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English as a central component of success in the professional and social integration of scientists from the former Soviet Union in Israel

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ABSTRACT

More than 13,000 scientists from the former Soviet Union have arrived in Israel since 1988. The purpose of this study is to analyze certain factors that influence immigrant scientists' integration into the society and academic community of Israel, with special attention to multilingual identity. Previous studies in this field emphasize the significance of Hebrew and juxtaposed Russian with Hebrew; however, in Israel, especially in the educated classes, English is an important status symbol and boundary marker. The data demonstrate that English is crucial in shaping the patterns of immigrants' social integration. Results of statistical tests demonstrate significant differences between those who studied English and those who studied either German or French regarding feelings of personal self-actualization and job satisfaction. Moreover, command of English proved to be the determining factor for risk of losing a job. The implication is that Israeli language policy, which has traditionally taken the acquisition of Hebrew by immigrants as its major goal, should be reformulated to include access to English instruction, since without it they are unlikely to become equal members of the Israeli middle class. (English as a second language, Hebrew, immigrants, Israel, language policy)*

According to data published by the Ministry of Immigrant Absorption (Governmental Center of Absorption in Science, 1999), more than 13,000 scientists from the former Soviet Union have surged into Israel since 1988. Although issues related to the integration of the immigrants from the former Soviet Union into

Israeli society have been a focus of intense research during recent years, this particular group has not been a subject of many sociological studies, except for those conducted by Toren (1988) and Shye and colleagues (1993). Toren, however, interviewed her respondents in 1973–1975, whereas Shye conducted his research in 1991–1994, when most of the immigrant scientists had just arrived in Israel and were taking their first steps toward careers in their new setting. This lack of attention seems problematic, especially since some ministries and nongovernmental organizations as well as universities have suggested various programs intended to provide these scientists with appropriate employment. Some such programs (such as Giladi and KAMEA[1]) have been approved by the government and instituted; however, no reliable assessment of their contribution to immigrants' professional self-realization in the host society has yet been carried out.

The purpose of this study is to analyze various sociological and psychological factors that influence immigrant scientists' integration into Israeli society in general, and its academic community in particular. Taking into account the fact that the newcomers' integration into the Israeli scientific community may be hampered by their lack of knowledge of some professional codes accepted in it, we examine through indirect evidence their appreciation of such conventions as the preference for contacts with colleagues abroad over those in Israel, or the tendency to conduct research individually rather than collectively.

Special attention is paid to analyzing immigrant scientists' multilingual identity. It is assumed that immigrants from the former Soviet Union were exposed to several languages: the vernacular of a USSR republic (for those who did not live in Russia); a foreign language studied in the context of formal education; and Russian, which was widely studied in all types of schools as a required second native tongue and therefore achieved a preeminent position in all the Soviet republics. We examine the impact of the foreign language studied within the formal education framework on the immigrants' adjustment to the host society as well as on their estimation of their chances for success. Previous studies in this area (see, e.g., Katz 1982; Ben-Rafael, Olshtain & Geijst 1997; and abovementioned research reports by Toren 1988 and Shye et al. 1993) emphasize the significance of Hebrew in Israel and juxtapose Russian with Hebrew, assigning English merely an instrumental function and thus ignoring its importance for the immigrants' self-image. However, in Israel, especially in the more educated classes, English is the most prestigious linguistic resource; it holds a dominant position in the linguistic marketplace. As a result, there is a broad consensus regarding the value of this resource, which is mastered principally by those in the privileged strata of society (Ben-Rafael 1994:179–89). These considerations underlie the role of English in the formation of social status. This language constitutes a status symbol, a power asset, and a boundary marker, the importance of which can be measured by the effort Israelis invest in its acquisition. Thus, our research hypothesis treats

English as a crucial factor which not only influences the process of immigrants' adaptation to Israeli society but also plays a part in shaping the patterns of their integration into it.

