

# EE Alumni Newsletter

Department of Electrical Engineering

University of Washington

## Editorial:

### A One Percent Solution

I am responsible for graduate fellowship awards in the Department. We get some funds from industry to support "minority" students — in this context, it means Blacks and Native Americans. We have great difficulty finding three such students to support each year in our graduate program. In our undergraduate class of over 400 students,

the number of Blacks fluctuates from quarter to quarter, between one and two percent. Now that's a damn shame, and a loss to our profession and our Nation!

Many people, certainly more knowledgeable and committed than I, have given a great deal of thought to this subject, and we all vigorously debate the efficacy and appropriateness of the various programs that have evolved.

Although the University and the College of Engineering have strong commitments and diverse programs to find and retain minority students, it is clear that the problem starts much earlier than the senior year of high school. We are seeing the result of a generalized and profound lack of interest by a wide range of students in the more demanding subjects, the sciences and math in particular, and in many cases, a disinterest in learning altogether.

Motivation is the key factor. What is the relevance of science and math to these kids? Do they get any idea of the big picture? The motivational problem affects certain minority groups with greater intensity because they do not have many role models in their own communities. Motivation is a problem for many majority students, too. But there, it is more a matter of complacency and lack of information. On the other hand, several new immigrant groups are making most effective use of the available educational opportunities.

Motivation must be continually nourished with good information. Many of you would be shocked by the science that is (and isn't) taught in our public schools today. In the

lower grades, our youngsters are taught by generalists, responsible for covering perhaps a dozen subjects in a week. Most of these teachers were never very interested in science when they went to college, and their appreciation for the subject is minimal. What kind of excitement can be transferred to a child when the teacher lacks the most rudimentary understanding of the scientific method, and is most comfortable presenting mathematics as a subject best mastered by methods involving rote learning of arithmetic?

I believe we can help. Many of our schools lack the resources and the personnel to adequately convey to the students the breadth of possibilities that await them if they overcome the obstacles and achieve a well-rounded education. I would like to suggest that you look into the possibility of visiting schools in your local area, and volunteer to talk with youngsters about your professional experiences. I think you would find that the schools would receive you with open arms, and that your world would be greatly enriched. I especially encourage our retired alumni to get involved. Don't leave it to the so-called experts. Help stimulate a child to maintain his or her curiosity about the world.

Our youngsters need to be challenged; they need to hear about the kind of exciting things they can do with their lives, the opportunities that open up to them, only if they work hard and master the tough subjects. These subjects are relevant. They can lead students, at a minimum, to a richer appreciation of their world, and if they take the bait, to rewarding careers.

Our kids need to meet real people who have used math and science in their work, people who can communicate their enthusiasm for their technical accomplishments and their profession. Tell them what turned you on to science when you were ten years old. Start an after-school science club. Help kids with science fair projects. Put together some fun demonstrations with junk from your garage.

You've been solving tough problems all your professional life. Work on this one — it's worthy of your time.

Summer 1993 Issue



photo: T. G. Stoebe

*The Best in the Northwest*

# Marks on Marx on Rostov-on-Don

*Robert J. Marks II*

The Symposium on Neuroinformatics and Neurocomputing was held in Rostov-on-Don in Russia from October 7 through October 10, 1992. I flew into Moscow with Wes Snyder of Bowman Gray School of Medicine, the Symposium Program Co-Chair, and Dmitry Kaplan of Quantum-Siemens, the Finance Chair. We were to meet Dr. Witale Dunin-Barkowski of Rostov State University, Russia, the conference's General Chair. I was the International Chair.

The Moscow airport appeared big and gloomy. Uniformed immigration officials sat in bleak glass cages with 'do not bribe the officials' signs on them. I had read that officials had been requiring tourists to pay money to pass. The signs were a response of the government to dishonesty. Honesty is always impressive. The official looked at my passport photo taken six years earlier when I had a beard and longer hair. He looked at me, crinkled his brow and rubbed his chin. I smiled uneasily, waiting to be grabbed by the KGB. I made some motions that were supposed to resemble shaving and smiled meekly. Confrontation was to be avoided at any cost. Later, as I learned more about the people, I became quite comfortable in Russia. Their culture remarkably resembles that in the United States. At the airport, though, my impressions were based on Dr. Zhivago, the Cuban missile crisis, and the H-bomb drills they made us do in grade school. The immigration official put the card down, and did nothing. Nothing. For about half a minute. Later I found out that some Russian workers do this to kill time so they don't have to work hard. My visa was stamped and I was waved through.

