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Research Article

## Chemical Engineer George L. Standart – between Science and Ideology

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**Abstract.** George L. Standart was one of the few western scientists who decided to emigrate to communist Czechoslovakia. He was driven to do that by his leftist mindset, his conviction that there lay a more just and peaceful world behind the Iron Curtain, and also the feeling that he was at risk in his homeland, unsettled by McCarthyism. Although he was recruited as an informer first by the Soviet, and subsequently also the Czech intelligence services, they never found his work satisfactory as an agent, a situation exacerbated by his increasing academic workload. Most of all, George L. Standart was an outstanding scientist, one of the best in his discipline and at that time, who made an unexpected and unprecedented contribution to the Czechoslovak chemical sciences and their practical industrial applications. The almost twenty years that George L. Standart and his wife spent in Prague nevertheless provides an opportunity to trace their personal and academic lives, the development of their attitudes shaped by their ideology and idealism and, partially, also the process by which the Czechoslovak security and intelligence services were established from the close of the 1940s to the late 1960s and the view they took of foreign nationals.

**Keywords:** George L. Standart; science in communist regime; history of chemical engineering; political emigration West-to-East

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### INTRODUCTION

The so-called Iron Curtain was raised in Europe in 1948, and, as a result of the wartime and post-war development, uncompromisingly divided the world up into two alien camps that entered into a conflicting situation, known as the Cold War. This had an impact mainly on the economy, the arms industry, science and technology, ideology, space exploration and other areas, with propaganda and espionage used as inevitable instruments of warfare. With their intelligence activities both sides of the conflict were on thin ice, as opportunities to provide relevant and reliable information were limited, and seeking persons suitable for such jobs was quite a delicate task. Someone coming from the other side of the Iron Curtain therefore personified both the risk of being an agent of a hostile country and the hope

of becoming an agent of the host country. With intelligent, well-educated people with good language skills, understandably including scientists, this was even more relevant.

While cases of academicians fleeing communist Czechoslovakia to the West were by no means exceptional, with dozens to hundreds having been documented, hardly anyone went in the other direction. Still, such situations did happen, usually for reasons of family, work, ideology and, last but not least, idealism; however, they usually involved more or less conscious collaboration with the intelligence services. And it is not unlikely that a certain combination of all of the above came together in the chemical engineer George Lenell Standart, undoubtedly one of the most complicated figures in Czechoslovak science.

This paper strives to present the phenomenon of West-to-East political emigration across the Iron Curtain concerning a specific social, and supremely intellectual, group, i.e. members of the science and research community. There were not many scientists who opted for this way of expanding not only their academic, but especially their personal prospects; as yet, there are only a few documented cases. All of them, however, were becoming a difficult challenge for the intelligence services of all (potentially) involved countries. The case of George L. Standart and his wife is highly specific, partly because they had come to Czechoslovakia in 1948, i.e., only a few months after the communist coup d'état which definitely forged the rule of a single party in the country. It was also the time when the scope and work of the Czechoslovak State Police, which was *de facto* a political force, was just forming and adapting to the Soviet model. The almost twenty years that the Standarts spent in Prague thus provides an opportunity to trace their personal and academic lives, and also the development of their attitudes formed by their ideological and idealistic motivations and, partially, also the process by which the Czechoslovak security and intelligence services were established from the close of the 1940s to the late 1960s. The source base for this comprises archival materials, especially those lodged with the Security Services Archive (originally with the Archives of the Ministry of the Interior), witness recollections and the available literature.

#### THE EMIGRATION OF THE “WESTERN” INTELLECTUAL ELITE TO POST-WAR CZECHOSLOVAKIA

Even though far more people emigrated from East to West than in the opposite direction, the number of

those coming to the countries of the Eastern Bloc cannot be described as negligible. A more apparent imbalance, however, was seen with the true intellectual elites who were able to positively influence the development of society or make an important contribution in their academic field. In this respect, the East is much worse off. In Czechoslovakia alone, the estimated number of those who fled the country in 1948–1989 is relatively wide, assumed to be somewhere between 260 and 550 thousand<sup>1</sup>, including hundreds of elite scientists. Communist Czechoslovakia, on the other hand, became an attractive destination for some fifteen thousand western émigrés, including only a few scientists.<sup>2</sup>

There were basically two principal waves of emigration from communist Czechoslovakia to so-called West. The first began at the end of the 1940s and waned in the early 1960s, while the other, responding to the invasion of Czechoslovakia by the Warsaw Pact armies, peaked in 1968–1969 and only lessened in the next two decades.

The reasons that led hundreds of thousands of people to decide to leave their homes for good lay primarily in extensive repressive measures aimed at those who were real or alleged opponents of the power monopoly of the Communist Party of Czechoslovakia and the rule of law it implemented, including the subordinate, vassal relationship to the Soviet Union, and also in the desire to provide themselves and their offspring with the possibility to live in a free country. Hundreds of top Czech scientists thus not only enriched western academic research, but often, having become citizens in their new country, also won some prestigious academic awards, significantly boosting the academic reputation and statistical data of other countries. George Jiří Schulz, for instance, became the very first holder of the Davisson-Germer Prize in Atomic or Surface Physics for the development of techniques for the study of electron collisions on gases, and for the discovery of resonances in electron scattering by helium and atomic hydrogen, in 1965.

<sup>1</sup> Vojtěch Jeřábek et al., *Českoslovenští uprchlíci ve studené válce* [Czechoslovak Émigrés in the Cold War], Brno: Stilus, 2005; Petr Koura, „Svědomí mi nedovolí šířit takové lži“. Český exil mezi únorem 1948 a srpnem 1968 [“Conscience would not Allow Me to Spread Such Lies”. Exiled Czechs between February 1948 and August 1968]. In Lucie Witlichová (ed.), *Vzkazy domů. Příběhy Čechů, kteří odešli do zahraničí (emigrace a exil 1848–1989)* [Messages to Their Homes. Stories of the Czechs who Left Abroad (Emigration and Exile 1848–1989)], Praha: Dny české státnosti, Labyrinth, 2012: 203–215; Libuše Paukertová, *Několik základních údajů o odchodech z Československa, 1948–1991* [Some Basic Facts about Escapes from Czechoslovakia, 1948–1991]. In Stanislav Brouček, Karel Hrubý (eds.), *Češi za hranicemi na přelomu 20. a 21. století: Symposium o českém vystěhovalectví, exulantství a vztazích zahraničních Čechů k domovu 29.–30. června 1998*, Praha: Karolinum – Etnologický ústav AV ČR, 2000: 25–31.

