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The Restoration of František Šorm: Prolific Czech Scientist Obeyed His Conscience and Became a Nonperson

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ABSTRACT

The life of František Šorm is examined, particularly during the period when he was president of the Czechoslovak Academy of Sciences and director of its Institute of Organic Chemistry and Biochemistry. His scientific achievements are discussed and an account is given of his political actions in 1968, which led to his fall from authority. Nobelist Vladimir Prelog and Carl Djerassi contribute remembrances.

"Human uniqueness, human action, and the human spirit must be rehabilitated."[1] These are the moving words of Vaclav Havel, President of Czechoslovakia, speaking last month at the World Economic Forum in Davos, Switzerland. They aptly apply to the late František Šorm, the subject of this essay, former president of the Czechoslovak Academy of Sciences, and director of the Institute of Organic Chemistry and Biochemistry.

Šorm was a prolific, highly cited Czech chemist whose life came apart on August 20, 1968, when Soviet tanks led a Warsaw Pact force into the narrow cobblestone streets of the baroque city of Prague. Šorm, of course, is only one of a legion of conscience-obeying scientists deserving of rehabilitation in Eastern Europe. But his tale perhaps is typical.

František Šorm

Who Was František Šorm?

At the end, stripped of his academy presidency and the institute directorship because of his criticism of the invasion, he ended his days "a sad and lonely man," according to a coworker. He remained a scientist in the Institute of Organic Chemistry and Biochemistry, but he had few personal contacts with other people. In the eyes of officialdom, he was a nonperson, ostracized for having voted in Parliament against legalizing the Soviet occupation of Czechoslovakia. He also voiced his protest against the invasion in a letter to the president of the Soviet Academy of Sciences. Finally, after suffering two heart attacks, he died on November 18, 1980.

At the height of his administration, he was a man who would engage in snowball

battles with coworkers on noon walks to lunch. Or, in the Prague spring, climb through ground-floor windows like a student to enter a laboratory. Initially, he behaved, colleagues recall, as if he were "first among equals." His attitude to fellow scientists, however, was grounded in his personal assessment of their abilities and qualities and sometimes quite biased. He often openly criticized those he felt were inept. Thus, in the balance of his life, the scales were tipped with many enemies.

At Davos, Havel, once a nonperson playwright himself, commented: "Communism was not defeated by military force, but by life, by the human spirit, by conscience, by the resistance of Being and man to manipulation."

The Process of Rehabilitation

By 1990, the political pendulum for Šorm had swung to rehabilitation. On the tenth anniversary of his death, led by the present director, Karel Martinek, the Institute of Organic Chemistry and Biochemistry held a commemorative session to honor its founder. Former pupils and colleagues placed a memorial plaque to Šorm in the hall of the institute.

But a plaque does not a life make. Let's look a little closer. Not much information is available on his early days. He was born in 1913. "Franta," as he was sometimes called, attended the Technical University in Prague during the early 1930s, graduating in 1935. He is remembered as a bright, ambitious, and diligent student, "probably the best in his class."

I talked by telephone with the Swiss Nobelist Vladimir Prelog, now 86, in Zurich. He attended the Chemical Engineering School of the Institute of Technology in Prague in the late 1920s.[2] (p. 7) Prelog recalls that Šorm, who occasionally visited him in Zurich, "was not a man about whom you could easily tell anecdotes." He was "very serious, a strong Communist, a fundamentalist."

During World War II, Šorm worked as a research chemist for a large chemical concern in Prague, the Association for Chemical and Metallurgical Production. Rudolf Lukeš, a noted chemist, and later a professor of organic chemistry, was the head of the association laboratory and later taught both Prelog and Šorm at the university. Prelog, who lived in Prague for nearly 10 years, recalled his relationship with Šorm. "Our relationship was warm at the start, but cooled later on because Šorm embraced the Soviet science educational system to which I was opposed." In particular, Prelog abhorred the separation of teaching universities from research institutions. Prelog was awarded the 1975 Nobel Prize for his contributions to the understanding of stereochemistry—the spatial arrangement of atoms and molecules.[3] (p. 957) His recently completed autobiography was translated from German by Otto Theodor Benfey of the Beckman Center for the History of Chemistry in Philadelphia.[2]

Like the majority of Czech students, Šorm was attracted by leftist political ideas and drawn to the then-Soviet Union. He became a member of the Czechoslovak Communist Party. The party arranged for Šorm to visit Moscow, and he returned impressed by the science effort there, often lecturing on that subject. His stature thus grew within the party apparatus as a trusted science representative.

Following the communist putsch in 1948, the party, following the Soviet pattern, decided to establish an Academy of Sciences. Šorm helped organize the new body and, eventually, was rewarded with the post of Chief Scientific Secretary (managing director) when it opened in 1952. That same year, he assumed the directorship of the Institute of Organic Chemistry and Biochemistry.

