. It was not well thought out; it could have been much worse. I would say that in my case it was the excessive self-confidence that I would manage everything. Although sometimes it did not work out.

NCC-WS: How did you manage to balance your family and career ambitions?

I was lucky because, with the exception of the Research Institute of Labour and Social Affairs, I always had flexible work hours. I learnt to organise my time, which allowed me to combine work and family. What I did was more determined by the fact that we did not have a flat, rather than by how to organise my time with children. I never thought this was a problem. I had a lot of energy to get my work done – even “extra-work”. I managed to earn money on the side.

My career was always being interrupted anyway because I was changing topics all the time and had to start over again and again

NCC-WS: Which moments do you consider crucial for your career development?

I think that the crucial moment came when I understood that I could not gain anything further at the Research Institute of Labour and Social Affairs, that everything was repeating itself. In 1982 there was an opening at the Institute of Sociology. At that time it was not an independent institute, it was part of the Institute of Philosophy, and I was trying to change my career for the third time. My career was always being interrupted anyway because I was changing topics all the time and had to start over again and again. So I decided to do it again. A new research department on youth was opened and this was what I applied for. It was 1983 and a doctorate was required. I finished my doctorate in two months with three children, and they accepted me based on the tender. I think that this was absolutely crucial because if I hadn't been accepted to this institute, I would never have been able to get to an academic workplace with a different type of work experience.

NCC-WS: What were the changes that came in 1989 and how did you shift toward gender?

For a long time I had been privately interested in Czech women's literature and issues and problems related to women's experiences. But I was not satisfied with the manner in which it was done. I entered 1989 with an idea of how to do it if I had a chance to do independent work; I knew it could be done differently. It was not an option for me to go on a fellowship, even though I wanted to. But my husband went, he is also a researcher, and so I had to stay at home with the children. It was a great loss to me that I did not go on a prominent fellowship. I needed

to go on a long-term fellowship as early as 1990, but I had to do everything on short-term fellowships. These were important for building personal contacts, though. For the first time in my life I could choose my field. At that time I had no clue what magnificent development gender and women's studies had undergone. I was in a position to do what I wanted; it was an intuitive and risky decision. The way I approached it was that I would study women as a social group. I saw it quite mechanically, I admit. I really did not know anything about the amazing amount of work going on in feminist sociology and I was fascinated. During those first years, I had an opportunity to attend many conferences and stays, which opened further possibilities. It was an interesting and hectic time.

NCC-WS: Let me go back a little. You mentioned that it was your husband who went on a fellowship and you had to stay at home. How did you reach the decision that he would go and you would stay?

There was no decision involved; he was the first to be awarded a fellowship and so he went. And I did not apply after that. At that time I was also constrained by my age; at that time fellowships were only offered up to the age of 35 and I did not meet this criterion. I would have had to work extremely hard but I was not going to because I knew that someone had to stay at home with kids. Those under 35, everyone went on a long-term fellowship. I had no idea, for example, that you can take your children with you for such a fellowship. I was very inexperienced in this respect.

NCC-WS: You had the opportunity to establish the Department of Gender and Sociology, though.

Yes, this has proven to be very important because if I had gone on a fellowship, I would have profited personally, privately, but I might not have remained at the institute and I might not have got my position. I applied for my first gender-oriented project and received grant support to research the life and work conditions of women. It was an important initial project that basically allowed me to establish the discipline.

NCC-WS: What reactions did you encounter at the very beginning when you submitted the project and when your colleagues learnt the type of discipline you were about to establish?

The beginnings in the re-established Institute of Sociology, Academy of Sciences CR were very difficult because there continued to be differentiated and deprecatory attitudes toward my research topic. On top of this, I was alone, there was no one for my team. People objected that this was a popular topic and that "there", in Western sociology, gender issues and feminism were at an end. My colleagues thought that it was some sort of fad which ended in 1990. They thought that the fad was over and they absolutely did not think that it was a crucial and continuous stream which could hardly leave sociology. Feminism and gender, these are not research topics that just begin and end. I think that I made many moves that only later was I able to assess as being good moves. The fact that I did not take the path that most interested me but adjusted myself in some respect to the plans of the institute as a whole proved to be to my profit in the end. I started doing empirical research of the female population; I established the continuity of research projects, and systematically studied gender inequalities. I built links to international research and projects and found new qualified researchers for my team. I have never

regretted working on these research projects, probably also because the success rate of these projects was higher than could have been expected.

I pretended not to have children at all

NCC-WS: How did you personally present yourself as a woman in science? Did you have to adopt any strategies to be able to pass smoothly through the research environment?

Some of those strategies were successful and some unsuccessful. For example, I failed to grasp that those who want to pass through sciences smoothly must strive to obtain positions and functions. I saw this linked to the totalitarian period in science and I thought that it was over. I under-estimated science policy; I placed more emphasis on work, and thought that work would prove itself. But no, it doesn't. Positions are important.

NCC-WS: I would like to go back to the very start. I would like to know your opinion of gender stereotypes. Did you feel any stereotyping during your studies, because you studied philosophy, which may seem to be a masculine domain? And did your attitude change in any way later, in the social sciences?

At university not at all, there were very few of us that studied philosophy. I was very successful. On the contrary, I felt respected. I think that there were so few women that when they showed deeper knowledge and interest, professors were overwhelmed. But I cannot judge it so well today. My studies were very pleasant and successful in many respects, and moreover I had the opportunity to study both philosophy and sociology. There were few women studying philosophy and many who studied sociology, there were more women than men. Afterwards, in my first job there were many women, we respected each other, had a small group and I felt good there. The first clash involving stereotypes came in 1977, at the Research Institute of Labour and Social Affairs. It was the first encounter with the fact that someone sees me as a woman. This was quite a painful clash. I was so irritated, shocked, and I felt that injustice had been done to me. The most common stereotype was that because I have children, I spend less time at work. I was very sorry about this at that time because my colleagues worked much less than I did. I reached a point when I did not mention my family. I realised that my self-protection went as far as to not mention the slightest difficulty at work. This led to me completely withdrawing; I discussed my private life only with my friends. This stereotype was applied very strongly against me because I was the only one in the department who had children. At that time there were only childless people and old people.

NCC-WS: And you felt this from your female colleagues who did not have children as well?

Everyone, absolutely everyone. It was so unjust because I felt that I worked more than others.

NCC-WS: And you considered not talking about your private life at your job as the only protective strategy available?

Yes, in fact I pretended not to have children. I did not talk about them, but it was known that I had them and this was how the stereotype was built. It went as far as this one confrontation when I proved that I had not taken a single day off on sick leave with my children but the leadership claimed the opposite. In my case it was just assumed that since I had children, I had to be at home with them. But that was not the case.

NCC-WS: Was this one of the aspects that contributed to your decision to leave?

Yes, definitely. Because then I had my third child and I knew that I would not manage anymore. When I was pregnant with this child, my boss said that women who have two children should be compulsorily sterilised in order not to disrupt the operation of a workplace. I managed to conceal my pregnancy until the sixth month. I did not announce it at all at the institute and when they learnt about it in the end, they were shocked. They did not expect this. I felt like a person from a socially disadvantaged class. It was very cruel and disgusting. The truth is that, as I later realised, I was exploited, and in this way I managed to escape. Thus the reaction.

NCC-WS: Can you imagine similar stereotypes being applied to your male colleagues?

Never, not at all. Men were welcome there.

NCC-WS: Did you share these problems with your husband, since you were a two-career family?

I can discuss anything with him, at anytime, but then I have to solve everything on my own. It is very important to have your husband's support, but my career, that I had to build myself. No one has ever assumed my responsibilities, I was responsible for everything. A two-career marriage also means that you don't burden your partner with your own problems. Each deals with their own. This, I think, I have always respected.

NCC-WS: Do you think that the perception of women in science has changed over the last ten years?

Yes, everything in the sciences has changed. The entire context in which science is done has changed, the environment in which it takes place, the rules, concepts of science, organisationally and from the management perspective. The basic construction of the position of a scientist, and thus also a female scientist, has changed. Nevertheless, not all the issues related to the position of women in science have been solved. Today, some nuances are very important because they play a completely new role in the new context and many things have been re-coded.

NCC-WS: But surely there are strategies that women can employ to reach top positions in science.

I think there are. They are personal strategies, they have not been described, we don't know about them. But even if a strategy is specific to the individual, it should be described. Whether it is an exceptional strategy or whether it could be repeated. Usually it is very rare for a woman to get to the top in Czech science. And as soon

as something is determined in this way, it is a problem. To come back to my experience, my position was a result of the situation; it is not a model for building a career. I could hardly recommend it to anyone because it was completely contingent upon the historical circumstances, and there was also a large amount of chance that could hardly have been anticipated.

NCC-WS: Now I would like to turn our attention to more personal aspects. In your opinion, which of your characteristics do you see as being crucial in your reaching the post of the director of the Institute of Sociology, Academy of Sciences CR?

It is very difficult to describe oneself, I don't know. I have noticed that people say I am quick to make decisions, and maybe this is a good characteristic, but I don't know about anything else. But then, sometimes I want to solve something quickly but the issue is more complex, and difficult and if I make a quick decision the solution doesn't necessarily come sooner.

Czech science is mobilising

NCC-WS: Let us move abroad because the Czech Republic is getting ready for the accession to the EU. At the EU level we can see great developments concerning research and development. I would like to ask to what extent do you presume that these developments are already having an impact on Czech R&D?

I think that we have not considered the impact yet; the expectation of what will come mobilises Czech science. I think that we are just a step away from Czech sciences being mobilised to realise that each talent is very important, that we cannot afford to waste women's talents and women's potential in the sciences. I think that it is not long before we realise this. A number of institutions already have some idea of this because people working in the sciences constitute less than one per cent of the labour force in the Czech Republic. And under the current circumstances it is very difficult to even attract talented people to the sciences. Women are therefore very important. It is necessary for women to penetrate those positions where decisions are made on the choice of research topics. In this respect the Czech Republic is in the same position as the EU. Nor is Europe faring so well that it can afford to waste talent.

NCC-WS: Do you think that if women reach those positions, different research topics will be promoted?

Yes, I am certain of it. I think that linking Czech R&D to the EU will result in opening up discourse about women and science. It will confirm it as relevant, topical and important and that it will change R&D. The position of women in science will change.

NCC-WS: One could say that science has been defined as a masculine space, tailored to men's experience. In your opinion, can the scientific space change to take women's needs into account?

The organisation of R&D is very important and this should change. Women should participate more in the organisation of R&D. Czech science has great reserves; it still needs to prove that it's useful to society.

In the sciences we are in a phase of searching for new avenues

NCC-WS: Developments in the EU are based on the perception that Europe must increase its competitiveness in relation to the US and Japan. But if we think of the emphasis that is placed on work performance in the US, and the material and organisational conditions that there are there, it will be very difficult to change the situation. The pressure on increasing the competitiveness of European R&D will necessarily encounter difficulties; on the one hand it will be necessary to increase productivity, on the other hand the effort to take into account family obligations of employees and to achieve a work-life balance will be promoted. How do you think this can be addressed, because the pressure to compete will not lessen but increase?

This is a problem women in Europe are faced with. It is one of the key issues because it concerns the quality of life. It is a question whether European science will manage to deal with this. The US draws on the huge human potential from the entire world because they manage to attract talent. But overcoming these obstacles can have an innovative aspect. It does not have to necessarily take the form of a racetrack. Science can concentrate on certain topics where it can excel and can achieve success. We are now in a phase of searching for those different paths. The paths for a woman's career in R&D have already been delineated, whether this involves expanding one's career in terms of achieving individual scientific degrees or other options. While it may seem today that European R&D should concentrate only on performance, from a long-term perspective it may achieve more if it creates conditions for people who work in R&D. A woman may plan to not have a family and instead concentrate fully on science, and this is a fully respected choice, but it is not necessarily the preferred choice for all women working in the sciences. Therefore, it is necessary to find some other paths. There are many and they are not new, but one issue is that a living standard must be ensured, providing a salary that enables a family to choose how to combine a scientific career with a family in time and space.

NCC-WS: Some women will, of course, be willing to accept the extremely competitive model. Might this not to some extent slow down the development and adoption of measures that would create a more favourable environment for women who want to have a family?

This is a political decision and is part of the science policy. If this decision is not made, then I think science cannot

be truly democratic. But many scientists would tell you that democracy in the sciences is the last thing to be concerned with. The American model does not function only in the sciences, it is a model brought from business and it is a question, of course, whether we should wait until the model changes in the US. There are discussions about whether this model is suitable, what it means for US society and whether it will be efficient and valuable in the long run. This model, of course, carries its negative aspects such as burnout, exhaustion and other disorders. I don't know how to change this. I think that today there is no answer to this. We will continue to struggle with this. From my personal experience I know that in some portions of Europe, for example in Norway, they have been looking for answers to these questions. They have been considering very sensitively whether to introduce gender mainstreaming into R&D. Research structures at various levels are negotiating issues related to the future development of R&D, not only in terms of the position of women in science. I think that we are in a phase of opening up this can of worms.

NCC-WS: What solution would you personally prefer at an institutional level?

Personally, I am for alternative programmes. What I want to say is that what is available as being the "mainstream" should not be defined from the top. Something like this would be received with a lot of resistance. But I insist that mainstream must not deny personal strategies and innovative personal procedures. Therefore, in this phase I would let more models function side by side to test which are efficient and what suits people. The field of research and the situation in which a research team finds itself also play an important role. Research develops in cycles and there is a need for much work. There are teams in the natural sciences working in such a way that there is one leading researcher who gets grants and projects. The nature of work changes from field to field. Therefore, it is not possible to introduce quotas or affirmative actions in the Czech sciences because Czech sciences would not stand for this. Let us keep in mind the fact that we are working with less than one per cent of the labour force potential in the Czech Republic. We constitute too small a segment of employees to be able to experiment or waste what we have. We have to create space for support projects and to take maximum advantage of what is offered to women by European R&D and its structures, to give women scientists the option of choice but primarily to give them the knowledge and information about gender stereotypes in R&D and in society. Let them choose for themselves.

NCC-WS: The model you suggest entails a problem because the mainstream is supported by the organisation of science.

Yes, it is the current, well-established model of the organisation of science and the related unwritten norms and habits that keep it alive, and often they contribute to gender inequalities. In this sense, science fares no better than the rest of society to which it is linked, and within whose systems and relations it functions. The model must be flexible enough not to prevent or denigrate other approaches. If the mainstream concentrates only on negating alternative methods, then it is necessary to confront it immediately. I think that such a confrontation is unavoidable. It appears to me that where societies have reached a certain degree of progress in equal

opportunities, for example in Scandinavia, the promotion of gender mainstreaming in the sciences will take a different form than in countries where a general awareness of the position of women, gender differences in society, the relationship between family and work (such as the Czech Republic) are completely missing. We suffer here from the fact that we had no wave of feminism. We don't have any social experience of this sort.

NCC-WS: You have mentioned differences between science fields and the related division of science into hard and soft disciplines. Even if we do not accept such a division, this division and the ascribed importance to softness and hardness in society defines the allocation of funds for these disciplines. Do you feel that we may live to see a time when the support for disciplines that may seem uncomfortable or insufficiently useful for current society could be marginalised, and that this could happen to the sociology of science, for example?

I am concerned about this. I think that this occurs all the time. Since 1989 the respect for social sciences, and also other humanities has not been restored. Respect and improving the potential of these sciences must come. Take sociology, for example: After 1989 the number of employees at the Academy of Sciences CR was given by the number of employees dictated by the previous regime, and this number was reduced even more. There are many disciplines in the sciences that are faring even worse. The educational and cultural profile of Czech science is narrowing down as a result. This development curbs the cultural and social impact of science on societal issues. Today, we are seeing the marginalisation of a number of science disciplines, and a strengthening in the natural sciences, IT and technology. This is very difficult to disrupt because this construct of science is powerful and works against so-called 'soft sciences'. It is a cultural failure.

NCC-WS: Are you optimistic about the future? Do you think that the situation here will change?

I think that R&D here will undergo great clashes and that it will not necessarily end up the way I picture it. No field of science today can count on being automatically legitimated. The demands on the production and quality of research are continually increasing. Moreover, the criteria used to evaluate R&D today are changing and expanding. Humanities and the social sciences are much more restricted and are also more related to the national contexts. They do not bring an immediate effect stemming from a new competitive discovery, but they critically describe social processes and capture the history and cultural heritage. For this reason they are irreplaceable for culture and society.