<sup>2</sup> Soňa Štrbáňová, Antonín Kostlán (eds.), *Sto českých vědců v exilu* [One Hundred Czech Scientists in Exile], Praha: Academia, 2011.

Jan and Eva Roček were very successful at the Department of Chemistry of the University of Illinois, Chicago, where Jan Roček also played a major role in the development of doctoral programmes and research into the oxidation of organic compounds, and Eva Ročková's successful pedagogical career was twice awarded the Silver Circle Award for Excellence in Teaching. In 2001, Professor of civil engineering Zdeněk P. Bažant received the award of Highly Cited Researcher, which is given by the Institute for Scientific Information to only 250 authors worldwide across all engineering fields.

Most of the people who came to communist Czechoslovakia as political émigrés were from Greece, Italy and Spain, and even though there were many leftist intellectuals among them, true members of the academic community would be very hard to find. During the initial period under the rule of a single party subordinate to the arbitrariness of the Soviet Union, besides George L. Standart and his wife, the cases of the economist G. S. Wheeler, Hispanist A. C. García, mathematician M. Nadler and Anglicist I. F. Milner are also documented. Three of them are therefore representatives of the humanities and social sciences, while another three worked in the natural and technical sciences. George Shaw Wheeler was an economist and a former US Army colonel, who together with his wife requested political asylum in Czechoslovakia in the late 1940s and, after the establishment of the Czechoslovak Academy of Sciences, was employed in its Institute of Economy.<sup>3</sup> He graduated from Reed College, Portland and in the 1930s was deputy head of the Department of Economics at the University of Chicago. In 1936 he became a civil servant, and in 1944 he was transferred to London to head a denazification unit. In May 1945 he became the Chief of the Section of the Office of Military Government for Germany (United States).<sup>4</sup> Shortly after the end of the war, he was found ineligible to work for government agencies, as he had always toed the Communist line from before 1939. So, in 1947, he and his family moved to Czechoslovakia where he began to lecture in economics at Charles University, where he was awarded a doctoral degree in 1961. In 1950 the Wheelers submitted a public application in Prague for political asylum in the form of a statement condemning the American policy.<sup>5</sup> Despite that, the

Czech State Security still suspected them of spying for the American intelligence services, amongst other things because of their regular contacts with the American Embassy in Prague the purpose of which was unclear, and other possibly suspicious contacts, but also due to the legal rehabilitation the Wheelers were granted by the American authorities.<sup>6</sup> In the mid-1950s G. Wheeler began to work for the ČSAV Institute of Economics, where he was involved in preparing the economic reform that constituted the specific Czechoslovak approach to the state economy. After the August 1968 invasion of Czechoslovakia by the armies of the Warsaw Pact, the Wheelers decided to return to the USA, where George S. Wheeler became a Professor of Washington State University in 1971. In 1990, Wheeler returned to Prague alone (his wife had died in 1981) and lived with one of his daughters until his death in 1998.

Another political émigré to come to communist Czechoslovakia was Spanish general and former deputy defence minister Antonio Cordón García. He was a leading figure in the Communist Party of Spain and a close collaborator of the Republican Prime Minister Juan Negrín, who was defeated in the Spanish Civil War by General Francisco Franco's troops.<sup>7</sup> Antonio Cordón García first left for the Soviet Union, later spent some time working in Tito's Yugoslavia, and eventually ended in Czechoslovakia where, amongst other things, he lectured on Spanish literature at the Faculty of Arts and Humanities of Charles University.<sup>8</sup> He died in Rome in 1968, but his remains were not transferred to his native country until after Franco's death in 1975 and the subsequent political changes in Spain.

The natural and technical sciences were represented by Morton Nadler, an American, whose position in Czechoslovakia turned out to be a complicated one. He was born into a Jewish family in New York in 1921 as Mandel Nadler. He joined the Communist Party USA when he was just 15, and his strong left-wing focus also led him to study at the Illinois Institute of Technology. This was a traditional centre of leftism after the war, hence also a sphere of interest for the Soviet intelligence

<sup>3</sup> Doubravka Olšáková, "V krajině za zrcadlem. Političtí emigranti v pounorovém Československu a případ Aymonin" ["In the Landscape Behind the Mirror. Political Émigrés in Post-February Czechoslovakia and the Aymonin Case"], *Soudobé dějiny* 4 (2007): 719–743, here: 738.

<sup>4</sup> Patrick Wright, *Iron Curtain: From Stage to Cold War*, Oxford: Oxford University Press, 2009: 360–361.

<sup>5</sup> "Prohlášení George Wheelera, bývalého amerického plukovníka" ["Statement by George Wheeler, a Former American Colonel"], *Rudé právo*, 8 April 1950: 2; Kathleen Geaney, "At Home among Strangers:

The Extraordinary Year 1950 in the Life of an Ordinary American Family in Communist Czechoslovakia", *Comenius: Journal of Euro-American Civilization* 1 (2015): 25–42.

<sup>6</sup> Jiří Bašta, "Propagandistické využití kauzy amerického emigranta G. S. Wheelera: Dezinformace StB ve sdělovacích prostředcích" ["Propagandistic Use of the Case of American Émigré G. S. Wheeler: Disinformation by the Secret Police in the Mass Media"], *Securitas Imperii* 7 (2001): 224–251, here: 225.

<sup>7</sup> Matilde Eiroa, *Espanoles tras el Telón de Acero: El exilio republicano y comunista en la Europa socialista*, Madrid: Marcial Pons Historia, 2018.

<sup>8</sup> Josef Petráň, *Filozofové dělají revoluci* [Philosophers Doing the Revolution], Praha: Karolinum, 2015: 186.

services.<sup>9</sup> The fact that he was at least contacted by the KGB can be seen in his post-war European career. Having obtained a passport in 1947 to travel to do a doctorate at the Sorbonne in Paris, he indeed left for France and enrolled; however, soon afterwards, in March 1948, just a few days after the February 1948 Communist coup d'état in Czechoslovakia, he moved to Prague. His wife and daughter joined him a few months later. As early as at the end of the 1940s, Nadler was already suspected of being one of the two spies around Julius Rosenberg<sup>10</sup> and also of passing sensitive strategic information regarding U.S. Army radars to the Czechoslovaks. The US Embassy therefore confiscated his passport, stating that he could only get it back to travel directly to the USA. However, given the circumstances, that was not in Nadler's interests, and so he applied for Czechoslovak citizenship. Nadler was allegedly contacted by two real spies while they were staying in Czechoslovakia in 1950–1956 and doing research into electronics for the military.<sup>11</sup> They may have tried to persuade him to accompany them back to the USSR to work on the development of microcomputers controlling military and industrial systems. At that time, however, in consequence of the events in Hungary and probably also due to the abject political and economic situation in Czechoslovakia, he found himself becoming less enamoured with communism, and moving to the Soviet Union was by no means an appealing prospect.<sup>12</sup>