Very Broad Scientific Interests

Šorm's scientific interests, according to Martinek, were very broad. In the field of

bioorganic chemistry, he advanced knowledge of sesquiterpenoids, with medium-ring molecules, and explained the structure of different isoprenoid compounds. He also initiated the study of natural peptides, especially neurohypophyseal hormones and their analogues, some of which were shown to be of major clinical importance.

His school of protein chemistry established the primary structure of chymotrypsin and trypsin. While studying the amino acid sequence in polypeptide chains, Šorm, for the first time, deduced a tentative genetic code. His studies of antimetabolites of nucleic acid constituents as potential cancerostatics or virostatics led to the synthesis and determination of the mechanism of several highly active compounds, for example, 5-azacytidine and 6-azauridine. Finally, he was active in the field of insect juvenile hormones.

Martinek recalls that Šorm was not a director who stuck to his office. He fostered daily personal contact with the scientists working in the laboratories. Always eager to be the first to hear about new data and original evidence, he was considered to be an outstanding theoretician as well as a chemist and somewhat autocratic administrator.

Martinek remembers Šorm as being very much of a family man. His widow, Zora Šormová, was head of the Department of Biochemistry within the institute. A short time after Šorm's dismissal as director, she retired for reasons of health. Their daughter, Zora, today is a physician, and their son, Milan, a sculptor. A good pianist, Šorm was fond of music, particularly the work of Janáček. During his last years, he enjoyed cooking unconventional meals for his family.

Author of 1,000 Papers

Šorm was a voracious reader, often spending his weekends keeping abreast of the scientific literature and writing. Indeed, his name appears as first author on more than 150 papers, and second author on over 850 papers from 1945 to 1980, as observed in the *Science Citation Index®*. His most-cited first-author paper appeared in *Neoplasma*, in 1964, and had 97 cites through 1991.[4] His most-cited second-authored paper, written in 1968, had 163 cites by 1991.[5] When we published our list of the 1,000 most-cited contemporary authors in 1982, Šorm's papers had a total of 4,890 citations.[6] From 1964 to 1967, he served on the editorial advisory board of *Index Chemicus®* published by the Institute for Scientific Information® since 1960.

During the early years of his directorship, Šorm often wrote large segments of his papers himself. Later, he would select the topic and guide the development of the paper, eventually editing and correcting the final manuscript. In this phase, he still felt entitled to first authorship status. He never asked directly to be author when the subject was outside his field; however, he clearly indicated his pleasure when his name was included as a secondary author, and his displeasure when it was "forgotten."

An early riser, Šorm expected his coworkers to be on the job in the laboratories at an early hour. He liked to see his staff of some 150 scientists running several syntheses at once. Reading newspapers in the lab was a mortal sin, punishable by transfer to a less prestigious institution. He expected library research to be done on weekends.

Djerassi Recalls Šorm Meetings

I have more than once visited Prague on business. But I never had the occasion to meet Šorm. During my visit to Prague two years ago to give a paper at an international conference, I attempted unsuccessfully to locate his widow and children. I also had an appointment with Martinek, but he was unable to keep it because of an automobile accident. He and others have supplied the details for this Šorm portrait. Perhaps one day a qualified biographer will

do justice to his turbulent career. The American chemist Carl Djerassi has documented two anecdotes concerning Šorm in his just-published autobiography entitled *The Pill, Pygmy Chimps, and Degas' Horse.*[7]

"The eighteenth [Pugwash] conference in Nice, [France] in 1968, turned out to be extremely contentious. Many of the discussions—inside the working groups and outside—concerned an item not on the original agenda: the entry of Soviet troops into Czechoslovakia a couple of weeks earlier. The Czechs had been very active in Pugwash, notably the microbiologist Ivan Málek and František Šorm, the president of the Czechoslovak Academy of Sciences and, without doubt, the scientist with the biggest political clout in that country. Everyone in Nice was expecting an up-to-date report from them. Was the Soviet invasion the irrevocable end of the Prague Spring, as Alexander Dubček's liberalization was then called, or could a compromise still be reached? But the two never showed up, and the Soviet participants' stonewalling of this issue...outraged many of us....

"I left Nice after the conference was over to fly by way of Zurich to Prague, where earlier in the year Šorm had invited me to give a lecture. He was not only the president of the Czechoslovak Academy but also an organic chemist whom I had gotten to know well. A group in his laboratory had been working on the chemistry of insect hormones, and we had initiated a collaborative research program between Zoecon and the Czech Academy—the first such formal arrangement between an American corporation and their academy. Šorm and I had exchanged reprints of our respective publications in two fields of common interest: steroids and terpenoids. In 1956, he had invited me to give some lectures in Prague. A few weeks before my scheduled visit, the Russians had invaded Hungary, and the political climate in Eastern Europe had deteriorated dramatically. The American consul in Switzerland strongly urged me not to go, but I was curious to learn first-hand what was going on. Šorm was personally charming and scientifically open, but when it came to Hungarian events, he mouthed the Party line—in keeping with the distracting picture of Stalin (his cunning eyes seemed to follow me whichever way I sat during our conversation) that hung on the wall behind his desk....