Eva Syková

Graduated from the Faculty of General Medicine at Charles University, Prague in 1970. In 1976 obtained the title Candidate of Sciences at the Physiological Institute of the Czechoslovak Academy of Sciences, and in 1990 the title Doctor of Science (DrSc) at Masaryk University in Brno. In 1994 she became associate professor at Charles University and full professor in 2000. Since 1991 she has been the head of the Department of Neurosciences at the Institute of Experimental Medicine, Academy of Sciences CR. In 1996 she established the Institute of Neurosciences at the 2nd Medical Faculty, Charles University. In 2000 she became the head of the Cellular Therapy and Tissue Replacement Centre, and in 2001 she was appointed director of the Institute of Experimental Medicine, Academy of Sciences CR – EU Centre of Excellence. She has been awarded various prizes (for example, J. E. Purkyne's Czech Medical Society Award, the Academy of Sciences CR Award, the Janssen-Cilag Award, Purkyne's Medal for Merit in Biological Sciences). She has published 151 peer-reviewed papers and 440 abstracts that have been cited more than 2,200 times by other authors, according to SCI. She regularly presents at international conferences, symposiums and seminars. She has been the primary investigator of 26 grants, six of which have been foreign (including 6th Framework Programme). She is the co-ordinator of the MEDIPRA – EU Centre of Excellence project; she is a member of many editorial and scientific boards, and works in committees of Czech and international scientific societies. In 1999 she was elected a member of Academia Europaea.

The interview was published in May 2002.



Activities supporting women in science have been long in coming

If the political situation had been different, I might be doing something else today

NCC-WS: How and when did you decide to study medicine?

It was an accidental decision, though I was acquainted with medicine because my relatives were doctors. If the political situation had been different, I might be doing something else today, maybe I would have taken over my father's company. But when I graduated from secondary school in 1961, I did not get a recommendation to study at any university due to political reasons. The only option that came up for me – because my mother worked at the medical faculty – was the Plant School of Labour for Lab Workers at the Czechoslovak Academy of Sciences. And so I applied because at that time it was first necessary to prove yourself through work and then, maybe, a person got a recommendation to study at a university. There were scientists at the entrance exams to select future lab workers and by coincidence Dr Jan Bureš, an excellent Czech neuroscientist, chose me. It was the luckiest break of my life, but a total coincidence. I really liked it at the Physiological Institute of the Czechoslovak Academy of Sciences. His wife, Dr Olga Burešová, was also an excellent scientist. Soon they started giving me independent tasks and it was then that I decided that I wanted to study medicine, neurosciences, and to be a researcher.

NCC-WS: Dr Bureš then played an important role in your career path?

He was a great role model because he was a world-renowned specialist. At that time, despite the "Iron Curtain" between East and West, many foreigners came to his lab. He and his wife were doing well politically. They went abroad quite a lot, which was exceptional at that time, and the young woman that I was then really liked that, this type of international cooperation.

NCC-WS: Was there anyone else who influenced you?

It was primarily the two of them, Dr Bureš and Dr Burešová, and also Dr Fíková. There were a number of really excellent researchers such as Dr Beránek, Dr Hník, and Dr Zelená. Some of them learnt top physiology in England during the war and had the English sense of precision in the sciences. I was greatly impressed by this. And of course, there were many guests, there were women among them, full professors who were on par scientifically with their male colleagues, and this probably had a great influence on me as well.

We always have to work harder and better than men to achieve what we want

NCC-WS: You are a full professor, one of the few in the Czech Republic. How do you see the course of your career in retrospect? Did the rewards come when they were supposed to?

Well, this is quite a feminist question but I will answer. People may think that they should have been rewarded sooner, and this applies to men and women. But I think that in my case, it was primarily political persecution. It was not just my problem; many of us were prevented from advancing up the ladder for political reasons, because it was not merit that was valued but political affinity. We did not really perceive any problems related to being female, the political aspect was far stronger. This changed dramatically after 1989, when the issue surfaced immediately. At that time, important positions started to be awarded to men, in politics as in other walks of life. There are very few women in politics, very few have become ministers. It was the same in the sciences but there are a few exceptions. I have to say that each time, in order to make any progress, I had to fight harder than men. This has always been clear. When I talk to female colleagues abroad, we always agree that we have to do more than men in order to achieve what we want.

NCC-WS: Can you be more specific?

Simply, if you have a man and woman who are both equally capable, the man is given priority. In the sciences, women often have to do better work or publish more. Women have a different approach to work. They tend to be of the 'honest researcher' type. They concentrate less on science politics, which is becoming more and more important. By science politics I mean writing overview articles, organising scientific events, etc. Men do this more often and overshadow women. For example, women contribute to organising symposia and conferences, but the one who is visible is the chairman or president – a man. This brings visibility and then advancement, so it's not just about publications but also overviews, lectures, conferences etc.

NCC-WS: Why do you think that women are willing to put up with this marginalisation?

I don't know that they are willing. Men take the well-trodden path. Practically all men advance up the career ladder in the same way. That is not true of women. Women can be divided into two basic types. One type is the woman who wants to be on par with men, directly or indirectly, and accept the rules of the game. They simply advance using the tested ways, the same ways as men, which I think is today the only possibility. But then you have women who are dealing with it by staying in the background because it is not so demanding. They accept taking the back seat and then, when they are around 45, it is very difficult to change. If they had not learnt to be managers, lab leaders, having a lot of students and organising events, then it is difficult to change. Women split into these two types very early on.

NCC-WS: Which characteristics in researchers do you consider to be the most important for managerial, leading positions?

Well, this is not a way I would approach it. These capabilities are secondary. You have to be concerned, always, about successful research. If it is not connected with this, success won't come. The process of building a scientific career is clear in that initially there needs to be patient, hard and creative work. I have always worked very hard. For fifteen to twenty years I concentrated on research. All young scientists should do this. Because the person who works more, who is more persistent and who has more results, he gets more international recognition, and this is the secret of success. And only once you have this consequential and rigorous work behind you can the second part come. But in the first years, research must take priority. Only then can the phase of leading a team come, and then, of course, the research phase won't be lost. Then you only have to take care to bring up your students, to be willing to communicate your findings to other people and share the findings. Many women and men are not capable of this and work alone or they isolate themselves; they cannot communicate or work in a team. By working alone, women try to save up time for the family. They think that this is faster; they don't have to persuade others and argue. And another important characteristic which applies to men and women: a person has to have great imagination for doing research. This is crucial for the sciences. Not only hard work but also imagination. On top of everything, you have to have your own ideas. Even if some of them may not be good at the beginning, you have to strive to build up your way of looking at things and to try to bring your own personality into your scientific work. In a sense, it has something to do with the arts. And only then can the managerial part come. Today, a researcher needs to be a good organiser, and the way to learn this is by organising your own events. First in your small lab, then in a larger one. Some people just don't have managerial skills, men or women. But in a top position, you can't just concentrate on yourself and your own progress. You have to have a long-term vision. A person cannot concentrate just on himself, you have to get rid of the selfish approach and you have to start thinking in more general terms, for example in terms of your institute, academy, university.

NCC-WS: Why do you think that women and women's work are not valued as highly as men and men's work?

There are many reasons. Primarily because external marks of esteem are not determined solely by scientific work. A PhD clearly depends on scientific work, but some titles can be but do not have to be awarded. Sometimes there are obstacles on the path and you have to overcome them. Women often underestimate themselves in this respect. Men also do not achieve on their own, but they have an old boy's club, and very often they come to an agreement there and support each other. Women do not do this; they are more individualistic or they don't have time because they spend a lot of time in the family.

NCC-WS: Do you think that it is just because of the family?

No, no. Of course, it is not just because of the family. Women do not meet so often, many women do not support other women. It is in women's genes to compete with each other. In the animal kingdom, reproduction is the

main thing, though not so much among humans, but women have always been competing against each other. And they bring this view of life into the sciences. When they are an exception, it is better for them. Men also compete, not only for women but for many other things: positions, property, recognition – it is their life goal and therefore they bond.

To stay at home for a long time is a destructive approach for a female researcher...

NCC-WS: You have already mentioned one very important aspect and that is the difference in the career paths of men and women. Motherhood and the related childcare and housework have a great impact on women's careers. How did this influence your career?

In my case, my immediate family, my husband and children, was supportive, maybe because my husband is also a researcher and he understood what hard work, time and freedom research demands. If he were an entrepreneur, maybe he would not understand. It is important to have a marriage where people agree that they both want to have a career, they want to support each other and if they are both tolerant, it brings a lot to both of them. I got married during my studies, in my fifth year of medical school. Our plan was to have one child one year after getting a job, and the second one when the first goes to school, to get some respite. And really we had the second child after seven years, as we had planned. It's always possible to arrange it somehow. Most importantly, I knew that I could not stay at home for long because this is a destructive approach for a female researcher. People around you always say that it is best to be with the child at home. Maybe because this is the best solution for most families, but it is not always true. For example, when I had my first child I gave my entire salary to a nanny who took care of our son. If I had had to run to the kindergarten, if I had been stressed, it would not have worked, I would not have been able to do creative work. Sometimes I worked until late at night and my husband was at home. Another day of the week I was at home. My husband understood this. The wider family was not so understanding, but your husband is the most important thing. I say this to all my female students: if you want to be a good researcher and have a family, you have to choose the right husband. This is a critical issue. If you want to have a scientific career, you have to have the support of your family. I cannot imagine my life without my family.

NCC-WS: And how did you cope with the pressure put on you by your wider family and other people?

I was sorry about this but in the end I did not make much of it. I listened to them, I explained my arguments quite often to them. Often it was rather unpleasant, but I did everything my way. Today it's not much better in this respect. I have to say that most successful women I have met worldwide had at least one, often two or even three children, but none thought it was easy. To manage a family you need the same characteristics that you need

to be a good researcher: you need to be a good organiser. So it can be done unless, of course, there is an extreme problem on the part of the family, then there are bad endings. If a relationship is normal, tolerant, then women who are mothers can be equally successful.

NCC-WS: Do you think that research institutes keep enough contact with women who are on parental leave?

Well, again I think that it depends on the woman. No institution will actively seek solutions or be active in this respect. But if a woman calls, they ask her how it is to be at home, how the child is, etc. Or they inform her about events taking place at the institute. But it is more or less up to her to define some free time in her family or to get a nanny that will help her at the beginning so that she can gradually get back to work. Employers can hardly ensure this. In the end, she can also take her child with her to work. But this rarely occurs here. I have seen it many times abroad, though; children were present at the workplace. In conferences this is normal, but not in the Czech Republic. Here, we have this tradition that a child needs to be constantly supervised, cannot touch anything and everything is dirty. In Western countries it is more liberal and women take their children with them everywhere.

NCC-WS: At the EU level we hear discussions related to seeking alternative career paths. These actions are led by the effort to take into account the fact that motherhood interrupts a women's career for some time, which can have an impact on her overall success. Do you think that these efforts to gain a deeper understanding of the organisation of the research space as masculine and to change the current status quo are well-founded?

It is indeed an important thing. For example, we have here at the Institute a female researcher from Sweden who has three children and she started her PhD late. She is very talented but we cannot pay her a salary from a Marie Curie grant because she is over 35. The fact that women have children should definitely be taken into account. In Germany it was proposed to increase the personnel costs in grant applications for women who had small children or were planning a family if they could prove that they would use the money for childcare. I think that this would be the greatest help for young women here. The most serious problem for mothers is having enough money and understanding. To be able to drive a car and be home earlier, do the shopping on the way home, to have money to pay a nanny who is reliable. The money is not so great that it could not be included in grant applications. And it would greatly help women because if they cannot find anyone appropriate to babysit because they don't have enough money, it limits them. For example, one of my young co-workers finds herself in a fairly good financial situation; she now has a nanny and knows that it is possible to place her child in more expensive but smaller kindergartens, etc. Then the mother is calm because she knows that the upbringing of her child is well ensured.

NCC-WS: Do you think that it might become realistic in the future that the Grant Agency of the Academy of Sciences CR and the Grant Agency of the Czech Republic would be willing to implement such support schemes?

Of course, if such programmes are introduced in EU member countries and we see a working example, then I think our grant agencies would quickly follow suit. It can hardly be expected that they would arrive at something more revolutionary than that found in other countries. But I think that the EU strives to facilitate these activities, and then it will be quickly reflected here because they will see that other grant agencies are willing to do this. Hopefully, the environment won't be such so as to prevent this.

NCC-WS: Can you see any shifts among your female and male doctoral students in how they approach organising their lives?

Certainly, I think there have been some changes, though not rapid, and they have been very individual. There are many more women than before who have similar opinions, can organise things, do things their own way without being deterred or disgusted. But there is also the other type of woman, who either is or who can be managed and who easily give up their resolutions. But I think that we are also seeing great shifts in men's attitudes toward women. The time is passed when a woman who worked on behalf of other women was either seen as ridiculous or as a feminist. I think that men, on the contrary, brag how they support women, or at least they want to appear that way. So they always appoint some women to academic positions. People with a university degree are more prone to this.

On international co-operation and building bridges

NCC-WS: You have managed to get a Framework Programme 5 centre of excellence. How do you see this achievement?

I really think that this is a great achievement for our institute. I was very happy to contribute to this. We have just submitted many other grants, and we have received some of them, and I consider this a further success. We have also received a Marie Curie Fellowship. These are three success stories, European grants that I value highly. In the future we would like to expand our European co-operation. If you want to apply for EU projects, first you have to get a little experience. If you don't pay attention to this, you won't succeed. From the beginning, I and other leading researchers at the institute have paid a lot of attention to this, and it has paid off. Hopefully, we will also manage to do more applied research here as well, but it won't be possible without a national programme for applied research.

NCC-WS: What is the greatest impact of participating in EU Framework Programmes?

Primarily, it is about building contacts between institutions and opening doors to new co-operation. The second advantage is that we have many foreigners working here. But we have to pay them an EU-level salary, and these programmes allow us to do just that. If they weren't here, we would not be an international research institution. We also go abroad and so they have to come here. It is a great motivation for young researchers. They are not forced to travel as much, they have contacts here, which is also important for women with a family.

NCC-WS: How do you see the activities of the European Commission's Women and Science Unit and the efforts at the EU level to promote the interests of women in science?

I think that it is very important and should have come much sooner. It is good they started. In Europe this issue is a little different than in the US. It needs a different approach. At one conference we reached the conclusion that some novice mistakes had been made and that they needed to be addressed. For example, at a recent conference in Stockholm there were no men. The conference was insightful for the women who were there, but if half of the audience sitting there had been men it would have been much better. And most importantly, men and women would discuss and clarify their opinions. There, it was just repeated that many young women felt that they were harassed or disadvantaged. If men had been there, they could have given their opinion and such a discussion could have been very profitable.

NCC-WS: Don't you think that the problem may lie in that men don't see the problem, or do not want to have this space of theirs problematised because they are just not interested?

I am convinced that men don't see women's problems, and no wonder. Very few men today still think that women are not good enough and therefore should not do science. There are really very few of those. But many men do not realise the issues facing women in various phases of their careers. Society has thus far brought them up to think that the only appropriate path is the "men's" path.

NCC-WS: And how would you stimulate men to participate in a conference that aims to address the issue of women in science?

I think that men (with the exception of a rector, dean, one minister and an EU officer) were not even invited! All the stipends were given to women. In the end, all of us were asked to appoint young women, PhD students, and it was not stated anywhere that we could also invite men. EU conferences, as we have discussed, should be organised in such a way that men are also invited. For example, in the US these events take place together with a scientific programme of a congress. You have a symposium to discuss this issue and who wants to come, can. I was really surprised by one such event: I had a scientific seminar at Yale University and they also asked me for a second talk on how I as a woman built my career. The reason I am saying this is that there were more men than women in the audience. Which only documents that reasonable men are interested in the opinions of women as well as men and want to come to such events. I was surprised that there were not only young men but also professors, advanced senior researchers. Maybe it was fun for them and they felt that it was part of the science policy.

NCC-WS: And in your position, have you encountered anything negative?

There is no way I would say mine was a trouble-free case. Even if no one has said things to me straightforwardly. But then, I would not say that it is only because I am a woman. I think that many directors are criticised more than I am. You know, in a position like this, it does not matter because it is about proving that you are capable. I was first the head of the Institute of Neurosciences and then the head of the Centre. They asked me to become the head of the Centre because they thought that I would do fine, and I did. If a person proves themselves, it is easier to accept them. The first positions are the worst. It's the lower positions as well, and those are not so visible. If a woman does her job well, she can build her position herself. She just has to set up her own lab. It's enough to do your job well and get enough money. Today, society accepts women directors in nearly the same way as men directors. It depends primarily on their work and also on the field. But this is the first position where I don't feel any discrimination. I think that a large number of research institutions strive to get women in their leadership positions.

NCC-WS: What else would you like to achieve?

This is an answer I can't completely reveal. Certainly, I would like our institute to be a recognised research institution here and abroad. I would like to publish some more interesting and major papers. I would also wish my co-workers, young people, to be successful in research. It's my goal for some of them at least to become senior researchers, and – just like my children – to be successful. Then of course at the EU and international level, I would like to organise some events, congresses, symposia, and networks of co-operation. I would also like to continue to shape national science policy as regards, for example, doctoral programmes, research titles, application of results in real life, making science attractive to the youth and the public. This is what I am interested in and I would like to contribute to this. And last but not least, I will strive for my lifelong work in basic research to find applications in medicine. I will promote new procedures and methods that could help patients, for examples, with brain and spinal cord disorders.