There is evidence that in 1951, he was recruited as an informer of the Czechoslovak intelligence services. In his personal file, he is codenamed “Nový”, and his main task was to inform about the Křižík national enterprise where he was employed, and about the people who worked there.<sup>13</sup>

From the mid-1950s, he worked for the Research Institute for Mathematical Machines of the Czechoslovak Academy of Sciences, but in 1957 he informed his bosses of his intention to take his family back to the

USA because of their younger daughter, who was hard of hearing and, allegedly at the recommendation of a doctor, would need to be taught in English as that suited her better.<sup>14</sup> Unlike Nadler himself, the rest of his family retained their American citizenship, and so the children went to the USA first, followed by their mother, and their father joined them later, travelling via India<sup>15</sup> where he worked for 15 months at the Indian Statistical Institute in Calcutta on the development of the first digital computers.<sup>16</sup> He died in the USA in 2013, aged 92.

A peculiar character among the academicians who came from the so-called Western countries was Ian Frank Milner, a New Zealander and a graduate in the political sciences, philosophy and economics from New College, Oxford. After the end of World War II he entered the service of the United Nations, during which he was relocated to New York in 1947. In the following year, the Anglo-American code-breaking team managed to crack communications between Moscow and the Soviet Embassy in Canberra, Australia through which the intelligence gathered by Milner from classified British postwar documents relating to the situation in the Australian region was despatched.<sup>17</sup> Milner, who engaged in extensive espionage for the Soviet Union,<sup>18</sup> probably learnt about it. As a matter of fact, he and his wife travelled to Czechoslovakia in 1950, stating that there was a spa where his wife, who suffered from severe osteoarthritis, could be cured.<sup>19</sup> With the help of the State Police, he got a position at Charles University where he lectured in English Studies, became an associate professor in 1964, and defended his doctoral thesis in 1971. Even though he sympathised with the renewal process and Alexander Dubček during the Prague Spring,<sup>20</sup>

<sup>14</sup> Masaryk Institute and Archives of the Czech Academy of Sciences, Archiv Akademie věd ČR, Ústav matematických strojů ČSAV, box 11, inv. č. 24, Morton Nadler's Letter to Section I of the ČSAV of 28 March 1957.

<sup>15</sup> Helena Durnová and Doubravka Olšáková, “Academic Asylum Seekers in the Communist Czechoslovakia”. In Marco Stella, Soňa Štrbáňová, Antonín Kostlán (eds.), *Scholars in Exile and Dictatorship of the 20<sup>th</sup> Century*, Praha: Centre for the History of Sciences and Humanities of the Institute for Contemporary History of the Czech Academy of Sciences, 2011: 90–103, here: 95.

<sup>16</sup> Nikhil Menon, MENON, ‘Fancy Calculating Machine’: Computers and planning in independent India. *Modern Asian Studies* 2 (2018): 421–457, here: 422.

<sup>17</sup> Phillip Deery, Cold War Victim or Rhodes Scholar Spy? Revisiting the Case of Ian Milner. *Overland* 47 (1997): 9–12.

<sup>18</sup> Desmond Ball and David Horner, *Breaking the Codes: Australia's KGB Network, 1944–1950*, St Leonards, NSW: Allen & Unwin, 1998.

<sup>19</sup> Richard C. S. Trahair and Robert L. Miller, *Encyclopaedia of Cold War, Espionage, Spies, and Secret Operations*, New York: Enigma Books, 2009): 248–250.

<sup>20</sup> Aaron Robert Jackson, Socialism Tells its Own Story: Ian Milner and the Dream of a Redeemed Socialism in the Prague Spring. *New Zealand Journal of History* 2 (2021): 3–31.

<sup>9</sup> Cf. e.g. Sergei Ivanovich Zhuk, *The KGB, Russian Academic Imperialism, Ukraine, and Western Academia, 1946–2024*, Lexington Books, 2024: 71–90.

<sup>10</sup> Steven T. Usdin, *Engineering Communism: How Two Americans Spied for Stalin and Founded the Soviet Silicon Valley*, Yale University Press, 2005: 19.

<sup>11</sup> According to Nadler's Recollections, they were Filipp Staros and Joe Berg, see Morton Nadler, No regrets. In Petr Golan, René Kolliner et al., *Almanach historie Výzkumného ústavu matematických strojů 1950–1997, Díl V: Osobnosti VÚMS a vzpomínky aktérů*, Praha, 2021: 258–285, here: 267.

<sup>12</sup> Mark Kuchment, “The American Connection to Soviet Microelectronics”, *Physics Today*, 9 (1985): 44–50, here: 47.

<sup>13</sup> Archiv bezpečnostních složek (Security Services Archive, ABS), Svazky tajných spolupracovníků [Informer Files], sign. TS 114876 MV, Morton Nadler.



he did not leave the country after it was invaded by the armies of the Warsaw Pact, unlike many other foreign nationals. The reason was of course obvious: he would have gained nothing from going to an Eastern Bloc country, and he would have faced actual arrest and extradition to the Australian courts in the West. He eventually lived to see the 1989 Velvet Revolution in Czechoslovakia, and died in Prague in 1991. His collaboration with the Soviet and Czechoslovak intelligence services was definitively proven in the late 1990s when Czech and Australian documents were declassified.<sup>21</sup> It is worth noting for this study that Ian Frank Milner's Prague contacts included also the chemical engineer George Lenell Standart.

All of these immigrants arrived in Czechoslovakia within the relatively short period of 1947–1950, and although each of them can be presumed to have possessed a considerable degree of leftist idealism, the reasons for their emigration varied. Although they can all be seen as representatives of the academic community, there were major differences in their research quality and results.