Immediately inside the airport terminal, there was a cluster of about fifty people, some holding signs with people's names on them. The group was bisected by an aisle traveled by newly arrived passengers. There was no sign for us. We retrieved our luggage and stacked it in a safe place. While Wes and Dmitry stood guard, I returned to the crowd and began to look for the sign from the side. People were packed, groping to see the new arrivals. I was pushed from behind with a number of short abrupt bumps. Somewhere, I had learned to associate this with pick pockets. Sure enough, when I focused attention, there were fingers doing a dance around my posterior cheeks. I swung around and came eye to eye with the pick pocket. I glared at him. He froze, turned his head, walked away, stopped, looked at me, gazed away, fidgeted, pulled out and lit a cigarette, looked at me, turned, and walked away - a classic study on how to look guilty.

Wes had found our ride. Our driver was accompanied by Dr. Dunin-Barkowski's wife whose name was also Dr. Dunin-Barkowski. She lives in Moscow and is an MD, but speaks little English. Dmitry, though, speaks native Russian. He was born in Kiev and immigrated to the United States as a teenager. The trip would have been incredibly

awkward without Dmitry. He confided that his return to Russia, the first after his immigration, was done with apprehension. Although he intellectually knew there would be no problem, his memories of the oppressive Soviet system were deeply rooted.

The next day, we flew Aeroflot from Moscow to Rostov-on-Don. The only good news was that smoking was banned on the airplane and we arrived safely. In an apparent move to cut costs, Aeroflot planes have no oxygen masks. The floors of the plane are made of wood overlaid with a peeling rubber floor cover. Aeroflot also has no enclosed overhead bins. Carry-ons are placed in an open rack above your head — the kind you would find on a bus. Most airlines require enclosure. In turbulence, falling luggage can really hurt.

The refreshment on our short flight was club soda served in a plastic bowl. In Europe and Russia, mineral water comes with or without 'gas', meaning CO<sub>2</sub> bubbles. The smell of some kind of soup was in the plastic of the bowl that held my colorless soft drink - probably the aura of refreshment from some previous longer flight. It added flavor to the otherwise tasteless mineral water (with gas).

Rostov is a city of about a million people. We were met at the airport by Witale and some of the local arrangement volunteers on the organizing committee. Witale is a delightful man, full of energy and prone to eruptions of deep guttural laughter. He is fun to be with.

Our Rostov hotel was nice. Each floor of the hotel was graced by a 'key lady' who sat at a desk close to the elevator. It was her responsibility to guard your key when you left (if you wanted her to) and sell you sundries, such as cigarettes and mineral water (with and without gas). A key lady was on duty 24 hours each day.

Breakfast at the hotel was great. Three of us had a breakfast of rice pudding, scrambled eggs, sausage, grape juice and coffee for 34 cents, or about 11 cents each. I graciously agreed to pay, under the condition that Dmitry pick up the lunch tab in Copenhagen on our way home. The low price was due to the weak ruble. When Dmitry was a boy in Kiev, a Ruble was worth about a dollar. During the conference in Rostov, \$1 cost about 360 rubles. About a month later, it cost 400 rubles. A professor in Russia makes about \$160 per year.

Because of the weak ruble, there is a thriving pseudo-black market in Russia. I say 'pseudo' because exchange of dollars directly for goods is openly tolerated by the government. Dr. Donald Wunsch, a UW graduate currently at Boeing, attended the conference and got an ankle length wool Russian army officer's coat for \$5 and a pair of old jeans. He had some marketeers working on caviar, but never got it. After the conference, Don took the trans-Siberian railroad to Beijing to attend the International Joint Confer-

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ence on Neural Networks in early November. He has great stories to tell. During his trip, Don lost quite a bit of weight due to digestive irregularities brought on by local cuisine. We are toying with the idea of marketing his 'trans-Siberian diet'.

The conference was great. I learned a few things about technology and a number of things about Russian people. On the first day, we held the opening ceremonies with greetings from the mayor, conference chair, etc. Due to the dominance of American technology, English is the official language of all international technical conferences. This was the first meeting in English that had been held in Rostov this century, or, for that matter, ever. At the opening ceremony, Witale feverishly translated the comments of the Russian speakers into English and the English speakers into Russian. During my stay at the podium, I gave the obligatory positive remarks about the conference. I then related a story, not original, about the common labeling of those who know many languages as 'multilingual'. Similarly, those who know two languages are referred to as 'bilingual', whereas those knowledgeable of only one language are known as 'Americans'. Witale gazed up, searching his memory bank for equivalent Russian words as he translated in parallel. At international conferences, I have found a mild and reserved resentment of the forced English language. Humor can transform this into good natured back-slapping collegiality. The audience laughed at the Russian translation and many smiling heads bobbed, acknowledging truth in the humor.