Soňa Nevšímalová

Graduated from the Medical Faculty, Charles University in Prague in 1963, later completing specialised postgraduate studies in neurology and child neurology. She became professor of neurology in 1997. That same year she became the head physician at the Neurological Clinic of the 1st Medical Faculty, Charles University, Prague. She is a member of many learned societies in the Czech Republic (Czech Neurological Society, Czech Neuroscience Society, the Czech Child Neurology Society, the Czech Clinical Neurophysiology Society) and abroad (the International Clinical Neurophysiology Society, the European Neurological Society and Paediatric Neurological Society, the European Society for Sleep Research etc). Her scientific and expert work has been awarded on many occasions (1996, 1997, 1998, 2001, 2003 for the best publication of the year by the Czech Neurological Society, the Czech Neuroscience Society Award in 1997, the Charles University Rector's Award in 1998). She was also awarded the American Neurological Academy Award on the occasion of the 52nd Congress in San Diego in 2000 for the best work in sleep medicine that year. In 2000 she was also awarded the Lady Pro Award by Comenius, and in 2003 the Czech Minister of Healthcare Award for excellent work.

The interview was published in July 2002.



Neurology has always attracted me as an interesting and elegant discipline

At the beginning we only had a small plexor and a pin and had to deduce in which direction to go with the diagnosis

NCC-WS: How did you decide to study medicine?

To tell you the complete truth, medicine was decided for me by my parents. I have always loved to singing, first in Kühn's Children's Chorus and later in the Czech Choir. I therefore had a dilemma because I wanted to do music full-time. But my father concluded that I had to have something that would earn me a living and singing did not seem like the right solution. And so when I was deciding, medicine won. Perhaps also because my uncle was a university professor at the 3rd Internal Clinic. But if it had been purely up to me, I don't know whether it would have ended up like this, but it was certainly a good move.

NCC-WS: How did you decide on your specialisation – neurology?

I attended a neurology interest group with Professor Vymazal, who at that time was not yet the head physician. After graduation there was no vacancy at the clinic and I started working at the Biological Institute, doing genetics. At the same time I continued to do neurology, and so when the post of house physician opened at the Neurological Clinic, I already had my first postdoctoral exam. Neurology has always attracted me as an interesting and elegant discipline dealing with the most precious and complicated organ a human being has. At that time the options were not what they are today: magnetic resonance imaging methods, positron emission tomography etc. We only had a small plexor and a pin and had to deduce in which direction to go with the diagnosis. But it was extraordinarily interesting, intellectually demanding and spellbinding.

NCC-WS: Was Professor Vymazal a person who brought you here or was it purely your decision?

I really liked neurology during my studies, and the team that I got to know, they were very nice people. It was sleep that completely swayed me toward neurology. My greatest teacher and at the same time best friend was Associate Professor Bedřich Roth. He was amazingly kind, modest and broad-minded, and very well informed. He was a true scientist, recognised abroad more than in the Czech Republic. He was the one who guided my first research steps; he taught me precision and systematic work. He made it possible for me to attend foreign congresses on sleep medicine when trips to the West were very rare. He led me toward systematic publication, and if I am to thank anyone for what I have achieved in my life, it is him.

NCC-WS: So he was a catalyst for you?

At the clinic, there was a sleep laboratory, one of the oldest in Central Europe. Thanks to Associate Professor Roth, we celebrated the 50th anniversary of sleep medicine in our country in autumn 2001. I am very happy that I was his pupil. I think that our co-operation was beneficial for both of us. Well, in fact, it was more of a symbiosis.

NCC-WS: Were there other women in this field or were you one of the few?

I was the only female in the sleep laboratory, but otherwise neurology is strongly feminised. I can't say exactly, but I think that 60-70 % of neurologists are women. In tenders, head physicians sometimes avoid feminisation and it is not rare for men to be given priority. There was even a time when during entrance exams to medical faculties men were given priority over women and receiving extra points in order to prevent the threatening feminisation of medicine.

Today the work conditions are different and there is greater enthusiasm to work in the sciences

NCC-WS: Which other major changes do you see in your field compared to the pre-1989 period?

A lot of positive things have happened. It has become possible to travel, there is space for foreign co-operation, many grant opportunities have become available. The work conditions are different and there is greater enthusiasm to work in the sciences. For example, laboratory equipment is increasingly acquired under grant projects or based on research plans (as you know, healthcare is not exactly "over-funded"). This is a great help. We have many postgraduate students and we strive to ensure that each doctoral student goes abroad for a fellowship at least once every three years. We are successful in this. Over the last two months, for example, we have had two offers: one two-year fellowship in Washington and a one-year fellowship at Stanford.

NCC-WS: And how do you manage to build international co-operation?

Well, we are doing really well. I will tell you something about the clinic so that you get the idea: there is a large number of very smart people, true personalities. Neurology today falls into many sub-disciplines, most of them are represented here at the clinic and together they form a mosaic. I have a feeling that with respect to the breadth of diagnostics, our clinic is really unique. We have five national centres focused on demyelination diseases, extra-pyramidal diseases, neuro-muscular and vascular disorders and a centre for sleep disorders. Everyone who heads a centre has many foreign contacts. For example, Associate Professor Havrdová has one of the largest samples in the world of patients with multiple cerebrospinal sclerosis treated by the latest technology

of autologous transplantation. Professor Růžička is part of the European register of patients with extrapyramidal disorders and works on a Framework Programme 5 project. In sleep medicine we cannot complain about a lack of international contacts, either. For more than ten years we have co-operated closely with Stanford University, we have been awarded some joint grants, which has resulted in many publications. Recently, for example, we were offered a multi-centric co-operation in an FP 6 project with a total of thirteen European countries participating. We have organised many international congresses; in 2004 we will organise the European Congress on Sleep Research in Prague, and in 2003 the Prague Symposium of Child Neurology where the sleep issue will also be addressed. My feeling is that we really cannot complain as regards international co-operation, and this is great. Over the last four years I have worked in the Scientific Committee of the European Society for Sleep Research and my work was also related to the preparation of the congresses I have mentioned.

It is important to preserve harmony in a team

NCC-WS: You have mentioned that your colleagues are personalities. How is such a team built, where do you look for new people? How do you look for new doctoral students and how do you work with them?

I have been blessed with people. I think that the core was established many years ago, maybe decades ago, but new, excellent individuals keep coming. Some through PhD studies, others directly from the Na Homolce Hospital, even at half their current salary. Maybe not everyone knows this but in the Na Homolce Hospital their salaries are double compared to salaries for teaching. But still you get people who enjoy teaching students and doing research for significantly less money. It is not always easy and I sincerely hope that the financial imbalance between education and healthcare is only temporary. As for our doctoral students, we are also very lucky. In most cases they are unbelievably hard-working, dedicated and very enthusiastic. Although they receive a stipend at the level of a living minimum (five or six and a half thousand Czech crowns), they work up to twelve hours a day and do a great job. It depends which team they are in, whether the work makes them happy and what results they are able to achieve. Of course, some of them sometimes leave: they get a permanent position, women leave for parental leave, some leave temporarily – for a fellowship abroad. For the new school year we are getting two new PhDs but both of them have already worked at the clinic, during their graduate studies, and one of them has just finished a great master's thesis. Young people are the greatest capital we have here at the clinic and I am very thankful for this.

NCC-WS: Which characteristics do you value most? What do you think lies at the core of this co-operation?

It certainly must be 'being co-operative'. If I had to judge whether intellectual or personal characteristics are more

important, I think that I would often give priority to personal characteristics. We strive to judge each person from a comprehensive perspective, not just knowledge and abilities but also their nature. It is important to preserve harmony in a team and fill in the missing parts of the mosaic. A person instinctively feels if someone will fit in with a team or not.

NCC-WS: So you tend to nourish co-operativeness and support rather than competitiveness?

It cannot be put so easily. As most of us have our own field of activity in one of the centres, diagnostic laboratories or clinics, there is no animosity among us. Each of us wishes success to the other, possibly because his subfield is a little different than the next person's. This is the principle of mosaic I have mentioned. But certainly the tradition of co-operativeness and healthy competitiveness which has always been present at the clinic, is also an influence. The last several years have been good years for us. People have received various awards, the number of publications has grown, international co-operation has increased and consequently also the prestige of the clinic.

In the clinic I am surrounded with childless, divorced or single women

NCC-WS: You have already mentioned what can potentially be a problem, and that is the different career paths for men and women. The breaking point comes with motherhood. Do you think that motherhood necessarily disrupts a scientific career?

I don't think it has to necessarily disrupt it, but unfortunately in 60–70 % of cases it does. It probably depends largely on the ambition of each woman, how and where she wants to find greater self-fulfilment. But it certainly can be harmonised. The times have changed. When I had children, the maximum time I spent at home was six months. Then my mother helped me to take care of the children or I had a babysitter during the day. My younger son hated children's groups, he was constantly sick. Today, mothers stay at home with children much longer. We have here two female colleagues who are on parental leave and they come to the clinic once a week (their workload is 0.1 and 0.2 of the full-time equivalent). But this is not a solution for long. A person should always strive, if possible, to work full-time at the clinic.

NCC-WS: Do you think that it would be useful for women to start coming back to work while still on the parental leave?

Certainly yes. It is useful for both sides. The institution knows there is interest in coming back as soon as possible, and the woman does not completely lose contact. It forces her to keep up, to look things up on the Internet, to follow the literature etc. Two or three years is an awfully long time; a person forgets many things and then has low self-confidence.

NCC-WS: Is it your experience that women stay at home so long on maternity leave?

As far as I can remember. Many have also left for policlinics where it is not as stressful. I have to say that at the clinic I am surrounded by childless, divorced and single women from younger generations; with men it's different – mostly they have one or two children.

NCC-WS: Do you personally see this as a problem? It appears that if a woman wants to have a scientific career at a high level, it becomes almost impossible for her to have a family?

It is definitely more complicated but it is not an insurmountable problem. It also depends on the support a woman has, but the most important thing is the will and determination, what she wants to do and what she wants to achieve in life. Of course, it is bad if the children pay. But I think that both can be done.

NCC-WS: From what you say it appears that women who wish to have a full-fledged career and get to the top reach a point when they have to decide whether to have children or a career?

That's not the way I meant it. Motherhood belongs to life. And I think that very few women would be satisfied with just their work. Family support, the warmth of the family hearth, children and children's laughter, each woman needs this for personal satisfaction. Especially when you reach the age of forty, the feeling of loneliness is much stronger and in the end this may have a negative impact on work.

NCC-WS: Do you think that the current European research space is set up to ensure equal opportunities?

I don't know if I am going to make you happy, but I think that those who want to achieve something, can do it, and it does not depend on whether you are a woman or a man. Women, however, have it more difficult. For example, in the European Society for Sleep Research the president is a woman from Switzerland and her scientific secretary is also a woman, from Finland. They organise symposia on women and science, they support the EU programme oriented on sleep disorders in women etc. I have never been a feminist and I don't know whether programmes thus oriented are the way forward. But when the IBRO world congress was organised, it was said that there should be at least one woman among the invited speakers. Of course, it is sometimes pleasant.

NCC-WS: Do you think that the mechanism in R&D is set up to create equal conditions?

Definitely when a person has already achieved something. Maybe the conditions are more difficult at the start of building a career. If in a competition you have a 28-year-old man and a 28-year-old woman with one or two children, a person subconsciously prefers the man because you expect greater work performance. At the clinic everyone should work at full; today you can't tolerate any great leeway.

NCC-WS: If you have a male applicant, do you ask him who will ensure the childcare for his children?

When a man comes ... recently there was a young doctor who first worked in Canada, then in France. I asked him about his previous experience, his orientation and plans for the future. I asked him also whether he is single

or married and whether he has children. But I did not ask him whether anyone will ensure the childcare. I don't ask women this question either.

A supervisor must be a good clinician and at the same time do intensive research

NCC-WS: The Sixth Framework Programme is about to start. Will you try to get a network of excellence?

So far one PhD student completed the form to participate in a network of excellence and I received an offer to participate in a multi-centric research into sleep disorders in a team of twelve other European experts. Of course I accepted. We completed the proposal form at a congress in Reykjavik and it will probably continue under FP6 as well. We received support from the Framework Programme to study child neurological disorders.

NCC-WS: Your work also includes teaching. Can you see any major shifts in the students' attitudes toward study after 1989? Are they, for example, more ambitious, do they know what they want?

They are certainly more ambitious and generally far more self-confident, maybe even more selfish. Those who use the Internet have far greater opportunities to obtain information, and thanks to the fellowships they get a chance – at least a portion of them – to study abroad.

NCC-WS: How does it work here – do you select your own PhD students and bring them up here, sort of under your wing? Do I get the right sense of how it works here?

It has to be this way. The best thing is when we know them from graduate studies and they work with us, at least for one, two, some even three years before completing their medical studies. Three years is very little time for completing a PhD. In three, definitely not more than four years they must complete their dissertation, but they can defend it only if they have three publications in refereed journals, and a young person cannot manage this on his or her own. That's absolutely out of the question. They have to have their supervisor – mentor who leads them, helps them, for example with foreign contacts. Without a symbiotic relationship it is just not possible.

NCC-WS: And is this type of co-operation institutionalised in any way? You tell students that they have to find a mentor to achieve this?

Well, you have to have a supervisor when you apply for a PhD, you have to have a plan and have a general framework in mind of what you want to do during the three years. You also have to have a letter of recommendation from your supervisor and a confirmation that the supervisor will take care of the PhD student. The student then submits a report every year, stating how he progressed, what exams he passed, what

publications were released etc. I don't know whether the rules are equally strict in all disciplines as to who can be a supervisor. But when you realise that a PhD student has to have three papers published in foreign refereed journals, then the supervisor must be not only a good clinician but most importantly must do intensive research and publish, hence the criteria as to who can be a supervisor.

I was the only European there ...and realised that it was a great accomplishment

NCC-WS: In 2000 you received the Lady Pro award. Is this an award given specifically to women?

I don't even know how I got this award, someone must have nominated me. It happens every year in November in the Spanish Hall at the Prague Castle. The prizes are awarded to the best companies, and on this occasion there was a special contest – the ten most successful women. Together with me there was Lucie Bílá (translator's note: prominent Czech pop-star), various businesswomen as well as women from other professions. I was the only doctor there. Personally, I value much more the American Neurological Academy Award for the best work in sleep medicine which I received in the US in the same year.

NCC-WS: How were you nominated for this prize?

I have to say that it was not just to my credit. We had co-operated for many years with Stanford University and the prize was awarded for our joint efforts.

NCC-WS: And this is the award that you cherish the most?

Yes, I really do. When the awards were presented in San Diego, I was the only European there; everyone else was from the US. I realised that it was a great accomplishment.

NCC-WS: What plans do you have for the future?

It does not depend just on me. I have managed to do a lot of things at the clinic: build an out-patient ward, a monitoring unit, set up a computerised seminar room for PhD students, get technology for our lecture hall, and get new equipment for the neurophysiology labs. This is not all. The clinic is located in a beautiful, national heritage building – it used to be a cloister – and I would be very happy if, in co-operation with the General Teaching Hospital and the Ministry of Healthcare, I could manage to continue with the reconstruction of the building. I would like to modernise the in-patient ward, build a rehabilitation centre, and make the garden inside the clinic nicer so that patients and their visitors can take advantage of it. If it were possible to obtain money for the repair of the facade, it would be great and very important for the clinic. In the next two years I will be very busy with preparing the two congresses, especially the European one. And you can probably imagine that in

a clinic with more than 90 beds, 35 doctors and around 150 nurses, rehabilitation nurses and lab workers, there is a lot of work. I am also responsible for several postgraduate students. Unfortunately, I have much less time left for research itself. Today, I am more concerned with coordinating and managerial activities and that's why I am all the more happy for my younger colleagues' accomplishments. I strive to ensure the best possible conditions for their work and arrange their foreign fellowships. I am also quite busy with teaching and lectures, and examining students; and, of course, there is also a huge number of meetings related to my activities. And if you are interested in my plans for the upcoming weeks of my July vacation – I will spend two weeks with small Anička who will get a brother in a few weeks. As you can see, our family is slowly growing, and I really look forward to going to the Šumava Mountains.

Martina Pachmanová

Is an art historian, curator and art critic. She graduated in Art History and Aesthetics at the Philosophical Faculty, Charles University, Prague, where in 2003 she defended her dissertation. She was awarded several research stipends, including the Research Support Scheme (1998) and a Fulbright Foundation grant (in the academic year 2000/1 she resided at Harvard University). In 1996 she was appointed assistant professor at the Department of Art History and Aesthetics at the Academy of Arts, Architecture and Design, Prague, where she also holds the position of Vice-Rector for International Cooperation and Public Relations. In the last few years she has also lectured at the Prague branches of some American universities (New York University, University of Washington, American University). In her research she concentrates primarily on gender and feminism in modern and contemporary visual arts and culture. She has authored many studies published in Czech and English, and three monographs: *Volnost v pohybu: Hovory o feminizmu, dějinách a vizualitě [Freedom in Motion: Debates on Feminism, History and Visuality]* (Prague: One Woman Press 2001), *Neviditelná žena: Antologie současného amerického myšlení o feminizmu, dějinách a vizualitě [The Invisible Woman: an Anthology of Contemporary American Thought on Feminism, History and Visuality]* (Prague: One Woman Press 2002) and *Neznámá území českého moderního umění: Pod lupou genderu [Unknown Spaces of Czech Modern Art: Under the Magnifying Glass of Gender]* (Prague: Argo 2004).