G. S. Wheeler, Morton Nadler and the Standarts can be considered American intellectuals who radically opposed the US policy in the latter half of the 1940s and who, most probably through Soviet agents trying to approach left-wing American figures and institutions, gained the impression that the Eastern Bloc was a peaceful world, full of social empathy and justice. The McCarthyist anti-communist campaign just getting under way in the USA, which saw them risk being accused of treason and espionage, only confirmed their belief. Nadler and the Standarts became so convinced of their views that they accepted collaboration with the eastern intelligence services, probably expecting to profit from it as a result. Being a former US Army Colonel, Wheeler probably raised too much suspicion<sup>22</sup> and never became an informer of the Czechoslovak State Police. Ian Frank Milner, on the other hand, was the only one in this group of foreign nationals who had acted consciously and systematically as a high-ranking spy against the West before coming to Czechoslovakia, which he then continued in coordination with the Czechoslovak intelligence services.<sup>23</sup> General Antonio Cordon García was

in the most dangerous situation on his home turf – his life was literally at risk. After the end of the Spanish civil war, he was forced to flee into exile and never returned to his homeland. His stay in Czechoslovakia, however, was not linked to the Secret Police in any way. It should be said that except for Milner, none of these western émigrés eventually remained in Czechoslovakia, even though Wheeler did return after the events of 1989, and that each of them eventually more or less sobered up from their initial left-wing idealism, quite certainly partly due to the financial hardship they faced in a country with a centrally controlled economy. For G. S. Wheeler and probably also I. F. Milner, the impetus for their deep personal transformation came with the occupation of Czechoslovakia by the Warsaw Pact armies in 1968.

While George Shaw Wheeler was seen as an outstanding economist from the 1930s and enjoyed considerable academic renown throughout his life, Antonio Cordon García's engagement at Charles University almost solely consisted of giving classes in Spanish language and literature. He was not involved in any academic work and published no works. Although Ian Frank Milner compiled an anthology of English fiction and poetry for the students at the Faculty of Arts of Charles University<sup>24</sup> and also made a mark as a translator, his work can in no way be described as academic. Morton Nadler was involved in electrical engineering and IT in the industrial enterprises he worked for, as well as in the Institute for Mathematical Machines after joining the Czechoslovak Academy of Sciences,<sup>25</sup> and was considered a well-established scientist. One truly outstanding member of the academic elite was George Standart, and his wife, too, undoubtedly had great academic potential, but her health and later also her pregnancy basically prevented her from taking her research activities any further, and so any assessment of her academic qualities would be nothing more than speculation.

#### GEORGE LENELL STANDART

George Lenell Standart (Figure 1) was born on 29 January 1921 in Detroit as the only child of a construction engineer and an official, Lillian, nee Clark. His parents divorced in 1935 and George lived with his mother. He studied chemistry at the California Institute of

<sup>21</sup> Cf. Tom Heenan, "Milner, Ian Frank (1911–1991)". In Melanie Nolan, Malcolm Allbrook (eds.), *Australian Dictionary of Bibliography*, Volume 19: 1991–1995, Canberra: ANU Press, 2021: 587–588; Petr Hrubý, *Nebezpeční snílci: Australská levice a Československo* [Dangerous Dreamers: Australian Left and Czechoslovakia], Brno: Stilus, 2007: 123–228.

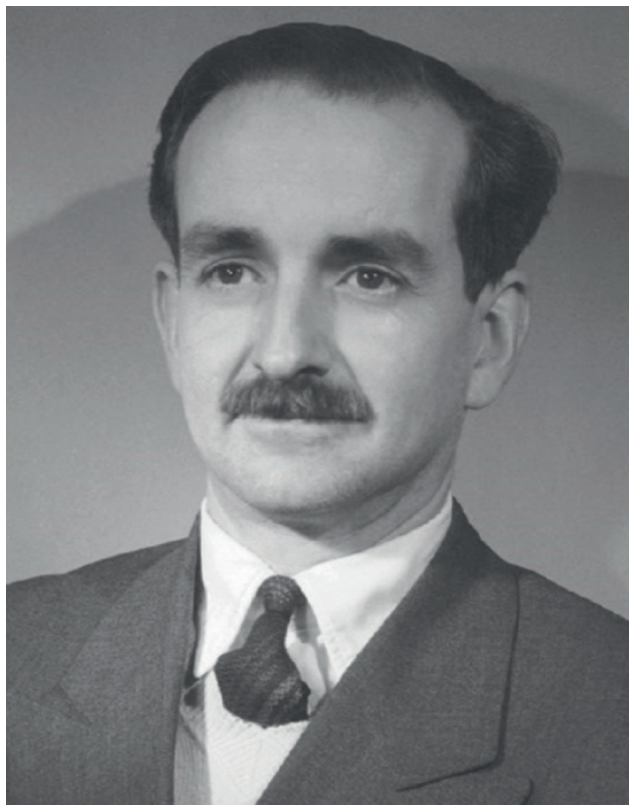
<sup>22</sup> ABS, Svazky kontrarovědného rozpracování [Operative Files], sign. KR 638164 MV, George Shaw Wheeler.

<sup>23</sup> ABS, Svazky tajných spolupracovníků [Informer Files], sign. TS 621743 MV, John Frank Milner.

<sup>24</sup> Ian Milner, *English Prose and Poetry: Reader for Language and Literature Courses*, Praha: SPN, 1974.

<sup>25</sup> His publications include, for instance, Morton Nadler, *Elektronkový oscilograf: instruktivní pomůcka technikům a zájemcům* [Valve Oscillograph: Instructive Guide for Technicians and Interested Parties], Praha: SNTL, 1954; Morton Nadler, Vilém Nessel, Vilém. *Elektronkový osciloskop* [Valve Oscilloscope], Praha: SNTL, 1960.

Technology in Pasadena, taking lectures, among others, with the famous quantum chemist and biochemist Linus Pauling, later a Nobel Prize laureate in chemistry in 1954 and Nobel Peace Prize winner in 1962, who strongly advocated the peaceful coexistence of all states and a ban on nuclear experiments.<sup>26</sup>



**Figure 1.** George L. Standart, the First Foreigner Appointed As a University Professor in Czechoslovakia (University of Chemistry and Technology, Prague, Czech Republic)

Back during his university studies Standart had participated in chemical and physical, and chemical and engineering machinery research, and in 1944–1946 was employed by Standard Oil of California in Richmond, namely in laboratories that focused on military research. After the nuclear bombs were dropped on Japan, he began to side with the American peace initiatives, perhaps partly influenced by Linus Pauling.

January 1944, he joined American Youth for Democracy, a communist youth organisation, and in

<sup>26</sup> Unless otherwise noted, all biographical information for George L. Standart and his wife is quoted from ABS, Svazky tajných spolupracovníků [Informer Files], sign. TS 741518 MV, George Standart and sign. TS 442023 MV, Phoebe Standart.