"And now in 1968, another major political disruption was underway—this time in Czechoslovakia, where I was due to speak... A sense of bravado and even elation emanated from the younger men, some of whom had been postdoctorate fellows in my laboratory. They still did not believe that the Russians would stay and a Stalinist regime take over. They imagined a slightly more conservative version of Dubček would head their government. Like the Chinese students in Tiananmen Square in 1989, the young Czechs were still too euphoric to believe that an autocratic juggernaut might actually crush them. As we drove into town, my hosts pointed proudly to the graffiti and slogans that had not yet been erased. Stalin's picture was long gone from Šorm's office, having disappeared in 1962, at the time of an international conference held in Prague. Šorm was moved by the expressions of support I had brought, and hopeful that Western pressure would lead to a compromise acceptable to everyone.

"When I met him again, less than a year later, he was deeply depressed. It was a strange meeting: in Sofia at the centenary celebration of the Bulgarian Academy of Sciences, a duplicate in miniature, in terms of power and hierarchy, of the Soviet Academy.... Šorm, still the president of the Czechoslovak Academy and thus the official representative of his country, was marching next to me [in a procession to a tree planting ceremony]. 'Watch,' he whispered, 'when I lay our wreath. They'll kiss me on both cheeks, but when I return home, I'll be a nonperson.'

"He was right. Shortly after his return from Sofia, he lost his position; and until his death,

he was never again permitted to leave his country. Only after the collapse of the Czechoslovak Communist regime was Šorm's name rehabilitated in a special issue of the *Collection of Czechoslovak Chemical Communications.* In homage to him, one of my graduate students, Christopher Silva, and I contributed to this special 1991 number a paper in which we reported the isolation and structure elucidation of a new marine sterol we had named "Šormosterol."[8]

Struggle Is Not Over

The events in Hungary alluded to above by Djerassi further solidified Antonin Novotný's hold on power in Czechoslovakia. Novotný formally became first secretary of the Czechoslovak Communist Party in 1953, and, up to 1960, based his rule on terror, both naked and administrative. More than 180 politicians were killed in a series of purges that began in 1950 against reformers. Thousands of citizens were imprisoned on charges of "bourgeois nationalism."[9]

From 1960 to 1967, Novotný's iron grip on the country slowly began to weaken. Dubček emerged as first secretary of the party in Slovakia in 1963. Student riots protesting conditions in colleges and police brutality in suppressing the unrest came to a head in 1967. A crisis was sparked when playwright Pavel Kohout read a letter at the fourth party congress by Soviet novelist Alexsandr Solzhenitsyn criticizing censorship. Novotný responded to this act with a purge that provoked a leadership crisis. Dubček emerged as national party leader and subsequently initiated the reforms known as the Prague Spring that would bring Soviet tanks to the capital that August. Dubček called his measures—involving freedom of the press and religion, and the establishment of political parties and other social groups, "Socialism with a human face."

As we have seen, Šorm, throughout this period, was a benevolent autocrat. He undoubtedly used his power to save many good scientists from oblivion. He used his association with Stalinist party figures to gain enormous support for young scientists. One Czech scientist told me how Šorm managed to get him a Western computer. And there are many similar stories.

In the final analysis, however, Šorm's courageous stand against the Soviet invasion is a testimony to what must have been a life of ambiguity. His final act was heroic although regarded by some as futile. But how will we ever know how many such acts add up to the successful overthrow of tyranny? Compare Šorm's gesture of defiance with the silence of many Soviet scientists during the coup against Gorbachev and you get a better measure of the man František Šorm.

The struggle in Czechoslovakia for democracy is not over; not for politicians or scientists—just as elsewhere in the world. As Havel remarked: "The fall of Communism can be regarded as a sign that modern thought—based on the premise that the world is objectively knowable, and that the knowledge so obtained can be absolutely generalized—has come to a final crisis. This era has created the first global, or planetary, technical civilization, but it has reached the limit of its potential, the point beyond which the abyss begins. The end of Communism is a serious warning to all mankind. It is a signal that the era of arrogant, absolutist reason is drawing to a close....

"The large paradox at the moment is that man—a great collector of information—is well aware of all this, yet is absolutely incapable of dealing with the danger. Traditional science, with its usual coolness, can describe the different ways we might destroy ourselves, but it cannot offer us truly effective and practicable instructions on how to avert [destruction]. There is too much to know; the information is muddled or poorly organized; these processes can no longer be fully grasped and understood, let alone contained or halted.

"We are looking for new scientific recipes, new ideologies, new control systems, new institutions, new instruments to eliminate the dreadful consequences of our pre-

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Šorm in the laboratory.

vious recipes, ideologies, control systems, institutions and instruments.... [In short], we are looking for an objective way out of the crisis of objectivism."[1]

What is needed, Havel suggests, is the rehabilitation of the forces of spirituality. But it would be foolish to conclude that this is incompatible with science and in any way justifies the antiscience attitude on the rise in Eastern Europe today.

* * * * *

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