The interview was published in November 2002.



There is no one, true and correct history

Art history had the taint of a bourgeois and decadent science

NCC-WS: What was your path to art history?

I decided to study art history early, when I was sixteen. From the moment I started studying at secondary school, it was clear to me that my steps would go toward humanities. I was interested in languages, literature and history, and because at that time I already had friends among people who were very closely linked to the arts. I started developing my interest in something that secondary school teaching did not include at the time, but it truly grabbed my heart. Art history was a marginal discipline in the 1980s; as a field of study it opened only once every five years and the marginal position of the field at Charles University corresponded with this. Although it was officially called “Science on Visual Arts and Marxist-Leninist Aesthetics” because at that time art history had the taint of a bourgeois and decadent science (I still get the chills over this today!), what we studied had very little to do with the regime ideology and even at the time of late “normalisation” many prominent experts held positions at the department. When I started studying there, I had only a vague idea what art history was about and what it was good for. In view of the relatively liberal situation at the department and thanks to the change of the political regime in November 1989, which came in the second year of my studies, I was very soon able to get a real feel for art history in theory and in practice.

NCC-WS: Were there any prominent personalities in your life that helped you discover your passion for this field? What is, in your opinion, the influence of role models on the shaping of researchers?

Perhaps paradoxically, prominent personalities started playing a more important role in my life later, when I was already studying the field, and maybe that is good. I have always avoided being influenced by authorities although – as I well realise – it is often wishful thinking. All of us succumb directly or indirectly to some models, but so far I have not found one single model that would fit me. I always strive to learn from others, but I think that it is also important to approach other people’s opinions critically. Moreover, art history and the arts in general are disciplines that traditionally cling to strong personalities, even geniuses, and my impression is that this especially had negative consequences for the discipline during the last century. What you call a role model was and still is built on the dominance of men-researchers, which in and of itself is highly problematic with respect to your initiative [translator’s note: the NCC-WS project is aimed at promoting gender equality in the sciences]. Despite all my reservations, role models are important and can be very inspirational, especially if they disrupt the current status quo. But only in so far as their supporters do not grow into untouchable harbingers of the one and only correct opinion.

NCC-WS: How has the discipline changed over the years you have been active in it; have you seen any major changes?

Over the last fifteen years art history has undergone a major transformation in the Czech Republic, though it had already taken the first slow steps before 1989. Of course this is related to the important international exchange of information and experts, and also to changing historical, social and cultural awareness. Perhaps art history was able to evade the ideological supervision better than pure history, but still, many schemes that we see today as indefensible still hold sway. It is not only the issue of the communist ideology but also the opening of art history to other disciplines, a process that the field is undergoing in other countries of the world as well. This is related to issues concerning the re-evaluation of the hegemony of Western civilisation and opening up to new cultures as well as the issue of the “reading” of history itself. This leads historians to perhaps disturbing but still very interesting awareness of the fact that there is simply no one, correct and true history. And it is also related to gender, which is still unfortunately at the margin of the Czech art historian community’s interest.

You can still hear today that it is not necessary to pay much attention to female art students because they will sooner or later end up in the kitchen

NCC-WS: How do your colleagues perceive you – as a woman?

In my work I have never encountered a clear-cut display of discrimination, although many negative and often sexist remarks addressed to women as a group or against feminism accompany some of my initiatives. But it has never come to a point where this would preclude my work. The fact that many of my colleagues do not agree with my opinions does not mean that they would repudiate them. Gender and a feminist analysis of art is still for many of them (and I am not talking only about men) unpalatable, but I have an increasingly intense feeling that interest in this approach is growing here. Moreover, I do many other things which are – to put it simply – far more neutral from a gender perspective. In this area I have never had to deal with any gender insensitivity.

NCC-WS: Do you have any ideas on how to harmonise family life and a professional career?

I don’t have children and have never had to deal with any dilemma that would, even remotely, be linked to work-life balance. I can’t imagine being with a partner who would not respect my work. In this respect I have always encountered understanding. The same can be said about my parents, without whose support I could have hardly completed my studies and made some important decisions later. I don’t mean only material but also psychological support and interest in things I do. Even though my parents are professionally very distant from my field.

NCC-WS: Are you aware of the fact that no one would ever ask a man such a question?

Of course, I perceive it all the more strongly when I see all the time that female artists hear this question from the first moment they make an effort at some independent creative activity and that their work is often valued differently than men's work. Unfortunately, I have to say, based on my experience, that it is still possible to hear today that it is not necessary to pay much attention to female art students because they will sooner or later end up in the kitchen. I am not saying that most male teachers have such a despotic and macho attitude to female students, but there are still some.

NCC-WS: In your opinion, what would facilitate work-life balance for women?

I think that what is needed is a transformation of the family model that is still very traditional in the Czech Republic. Under socialism, women had the opportunity to be equally involved on the labour market, which made our situation significantly different from Western Europe, and especially from across the Atlantic. Unfortunately, the emancipation never involved the transformation of gender roles in the family. Women worked two shifts, and although this may be changing today in some circles, the old model still prevails. Women are, however, worse paid than men, and although some fields are strongly feminised, you will rarely see a woman in a top position. This is also true about art history. And what steps to take? I am not an unreserved proponent of affirmative action, but I think that in some cases such measures are well founded. They should be linked to other measures to eliminate discrimination which would help to eliminate the stereotypical perception of "femininity" and "masculinity". This would mean starting with raising children in an atmosphere of tolerance and openness and severe punishments for employers that, for example, refuse to give a job to married or divorced women with children.

NCC-WS: You have achieved professional success. Did you have any idea how to achieve all of this?

At the start I had no concrete idea and no great ideals. What I liked doing I always did with the utmost responsibility and great involvement, and when I achieved my first success, as you call it, I tried to make the best of it, use the opportunities to travel and get acquainted with other academic practices and lifestyles.

NCC-WS: What characteristics and capabilities helped you to build your career?

Enthusiasm, hard work, great effort and the faith that it is not good to give up before I am certain that something really cannot be done. And also stubbornness. Without the help and support of others, though, diligence and hard work would not take me very far.

NCC-WS: Have you ever had to deal with any pressure from people around you or your family to conform to the traditional women's role?

I was perhaps lucky but I have never felt such pressure. I grew up in a fairly traditional "nuclear" family, and although I have also retained some gender models from the family that I have had to deal with later in my life, there can be no talk about having something pushing me. Maybe this is due to the fact that there has always

been quite a balanced partnership between my parents, and they supported their daughters doing what professionally they were unable to do because of the social situation.

Many students are much more open-minded than professionals of older generations

NCC-WS: How do you manage to establish international links?

Quite well, thank you. As I have said, I spent a long time in the United States, which has opened up paths toward co-operation with experts and institutions. This brings benefits not only to me but today also to my students. I am often invited to foreign conferences and seminars and I then work to invite my colleagues from various parts of the world to the Czech Republic. As for my involvement at the university, of course there are a lot of European initiatives that allow student and teacher exchanges. We have sixty fellows each year going abroad under programmes such as Erasmus/Socrates or the Central European CEEPUS, but also thanks to reciprocal exchanges between our school and other institutions. Keep in mind that we are a small school with four hundred students.

NCC-WS: Do you think that women and men have equal conditions in your field?

I think that as far as research is concerned, the conditions are comparable. What is far worse is the presence of women in top academic positions. Directors of galleries, museums and research institutions and heads of university departments continue to be mostly men.

NCC-WS: What is your opinion of mentoring?

Since I now work at the Academy of Art, Architecture and Design and I also sometimes lecture at the Philosophical Faculty, Charles University, and at several American universities that have opened programmes in the Czech Republic, I have some experience with mentoring. I have quite a lot experience with mentoring, in fact. I understand it as an integral part of my work, which brings benefits not only to students but also to me. I myself learn a lot, not to mention that some students are far more open-minded than professionals of older generations. And this does not concern only debates about gender, feminism and sexuality and their impact on arts and culture.

NCC-WS: What are your goals for the future? What else would you like to achieve?

I wish to continue my research into gender in visual arts, especially in our region. When working on my dissertation, which is now about to be published as a monograph, I came across many outstanding but little known women artists who were active between the wars in Czechoslovakia. I have discussed some of them in my dissertation but many are still waiting to be excavated for detailed analysis. I would like to concentrate on them, and I hope that I will manage to get a grant for this. Recently I received an offer from the Moravian Gallery in Brno to organise an exhibit exploring the issue of “women’s art” and the gender politics of the time. Hopefully I will manage to do this.

Věra Kůrková

A mathematician, Věra Kůrková received her degree in topology at the Mathematical-Physical Faculty, Charles University in Prague (1967–1972). She specialises in the theory of non-linear approximation and optimisation, the mathematical theory of neuron networks and learning theory. She is the head of the Theoretical Informatics department at the Institute of Informatics, Academy of Sciences of the Czech Republic, which she joined in 1990. She also holds the post of Deputy President of the Scientific Council at the institute.

The interview was published in January 2003.



I have never longed for success; I have longed to have my work, my spiritual child that would make me happy

Fathers were the role models for women of my generation

NCC-WS: How did you get into mathematics?

When I was four and my brother two, my parents took us to a photographer. I don't know who chose the toys we were to be photographed with, whether it was the photographer or we the children. I am holding an abacus and my brother a toy train. I became a mathematician and my brother an engineer designing locomotives. It is almost as if the 'weird sisters' bestowed this upon us. But I really got into mathematics only when I started solving problems for mathematical competitions, thanks to which it was possible to survive the ninth grade. At my secondary school I transferred to a specialised mathematical class after a year. This class had a completely different atmosphere than the previous one; finally, I started enjoying school and I made friends. When I went to university, I did not consider anything else but mathematics. It was beautiful and most importantly it was not deformed by communism. I think that never again will there be as many mathematicians as in the communist countries. Communists did not trust the intelligentsia, but they needed sputniks, atomic power plants and weapons, and so they tolerated technically-oriented intelligentsia. American universities today are filled with outstanding Russian mathematicians. Today, there is not as much interest in math anymore because it is difficult and not lucrative,

NCC-WS: Have you encountered anyone on your path that influenced the direction in which you went?

My father lived through his profession and told me that a person should have his own work for which he lives. When I wrote a short story, he was thrilled and said I would become a writer. I still remember him with gratitude, and when I write a monograph it will be dedicated to him. I recently read a book by an American mathematician a few years my senior, and I noticed that she also dedicated it to her father. I think that fathers were the role models for many women of my generation because at that time most mothers were still housewives. As for mathematics, I have never encountered a personality that would be my role model. On the contrary, I try to do math differently than my teachers, less formally. I am more interested in its motivations, application and history. My teachers who managed to travel in 1968 promoted structuralism (the theory of categories and structures), which is a direction that is so general and abstract that all the richness of geometric ideas peters out. Perhaps it could be compared to functionalism in architecture.

I managed it serially, not in parallel

NCC-WS: Achieving work-life balance in science is usually difficult. How did you manage to deal with this?

I managed it serially, not in parallel. After my research assistantship, I did not find a research position and I worked as a programmer. I don't like to remember that time. At the time I told myself that it was purgatory. Fortunately, nothing terrible happened, but it was just not joyful or creative. I was at home with my son for three years. I would have liked to stay longer but I did not manage to become pregnant again and for economic reasons I went back to work. I did not have much to do there, so I usually went home after lunch. I found a position at the Academy of Sciences after the revolution, in 1990. My son was 13 then. I always tell my female doctoral students to enjoy motherhood and be at home with children because children grow up fast, and then they still have a lot of time for research afterwards. Women generally live longer than men, right? If a person has a good grounding (which I did because I had already published as a student), it is not a problem to go back to research. My husband is also a researcher and my son is a doctoral student, so both of them understand that I – like them – live for my profession.

NCC-WS: What do you think of the fact that no one would pose such a question to a male researcher?

You surprise me; as the head of the department, I am interested in the family situation of my younger colleagues. Many of them, when their wives go on maternal leave and lose their salary (which is often higher than mine), are forced to earn additional income by programming. Of course, this has an impact on their work performance. Others enjoy the few years of doctoral studies in our institute, but when they want to buy a flat and have a family, they leave for a company, which will pay them many times more than they could ever earn in the sciences.

NCC-WS: Could you say, based on your personal experience, which measures would facilitate work-life balance for women?

Better economic situation of the middle class. In the West it is normal for employed women from the middle class to have someone to do the cleaning and order food from restaurants. For many years, I did all the cleaning myself and it is only in the last few years that I have hired a cleaning lady who does a much better job than I did, and I enjoy the good feeling that instead of cleaning I do work that is much more fun. It would also help if institutes of the Academy of Sciences were in the centre of the city and not on the periphery. For example, it takes me almost an hour to get to our institute and I am not an exception; most researchers commute from afar while people doing the technical management tasks live in the housing project nearby. I don't know how I would manage to commute if I had small children. I am aware how much we women owe to the development of technology and medicine for improving our position. As late as the middle of the 19th century the average age of women was lower than men's; women were pregnant almost all the time and often they died in childbirth. Running a household without a washing machine, fridge, central heating etc, was a lot of work even with a housemaid.

I had a chance to look at math from outside in the context of other sciences

NCC-WS: You have achieved a lot, you hold the position of the head of the Theoretical Informatics department at the Institute of Informatics, Academy of Sciences CR. You are a member of the evaluation commission in the Grant Agency of the Academy of Sciences of the Czech Republic. You have published many papers. Did you have any idea at the beginning of your scientific career about what you would like to achieve?

I don't consider this a great success; it's just a normal career. Perhaps I have managed to do it a little faster because I came to the Academy of Sciences after forty. But I have never longed for success; I have longed to have my work, my spiritual child that would make me happy. When I completed my studies, my idea was that I would find a job at the faculty or at the Institute of Mathematics. In my generation no one managed to do this but Communists. Today I am happy that I spent some time completely outside of math because it allowed me to look at math from outside, in the context of other sciences, their applications and history. It revealed the possibility of studying applied math, and the beautiful subject of the mathematical theory of learning and neuron networks.

NCC-WS: Which characteristics and capabilities helped you to build your career?

I think that it was mostly enthusiasm and the ability to open up to intuition.

NCC-WS: Have you ever encountered pressure to conform to a more traditional feminine role?

My mother led me toward the traditional feminine role; I fought with her quite a lot. I am very happy that now she attends a 'third age' university. I think that she was very sorry that she did not complete university. Today, she sometimes criticises me for how I manage my household. She also helps me; for example, she makes the Christmas cookies (which I never enjoyed baking) and she found the cleaning lady.

NCC-WS: You hold the position of the head of a department, which is quite unusual for a female scientist. What reactions do you encounter?

I have never encountered negative reactions, although I am almost exclusively among men. Some male colleagues have even told me that they are happy I am the head of the department. This position was first offered to me ten years ago, but I refused it then. I was not sure whether I would have sufficient authority and strength to withstand the various clashes. When I got the offer again two years ago, to my surprise I realised that I felt like trying. Moreover, I had a feeling that it is my generation's turn to take over the responsibility and that it would be cowardly to avoid it. I like our institute and it motivates me to bear the administrative burden. I know several women who are appreciated in leadership positions. They try to motivate their colleagues positively and create a pleasant, friendly atmosphere. But I have also met authoritarian and domineering women.

NCC-WS: Could you say something about your work in the Scientific Council of the institute and the Discipline Committee of the Grant Agency?

I enjoy the work in the Scientific Council in our institute because I am there with colleagues whom I respect and with whom I share a sense of responsibility for our institute. But the work in the Discipline Committee, I considered this completely inefficient. A large number of people – grant proposers, reviewers and committee members – spend a disproportionate amount of time dividing up small amounts of money (it was as little as CZK 6 million for the entire field of mathematics, informatics and physics, including capital costs). The result was more or less random according to how demanding the reviewers were, and so it happened that many high-quality proposals were rejected. I think it would be better just to divide the small amount of money for books and travel to all researchers according to the qualification levels, determined according to attestation. There could be a competition only for the capital costs. This would save a lot of time and energy.

I enjoy being unique

NCC-WS: There are few women in the sciences. How do your colleagues perceive you as a woman, in your opinion?

Very pleasantly; I enjoy being unique. Often I am the only female among invited speakers or committee members. On such occasions I wear long skirts and jewellery because I like breaking stereotypes about women and math not going together. I enjoy bringing a little intuition and co-operation into the sometimes too rational and competitive world of science.

NCC-WS: Do you think that there are equal conditions for men and women in the sciences?

I think that today women are not discriminated against here and in the countries that I visit. Perhaps the only exception is the earlier retirement age for women, but I hope that it will soon be abolished (but I fear that many women in unattractive jobs consider this to be an advantage). [translator's note: in the Czech Republic women retire earlier, and for each child one year is also deducted from the retirement age.] But even when I was young, women were not discriminated against for being female. At that time, discrimination was based on politics, men and women alike. Most of my friends changed their jobs at the same time I did, in spring 1990.

NCC-WS: How do you see the position of women in science? Do you think it has changed over the last few years?