June he became a member of the Communist Party of America. In March 1946, however, he was allegedly instructed to quit his membership. His engagement in a research institution that, besides other things, worked for the US Army was seen by the communist comrades as a potential reason for a communist charge of espionage. The same circumstances led to the departure from the party of his wife Phoebe Anne Standart, the eldest of the two daughters of the astronomer Ferdinand Johannes Neubauer, a Czechoslovak-born German of Mariánské Lázně, West Bohemia, and his wife Margaret. Phoebe A. Standart was born on 27 February 1920 in Palo Alto. She was a graduate in medicine from Stanford University and worked as a bacteriologist and also lectured on biometry, medicinal statistics and epidemiology. Her younger sister Margaret Nancy Neubauer died tragically in 1944 aged 20 while serving in the US Navy.



**Figure 2.** Phoebe A. Standart (University of Chemistry and Technology, Prague, Czech Republic)

George Standart continued his studies at the California Institute of Technology in 1946–1948 and was allegedly involved in military research topics there.

After the death of Phoebe's mother Margaret (1947), the Standarts applied for a tourist passport for a trip to France. They did not stay long in Paris, however, and on 5 August arrived in Prague, where they were initially only allowed to stay until 20 June 1949. They applied for political asylum in Czechoslovakia, stating that in the USA research in their academic fields was primarily linked with warfare machinery, and they would prefer to live and work in a people's democracy. Their left-wing convictions, moreover, had discredited them strongly in their native land where the McCarthyist witch hunt targeting communists and their sympathisers was gradually stepping up. Unlike the aforementioned Linus Pauling, who was banned from taking a business trip to Great Britain for a conference in 1950, the reason being that his journey could have threatened US interests,<sup>27</sup> the Standarts were lucky in a way. They had left soon enough before the main witch hunt for American communists and communist sympathisers had got going, and also compared to L. Pauling, an influential figure with a high public profile, they were not, like Morton Nadler, seen as such a great risk.

Their first steps in seeking employment took them to the general directorate of the Czechoslovak Chemical Enterprises, where they arrived on 17 August. George Standart took advantage of a favourable word from one Karel Neubauer, a member of the Commission for National Economy of the Central Committee of the Communist Party of Czechoslovakia. The question that naturally arises is whether this Neubauer could have been a relative of Standart's wife Phoebe; however, this remains unanswered. The Standarts were screened by the plant's specialists, who concluded that they were a highly qualified and skilled pair of experts who could make a major contribution to the development of Czechoslovak chemical sciences and industry.<sup>28</sup>

George Standart initially worked under a so-called expert contract as a consultant and organised expert lectures for employees. His wider involvement, however, was hindered not only by his American citizenship and initial poor language skills, but more importantly by the ongoing reliability check, which certainly was not helped by the fact that his application for a Soviet citizenship in 1949 had been denied, although the reasons for this remained unknown to the Czechoslovak intelligence services.

In 1949, they were both assigned posts at the University of Chemical and Technological Engineering, then part of the Czech Technical University (from 1952

a separate University of Chemistry and Technology, VŠCHT). George Standart took a position at the Institute of Inorganic Chemistry headed by František Šorm, one of the most renowned Czechoslovak chemists and science managers, and Phoebe Standart at the Institute of Fermentation Chemistry, headed by Arnošt Kleinzeller. Despite that, George Standart remained at the disposal of the chemical industry as required, for instance, when resolving issues with the gas supply system for the chemical plants in northwestern Bohemia.

At university, he first held lectures in chemical engineering, a discipline which was still in its early days in Czechoslovakia, and thermodynamics for staff working in the chemical industry. Commencing in the 1949/1950 term, he launched his own lectures for the 4<sup>th</sup> grade in Chemical Engineering, a new discipline. He managed to provide all his students with *The Principles of Chemical Engineering*, a book by the American chemists W. H. Walker, W. K. Lewis and W. H. McAdams.<sup>29</sup> In 1950, he helped to set up a new section at the university, the Institute of Chemical Engineering, which was allocated eight rooms, five assistants and one auxiliary staff member. Along with Jan Marek and Zdeněk Novosad, students originally assigned to Standart as academic assistants due to their excellent knowledge of the discipline as well as their good English skills, George Standart prepared the first Czech textbook for the discipline, *Chemical Engineering: Foundations of Equipment Computations*, published in 1951. When the University became independent, the Institute was renamed the Department of Chemical Technology Processes and Apparatuses of the Faculty of Inorganic Chemistry (headed by Hanuš Seidl), and built its technological hall and chemical engineering laboratory in 1955.<sup>30</sup> Chemical Engineering as a discipline made its way to being one of the basic subjects of all the disciplines studied at the VŠCHT at that time, although the journey was far from easy at the beginning. In one of his letters from the early 1950s, G. Standart complained that he was emphatically urged not to lecture on chemical engineering in Prague until a sufficient number of experts in the discipline had been trained, so that lectures could be given in a comparable quality in Pardubice and Bratislava, too. At the same time, he was referred to as a representative of "Prague imperialism".<sup>31</sup>

<sup>29</sup> Magdalena Bendová, *Eduard Hála*, Praha: Institute of Chemical Process Fundamentals of the Academy of Sciences of the Czech Republic in Academia Publishers, Center of Administration and Operation AS CR, 2014: 5, 17.

<sup>30</sup> Oldřich Holeček and Jiří Vlček, *Staré pověsti chemicko-inženýrské* [Old Chemical Engineering Legends], Praha: Ústav chemického inženýrství VŠCHT, 2018: 4, 10.

<sup>31</sup> ABS, Svazky tajných spolupracovníků, sign. TS 741518 MV, George Standart, p. 44.

<sup>27</sup> Linus Pauling, "My Efforts to Obtain a Passport", *Bulletin of the Atomic Scientists* 7 (1952): 253–256.

<sup>28</sup> ABS, Svazky tajných spolupracovníků [Informer Files], sign. TS 741518 MV, George Standart.