To examine these aspects, a questionnaire containing 135 multiple-choice questions was composed on the basis of a pilot study that included 10 open-ended interviews conducted in Russian in Rehovot (Weitzmann Scientific Institute) and Jerusalem (Hebrew University campuses in Givat-Ram and Mt. Scopus) in March–May 1999. In order to compare the social and psychological profiles of immigrant scientists in the current wave with those of their colleagues who immigrated to Israel from the Soviet Union in the 1970s, we adopted from Toren 1988 two tables cataloging 28 definitions of success factors and adjustment problems. The number of respondents was 130, which constituted 1% of all scientists from the former Soviet Union who live in Israel. All respondents either hold the Ph.D (the Soviet *kandidat nauk* or the higher degree of *doktor nauk*) or have published a considerable number of articles in reviewed scientific periodicals. The sample included natural scientists, engineers, physicians, social scientists, and humanists. The questionnaires, written in Russian, were distributed at immigrant scientists' forums and workplaces, including all Israeli universities, a number of research institutes, private companies, and hospitals. The percentage of unemployed respondents in the sample was equal to the percentage of unemployed among all immigrants in Israel (13%) in the corresponding period (September–November 1999).

The following sections explore the role of English as the central component of success in the professional and social integration of the scientists from the former Soviet Union in Israel and present the relevant empirical data. In the next section, the historical background of foreign-language training in Soviet schools and institutions of higher education is discussed, emphasizing that although most pupils in Soviet schools studied some foreign language, English was not a compulsory subject. Other languages, including German and French, were studied, so that one could graduate from a university without encountering English within the formal education framework. In the following section, the status of English (and other foreign languages) in the society and educational system of the former Soviet Union is compared with that in Israel. Finally, the most relevant questionnaire results are presented. According to the research data, English proved to be a crucial factor which not only influenced the process of the immigrants' adaptation to the new society but also helped to shape the patterns of their integration into it. The results of multiple regression presented in this study definitely demonstrate that English skills influence the feeling of personal self-actualization more than do such variables as field of specialization, place of residence before emigration, last work place before emigration, and current workplace. These and some other aspects of the study are summarized in the conclusion.

TABLE 1. *Proportion of English, German and French in foreign-language instruction in the USSR.*

Language	1970/71[1]	1985/86[2]	1988/89[2]
English	50%	53%	55%
German	30%	35%	34%
French	20%	11%	11%

[1] From Dunstan 1978:112.
[2] From Henning 1994:55.

FOREIGN LANGUAGE TRAINING IN SOVIET SCHOOLS AND INSTITUTIONS OF HIGHER EDUCATION: HISTORICAL BACKGROUND[2]

With very few exceptions, the admission procedure in Soviet institutions of higher education included an oral test in one of the following foreign languages: English, German, French, or (since 1955) Spanish. In theory, all holders of the certificate of graduation from a ten-year school should have had the prescribed instruction in one foreign language (a total of 490–660 class hours over a period of 5 years, in grades V through X); it is evident, however, that not all schools, particularly those in rural areas, were able to provide language instruction. According to the published basic rules, all applicants to institutions of higher education were expected to know how to read a foreign language, to be familiar with the fundamentals of its grammar, to possess a vocabulary "sufficient to understand foreign texts of medium difficulty," to understand the spoken language, and to be able to respond to questions or to comment on a given text. The use of a dictionary was permitted in the oral translation test, which apparently constituted the major part of the examination. However, persons who did not have a grade in a foreign language in their Certificate of Maturity were usually excused from taking an entrance examination in this subject (Korol 1957:185–6). In any case, although most pupils in the Soviet schools were required to study a foreign language, English was not a compulsory subject. Apart from English, a variety of languages, including German and French (Henning 1994) was studied, so that one could finish school and graduate from a university without encountering English within the formal education framework. Table 1 shows the distribution of those three languages as school subjects between 1970 and 1989.

Judging by the many complaints about the low level of the ten-year school graduates' average achievement in foreign languages found in the Soviet educational literature, the entrance requirements were probably not very high in absolute terms. In any event, foreign-language instruction in Soviet institutions of higher education (compulsory in nearly all curricula) started at the elementary level. As a result, the teaching of foreign languages in most institutions of higher

technical training was practically indistinguishable from that of secondary schools. Furthermore, a student did not necessarily continue to study the language of his original choice; some higher education institutions' curricula prescribed a specific language, usually English or German.