The conference banquet was a fascinating example of the importance of alcohol in Russian culture. An associate director of Witale's lab arose, and introduced Westerners to a Russian tradition. Witale translated. Throughout the banquet, toasts would be offered at intervals of ten minutes. Intervals shorter than this were not acceptable. The time between toasts was to be used to coat the stomach with food, so that more alcohol could be consumed. He made a toast to the conference, drank, and sat down. Around the banquet tables were numerous bottles of Russian vodka and champagne. As a nondrinker, I filled my glass with some queer tasting Russian mineral water and joined in the toast. As forecast, the MC rose again in ten minutes. Witale hurriedly chewed and swallowed as to not be late in the translation of the toast. The MC said that he was sorry that he did not know English, but was proud to learn this day that, as a result of knowing only one language, he was an American. A toast was offered and nearly all drank. Ten minutes later, Witale offered a toast in English, and did his own translation. Ten minutes later, Wes Snyder was called upon to offer a toast to the conference and friendship of Russians and Americans. The next toast, it turned out, was mine. As a nondrinker, I tried to shrug it off. Witale insisted. I stood, hoisted my glass, and bellowed 'To sobriety!'. By his expression, it was clear that Witale did not know the English work 'sobriety'. He bent, and Dmitry whispered Russian in his ear. Witale

smirked, stood tall, raised his glass and gave the translation. There was a smattering of chuckles as many drank to sobriety. This toasting lasted long into the night.

A 'fresh air' conference session was held aboard a boat that sailed down the Don river. Corners of the ship were roped off for a number of parallel technical sessions. I wandered around the boat catching portions of different talks. One scene was quite curious. A Russian researcher was giving his paper in broken English. Listening were about a dozen Russians, each straining to understand the speaker. It occurred to me that this was proof positive that the cold war was, indeed, over.

The boat docked, and we all debarked. We formed a loose line, and walked about a half a mile to see a Russian church in the middle of restoration. The countryside was great. There were sheep and goats and old Cossack buildings. Two older ladies, who sat on a bench outside of a barn, were living caricatures of Russia, with their head scarves, multi layers of sweaters and chubby, dome-like figures. I took their picture. They looked up and said something. Dmitry, who was with me, said something back. We continued to walk down the path and Dmitry explained, 'They asked why we were taking their picture. They said they have nothing.'

When the conference ended, we flew Aeroflot back to Moscow. Witale's aunt, Natasha, picked us up at the airport with our driver. We spent the day taking a fantastic tour of Moscow, including the Kremlin, Red Square, and other tourist magnets. The Kremlin now charges admission. The sixty-something lady in the booth selling tickets took our money, and, like the man at the airport, did nothing for about thirty seconds. I have had similar service in American post offices.

The highlight of my trip was dinner at Natasha's apartment with Wes, Dmitry and Natasha's family. The apartment was in one of the countless high rises built around Moscow. The architecture, like most buildings built in Russia this century, is gloomy. The apartment building looked like it had been built in the 1950's. It also looked quite neglected. As we pulled in the building's parking lot, a half dozen men standing around a hole in the ground, glared at us. Although dressed in work clothes, none of them were working. We entered the building and climbed the stairs — there were no elevators — to Natasha's apartment. Inside the apartment, the atmosphere was totally different. Although small, the apartment was filled with the warmth of a home. Natasha's teenage son was there. He had been practicing his English, and we talked a bit. We were soon joined by Natasha's husband, Anatoly. We later learned he had spent the morning looking for tomatoes for our lunch.

The lunch was splendid. Natasha fixed a turtle cake, which looked like a bunch of pancakes sprinkled with powdered sugar stacked in a mound. ('Turtle' refers to shape rather than content). Sometimes, Dmitry said, turtle heads were fashioned out of a pancake and added to complete the image. We talked continuously over lunch. Poor Dmitry

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didn't get much of a chance to eat. He was always translating. The time spent at Natasha's was warm and open. Except for the language difference, it was like visiting old friends in America.

Natasha and the driver later drove us to the Moscow airport for our evening flight to Copenhagen. (No, Dmitry did not buy me lunch there). We were home in two days.

During his visit to Seattle, Witale said, in regard to the government of the former Soviet Union, 'They lied to us about America. They lied to us'. In describing his feeling about his home in Kiev, Ukraine, Dmitry taught me 'There is a difference between love of country and loving your government'. Despite formerly oppressive rule, Russian people are wonderful and more American in their culture than many realize.

Most, for example, know only one language.

*Bob Marks expresses his exuberance for Russia in front of a cathedral in the Kremlin complex in Moscow.*