In 1956 the whole institution became part of the Faculty of Fuels Technology, and in 1960 of the newly established Faculty of Automation and Economics of Chemical Production, while lecturing in chemical engineering as a specialised subject was renewed. In the 1980s it was renamed the Department of Chemical Engineering. From the very beginnings, the scientific research at the Institute or Department was focused both on basic research of transport processes and reactions as well as on applied research. Several research groups took shape here in the 1960s, namely for mixing, fluidisation, matter sharing, reactors, and system engineering, all of them excelling with extensive publication work, successful solutions to many industrial problems as well as in international cooperation in Europe and beyond. Its central focus of research was non-linear dynamics – formulating the basic modern theory of this discipline, the construction and methods of computerised analysis of mathematical models of non-linear dynamic systems, and the theory of chaos. G. Standart himself was awarded the State Prize for Chemistry in 1959.<sup>32</sup> In the same year a short popularising film entitled *Chemické inženýrství – Proudění kapalin*, directed by Josef Plíva and with George Standart as expert advisor, received an award – a medal in the Technical Films category at the Rouen International Days of Technical, Industrial and Agricultural Films.<sup>33</sup>

In 1955 he was appointed an associate professor and in 1961 became a professor (Figure 1). His doctoral dissertation, *Transport Phenomena on a Phase Boundary*, was successfully defended in 1963 as the first Czechoslovak thesis of its type in chemical engineering. It was he that instigated the establishment of the Laboratory of Chemical Engineering as part of the Czechoslovak Academy of Sciences, with him becoming its first director, and at the end of the 1950s he also assisted in building up the Institute of Theoretical Foundations of Chemical Technology. He was also the chairman of the Chemical Engineering Section of the Czechoslovak Society for Chemistry. He held postgraduate courses in his field for many years for staff from the chemical industry, and was involved in organising the international CHISA congresses in chemical engineering, equipment design and automation.<sup>34</sup>

It is apparent from the above that George L. Standart's knowledge, at least when he arrived in Central Europe, went far beyond the Czechoslovak standards in his academic fields at the time. Especially his contribution to Czechoslovak chemical engineering must be seen as crucial as he moved the discipline forward by leaps and bounds and nurtured a number of promising students. The space he was provided with for his academic and pedagogical work was well in line with the general postwar preference for the natural and technical sciences. That was due to the global boom in science and technology as well as to local efforts to save the Czechoslovak economy, which was in decline as a result of incompetent changes dictated by the Soviet Union,<sup>35</sup> by means of natural and technical scientific advancements. The chemisation of industry was seen as one of the key factors driving the economic revival so much longed for after the war.<sup>36</sup> A US citizen bringing in new state-of-the-art and highly practicable scientific expertise was thus a welcome acquisition. The culture shock, intensified by the reality of the communist regime, however, lay heavily on him also in the academic and university milieu, such as in the difficulty of working with graduates from the so-called Labourers' Courses intended to pad out the numbers of university graduates of "working-class origin", not to mention the lack of interest shown by state industrial enterprises, with no market-based motivation, in innovations.<sup>37</sup>

While all of G. Standart's twenty years in Czechoslovakia were linked to science (at the VŠCHT and later the Czechoslovak Academy of Sciences), his wife took on several other jobs, such as at the International Students' Union or Czechoslovak Radio. This was due to her poor state of health, especially gynaecological issues, which also caused her three miscarriages at late stages of pregnancy. Undoubtedly, this was also down to the new cultural, material and, especially, political and ideological circumstances that put her under enormous pressure, something she had to adapt to after her arrival in Czechoslovakia. Several years later, however, the Standarts finally had two daughters, Nancy and Sally.

<sup>32</sup> "Vědecké státní ceny K. G. a vyznamenání v květnu 1959" [K.G. State Scientific Awards and Honours in May 1959], *Věstník Československé akademie věd* 4 (1959): 503.

<sup>33</sup> "Filmy vyznamenané v roce 1959 na filmových přehlídkách a festivalech" [Award-winning Films in 1959 at Film Shows and Festivals]. *Zpravodajství Ústřední správy Československého filmu* 12 (1959): 14.

<sup>34</sup> Věra Dvořáčková, Ivana Lorencová, *Zaostřeno na chemii. Kapitoly z historie Vysoké školy chemicko-technologické v Praze* [Focused on Chemistry. Chapters on the History of the University of Chemistry and Technology in Prague] (Praha: Vydavatelství VŠCHT, 2022): 104.

<sup>35</sup> Namely a focus on heavy industry, the destruction of the free market, liquidation of private ownership, collectivisation of agriculture, etc.

<sup>36</sup> Cf. e.g. MÚA, A AV ČR, Řízení a správa ČSAV I [ČSAV Management and Administration I], Box 18, sign. 78, Records from the meeting of chairmen and secretaries of commissions for the preparation of "Key Directions of Scientific Research Work until 1960".

<sup>37</sup> Cf. e.g. MÚA, A AV ČR, ÚTAM ČSAV, uncatalogued, Myslivec, Alois: Comments on the Theses of the Central Committee of the Communist Party of Czechoslovakia Regarding the Development of Science and Technology, 1 July 1967.



### THE INVOLVEMENT OF THE STANDART'S IN THE ACTIVITIES OF THE SECRET SERVICES

Even though George Standart was seen by his colleagues primarily as an excellent expert and, considering his somewhat unusual journey from the West to the East, as an ardent idealist and left-wing enthusiast,<sup>38</sup> whom no one would suspect of collaborating with the Czechoslovak intelligence services, the files lodged with the Security Services Archive give us a different account. Despite the fact that some of the documents pertaining to the Standarts were discarded in the 1980s, the items preserved give us a vivid picture of their involvement.

As of 22 May 1951, G. Standart was officially taken over by the Czechoslovak State Security “from a friendly service” by which he had earlier been “instructed”. The “friendly service” was apparently the Soviet KGB, which had most likely contacted him while still in the USA as an intellectual in the left-wing university environment, a communist party member, not to mention an employee involved in military research. His collaboration with the KGB is implied both from the note about having been instructed in respect of intelligence work, and the fact that when he and his wife were poor and needy during their first years in Czechoslovakia, they always turned to the Soviet embassy. They were therefore here under the permanent surveillance of the Soviet intelligence services. The amounts paid to him by the Czechoslovak State Security for collaborating were, according to the preserved documents, approved at “higher positions”, i.e., outside the competence of the Czechoslovak services.<sup>39</sup> Incidentally, an identical initial situation can also be seen with Morton Nadler, who had most likely been contacted by the KGB back when working at his US place, and his transfer to Europe was ordered by the Soviets, as was his subsequent self-establishment in Czechoslovakia.

The fact that the Czechoslovak State Police recruited the Standarts as informers “only” after they had spent three years in the country was due not only to the initial mistrust of an American citizen, but primarily also to the fact that the communist secret services were only starting to take shape during the first years after the 1948 February coup. The competences of three ministries (defence, interior, and national security) were just to be defined, as was the State Security’s exact scope of work. The service was originally to carry out counter-intelligence tasks, i.e., to hinder foreign espionage in

Czechoslovakia, but from the turn of the 1940s/1950s it began to be redesigned following the Soviet model, which, amongst other things, broadened its scope of activity, soon also to include foreign intelligence work. Hand in hand with this went a sharp rise in the number of informers, as well as the people and entities of interest. In 1953 the ministries of the interior and national security merged, following which a centralised and unified registry of operative cases, entities of interest and informers was implemented.<sup>40</sup> This is also evidenced by the fact that the definite memorandum of collaboration with George L. Standart and Phoebe A. Standart was signed at the time, in the first half of 1953.