Since 1954, official directives had emphasized the importance of foreign languages, especially for scientists and engineers. An all-Union conference on the teaching of foreign languages was held in March 1955; its participants dealt extensively with shortcomings in the organization of language teaching in both secondary and higher schools. Shortage of qualified teachers, laxity in standards, absence of teaching aids, and particularly the general curricular overload were blamed for the admittedly low level of achievement (Korol 1957:228–9). Toward the end of 1955, the Ministry of Higher Education announced some formal changes in the curriculum plans of institutes of higher education with respect to language instruction. The new provisions allotted from 240 to 270 hours (for the first and second year, $3\frac{1}{2}$ to 4 hours per week) for the study of foreign languages in the natural and exact science faculties of the universities and engineering schools, and not less than 140 hours (2 hours per week) for all other faculties. After the first two years of compulsory study, further class attendance (2 hours per week) was offered as an option. The heads of the language departments were instructed "not to permit duplication of the secondary school course in a foreign language at the college level." Similar categorical injunctions were issued on a number of methodological points, such as the assignment of articles for translation in the field of student's work, the formation of language clubs, and the establishment of special seminars to raise the language teachers' qualifications (Korol 1957: 229–30). Dissatisfaction with the efficacy of language teaching was aired again in 1958 during a debate on proposed polytechnical reforms. The *Theses of the Communist Party Central Committee and the USSR Council of Ministers*, published 16 November 1958, stated: "The study of foreign languages must be fundamentally improved at all schools throughout the country" (cited in Dunstan 1978:93). Three years later, on 27 May 1961, the USSR Council of Ministers issued another decree entitled *On the improvement of the study of foreign languages*. This decree deplored the poor foreign-language speaking and reading skills of high school and university graduates. Urgent measures were recommended to raise proficiency levels and to improve curricula and teaching materials (Kreusler 1963:126).

According to the approach dominant in those years, not all reading material – the vehicle for classroom discussion and exercises – was selected for its immediate relevance to the "petty" affairs of everyday living; as mentioned by Griffiths (1984:25), "A constant concern of Soviet methodologists was that excerpts from fiction and non-fiction be chosen on the basis of their broadly educative value." The teaching of foreign languages concentrated mostly on the skills of listening, speaking, and reading. Writing was seen as a major help in learning a foreign language but was not set down as a goal in itself. Undoubtedly, foreign-language

instruction was an integral part of the regime's internal and external policy. The beginning of the Cold War (the Caribbean crisis and the building of the Berlin Wall) caused an important shift in Soviet policy on foreign language instruction: from the 1961/62 school year, German was displaced by English as the most widely taught foreign language in the USSR. The decree of 27 May 1961 made it clear that German had been overrepresented in the school curriculum at large, probably because of the availability of indigenous German speakers.

However, this change caused an immediate problem: in contrast to the considerable number of native speakers of German in the USSR, there were almost no teachers whose native language was English. As has been postulated by Diller (1971:9), "A language is what its native speakers say, not what someone thinks they ought to say." In almost all cases, teachers had no chance to live for an extended period in a region where the language was spoken, nor did pupils really feel there was any possibility of traveling to those countries. As a result, students were often able to read and understand texts, but they could not perform in the language they were studying. As Ter-Minasova (1996:87) put it, "Before perestroika, modern European languages were taught as dead languages. Because Russia was entirely isolated from the rest of the world, for about seventy years modern European languages were actually dead to learners, in that the world of their users did not, as such, exist. No communication was possible, so the only skill necessary was reading, and the most suitable and safe texts were Dickens and Thackeray." British Council (1986) evaluators noted that although English was the most important foreign language in the country, the average student had very poor knowledge of it, because of limited teaching time and inadequate materials and methods. University students benefited from better instruction, so that some specialists graduated with an excellent command of English, although their overexposure to nineteenth-century literature and their lack of contact with native speakers produced unnaturally formal speech. There were only a few native speakers of English teaching in Soviet schools, colleges, and universities, and therefore they had very limited influence.

Thus, unfortunately, the aforementioned reforms did not result in much improvement in Soviet pupils' learning of foreign languages. An attention-getting article entitled "Is it necessary to study a foreign language in school?" was published in July 1989 in the Russian Ministry of Education journal *Narodnoe Obrazovanie* ('National education'). The author did not doubt the importance of knowing other peoples' languages but claimed that "it is not at all clear why anyone should study a foreign language in school or in an institute of higher education, spending enormous amounts of time and energy on it, and then not really know the language and be absolutely unable to utilize it" (Diachenko 1991 [1989]:77). The author summarized his long career as a department head in the Krasnoiarsk Region Teachers Training College and mentioned that "for several decades now, starting in the 1940s, I have been asking those enrolled in my courses (numbering in the tens of thousands, the overwhelming majority of whom

had a higher education): 'Do you know anyone who has mastered a foreign language in school?' The answer has always been one and the same – negative" (Diachenko 1991:78).