Of course, the situation is improving. For the first time, the President of the Academy of Sciences is a woman, and several institutes of the Academy are headed by women. In our institute there are four research departments

and two are headed by women. In the Theoretical Informatics department that I head there are three women among the twelve doctoral students, but until recently I was the only woman among thirteen senior researchers at the institute. This year we have another one because one PhD student became a senior researcher. Most doctoral students leave after completing their postgraduate studies; the attraction of greater earnings in private companies is strong, but I think that young women will tend to stay because at the institute they will have more of an opportunity to work part-time than they would in some companies.

My main priority is my own work now

NCC-WS: How do you manage to build cooperation with foreign research institutions?

After my lectures at conferences, people come up to me who are interested in my work. Sometimes I also receive email from people who have read my papers. I have a longstanding co-operation with an Italian university, and an American university. Fellowships have given me a lot; I got inspiration, expanded my horizons, became more self-confident and filled in the gaps in my education. In addition to this, I got to know how it is to live in countries that were not tainted by the unfortunate legacy of communism.

NCC-WS: What are your goals for the future? What else would you like to achieve?

I am saving up my energy to write a monograph. Some of the material is already contained in overview articles, but I would like to unify it. And I would also like to take the time to think through some problems in the theory of learning and the geometry of high dimensions, which has different characteristics than those that we know from small dimensions such as 2D (flatness), 3D (space) and 4D (space-time). This geometry plays an important role in computer intelligence because data based on which various computational models (such as artificial neuron networks) learn have huge dimensions.

NCC-WS: What are your concrete plans for the immediate future?

Fortunately, I regularly manage to get grants from the Grant Agency of the Czech Republic, but writing proposals and annual reports takes a lot of time. In 2001 I organised the 5th International Conference on Neuron Networks and Genetic Algorithms. I wanted to try it and I wanted to do something for our institute. The conference was a success; I had a great assistant and colleagues who helped me. There were 140 people from 20 countries; I received a lot of thank you notes. It cost me a lot of time, to the detriment of my own research, and I don't want to launch into such a thing again. But I am considering a smaller workshop, for about forty people, more narrowly focused, closer to what I myself study. But my main priority now is my own work. I regularly organise one small event for our department: a seminar in the mountains lasting a few days.

NCC-WS: What could be done to retain young people in research and development, in your opinion?

I am happy that the Academy of Sciences supports young researchers. The Otto Wichterle Award, the postdoctoral grants and the junior grants are a great financial help. Maybe it would be worth considering raising the age limit for these grants for women who have interrupted their career for several years due to maternity leave. But I consider giving any other advantages to women to be counterproductive since it would reduce the authority of successful women. It would be impossible to say which of them achieved their position because of their talents and which because of advantages they had received.

Terezie Fučíková

Graduated from the Faculty of General Medicine, Charles University, Prague. Previously, she specialised in hepatology with a special focus on immunology. In recent years she has shifted to autoimmunity (theory and practical diagnostics and therapy). She passed her postdoctoral examinations in Internal Medicine of 1st and 2nd degree in medical immunology. In 1994 she defended her dissertation. In 1987 she became associate professor in Internal Medicine, and in 1996 she was appointed full professor in Immunology. She was the head physician at the Department of Clinical Immunology of the 1st Medical Faculty and the General Teaching Hospital. After the Institute of Clinical Immunology was established, she was the head until 2001. Today she holds the position of the deputy head at the Institute of Immunology and Microbiology at the 1st Medical Faculty, Charles University. She is a member of many medical societies. Since 2000 she has been a member of evaluation committees for postgraduate studies in biomedicine (physiology and pathology of humans, molecular and cellular biology, and experimental surgery). In 1996 she was awarded the J. Liška award for the monograph *Clinical Immunology in Practice*, in 2000 the ČSAKI Award for the best publication of the year, in 2003 an award of the Presidium of the Czech Medical Society of Jan Evangelista Purkyně and the 3rd prize of the Internist Society for a contribution to the monograph *Laboratory Diagnostics* (chapter Immunological Examinations) by Zima et al. In 2001 she was appointed an honorary member of the Czech Doctor's Society and the Czech Society for Allergology and Clinical Immunology.

The interview was published in March 2003.



A woman cannot beat a man because she can't win, but this is not true in science

Research was not done for the impact factor or the citation index,
it was done without stress, out of interest and a passion for knowledge

NCC-WS: What brought you to immunology?

In the last year of my secondary school I had to assess whether I stood any chance of getting into a university. Back then it was not grades and abilities but a range of other well-known conditions that were important, and I did not meet any of these. I relied on disciplines where talent would be taken into consideration more than other aspects. What I considered then was the newly established Physical Training University; I was active in a number of sports and had quite good results. My secondary school supported me in this, including the promised letter of recommendation. Also, at the music school where I played the grand piano for several years, I was selected for potential study at the conservatory and I was taking more lessons in piano and theory and singing in order to be well prepared. Painting was another hobby of mine, and I took to that the most. The counsel I got from my family was realistic. Try to get into a university which is the most suitable for a girl: pedagogy, no sports because what would I do if I had a serious injury, music and painting won't earn me a living. My parents considered medicine to be too demanding and difficult. They definitely dissuaded me from it. And this was also the reason I decided to try such a demanding field, for which I was willing to sacrifice all my hobbies in order to prove that I could do it. I was accepted at the General Medicine Faculty in the second round after an appeal.

NCC-WS: Did you encounter anyone on your educational path who influenced your direction?

I did not know any prominent personalities in the field at first; I lived for sports and admiration of the arts. Medicine was too remote and incomprehensible. During my studies I oriented myself quite quickly and I constantly kept finding personalities and role models that I admired and still respect. I was one of a generation who personally met the giants of medicine such as Professor Charvát, Professor Prusík, Professor Herles, Professor Jirásek and a number of others. They really were there for us to an unbelievable degree and they did not look down upon us. In all fields, theoretical and clinical, most teachers were enthusiastic about teaching and the study of medicine. Research was not done for the impact factor or the citation index, it was done without stress, out of interest and a passion for knowledge. Our teachers communicated the results of research studies to us and gradually and imperceptibly they drew us to scientific research. For the joy of knowing. The field I studied the most in the end was immunology. In this field there were great role models and extremely good teachers and

scientists thanks to the Academy of Sciences. Professor Hašek, Professor Šterzl, Professor Hašková, Professor Romanovský and others were there. I regularly attended their seminars, which helped me to find my path between theoretical and clinical immunology. The most important person at the faculty was Professor John, who contributed the most to making immunology a field of interest at a time when in other countries, including the Western countries so admired today, this field was slow to develop and only on a theoretical basis.

NCC-WS: How did your discipline change during your career; have you seen any major shifts?

Revolutionary changes and discoveries have occurred in all fields of medicine, theoretical and clinical, and immunology is no exception. In clinical immunology we studied various general immuno-pathological processes; today there are specialists in various subfields, immunoendocrinology, neuroimmunology, gastroenterology, nephrology, not to mention transplantation and oncological immunology and other fields. It is not possible to responsibly cover so much new knowledge and implement it clinically. In theoretical immunology, in basic research the discipline is developing at the molecular biological, genetic, biochemical and pharmacological levels. Research has skyrocketed. Czech immunology still has enough outstanding researchers thanks to the powerhouse of the Academy of Sciences. We have very good co-operation with academic staff in research, science and especially teaching. I can't imagine the development of Czech clinical immunology without the contributions of Professor Tlaskalová, Professor Říhová, Professor Hořejší and others. There are many. The co-operation between the Academy of Sciences and the medical faculties is extraordinarily good.

NCC-WS: There are few women in the sciences. How did your colleagues perceive you as a woman?

I have never had a feeling that my colleagues judged my work according to any criteria other than the usual ones. I have, of course, felt their support, otherwise I would not have managed to achieve recognition in the field. The time is long gone when a person could achieve something on his own; you always have to be surrounded by equally hard-working and talented individuals and rely on their co-operation. Medicine and science are not sports or the arts where an individual can succeed. You always have to have good co-operation and mutual support at the local, national and international levels. Then you can succeed.

NCC-WS: When beginning your scientific career, did you have any idea about what you would like to achieve?

I think that everything that I have achieved is due solely to the fact that I have always been very particular about doing honest and interesting work, regardless of praise. I have always been a great critic of myself. There were many times when I could not read a published work because I was so afraid that I would not be satisfied. Sometimes I took the courage to read something a year later and was surprised that it was quite good. In my life or in dreams it never occurred to me that I would reach this position, and I did not particularly pay it much mind.

NCC-WS: What characteristics and capabilities helped you to build your career?

In my younger years steadfastness, persistence and the desire to win (from sports), and in the later years patience and humility.

NCC-WS: Could you describe your experience with teaching and your work in the Scientific Council?

Many good ideas and propositions, difficult implementation. Scientific and academic fields should be more independent in their decision-making; they should not be subject to political influences and pressures. Politicians should strive to get support in the expert fields from generally and philosophically educated people and not the other way around.

Women have to perform as well as men, but under much harder conditions and privations

NCC-WS: To combine work and family life is usually difficult in science. How did you manage this?

I got married during my studies at the medical faculty; my husband was a doctor and he knew the problems of studying and medicine. I did not spoil my children; they were independent early on. Both grannies helped. Sometimes more, sometimes less. It is my opinion that if a child is brought up by example, it's not necessary to talk as much. I love both my children, including their partners and my four grandchildren equally, and I still do more for the family than for myself.

NCC-WS: You do realise that no one would ask a man such a question?

You are right, in fact – I would never think to ask a man.

NCC-WS: Could you say, based on your experience, which measures would facilitate work-life balance in the sciences for women?

I have half-jokingly said that women have to a large degree been emancipated by the washing machine, the grill, semi-prepared food and after-school groups in schools. Today I know that the division of labour is missing. Housecleaning, washing, ironing and other household chores should be given to cleaning professionals (including men!). Although I would never give up cooking, and nor would my husband.

NCC-WS: Have you ever encountered any pressure to conform to the traditional woman's role?

Such pressure came and still comes. I don't cry anymore, let someone else cry.

NCC-WS: Do you think that the conditions in the sciences are equal for women and men?

I don't think that women are discriminated against in the Czech Republic. They have to perform as well as men, but under much harder conditions and privations.

NCC-WS: Have there been any improvements in the position of women in science recently?

A woman cannot beat a man because she can't win, but this is not true in science.

On young people in science: "Let's give them money and a moral example"

NCC-WS: What are your goals for the future? What would you like to achieve?

To have capable young colleagues around me, satisfied, with an unabated interest in medicine, science and research. They don't have to win the Nobel Prize, but they have to work diligently and systematically. Personally I would like to leave with a clean slate.

NCC-WS: What are your concrete plans for the near future?

Each year we plan grant studies; we can't do without grants financially and, primarily, without them we could not study the issues we are interested in from a clinical point of view. We have been organising seminars regularly for several years now. Conferences are always organised in co-operation with learned societies.

NCC-WS: How do you manage to establish co-operation with foreign research institutions?

I have taken advantage of generous offers of fellowships for doctors in my department. Unfortunately, none of the doctors who accepted the fellowships have returned. There is really no problem establishing international contacts and co-operation. It is too bad that talented and capable women often cannot take advantage of them because parts of their lives are related to their other, biologically irreplaceable role.

NCC-WS: What activities at the EU level for women in science would you recommend?

Fellowships and work abroad with small children and a husband. It was generally possible the other way around. To create an active international women's organisation that would deal with all these issues.

NCC-WS: How do you see the future of the new generation?

I am certain that the current and future generations of students will be highly qualified, though only narrowly specialised. Definitely competitive as far as intellectual inventiveness is concerned. In the last two years, during examinations in the introductory course in immunology, there have been many times when I was pleased with the knowledgeability of some students. Of course, this is only a fraction of them, but in the past we did not have such well-prepared students at all.

NCC-WS: In your opinion, what could be done to retain young people in R&D?

Give them money and a moral example.

Ludmila Křivánková

Received her degree in biochemistry at the Faculty of Natural Sciences, Masaryk University in Brno. In 1974 she defended her dissertation on bioenergetics and received the title RNDr. She received the title Candidate of Sciences (CSc) after she defended her candidature dissertation in 1993, and in 1997 she habilitated at Masaryk University in Brno and became associate professor. She works at the Institute of Analytical Chemistry, Academy of Sciences of the Czech Republic at the Department of Electromigration Methods. Between 1993 and 2001 she was the head of the department. Her research concentrates on isotachopheresis effects in capillary zone electrophoresis. She was a lecturer at Masaryk University and at Mendel University in Brno and she continues to lecture at Palacký University. She supervises master and doctoral theses. She has authored and co-authored over ninety-nine scientific papers, overviews and chapters in expert publications in the field of analytical chemistry and electrophoresis, and she presents at international conferences. She is a member of the editorial boards of the journals *Electrophoresis* and *Current Analytical Chemistry*. She won a tender for the position of director of the Institute of Analytical Chemistry, Academy of Sciences CR and will head the institute starting in April 2005.

The interview was published in May 2003.



For a long time I have been the only woman among men

As a child I was already interested in what processes occur in living organisms

NCC-WS: How did you come to choose biochemistry?

I studied biochemistry and received a degree in it in 1971. Since 1983 I worked in my field at the Department of Biochemistry. Although I was in a team dealing with bioenergetics, a large part of my work fell within analytical biochemistry and so my transfer to the Institute of Analytical Chemistry was not such a huge change for me. The difference was that in biochemistry analysis is considered to be a research tool, while at the Institute of Analytical Chemistry we work on developing new analytical methods and principles. But to answer your question, as a child I was already interested in the processes that occur in living organisms and so the study of biochemistry was the logical result of this interest. The output of my work in analytical chemistry is also linked to my interest in biochemistry.

NCC-WS: Was there anyone who had a major impact on the choice of your field of expertise?

One assistant, an inorganic chemist from the Faculty of Natural Sciences, told me about biochemistry. I have to admit that until then I had not known about the field and at the time my teachers at secondary school did not know about it either.

NCC-WS: There are few women in the sciences. How were you received as a woman by your colleagues?

I would divide it according to phases in a woman's life: a single and childfree woman, a woman in the phase after maternity leave, and a woman whose children are growing up and leaving home. At university I did not perceive any differences in how teachers approached men and women and I did not expect to encounter any differences during my career. However, this was not the case. I was told once, this is before 1989, that men dealt with a low salary worse than women did, and therefore my younger male colleague would get a rise and not me. After I came back from maternity leave, the situation was even worse. My boss at my former employer did not want to allow any changes in the work hours that would make the situation easier for me (I was commuting and taking my child to a kindergarten). And because I was also not satisfied with what I was supposed to be doing after the maternity leave, I decided to leave. There was another colleague, approximately my age, who left with me, and it is true there was one opening that both of us applied for and the head of the team made it no secret that although our qualifications were comparable, he would give priority to a man over a woman. In my current job I have long been the only woman among men, and I had to get used to some deeply entrenched habits developed in a purely male environment, but it was manageable. I strove to be an equal member in the team and I appreciated that I was accepted as such. I did not get any advantages or support as a woman, nor did I seek them.

NCC-WS: You have achieved major success: you are an associate professor and have published many articles and publications. Did you have any idea at the beginning of your scientific career what you would like to achieve?

As I said already, I studied biochemistry and I am still interested in this field, but I work in analytical chemistry. For a person to be able to publish papers in international journals that are at the forefront of research, it is necessary to study a lot of things and continually develop your knowledge base. I did not have any idea about what I could achieve; I only strove to do my work well, and everything gradually followed from this. I would distinguish two phases in my life: before 1989 it was necessary to co-operate with the regime in order to build a professional career, and because I was not willing to do this it was clear that it would make no sense to even think about candidature. To get candidature in my circles, it was necessary to be a member of the Communist Party or make up for it by holding various positions in the Union of Soviet Union's Friends or the Revolutionary Trade Unions. I was happy to do work that satisfied me because for many of my colleagues this was an unreachable dream. After 1989 all the obstacles that had influenced my professional development disappeared. Because of their age, some of my colleagues did not find the courage to present themselves in front of various examination committees and did not seize on this new opportunity. Maybe I would not have found the courage myself either, but the director of the institute at the time, Professor RNDr Petr Boček, DrSc, and the previous director and founder of the institute, Professor Ing Jaroslav Janák, DrSc, urged me to apply, which for me was not only a great honour but also a great challenge, and so I went ahead with it.

NCC-WS: Which characteristics and capabilities helped you to build your career?

Definitely hard work, striving to do my best, reliability but also ambition and determination. Plus I was lucky because I had the opportunity to work with a number of great people – both in terms of expertise and personality. I owe a large part of my accomplishments to them.

NCC-WS: You held an important position, the head of a research department, and now you won the tender to be the director of the Institute of Analytical Chemistry, which is quite unusual for a woman scientist. What reactions have you encountered in this respect?

I have never sequestered myself from the team on the basis of being a woman, and so I take the fact that I was, for example, the only woman among the heads of departments as something that is a result of very few women working in my field, or at least until very recently. When I had problems with some men, whether at the department or at the institute, the problems were due to the nature of the men, because men had problems with these people as well. And so if these people displayed their masculine dominance in some form, I attributed it to their inability to use factual arguments in a dispute. I have gradually come to understand that these people had complexes and I feel sorry for them more than anything.