Standart’s code name was Vašek; his wife went by Anna. They were both assessed as diligent, intelligent, conscientious and disciplined people who believed in a people’s democracy, who had no ambition to enter the party but regularly participated in May Day parades and other similar events, and who donated 1200 CZK in a public collection to support the starving people of Korea.

Initially they worked in foreign espionage as so-called tipsters who sought suitable foreign candidates to recruit as new agents. If their task was to establish contacts with a foreigner or another person, they always carried out their assignment well. According to the records, they also did intelligence work at the VŠCHT where they focused on particular professors and assistant professors. G. Standart’s work was usually evaluated as follows: “One of his advantages is that he has opportunities to make contact with people at higher echelons and foreigners. His limitation is that he is overburdened with school and scientific work, and has considerably less time for collaboration. (...) He reports shortcom-

<sup>40</sup> For details on the activities of intelligence and security services in postwar Czechoslovakia, cf. e.g. Jan Frolík, *Nástin organizačního vývoje státobezpečnostních složek SNB v letech 1948–1989* [Outline of the Organisational Development of State Security in 1948–1989]. Sborník archivních prací č. 2, 1991; František Koudelka, *Státní bezpečnost 1954–1968 (Základní údaje)* [State Security, 1954–1968 (Basic Facts)]. Sešity Ústavu pro soudobé dějiny AV ČR, Svazek 13, Praha: Ústav pro soudobé dějiny AV ČR, 1993; Karel Kaplan, *Nebezpečná bezpečnost (Státní bezpečnost 1948–1956)* [Dangerous Security (State Security in 1948–1956)], Brno: Doplněk, 1999; Jiřina Dvořáková, *Státní bezpečnost v letech 1945–1953 (Organizační vývoj zpravodajských a státně bezpečnostních složek)* [State Security in 1945–1953 (Organisational Development of the Intelligence and State Security Services)]. Praha: Úřad dokumentace a vyšetřování zločinů komunismu, 2007; Jan Kalous, *Štěpán Plaček. Život zpravodajského fanatika ve službách KSČ* [Štěpán Plaček. The Life of an Intelligence Fanatic in the Service of the Communist Party], Praha: ÚSTR, 2010; Jiřina Dvořáková, Zdeňka Jurová, Petr Kaňák, *Československá rozvědka a pražské jaro* [The Czechoslovak Foreign Intelligence and the Prague Spring], Praha: ÚSTR, 2016; Katherine Verdery, *Secrets and Truths: Ethnography in the Archive of Romania’s Secret Police*, Budapest: Central European University Press, 2014.

<sup>38</sup> Interview with Prof. Miloš Marek by Věra Dvořáčková, 16 November 2021.

<sup>39</sup> ABS, Svazky tajných spolupracovníků [Informer Files], sign. TS 741518 MV, George Standart, The Informer “Vasek” – Periodical Assessment, 1958, p. 70.

ings he encounters in his occupation, which are quite serious. (...) He is focused on persons that have been granted asylum in Czechoslovakia, and besides this, he is tasked with gathering intelligence on foreigners arriving at Czechoslovakia. The intelligence gained from him turned out to be true after verification. However, for the most part it is of an informative and control nature.” The meetings at which he passed information were held either at the Standarts’ apartment or at various restaurants, and took place held regularly on a weekly or fortnightly basis.

It is not uninteresting to note that Morton Nadler was entrusted with the task of cross-checking the Standarts’ reliability in 1955,<sup>41</sup> actually a very logical process, considering the fact that all the three figures shared characteristics that it would be hard to find in any other informer, i.e., that they were all members of the academic community, shared a focus on the natural and technical sciences, were of US origin, spoke English as their native language, and had arrived in Czechoslovakia under similar circumstances.

In November 1957, when it appeared apparent that the Standarts had firmly settled and had no intention of returning, George L. Standart was transferred to the competence of counter-intelligence, namely the section that dealt with the Anglo-Saxon world. He was tasked with monitoring contacts with foreign nationals who were arriving in Czechoslovakia and the relevant asylum seekers. Besides this, he should occasionally have been available to the science and technology intelligence section. However, after that, no “realisation” was made on the grounds of his intelligence reports; only once did he allegedly provide information about a certain person that involved seditious speech against the state, later verified as true. He was paid the so-called compensation fee for his work until 1960 (initially five thousand crowns per month, and one thousand after the currency reform) when the service came to the conclusion that he was becoming less useful. There were at least two principal reasons why Standart was not pushed into more efficient collaboration as an informer. One was his considerable scientific and pedagogical workload, which he was not prevented from doing because of the excellent renown he enjoyed both at home and abroad. As early as in 1952, the State Security stated the following in respect of his work for the VŠCHT: “He is deemed one of Europe’s best mathematicians and thermodynamics experts. The university’s prestige would be impaired considerably if he left, as for the time being there is no-one to match

him in these disciplines.”<sup>42</sup> The other reason was that in the 1960s the number of informers was declining as a result of the liberalising trends in society and a more rational approach to the State Security’s work.<sup>43</sup>

It is moreover apparent from the periodical assessment of Standart’s (and his wife’s) intelligence work for the State Security that his activity was most probably not motivated by an effort to harm someone, but rather stemmed from his idealism and desire for peace when he, unfamiliar with this non-American environment, got tangled up in the work of authorities and organisations the substance of which was far beyond his understanding. His supervisors’ growing dissatisfaction with his intelligence work would then have been merely the a logical conclusion of this premise.

However, their trust in his frank approach to the people’s democratic regime showed no cracks during the whole of the Standarts’ stay in Czechoslovakia. Moreover, his contribution to science and industry was all the more apparent, and the country needed experts of his type. In the 1960s, when increasing numbers of Czechoslovaks were travelling abroad, including to countries of the West, George Standart also journeyed out of the country several times. In 1963 and 1964, he spent a couple of months in Cuba where he helped to establish chemical engineering as a discipline at the University of Havana, and also visited some neighbouring countries, such as Germany.<sup>44</sup>

In 1967 he applied for a permit to leave, with his whole family and at their own expense, for a year-long stay in Great Britain at the invitation of Professor Peter Victor Danckwerts of the University of Cambridge, where he was supposed to stay for the first 3–4 months, and then at the Imperial College in London, where he was to stay for the remaining time. The authorities approved his journey easily; he was only provided with the usual defence instructions explaining extraordinary situations that he might encounter, as well as his model responses. He also mentioned that the USA could demand that he be extradited from Great Britain.