On the other hand, it should be mentioned that Soviet foreign-language teaching was designed as a two-track system which provided its pupils with not only non-intensive but also intensive language training in elementary and secondary schools; two syllabuses were devised, and two sets of textbooks produced. The first experimental specialized foreign language schools were opened in Moscow and Leningrad in 1949. This innovation had been heralded by an important lecture to the Academy of Sciences by Professor L. V. Shcherba, a phonetician, shortly before his death in 1944. Deploring the shortage of Communist Party members for the diplomatic service and commerce in particular, and the overall lack of people able to communicate with foreigners in general, he made various proposals to overcome this state of affairs, including "the creation of special general-education schools where the foreign language begins in the second year of study with the maximum number of hours and a specially prepared methodology." Shcherba emphasized that "a 'foreign atmosphere' should be created and the geography and history of the country and its culture generally should be taught in the foreign language" (cited in Friedl 1962). In 1948, the Council of Ministers of the Russian Federation approved arrangements for teaching a number of subjects in a foreign language in boys' secondary schools (Soviet schools were officially single-sex from 1943 to 1954). However, the original scheme of employing the foreign language as a medium for the teaching of other subjects was soon abandoned, primarily because of a shortage of staff who could teach through the foreign language. The foreign languages offered were primarily English, German, and French; in addition, a number of Uzbek schools began teaching various Asian languages on a similar basis in 1957 (Dunstan 1978:93).

The schools specializing in a foreign language introduced it to the children at a younger age and gave a far more intensive course than did the regular schools. The time allotted for foreign-language study in such schools was three times that in general education ones (a total of 1,780 class hours over a period of 9 years, in grades II through X). As a result, according to the syllabus, a minimum vocabulary of 2,200 words was set for the pupils in specialized foreign-language schools; their general education school counterparts had a quota of 850 words. At the same time, the pupils at the specialized language schools were expected to cover the same material in other subjects on the curriculum as did their counterparts in the regular schools. Admission to special language schools was highly selective: each class included no more than fifteen students. Once a week, the pupils were expected to take part in extracurricular activities such as acting in school performances or participation in discussion clubs.

During the lifetime of the specialized foreign language schools, the basic directions and fundamental principles of foreign-language teaching in the Soviet Union went through important changes. The general trend of Soviet foreign-

language teaching, evident until the end of the Soviet period, began to develop by the 1960s (Monk 1986, 1991). It was the decree of the USSR Council of Ministers of 27 May 1961, *On improving the study of foreign languages*, that set a rapid pace of development for that decade. Among its many provisions, the decree enjoined the opening of no fewer than 700 additional foreign language schools by 1965 (the existing number was not stated); however, the target was not reached. Statistics on the language schools are sparse and sometimes contradictory; according to the data presented by Kreusler (1976:44), in 1973/74 there were only 240 special foreign language schools in the Russian Federation, and a similar number in all other areas combined. In 1969/70, all secondary day schools totaled 42,924, while the schools specializing in a foreign language represented approximately 1.4% of this amount; if eight-year schools are included, the proportion was 0.6–0.7%, or roughly 1 in 150 (Dunstan 1978:98, 111). Schools of this type were usually in big urban centers: in the 1970/71 school year in Moscow and in Leningrad, they comprised 9.3% of complete secondary education (77 schools in Moscow and 35 in Leningrad; see Dunstan 1978:111). The purpose of the special schools was to supply linguistically proficient young people who would be trained for jobs in various branches of the economy. Dunstan notes that "pupils' future career patterns depended to some extent on the location of the school: while the aim of the four language schools in Voronezh, an important engineering center, was stated in 1972 to be to train potential engineers and scientists for whom the language would be a valuable tool, the function of those in Moscow and Leningrad was sometimes said to be the production of budding recruits for the diplomatic service, the mass media, and publishing" (1978:94). At the same time, in 24 areas (from the total of 73) of the Russian Federation, not a single special foreign language school had been set up.