NCC-WS: Could you describe and assess your experience with working in the evaluation committee at Palacký University where you are the only woman among thirteen men?

It is the logical result of the fact that there are very few women in my field with associate professorship or full professorship, nothing else.

I wanted to bring up my child alone, my ambition was to manage everything on my own, without help

NCC-WS: Harmonising work and family life is usually difficult in the sciences. How did you manage?

To manage well both family care and work is problematic for every woman. If a woman has children and she does not want to alienate herself from them by letting someone else care for them, it is a huge dilemma and burden. Because I myself felt how great such alienation can be (I lived with my granny from when I was six until I was twelve and went to my parents only on Sunday), I wanted to bring up my child myself. It was constant stress and, moreover, today I see that I should or could have done many things better. My husband tolerated my work but he made it clear at the beginning of our marriage that caring for the family is a woman's responsibility and a man's obligation is to secure the family financially. And I have to admit that it was my ambition to manage everything on my own, without help. I also added other things to the usual obligations. But I think that my approach bore fruit because I later received great support from my daughter, who was the main person who gave me the courage to go ahead with the candidature, habilitate for the associate professorship and to apply for the tender for the director. I am incredibly grateful to her for this.

NCC-WS: Are you aware that no one would probably ask a man this question?

Yes, but the same is also true in sports or in business, everywhere where you need great engagement.

NCC-WS: Have you ever encountered any pressure to conform to the traditional woman's role?

I took life as it came and I was always happy for what it granted me, whether at work or at home. I think that I have a good marriage and that it functions without any great problems, and I have never burdened my wider family or people around me with my problems. Sometimes someone shows their high regard for the fact that I have titles or for my work, but I think that in general it does not matter how I manage my work because to the outside we probably look like a normal and unproblematic family. I don't think that giving up having a family to build a career is a good solution, but it is also not sensible to give up your profession to have a family. Harmonising family and a profession is by no means easy and I don't have a good formula. Not all men are able

to deal with the feeling that they are playing second fiddle at home, and not all women manage to find the right equilibrium in a relationship with a man. I have to admit that marriages where the woman was or is building her career and the man takes over a large part of caring for the family, such marriages dissolve in the end. And I think that the main cause is that among otherwise absolutely reasonable people, the man is not able to bear his "subordinate" role and has to compensate somehow for his position.

NCC-WS: Based on your experience, could you say which measures would help women to achieve work-life balance?

I think that today we live better on the whole and that this is making life easier for women. In the household we have many sophisticated appliances to help us, that make our work much easier and liberate us from the worst household chores that no one in the family wants to do, such as doing the dishes. When studying, women are men's equals and so the only thing that remains to be done is to deal with harmonisation in the family. I think that it is sensible to have an idea about the division of rights and obligations at the very beginning of a marriage or a partnership. The only critical period is the arrival of children, because there it always largely depends on the nature and relationship of the partners, their upbringing and worldview, the relationship to work and family. Nevertheless, I believe that the climate in which today's young generations are growing up contributes to them managing and sharing obligations in such a way that no member of the family (including children) is neglected.

Men can work on their career systematically and without interruption!

NCC-WS: Do you think that the conditions for men and women in the sciences are equal?

I think that at a general level women have the same conditions as men, and as for scientific work, I don't see any problems. There is a difference in populating leadership positions. In my opinion, men are more go-getting and women are less aggressive, and for a certain period of time they are bound by their maternity obligations. This is not direct discrimination, but lowers the chances of success compared to men, who can work on their career systematically and without interruption.

NCC-WS: Do you see any gender aspects in your field? Do you think that women may choose strategies and approaches to their research that are different compared to those that men choose?

Chemistry used to be quite a difficult field for women. Let me remind you, for example, of the life of Marie Curie-Sklodowska, and therefore in my opinion not many women went for it. Today, we still don't find as many women in hard chemistry, simply because it does not attract them. On the other hand, in analytical chemistry, which is what I do, you are dealing with the development of sophisticated instruments, the study of processes, the

development of methodologies – this is a field that gives equal opportunities to men and women. As for my personal experience with young colleagues, in recent years I have had better experiences with women, who have a more responsible approach to work.

NCC-WS: How do you see the issue of women in science? Do you think that the position of women in science has changed over the last few years?

I don't dare to assess it. The sex of an author cannot always be determined in English. In conferences men still predominate, but it is due to the fact that men are more interested in the field. It is always important what the results of work are, regardless of whether the author is a man or a woman. It's just that women have it a little more difficult in a certain phase of their life. On the other hand, returning after maternity leave can motivate women to do more.

NCC-WS: Which activities at the EU level would you welcome or recommend for women in science?

I don't like hasty solutions and I have never supported affirmative action. Results should speak for themselves, regardless of whether you are a man or a woman. But if some conditions in a team clearly disadvantaged women and did not make it possible for them to work independently and build their career, I would consider it sensible to point to this fact and examine it, and perhaps discuss it at a higher level.

If a young person gets on a good team, they've won

NCC-WS: How do you manage to build contacts with foreign research institutions?

I don't think it's appropriate to speak in this respect as a woman; any expert co-operation depends on expertise and the personal characteristics of the individual. Co-operation results in publications in international specialised journals, which is the most important thing.

NCC-WS: Do you intend to apply for any grants soon, or are you starting a project? Do you plan to organise a workshop or a conference?

Right now I have two grants and I have submitted a grant application for another project.

NCC-WS: How do you see the future of the new generation of researchers?

Among young people there are many that are talented and enthusiastic, but there are also below-average graduates. Young people have great opportunities to succeed today and I believe that the capable ones will achieve a lot, and if the weaker ones drop out, no great loss. I know many young people who are incredibly enthusiastic about science and so I see the future as being quite bright.

NCC-WS: What do you think could be done to retain young people in R&D? In your opinion, is it necessary to have any special programmes or support schemes?

I think that if a young person gets on a good research team, they've won. They will learn a lot from their colleagues and usually have at their disposal quite good facilities, and so they can launch their own career. Today, it is not a problem to arrange a fellowship abroad and train a young person in an area that no one is doing here. The financial situation of researchers is unfortunately absolutely disgraceful, and not only does it not attract people, it puts them off. Appropriate financial conditions, regardless of age and sex, would undoubtedly contribute to R&D development in the Czech Republic.

NCC-WS: What concrete plans do you have for the immediate future?

My plans for the next few years are already starting to materialise. In a short while I will take up my position as director of the Institute of Analytical Chemistry, Academy of Sciences CR and I am really looking forward to this time. It will be a challenging time because the institutes of the Academy of Sciences will be transforming into public research institutions, and this will involve a lot of other work in addition to the managerial obligations and research, but I believe that in the end the situation in academic institutes will become better and research will become more efficient. I hope that I will be able to contribute my vision and experience toward creating a good atmosphere in the institute and to stimulate creative work both in the fields we study at the institute and in other interesting modern trends in analytical chemistry.

Věra Majerová

Is a sociologist and economist. She graduated from the Agricultural College in České Budějovice and the Philosophical Faculty, Charles University in Prague. She received the title Candidate of Science at the School of Economics in Prague. She worked for seven years in agriculture, and eighteen years at the Research Institute of Agricultural Economics and Nourishment in Prague. She has been with the Czech Agricultural University in Prague since 1992. Today she is the head of the Department of Humanities and of the Sociological Laboratory at the Faculty of Economics and Management, Czech Agricultural University in Prague. She has received fellowships in Great Britain and presents regularly at conferences and workshops in Europe, Canada and Australia. She concentrates primarily on rural sociology and the sociology of agriculture, socio-economic analyses of rural spaces, social phenomena and processes in Czech rural areas.

The interview was published in June 2003.



A large part of what can be called my scientific career came after 1989

Finding gaps in the system

NCC-WS: What led you to do research?

The path to my current profession was not exactly direct, but maybe it was in many ways typical of my generation. The family history undoubtedly played a role. By way of preface I should say that my father came to Czechoslovakia in 1921 as a refugee with a Nansen passport and later received Czechoslovak citizenship. He came from Lower Don, from a denizen family of Don Cossacks. During the civil war most of his family died violently or were lost to each other. He came to southern Bohemia, worked with a yeoman as a rainsman, saved up some money and in very humble conditions went through a secondary farming school in Pilsen, with a specialisation in dairy farming. My mother was Czech. Before getting married she worked at the Melantrich publishing house, in the Eva edition, which was then a "journal for emancipated women". At home we spoke only Czech but my father read and listened to the radio in Russian, loved Russian classics, and recited long poems by Pushkin and Nekrasov. The orthodox, quiet Don was omnipresent with us, even our dog was called Don. Dad was a great storyteller and he told us children's fairy tales as well as stories from life. Everything got jumbled in my head – devils, Hospitallers, fairies, princesses. I felt that the world was great and at the same time horrifying and that anything could happen to a person. My parents indulged us with everything Český Krumlov had to offer then – skiing and ice-skating, swimming, tennis, grand piano lessons in a music school, German with Inspector Eben, singing and chess, painting and almost every concert or theatre performance that came to town. I was not particular in my interests, I enjoyed almost everything at school and I imagined that I would go to a secondary school and then to Prague to study something interesting and beneficial to humanity, for example medicine or art history. When I finished elementary school in 1958, I learnt that we were the enemies of the Soviet Union and that I would not get a recommendation to study further. I was desperate. I was upset that children with very bad grades could go to apprenticeship and I was not allowed to even study to be a "waiter, waitress". I started working immediately, in July, in a factory, and to my amazement I discovered that it was indeed toilsome but that I could bear it. And then came what tens of thousands, perhaps hundreds of thousands of parents at the time knew very well, and that was "finding gaps in the system". In time, the opportunity came to go to an agricultural apprenticeship school in Nové Hradky in Southern Bohemia, as a "livestock attendant". In principle I had nothing against livestock (to this day I have respect for animals), and we managed better than we had hoped. Inconspicuously I transferred from the apprentice department to a secondary agricultural technical school, the economics department, in the same building. There we had a lot of practical internships and volunteer work, but it was a secondary education with a graduation examination. My dream was to take the graduation examination

and find some work under a roof, if possible in an office. I learnt double-entry bookkeeping and shorthand, I got a state exam in typing and hoped that perhaps I would be able to get a job as a typist or an accountant.

Half a year before my secondary school graduation exam, the decision came that – before they would allow me to sit for the exam – I was to prove that I was professionally capable of working in agriculture. I was to start working in the Malonty state farm (it was then really an infamous location), and if after a year or two I had shown that I was professionally capable enough, I would be able to take my graduation exam. The manual work did not horrify me, but I was unhappy about my graduation exam being postponed. Thanks to the courage and kindness of a young deputy director I was able to evade this banishment and passed the exams with my classmates. I am still thankful to him today. My basic professional orientation was determined by this, although I did not want to admit this to myself. I did not have many options other than to apply to the Agricultural College in České Budějovice. There were problems with this as well but it turned out that even at that time (1962) some colleges managed to retain at least partial independence. The leadership of the faculty refused to comply with the demand by the party organisation in Český Krumlov that I not be accepted, and stressed that they made decisions primarily according to the results of the entrance exams. The Faculty of Architecture at the Czech Technical University in Prague where my sister Naděžda studied adopted the same position. I studied in České Budějovice between 1962 and 1967. I was not bored, but I had the feeling that I was not there completely of my own free will. In the third year I applied to study sociology at the Philosophical Faculty, Charles University. I was cautioned at the entrance exams that it would be a shame not to finish a school where I had good results. I should finish it and I could then study at the Philosophical Faculty in the distance learning programme. That seemed reasonable to me. At that time it was not possible to study at two schools at once.

I graduated from České Budějovice in 1967 and went to the Soviet Union with my father for the summer. My father had tried for many years to find some of his relatives through the International Red Cross. He managed to find his youngest sister Pelageia, whom he had last seen sometime at the beginning of the civil war, when she was about three and he was seventeen. Now she was living near Rostov on Don, but in a village off-limits to tourists. It took several years before we got permission to visit. I had the naïve idea that I could stay with her for a year of practice in some kolkhoz, to learn Russian well and, in general, to get to know a different way of life. We were there for a little more than two months and I did not want any other way of life. Although we were constant surveillance, had to submit our passports to the militia and we not leave the village, various relatives and their acquaintances came to visit and there were many opportunities for discussions. We had not read the *Gulag Archipelago* at that time, but, of course, we knew and suspected many things. The stories of people who survived, that was something altogether different. The gradual reconstruction of the lives of close and more distant relatives was so unnerving that it was sometimes difficult to stand. I wanted to go away, quickly if possible. But it was not so easy, it was not polite and we also did not know whether and when we might see each other again. My attitudes really crystallised and after that I always saw many things differently.

After our return in autumn 1967 I started working at the Střemy u Mělníka Unified Co-operative Farm as an agronomist trainee. I worked there for a little less than a year. Then I found a flat for rent in Prague, but I was

not able to find a job corresponding to my agricultural qualifications (which was not so surprising) and so for the next year I worked as a manual labourer in an enterprise called Gardens, Forests and Garden Husbandry of the Capital City of Prague, as a gardener. In 1969 I got a job as an officer for legumes and oleiferous plants at the Agricultural Purchase and Supply Enterprise in Prague-Holešovice. I was responsible for stores records, invoicing, salaries – simply everything that was needed. The leadership of the company allowed me to take distant learning classes in sociology at the Philosophical Faculty, Charles University, on the condition that I would make up for the study leave on Saturdays and Sundays. This was not out of spite, but simply because work needed to be done by deadlines and there was no one else to do it in my place.

I finished at the Philosophical Faculty in 1974 and got my doctorate in 1975. From 1974 until 1992 I worked at the Research Institute of Agricultural and Nourishment Economics in Prague, in a small department that concentrated on rural sociology and the sociology of agriculture. It was a legacy of the Institute for Rural History and Sociology at the Research Institute and a department of the same name at the Agricultural University in Prague. Both these institutions were closed during the normalisation in 1970. At the beginning of 1993 I transferred to the Agricultural University in Prague (now the Czech Agricultural University) where the study of rural sociology was rejuvenated at the newly established Faculty of Humanities. A large part of what can be called my scientific career came after 1989.

NCC-WS: Were there any important people who had an influence on your choice of direction?

In the environments where you could find me, importance was measured differently. But at the Philosophical Faculty, Charles University, I met several really special people who, unfortunately, taught us very briefly. Then they left, mostly to do manual work or they emigrated. I am not aware that gender factors played any role in my case.

NCC-WS: How did your colleagues perceive you as a woman during your professional career?

It differed at the different stages of my career. In the unified co-operative farm, I was basically excluded from any important decisions, although I should have had a say in them (as an agronomist responsible for some activities in plant production). The thing was that all the men met in the pub in the evening and in the morning I was faced with decisions that were already made. I could not go to the pub because women did not go. I also don't know what I would have done there since I don't smoke or drink. The tractor drivers especially – the elite at the unified co-operative farm – looked down upon me, and my university education definitely did not leave a lasting impression on them. They tended to make fun of me (sometimes justified). In the other occupations – in Gardens, Forests and Garden Husbandry, at the Agricultural Purchase and Supply Enterprise and at the research institute, it was not very important whether a person was a woman or a man. Men generally held the positions but party affiliation was more important for a career. Today, at the faculty, I feel supported. The faculty is approximately half women, half men. Our relationships are mostly good. I try to give everyone enough space and the same working conditions in order to prevent useless conflicts, in order to prevent someone feeling slighted, but naturally things don't go completely smoothly all the time.

NCC-WS: Did you have any idea at the beginning of your professional career what you would like to achieve?

Well, I'd rather say that I have a lot of work behind me; some was successful, some less so. As is clear from the course of my life, I did not have many concrete ideas; reality was sometimes so surprising that I was hard pressed enough to deal with just that.

NCC-WS: What abilities and characteristics helped you to build your career?

I try to continue working even when things don't go right, to seek new paths and solutions. I try not to repay evil with evil, and just in case I should feel the urge to get back at someone, I keep Jan Skácel's poem *Song on the Nearest Guilt* in my planning book. I don't look out for conflicts, but if I don't find another solution I am not afraid of them. But then I try to keep a way out. And of course, sometimes good luck and accidents are important. After 1989 a lot of opportunities opened up, especially as regards international co-operation, and these opportunities never returned again. Those who were ready and able to take advantage of them fared better.

NCC-WS: You hold an important position as a head of a department, which is still quite unusual for a woman. What reactions do you encounter in this position?

Sometimes I have encountered negative reactions (and concrete actions) from those who felt threatened by my competitiveness, from both men and women. It seems to me that this was more because of the personal traits of the people, the constellation of circumstances and how much support they felt they had and the advantages they wanted to secure.

NCC-WS: Could you say a few words about your work in the Scientific Committee and the Commission of the Grant Agency of the Czech Republic as regards relationships between men and women?