In the spring of 1968, however, the Standarts did not return to Czechoslovakia, nor did they give any news of themselves. Jaroslav Ulbrecht of the ČAS Institute of Chemical Processes (the former ČSAV Institute of Theoretical Foundations of Chemical Technology), who

<sup>41</sup> ABS, Svazky tajných spolupracovníků [Informer Files], sign. TS 442023 MV, Phoebe Anne Standart, p. 69.

<sup>42</sup> ABS, Svazky tajných spolupracovníků [Informer Files], sign. TS 741518 MV, George Standart, Identification Statement, 7 August 1952, p. 18.

<sup>43</sup> František Koudelka, *Státní bezpečnost 1954–1968 (Základní údaje)*, Sešity Ústavu pro soudobé dějiny AV ČR, Svazek 13, Praha: Ústav pro soudobé dějiny AV ČR, 1993, p. 53.

<sup>44</sup> ABS, Svazky tajných spolupracovníků [Informer Files], sign. TS 741518 MV, George Standart, Closing Report No. 9, 8 February 1963.

stayed in touch with G. Standart, wrote in 2010 that during their British stay, the position of head of the Department of Chemical Engineering at the University of Manchester had become vacant, and G. Standart was offered the post. He not only decided to stay in Britain but subsequently enhanced his excellent scientific renown in his native United States through his lecture tours, and was offered many jobs.<sup>45</sup> However, he was unable to take the offers, as he died in 1978. His wife Phoebe survived him by nine years and died in Stockport, UK in 1987. Their two daughters devoted their life in Great Britain to science. Nancy successfully established herself in biochemistry and Sally in medicine.

The above would imply that his final departure from the Eastern Bloc was probably motivated only by the better conditions, both academic and financial, that he was offered in Britain, and the whole story could be concluded by recognising Standart's successful career in the West and stating the probable ideological sobering of a left-wing intellectual – if it weren't for a report passed to the Czechoslovak Ministry of the Interior by the Hungarian intelligence services in 1980.

This report pertains to George Gerbner, a Hungarian-born American who was a professor of journalism in the USA and, according to information from the Hungarian intelligence services, worked for the US military intelligence at least in 1943–1947. He was therefore suspected, when visiting his native country in 1960, of improperly stating study and family reasons in his visa application only to disguise his continuing intelligence activity. In 1960–1961 he made three journeys to Czechoslovakia, and the Czechoslovak authorities were therefore alerted to stay watchful of his activities. Following this alert, it was found that his Czechoslovak contacts also included George Standart, which puts Standart's later departure for England in a different light.<sup>46</sup>

## CONCLUSION

The phenomenon of emigration in connection with communist Czechoslovakia usually involves people leaving the Central European country for the West. The reasons that led to their decision were usually linked to the politically and ideologically motivated persecution they faced, and their unwillingness to reconcile themselves to the idea of living in a society that was not

free. The Czechoslovak academic world was considerably weakened by this emigration, as asylum in the West was the ambition in life for dozens or even hundreds of scientists, the overwhelming majority of whom never returned to their homeland. At the same time, only a negligible few academics sought asylum in Czechoslovakia. They were educated, intelligent and highly capable people who made no secret of their sympathies with leftist ideals. Their political stances and opinions saw them face various forms of persecution in their home countries that eventually compelled them to emigrate. By far the most apparent political asylum seeker was Antonio Cordon García, who had played a prominent political and military role in the Spanish Civil War and sided with those who eventually lost it. Moreover, the winner, General Francisco Franco, established a clerical fascist regime in the country that defined itself as anti-communist but suppressed democratic and socialist trends and held on until Franco's death in 1975. Going into exile in an Eastern Bloc country was therefore the logical option for García. The Americans G. S. Wheeler, M. Nadler, G. L. Standart and P. A. Standart also did not feel safe in their homeland with the escalating witch hunt, sometimes fanatical, for communists and their sympathisers. Moreover, during the early stages of the Cold War, their leftist tendencies made them a target for the KGB, which did not hesitate to use them for espionage. The Standarts' and Nadler's collaboration with the Soviet KGB and Czechoslovak StB, now clearly proven, however, was likely not a purposeful effort to help the intelligence services of the Eastern Bloc and thus damage their country and its citizens. The experience they gained while on the eastern side of the Iron Curtain gradually led them to rethink their ideals and, especially in G. Standart's case, to realise that the Eastern Bloc was no less militant than the USA and other "capitalist" countries. The situation was probably different with just I. F. G. Milner, even though his actions may originally have also been based on pure idealism, but during his collaboration with the KGB he became fully aware of the consequences or potential impact that his operations could have.

Based on the documents pertaining to the Standarts lodged in the Security Services Archive, it is apparent that this pair was a tricky case for the Czechoslovak authorities throughout their entire stay in Czechoslovakia. On the one hand, there was unquestionable information that they had been taken over from the Soviet services, where they must have been involved in the late 1940s and early 1950s; on the other hand, there were no other reports that could soundly confirm the so-called reliability of the Standarts. On the one hand, the abso-

<sup>45</sup> Jiří Hanika, ed., *Ústav chemických procesů AV ČR, v. v. i., Almanach 1960–2010* [CAS Institute of Chemical Processes. Anthology, 1960–2010], Praha: Ústav chemických procesů AV ČR 2010: 4–11, 38–39, 56.

<sup>46</sup> ABS, Svazky tajných spolupracovníků [Informer Files], sign. TS 741518 MV, George Standart, Informer Dispatch No. 4/Fx.

lute absence of any shortcoming, or suspicion of shortcoming, on their side was attractive for the Czechoslovak StB, as was Standarts' diligence and intelligence; on the other hand, there was considerable disappointment that the information from the code names Vašek and Anna turned out to be of little use for the State Security. George L. Standart was in fact an outstanding scientist, one of the best in his discipline and at that time, who made an unexpected and unprecedented contribution to the Czechoslovak chemical sciences and their practical industrial applications. Not only did he actually introduce chemical engineering to Czechoslovakia and began teaching it at universities; he also raised the standard of the discipline to a level that would have been unthinkable without him. Even though he never aspired to obtain Czechoslovak citizenship, his definite departure from the country in 1967 was another major blow to Czechoslovak science alongside the damage it had suffered by the emigration of its academic elite to the West. His heavy academic workload prevented him from being more extensively exploited by the Czechoslovak intelligence services, and one can therefore assume that even his potential collaboration with a western intelligence service, whether in connection with his meeting with George Gerbner or not, would have not been overly relevant.

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