Almost all these schools taught only one foreign language (in addition to Russian and the local language), and English was not a compulsory subject. It must be remembered that at different stages of Russian history, different European languages were the focus of public attention: German in the eighteenth century, French in the nineteenth, and German again before World War II. During the post-World War II period, English became predominant for the first time (Ter-Minasova 1996). Although there certainly was a marked growth in the number of English schools after 1961/62 (when the figures were English 40%, French 25%, German 25%, and other languages 10%) to 1970/71 (when the proportion of English schools in the total reached 60%), there were many students who attended special foreign language schools but did not study English at all.

ENGLISH AND OTHER FOREIGN LANGUAGES IN ISRAELI SOCIETY AND THE EDUCATIONAL SYSTEM

With some foundation during the nineteenth century, the role of English in Palestine grew after the conquest of the region by Great Britain and the subsequent

award of a Mandate for Palestine to the British government (Spolsky and Cooper 1991). Under the British Mandate, English was the main language of government, while the Jewish and Arabic communities remained distinct, with separate school systems. Contact bilingualism developed, with English serving both communities as a potential language of wider communication. Between 1917 and 1948, English was the main language of government. British rule provided a solid base for English, which has remained Israel's principal foreign language (Horowitz 1988), although there was a brief flirtation with French in the first few years after Israel gained independence in 1948.

By the early 1970s, the effects of the globalization of English were obvious, and there was growing status for the language and competence in its use (Spolsky and Shohamy 1999b:156–86). The teaching of English has moved from an earlier (pre-1960) concern for literature and culture to stress on English as an international medium of communication. As well as giving access to business, science, education, and travel, English is the language of major Jewish diasporas in the United States and elsewhere. Most important, there has been a significant impact from the large number of English-speaking immigrants who arrived after 1968. As well as being the first immigrant group whose language could compete with Hebrew in standing, they provided a stock of native-speaking English teachers (Spolsky 1998a). The immigration of English-speaking teachers in the 1970s meant that a good proportion of the teaching, particularly at high schools, is now done by native speakers. About 40% of teachers of English in Jewish high schools are native speakers of the language, a figure probably not matched in any comparable educational system (Spolsky 1997). As a result, there has been a growing emphasis on oral ability over the years.

The demand for English has continued to increase (Cooper 1985a). It was parental pressure that forced the schools to start teaching English in earlier grades. While the Ministry only recently approved of "exceptional" teaching of English in the third grade, some 40% of schools already start at this age, and many do so earlier. Many parents arrange private tutoring in English for young children. Fears have already been expressed that English may become a threat to Hebrew, and the Hebrew Language Academy managed to persuade the Minister of Education to shelve a pilot plan to add one or two hours of content instruction in English to a few schools (Spolsky and Shohamy 1999a:105–6). In the meantime, as Ben-Rafael (1994) suggests, Hebrew–English bilingualism is becoming a possibility for the future.

The situation in Israel is significantly different from that in Russia. In Israel, at both the elementary and secondary levels, English is the foreign language studied by all students. English is considered the first foreign language, optional in the 3rd and 4th grades and compulsory throughout the rest of the school system. There is some teaching of Arabic, French, and other languages at the elementary level. In high schools, all students continue with English, while many add Arabic (about 50%), French (about 10%), Russian (5–10%), or Yiddish (2–3%). All

schools in the Arab sector use Arabic as their language of instruction and teach Hebrew as the second language and English as a foreign language (Spolsky 1998a). Even though educational policy mentions French as an option, university entrance requirements determine that it is never selected instead of English. French, recognized as an important subject because of Israel's cultural, political, and economic ties with France and as the community language of a sizable body of immigrants, is taught optionally (or as a required subject in place of Arabic) from 5th to 12th grade. Russian is offered as an optional language for new immigrants (and as an alternative to Arabic or French) throughout the system. The policy encourages students also to study a third foreign language. Other languages in which programs exist are Yiddish (also used as the language of instruction and taught in the independent ultra-orthodox schools), Ladino, Spanish, and German; it has been proposed to add others, such as Japanese. The new policy also encourages the development of special language schools.