In the Scientific Committee at the faculty, I don't feel that men's or women's opinions or attitudes are visible. As in most commissions and councils in our field, there are very few women, but I don't think that we as women have less space for our opinions there. Maybe we don't always take advantage of the space we have. I have the impression that in the Commission of the Grant Agency of the Czech Republic, women constitute approximately one half of the members and gender doesn't play any role. It does not have any meaning. None of the members can get any advantage based on gender, or have more say.

NCC-WS: How successful are you in establishing international co-operation?

Without the help of our foreign colleagues we would hardly have been able to orient ourselves in the contemporary trends in rural and agricultural sociology after 1989. In 1969 all international co-operation was terminated forcefully, even – just to make sure – with most of the popularly democratic countries. After 1990, Czechoslovak representation was renewed in the European Society for Rural Sociology (ESRS) and gradually we started establishing contacts with other European countries and overseas. I also had an opportunity to go on

fellowships at universities in Aberdeen, Seale-Hayne, Plymouth, and in the Shetland Islands thanks to the TEMPUS and ARION programmes. After 1989, my parents were no longer alive so I could go without any fears. The beginnings were hard; I had to catch up with everything at the same time – English, gaps in my education, orienting myself to foreign university and grant systems. It was not much fun for me as I spent all my time studying and working. Today, we are more or less in close contact with about twenty universities and research institutions all over the world. We organise, co-organise and participate in scientific conferences. Some work relations have grown into personal and family friendships. Sometimes it seems like a dream to me from which I do not wish to wake up. Of course, we are behind in many things and the gap will be bridged by the next generations. We cannot reach in ten years the levels of science that our foreign colleagues have been building all their lives, under completely different conditions. Even today our conditions differ, it is more difficult for us to get literature and publishing opportunities, we are incomparably worse paid. On the other hand, we are treated nearly equally, which means quite harshly sometimes.

My husband and I, we've always managed things together

NCC-WS: To achieve work-life balance in sciences is usually difficult. How did you manage?

Work is important for me, and I prefer it when it is scientific work. I can't remember that I ever felt denigrated in the past by what I did. It's just that I did not enjoy it or it was hard work or work in an environment that I did not like. A career (meaning in the higher positions) was not important for me. At the time of my professional beginnings in rural and agricultural sociology, as in all social sciences at that time, such a career would have to have been linked with membership in the Communist Party of Czechoslovakia. In the 1970s it was easy to enter and I had to struggle quite hard to avoid it. But to build a career via the nomenklatura, it seemed embarrassing to me. Of course, sometimes it really bugged me. But I chose voluntarily and in a way I was free. Not that I was not tempted to change things; sometimes I did things wilfully that damaged the possibility of having such a career. After I refused to sign the "Anti-Charter" it looked really bad for some time. I thought they would fire me, but in the end I ended up only with some penalties, some of which were as absurd as the times. But I did not have any special problems or obstacles in my work. I was hard working, my attitudes were clear and I did not stand in the way of those who wanted to build a career. Until 1989 I worked in research as a regular employee, without any possibility of foreign contacts or any access to contemporary expert literature. Writers may be able to create important works in isolation and draw only on their internal life. We tried to work the best we could and with what we knew, but scientific work can hardly be done without expert criticism and being able to compare oneself with others. This we lacked, and the work that was ahead of us after 1989 was all the more difficult because of this. When I got married, I really wished to have a family because I was not building a career

anyway, and I would have liked to stay at home. But there were some complications, and despite treatment we did not manage to have a child. Of course it pained me. But we have a son and a daughter from my husband's first marriage, and both children chose the medical profession after their parents, and we are very happy about our four grandchildren. We also have very close relationships with my sister's three children and five grandchildren, so there are a lot of joys and worries anyway. We both admire our daughter for being able to manage her work and childcare. But sometimes she is very tired.

NCC-WS: Do you feel that no one would ask a man-scientist this question?

But they should. Otherwise, it is a discriminatory presumption of a fact that is not necessarily universally valid. Equality (between sexes, generations, ethnicities etc.) cannot be ordered or enforced. It should be achieved naturally within legal and social limits that prevent any extreme deviation from damaging either of the parties. But within these limits there can be a wide range of types of co-habitations and co-operation. We can find solace in the fact that gender studies deals only with relationship between two variables. The concept of "multicultural Europe" will be much more difficult.

NCC-WS: How did you deal with the pressure of your environment or your family to adopt the traditional female role, provided that you felt such pressure?

I cannot call it pressure from the environment, rather from circumstances. When my husband's parents and my mom were seriously ill for several years, they were completely dependent on our care. My role was to cook for three different types of diets every day. My husband's role was to tend to his parents and change beds, to do the laundry and hang it, to operate the rotary iron and carry groceries. At that time it really helped that we were doing lots of sports. Both of us were qualified Hiking Club members and this was preceded by hundreds of kilometres in the mountains, in the water, on skis and on bikes. Especially in the mountains, you go through difficult situations that teach you to manage your physical and psychological powers. And naturally, the most important thing was that there were two of us, and if worse came to worst, we could also rely on the support of the wider family, my sister, brother-in-law and children. At the time when we were taking care of the parents, I was finishing up a research study on rural women. The chapter titled "Childcare and care for sick members of the family" was so embodied that the opponent sent – together with the evaluation – a box of chocolates and a letter saying that he was tending to his ill mother and that he agreed with my conclusions.

NCC-WS: Could you say, based on your experience, which measures would facilitate work-life balance for women scientists?

I can't think of anything other than understanding between partners, in the family and at work. This does not concern only the division of labour and obligations, but also moral support. There is nothing as joyful as when you can share your success with your closest friends, and nothing more important than their help when you are dealing with a failure. After one of my major failures, my husband fetched me from work, we went to Kunratice

and walked in the forest until evening and talked. He saw everything from a different perspective, he was rationally going over with me things that I was able to see only through the lens of wrought-up emotions. Together we made a plan of gradual steps for dealing with this unfortunate situation. It was not possible to carry out all of them, but it was a start, and I would not have managed it on my own. I am very lucky in that there are colleagues at the department whom I trust. We go over all the major decisions (and sometimes not so major) together. Their masculine perspective is generally different. I try to respect especially the fact that we all have the right to a private life. I don't think that anyone should neglect their children or family just because of work and a career. It is almost always possible to find an arrangement of work and family obligations that, in a certain period of life and in some measure, enables you to do both. Quality and affordable household services would be very useful. But personally I would not want to give up some of the household chores; it is a compensation of sorts for the mental work. In the kitchen I have a notepad and quite often I think things through and conceptualise them when I am cooking or ironing. Sometimes I get more ideas this way than when I sit down at my desk and try to work. Home is not just a prop, it is about shared activities and values. A shared value can be the ritual of a birthday party or the way you make dumplings. It's just that there must not be so much housework that a person collapses under the burden.

The model of male dominance, especially in the leadership sphere, is still alive and well here

NCC-WS: Do you think that in your discipline the conditions for women scientists are equal to those for men?

I think that the model of male dominance, especially in the leadership sphere, is still alive and well here. If there is an opening for a leadership position, priority is given first to a man, then to a woman, regardless of whether the woman has small children, or no children at all. Sometimes I can see in some institutions that departments are created for men, no matter how miniscule, so that they may manage something and not be just a regular employee. The grant system helps to eliminate some of these habits. I have never seen an award decision by the Grant Agency of the Czech Republic, or any other commission, being made according to anything other than the quality of the submitted project. As far as work is concerned, I can't recall that priority would be given to a man only because he is a man. But if we're talking positions, that's different. In some countries, for example in the United States, Canada and Australia, measures are taken expressly so that explicit discrimination of women does not appear, or at least that it cannot be proven. But even there, there are men's networks which women almost never penetrate. If you look at the percentage of men and women in our field in some of the international bodies, men clearly predominate.

NCC-WS: Do you think that women choose strategies and paths to their scientific careers that are different from those that men choose?

In sociology, you get one methodological speciality, and, at least according to a number of prominent authors, gender aspects do play a role there. It is said that the quantitative approach, based on mathematical-statistical data processing, is better suited to men, and the qualitative approach aimed at understanding a situation and sensitive to social issues (often in the field of healthcare, social work, study of human relationships etc.) is better suited to women. Of course, you can find successful couples, usually spouses or partners, among authors of qualitative studies. I started doing qualitative sociological research when I was abroad because it was not known or used in the Czech Republic before 1989. It is quite challenging, and, in view of the thematic focus, demanding as regards the emotional involvement of the researcher. Many classical works in qualitative research deal with social situations related to serious illness, dying, adaptation to physical or mental disorders in the family etc. When I was doing the research study on "the persecuted", which involved an analysis of the narratives of private farmers persecuted during the collectivisation, I really appreciated my husband's help. The stories of the families of the persecuted farmers were so dramatic and poignant that when analysing them I was thoroughly devastated. My husband was able, unlike me, to keep some sort of a clear scheme of an analytical procedure. I realised that he was professionally better prepared to deal with negative impulses which I perceived mostly emotionally. This type of co-operation is very useful in qualitative research.

NCC-WS: Do you think that the position of women in science has changed over the years?

I admit that I have generally not looked at science from this perspective and therefore cannot judge the changes. But it is true that there is a 'glass ceiling', and it is for the better that it is being talked about. It seems to me that one way to equal opportunities and fair treatment is by promoting formal structures that would not allow any space for discrimination of any type. If you are responsible for a workplace and its results, you are interested primarily in people on whom you can rely. It is immaterial whether the person is a man or a woman. But if I put together a team, I always prefer to have a heterogeneous composition. I feel that such a team works better and in general it is more fun.

What will happen to young people today, they will be able to take control of their future, at least to some extent

NCC-WS: What else would you like to achieve?

I am responsible for two departments, the Department of Humanities and the Sociological Laboratory. The rules

for funding universities are not clear yet and the legislation is changing. I try to get information and seek ways to continue in the future all the things we have started at the department and in the lab. Gradually I would like to transfer most of the organisational work to young people and keep the conceptual work and write more. I have started writing several things but so far I have not had time to finish them.

NCC-WS: What specifically are you working on?

We are continually applying for grants. We have just received support for two Framework Programme 6 projects and funding for five years from the Ministry of Labour and Social Affairs of the Czech Republic. Together with Finnish, Hungarian and Polish colleagues, we have submitted proposals for a Marie Curie Action concerning the education of junior researchers. Each year we present research results at international conferences and we organise or co-organise international conferences. The autumn schools of rural sociology have become a tradition (the first was held in 2001 in Finland, the second in Poland, the third in Prague and this year in Romania). The students who come are mostly from Eastern European countries, but you also find students from Western European universities, especially those who specialise in Eastern European affairs. In the autumn there is also a regular international conference, Agrarian Perspectives, where we have a section aimed at the "social context of rural development". In teaching and research we co-operate with European and overseas universities. I don't think that we need to fear boredom.

NCC-WS: How do you see the future of the new generation?

They have the advantage that today's educational opportunities give them a greater choice of professions, work and self-fulfilment. For the most part, young people would like to be successful, at least those we meet at school. Some of them imagine that success means wearing a power suit and speaking great English, having a fast car and a managerial position. Others plainly show their scorn for this and career advancement in formalised structures does not attract them, they protest against consumption and seek self-fulfilment in environmental or humanitarian organisations. Some still don't know and keep looking – strong partnerships, reliable friends, interesting work, the meaning of life. What will happen to them today, they will be able to take control of their future, at least to some extent. But the causes of failure are easier to find outside of oneself than within. In this all generations are the same.

NCC-WS: In your opinion, what could be done to retain young people in research and development?

In research and development you don't get any fast and exciting careers. We cannot offer young colleagues high earnings, high social prestige, the possibility to meet prominent personalities who will treasure them for their thoughts and scientific concepts. In order for them to be able and willing to stay in research, they have to be not only good but they must also take joy in what they do. If a person enjoys their work, they're lucky. But I don't know whether this is so clear at the beginning of a professional career. The "Strengthening of Research in Universities" was a special programme of the Ministry of Education. In 1995 we received financial support to

establish a research institution for rural sociology and we called it the "Sociological Laboratory". It is affiliated with the Department of Humanities; there are today seven permanent junior researchers, and our approximately ten internal doctoral students always co-operate. The beginnings of the Sociological Laboratory were quite difficult. Young researchers were changing and most work was up to me. Some of them had very distorted ideas about research and in time they discovered that you can't get rich or famous by doing scientific work, others were disappointed by the quite large workload and the need to observe working hours. Today it is quite different. Our empirical research reports are evaluated yearly; we have established the series "Czech Country", and this year we are preparing our fifth publication. In addition to this, our young researchers present at conferences and publish in expert and scientific journals. We have received two external grants (Grant Agency of the Czech Republic and the Open Society Fund) and several internal grants. I believe that this programme of the Ministry of Education was a success. But all of us had to learn and work on building a functional system of proper co-operation. Now I am most worried about having the conditions and space to continue our work under the new legislative conditions. Hopefully we'll manage this.

NCC-WS: Would you like to add anything that has not been mentioned yet?

Perhaps only that after a long time, possibly the very first time, I have thought over my past and some aspects of my scientific work. I think that primarily it demands a systematic approach, honesty and a certain arrangement of life. There is nothing wrong with the desire to be the best, but each has to consider the point at which the price of success is too high for him or her. Success at any cost may be a moral or a personal loss.

Ludmila Fialová

Received degrees in physical training at the Faculty of Physical Training and Sports, and in the Czech language at the Philosophical Faculty, Charles University in Prague. She works in the Department of Pedagogy, Psychology and Didactics at the Faculty of Physical Training and Sports, Charles University. Her courses and seminars concentrate primarily on the didactics of school physical training, model situations in education and psychological aspects of images and body images. She has served two terms as a member of the Presidium of the Czech Kinanthropological Society in the position of scientific secretary; she has served in the Senate of the Faculty of Physical Training and Sports, Charles University, and for many years she has been the Secretary at the Department of Pedagogy, Psychology and Didactics. Today, she is also a member of the Discipline Committee of the Grant Agency of Charles University, in the social sciences section (psychology and pedagogy subsection). She has published over 120 scientific and specialised papers and has presented at more than forty specialised conferences and workshops. She co-operates with foreign universities in Germany (Cologne), Russia (Moscow), the United States (Grambling, Baton Rouge, Ruston), Canada (Vancouver), and Australia (Brisbane). Associate Professor Fialová is married, with two children. Her husband is a schoolmaster at a secondary school.

The interview was published in September 2003.



Prominent scientists should rank at least in the upper-middle, socio-economic classes

My sports history taught me not to give up easily and to put my own efforts and hard work toward achieving results and success

NCC-WS: What was your path to the didactics of school physical training?

I studied at a secondary school with an expanded training in languages and received my graduation exams in four languages. I also did light athletics where I was a referee and later also a coach. Therefore the decision on my future profession took its direction from these two areas. In fact, I wanted to study two languages but the Philosophical Faculty of Charles University did not offer a suitable combination. The study of sports in 1974 also did not offer a combination with a language that I would have liked to study. Therefore, because I was under pressure from external circumstances, I chose the study of the Czech language and sports. As it turned out later, the choice was not a bad one, and studying at the Philosophical Faculty and the Faculty of Physical Training and Sports enriched me very much.

NCC-WS: Did you encounter anyone on your path who had any influence on your choice?

I think that teachers are often important people who can sway the decisions of a young person. In my case, it was a great teacher in physical training who helped me to prepare for the aptitude entrance tests. But there was also a very strict teacher of the Czech language who demanded an extraordinary amount of knowledge from us, so I was certain that the entrance exam in the Czech language and literature would not be difficult for me. If I could I would have studied German, which I very much cared for and the driving force was again a great teacher at the secondary school. Of course, I also had teachers who made no impression on me, but the good ones managed to wake an interest in me, win me over and influence my decisions. All of them were women because there are more women in our educational system than men.

NCC-WS: You have achieved considerable success. Did you have any idea at the beginning of your scientific career about what you would like to achieve?

Yes, today my success can be measured in terms of publications, grants received, honorary functions and prominent positions. This is the result of long, patient and diligent work, but it has never been my goal. When I do something, I can't do it just half-way; I always strive to do my best. I am not pushy but rather a "quiet

worker”, which is what my German teacher called me many years ago. And I am happy that in today’s “market world” people like me have value. It’s just that one cannot let herself be misused by those who “talk big” and “stop at nothing”.

NCC-WS: Which characteristics and abilities helped you to build your career?

Some of my good characteristics are especially reliability, meticulousness and that I am hardworking. But without other factors these characteristics would not be enough to achieve success. Fortune favours the brave. Therefore, our happiness is in our hands. I think that my ability to deal with problems and struggle with obstacles also comes from my sports history which taught me not to give up easily and to focus my efforts and work hard toward achieving results and success.

NCC-WS: You hold an important position; you are an associate professor, which is still quite uncommon for a woman scientist. What reactions do you encounter in this respect?

As a woman I feel very good on my team, which consists mostly of men. Men can often rise above issues and not make problems out of petty things. I have to say that they help me in my work and I like to co-operate with them. At the same time I am aware of the merits that I have as a woman. The masculine, often impersonal and rational view of the world must be counterbalanced with a social and non-competitive dimension, and this is something we, women, can often do. I became an associate professor within a relatively short time (dissertation and habilitation in twelve years) and some “employees of outstanding merit” who have worked at the faculty much longer than I may feel that they were skipped over. I have encountered envy. But these people do not realise how much effort, nerves and time each step up costs a mother of two growing children. How much work is hidden behind every trip abroad, for which I have to be perfectly prepared, and in a foreign language. Envy is a human characteristic and I can’t say that men’s reactions are different from women’s. But men hardly realise that success at work costs a woman much more effort than it does a man because her “second shift” is much more demanding in an absolute majority of families.

Women in neighbouring Germany or Austria do not have to manage the roles of mother, wife, housewife and employee the way most Czech women do

NCC-WS: To harmonise work and family life is usually difficult in the sciences. How have you managed?

For me, my family has always been more important than my career, and therefore common family activities, studying with children, shopping, cooking, doing laundry and cleaning filled my time when the family was

together. Only when the others went to sleep or watched TV, did I sit down over my monograph, or a research or English paper. My family often did not even know what I was working on, which paper or book was published. When my children were small, the situation was very challenging, but my parents often helped me with childcare. Today, my children are almost adult, they organise their time themselves and I have a little more time for myself and my work.

NCC-WS: Do you see that no one would ever ask a man this question?

Yes, that's clear to me, men, not just in the sciences, are burdened with family life much less, and their scheduling and efforts are influenced by the family only in exceptional cases. Nevertheless, it is also clear to me that a number of men would object and say that they care for their families responsibly and that the family takes up a lot of their time as well. Various sociological studies, however, show quite clearly that compared to men, the time constraints on a working woman with a family are extraordinarily high in the Czech Republic. I am certain that few women in neighbouring Germany or Austria would manage what most Czech women do every day.

NCC-WS: Have you ever encounter pressure to comply with the traditional feminine role?

I don't like getting involved in conflicts and therefore I prefer to prevent them. The traditional woman's role is made easier by technological developments such as the washing machine, dishwasher, microwave... Otherwise, my children grew up in a family with a traditional arrangement of the roles of a man and a woman. But I assume that my son's partners will be different and that the division of labour in current young families will be much more just. Nevertheless, childcare will remain a woman's responsibility.

NCC-WS: Could you say, based on your experience, which measures would make it easier for women to achieve work-life balance in the sciences?

The work-life balance issue would be easier if certain political and social changes were adopted to ensure an improvement in the economic situation of families with children. Subsistence problems should not be a reason for parents to neglect the upbringing of their children, because they have to work late or cannot afford expensive leisure time activities for their children. The economic situation of the middle classes in the Czech Republic is not good and does not allow women to live full lives. The situation is particularly bad for single mothers. Abroad, men who do not live with their families pay a certain percentage of their income in child support, and also alimony to the woman if she remains single. I would welcome such a measure here as well. Women scientists should belong to a higher socio-economic class in order to be able to afford a cleaning lady or a babysitter. And of course, there are reserves within the family where according to Czech sociologists the traditional division of roles is the rule, and the situation is not changing because society accepts this.

State support for women brings benefits for all

NCC-WS: Do you think that men and women have equal conditions in the sciences?

In my field, women have conditions equal to those of men; the number of postgraduate female and male students is proof of this, as is the number of awarded grants, the number of publications, and participation in national and international conferences. But in my field, just as in other walks of life, we do not find a sufficient number of women in top leadership positions. There is not a single woman in the leadership of our faculty, although the number of women and men employed at the faculty is almost equal. The number of female heads of departments has, paradoxically, risen at our faculty, and the total number of female faculty is also growing. This situation is not due to some enlightened policy but rather to the poor situation at Czech universities, which are under-funded, and the salaries are such that men leave and interest in working at the university is falling.

NCC-WS: Do you see any gender aspects in your field? Do you think that women choose strategies in their scientific career that are different than those that men choose?

Gender aspects in my field have been, are and will be reflected. It is clear in sports that women differ from men in their body constitution, motivations, values... These biological and psychological differences and different predispositions must be respected by each good teacher and coach. I cannot say, though, that women use different methods than men. In my opinion, however, their work is different. Because they are so extremely busy, not only at work but also at home, women tend to be better organisers; in view of their intuition they can co-operate better and can positively influence the general atmosphere. This year's June ISSA sociological congress in Koln am Mein was proof of the abilities of women in the sciences. The main organiser was Professor Ilse Hartmann-Tews, who became a rector for "women's science" in Germany. This woman built a team of very capable female co-workers, and with a purely female organisational team put together a world event at such a level that there was really nothing that went wrong and all the details were thought out to the last detail. This time women were great organisers as well as experts and they presented work of great quality. Probably they wanted and had to do better than men.

NCC-WS: Do you think that the position of women in science has changed over the last few years?

The example from Germany shows clearly that state support for women brings benefits for all. I don't think that women should be given advantages systematically, but when they get a chance, they can bring great benefits. In top politics, women's points of view are necessary because women have different experiences, perceptions and understanding of the world. Here we still have this idea that the role of the man is decision-making and the role of the woman is doing. In the sciences, women who have children are at a disadvantage due to the interruption in their career for childcare. The experience that they gain from this can enrich and redirect one's perception of the world, give one some sort of detached point of view, and lead to a re-examination of values. Men do not

have this experience, they build their career without interruptions, and the obstacles in their paths are not usually so challenging. If a woman is capable of returning to her profession, she should also get an opportunity to contribute to development and management. I am certain that true success really lies in the equal co-operation between men and women.

Czech politicians do not support education enough

NCC-WS: What are your goals for the future? What else would you like to achieve?

Building a career was not my primary goal in the past, nor is it not today, though my children no longer need me as much. But praise for work well done and each positive reaction to my efforts pleases me. In view of the number of my publications, the number of grants, participation in conferences and frequent international activities, I could reach the absolute top. If I am not mistaken, there has so far been only one female professor at my faculty; by coincidence I was hired for her position after she retired. I would like to see my students succeed, those who wrote their masters and dissertation theses with me and to whom I have given the most time and energy. The idea of a new international project is also very appealing to me. Of course, in addition to these work-related goals I also have personal goals that are related to my life as well as the education and future of my children.

NCC-WS: What concrete plans do you have for the immediate future?

I have many plans but I have to scale down. I have to keep telling myself that I have only two arms and one head and that some projects will have to wait. Right now the most immediate is the preparation of the European project Entwicklung interkultureller Kompetenz im Sport im Kontext europäischer [Development of Intercultural Competences in Sports in the European Context] in co-operation with France, Germany and Poland. In the near future I would also like to carry out a comparison of the didactic approaches in the Czech Republic, Germany, and France. I hope to continue to do research into health, sports and self-perception; there is an opportunity to do a comparative study with Australia, where the lifestyle and the state support for health and sports activities are very different. At home, I have ahead of me an analysis of new approaches supporting independence and the creativity of pupils. I also plan to contribute to the Research Plans of the Pedagogical Faculty and a smaller university grant with a doctoral student of mine.

NCC-WS: How do you manage to build international co-operation?

My first international contact was made possible by DAAD (Deutsche Auslands Austausch Dienst). A two-month visit at the university in Koln am Mein initiated my international co-operation in several areas. First, it was

a comparative research study, Sport, Health and Body Images in Central and Eastern Europe, which was funded by the Club of Cologne in Germany and in which colleagues from Koln am Mien, Moscow and Prague came together. My international contacts were further expanded at foreign conferences until I was contacted to co-author a book on women and sports in the world. The publication *Sport and Women: Social Issues in International Perspective* was published in English in London and New York, and the Czech Republic is the only post-communist country to be represented in the volume; all the continents are represented in the book. I am invited to international conferences and I have also been honoured to chair sociologically and psychologically focused conference sessions.

NCC-WS: In your opinion, what could be done to retain young people in research and development?

The future of the new generation of students is ambiguous. On the one hand, there are many who are very able and interested in the discipline; on the other hand, I am concerned about the future of education as such. My husband is a schoolmaster at a secondary school, both my children study at a secondary school and I teach at a university. Obviously, I have enough information about Czech education. Unfortunately, it is true that our students do not want to teach. I am also very concerned about the state of language teaching in schools; language teachers are lacking, and to find a qualified language teacher is beyond the powers of schoolmasters, at least in Prague. We are indeed entering Europe, but our children learn foreign languages from girls who spent a year abroad as babysitters or by pensioners who learnt German during the war but never studied languages and were never teachers. Czech politicians have greatly underestimated the importance of education, and the current situation will have a dire impact on at least one generation. Students often study at pedagogical faculties just to get a diploma but do not care about the teaching profession. This is a shame because among them there are many capable teachers. The position of young people in the sciences has improved recently; postgraduate studies are supported, there are regular scientific conferences for students, young people can get grant money they can use to expand their horizons at foreign fellowships or conferences. The launch of their career should also be assisted by various projects for PhDs, but the economic situation often forces them to work and earn money on the side. I see the solution in increasing the regard for education by society at large, not only with respect to young scientists. It is not sustainable if people with a secondary education, or even without it, earn many times what a professor or an associate professor earn, people who have built their qualifications through life-long study and directly influence scientific progress and the education of future generations.

Blanka Říhová

Is Director of the Microbiological Institute, Academy of Sciences of the Czech Republic. She received her degree at the Faculty of Natural Sciences, Charles University in Prague in 1964, and in 1966 the title RNDr. Three years later she became a candidate of science (CSc) at the Microbiological Institute, Czechoslovak Academy of Sciences, and in 1993 doctor of science (DrSc) at the Microbiological Institute, Academy of Sciences of the Czech Republic. In 1992 she was appointed extraordinary associate professor at University of Utah, Salt Lake City, USA, and in 2000 full professor. She is a member of the Commission of the Scientific Council of the Academy of Sciences of the Czech Republic for the Defence of Doctoral Dissertations, and in 2002 she became a member of the Expert Committee for Life Sciences at the Council of the Government of the Czech Republic for Research and Development. She is Deputy Chairwoman of the Learned Society of the Czech Republic and a member of the Czech Brains Club. She is also a member of many associations (since 2001 a member of the American Association for Cancer Research, the American Diabetes Association, since 2002 an elected member of the European Academy of Sciences). In 2000 she was awarded the Medical Faculty Medal at Chiang Mai University, Thailand. In 2002 she was awarded by the Czech Society for Allergology and Clinical Immunology for her contribution to the development of these fields. In 2004 she received in Germany the W. A. Kafka Medal for her contribution to immunotherapy.

Publications in refereed journals: 151.

Submitted and granted patents: 7.

SCI citations until 2003: 1452.

The interview was published in February 2004.



In elementary school I longed to sing and dance through life

At fifteen I became dazzled by microbiology

NCC-WS: When and how did you choose your field?

At elementary school I longed to sing and dance through life. In this I was no different from other girls. I was quite good at playing the grand piano, I attended dance classes at the school of the famous Milča Majerová and I was totally enthusiastic about acting in an amateur theatre. Fortunately, it dawned on me early that I was not good enough to have a dazzling career, and so for some twenty-five years what remained was only amateur theatre. Around fifteen, thanks to some books and films, I became dazzled by microbiology. At sixteen I started studying microbiology at the Faculty of Natural Sciences, Charles University in Prague and I have never regretted it.

NCC-WS: Was there anyone who had a major impact on your choice of direction?

If I discount my first piano teacher, my history teacher and then my chemistry teacher, I can't say that I had any strong role models when I was a child, someone I admired and wanted to come to be on par with. No, no. But that does not mean that I did not admire and do not admire a number of extraordinary personalities in science, including Marie Curie-Skłodowska. My research and scientific discipline was unquestionably influenced by one of the most prominent Czech immunologists, Professor Jaroslav Šterzl.

NCC-WS: Did you have any idea at the beginning of your scientific career what you would like to achieve?

I take life as it comes, I give and take with joy. But I am not very good at losing. When I start something, I usually finish it. What I have achieved in my life is a result of my innate activity and restlessness.

NCC-WS: Which characteristics and abilities helped you to build your career?

I have just defined them. I would just add absolute responsibility, determination, stubbornness, accuracy and organisational skills.

NCC-WS: There are few women in the sciences. How did your colleagues perceive you as a woman?

I get this question quite often. In my life I have been extraordinarily lucky, but in my disciplines (microbiology, immunology) I as a woman have never had to deal with being treated differently than men. At the Department of Immunology at the Microbiological Institute, where I have worked all my life, there was only one thing that mattered: results. And no one cared whether it was a woman or a man. It is true that for some time after maternity leave I sometimes sighed over the fact that when assessing publication activity no one takes into

consideration that in addition to my research I also have two children and a husband, but no one did and so I couldn't make any excuses on this count.

NCC-WS: You hold an important position as director of a research institute, which is quite uncommon for a woman scientist. What reactions do you encounter in this respect?

I don't know about any negative reactions coming from men. Either there are none or, more likely, I don't perceive them. If you head a large institution such as the Microbiological Institute, sooner or later you are bound to pique someone. But it can be a man as well as a woman. I respect the naturally given differences between the sexes and the fact that men don't like to be subordinated. I like to hear people's opinions. If it is a man, all the better because we have a phylogenetically embedded propensity for different solutions to the same situation, and sometimes his solution may be better than mine. I don't have a problem admitting this.

It just requires organisation ...and a suitable life partner

NCC-WS: Achieving work-life balance in the sciences is usually difficult. How did you manage?

True, combining science and a family with two children and a husband is really not an easy task. When my children were small there were moments when I wanted to give up top science and do something less demanding. But I received terrific support, especially from my mother, who helped me with everything. She did the homework with the children, took them to some leisure time activities and bought the most important stuff. I worked from 7 AM until 3:30 PM and then took the kids. At one point I was even a trainer in a Sokol organisation in order to be with my children as much as possible. In the evening I went back to work. I remember writing my doctoral dissertation, the so-called "big doctorate". We went to Balaton for two weeks, I had my first laptop. In the morning I got up at five, and before everyone else got up at nine, I had written a chunk. Then I swam and sunbathed with my family (and slept), and in the evening after playing cards, when everyone went to bed, I continued to write. Sometimes more, sometimes less. I returned to Prague with my dissertation ready. It just needs organisation. Today my children have their own lives and it is my husband who takes care of me during the week when there is too much to do. On the weekends I take care of him and my mother. But we also have time for concerts, the theatre and even quite a busy social life.

NCC-WS: Are you aware that no one would probably ask a man this question?

Probably not. But I absolutely do not care about this. NCC-WS: Have you ever encountered any pressure to conform to the traditional woman's role? It is, of course, important who accompanies you on your path through life. This is my second marriage. My first husband was a great person and we had a great time together until it

started to become clear that research is not a 9 to 5 job. I decided to leave before we had children. My second husband is my former supervisor. He knew when we were getting marriage that I would work in science. He knew what that meant.

NCC-WS: Based on your experience, could you say which measures would make work-life balance easier for women?

I have already hinted at the most important thing. You have to have a suitable life partner who is so sure of himself that he will not only not mind your success, but take joy in it. If you work in the same field and can help each other, it brings joy, happiness and satisfaction.

On scientific excellence and the position of women in science

NCC-WS: How do you manage to build your international links?

It is easy. One good lecture at a symposium is enough and you can start choosing.

NCC-WS: Do you think that men and women have equal conditions in the sciences?

In my disciplines the basic conditions for women and men are absolutely the same. As the director I know that salaries are completely the same. As a member of various grant agencies I know that a project will get financial support if it is very good. It does not matter whether it is submitted by a man or a woman. It is, however, true that there are significantly fewer female proposers than male proposers, and therefore – logically – more grants are awarded to men. What is not absolutely equal and probably never will be is caring for the family. If a woman chooses scientific work and at the same time family, it will definitely be more difficult for her than for a man.

NCC-WS: Do you think that women choose strategies and paths toward their scientific work that are different than those that men choose?

Definitely, there are major physiological differences between men and women which influence their behaviour and thinking. Many books and research studies have been written on this. And it is all for the best. The two sexes complement one another. This is not to say, though, that men are always more predisposed toward conceptual work and women a greater sense of detail, as is sometimes said. It can be the other way around in individual cases.

NCC-WS: Do you think that there have been any changes in the position of women in science in recent years?

Young female researchers with a family need help with their children. I haven't noticed any improvement in this over the past few years.

On the grant ' machine ' and the motor of science

NCC-WS: What are your goals for the future? What else would you like to achieve?

I would like to live long enough to see the promising polymer pharmaceuticals, that we are developing with our colleagues at the Institute of Macromolecular Chemistry, Academy of Sciences, find use in clinical practice.

NCC-WS: Do you plan to submit any grants in the near future?

We are constantly applying for grants. I have a laboratory, PhD students, graduate students, colleagues at other institutes of the Academy of Sciences and universities, and international co-operation to take care of. It is necessary to get money for such an operation and you can only get money through grants. We are continually starting new projects. This is the beauty of science.

NCC-WS: How do you see the future of the young generation of researchers?

In most cases they are marvellous. I generally really like young people and have confidence in them.

NCC-WS: What could be done, in your opinion, to retain young people in R&D?

There is and always will be a lack of young people in science. They dismantle myths and are the motor that propels science forward. It is necessary to do our utmost to keep them and attract them toward science. Including through special programmes.