In Israel, English is one of the four compulsory subjects for all forms of the secondary-school matriculation exams. University students must satisfy an English-proficiency requirement in order to obtain their first degree. English is a requirement for a substantial proportion of jobs, and this tendency is increasing. It is a vehicle for international pop culture, and the language most likely to be used between an Israeli and someone from abroad, whether the foreigner is a supplier, a customer, a tourist, or a relative. Moreover, as stated by Cooper (1985b:77), "Inasmuch as educational status is a marker of socioeconomic status, knowledge of English is a marker of socioeconomic status." Because of the widespread recognition and high status of English in Israel, the progress of immigrants from North America in studying Hebrew is slower than that of former Soviet citizens (Beenstock 1996): the formers' ability to speak English reduces their need to learn Hebrew.

In a study of language attitudes among Jewish Israeli high school students, Cooper and Seckbach (1977) found that socioeconomic status was a good predictor of a respondent's English proficiency. Students who were good at English were also good at other subjects, and these achievements correlated with the social status of the family. Likewise, Ben-Rafael (1994:124) found that in all ethnic groups of Israeli society, the higher the socioeconomic status, the greater the probability of knowing English. In the upper middle class, no language other than English is really popular. In the words of Ben-Rafael, "English holds the top of the language status hierarchy" (1994:183). While it is the best-known language within every class, mastery of English is clearly concentrated in higher classes. Knowledge of English is, in fact, the linguistic variable that best differentiates among social strata. It is, moreover, the differential linguistic characterization of classes within the two general Jewish ethnic categories – the Ashkenazim and the Mizrakhim – that has yielded the crucial finding that in each category, the significant break takes place at a different level. As pointed out by Ben-Rafael, "In both categories, Bourdieu's theory of linguistic capital has been fully con-

firmed by the fact that the language most valued by all classes is the one that best differentiates the privileged from the underprivileged" (1994:183).

Because English was not a compulsory subject in either regular or specialized foreign schools in the Soviet Union, even though it was the predominant foreign language after World War II, the proportion of all students who studied English never exceeded 60%, so there were many who did not study English at all. Thus, one can presume that this group's integration into the Israeli upper middle class will be hampered because they have no access to the linguistic capital so highly valued in Israeli society.

LANGUAGE, IDENTITY AND SUCCESSFUL SOCIAL INTEGRATION

For some decades, the Jews were (at least statistically) the most highly educated ethnic group in the USSR. Despite being only about 1% of the population, they accounted for 2% of the student population, 6% of "scientific workers," and 9% of medical doctors. In the early 1970s, there were more than 500,000 Jews graduated from institutions of higher education in the USSR; among them were about 100,000 Jews employed in advanced research and/or in academic positions, of whom about 30,000 held the Ph.D. degree. Even if we ignore the hundreds of thousands of engineers and physicians, there were more than 50,000 skilled experts working in theoretical and applied research institutes.

Although the decade of partial destalinization (1953–1964) saw a token revival of Yiddish culture and a withdrawal from the more egregious and life-threatening forms of official anti-Semitism, the policy of "proportional representation," which began to be carried out informally but determinedly around 1960, brought about a dramatic decrease in the percentage of Jews in the prestigious professions that were still open to them. The ratio of Jews among students declined between 1962 and 1972 by about 30%, from 2.7% in 1962 to 1.9% in 1972/73 (Baitalsky 1979:222); among scientists it declined by more than a third, from 9.5% in 1960 to 6.1% in 1973 (p. 230). At the end of this period, the percentage of Jews among doctoral students was $2\frac{1}{2}$ times smaller than their proportion among holders of Ph.D.s (3.4% compared with 8.8%; Baitalsky 1979:237).

Uncertainty about the future, related to the worries about their children's education, state anti-Semitism, and professional dissatisfaction associated with the conviction that the results of their labors would be used in the Soviet Union in technically irrational and ideologically unacceptable ways, and that their professional initiative would be stifled by national antagonisms and party bureaucracy, were among the most important reasons for emigration of Jewish scientists from the Soviet Union (see the detailed analysis in Voronel 1983). Almost 20,000 scientists have immigrated to Israel from the former Soviet Union during the past 25 years. Two waves of Russian Jewish immigration in the 1970s and 1990s constituted the largest ethnic group to surge into the State of Israel, and scientists composed an outstanding elite group in each wave.

To facilitate the scientists' integration into the new society, the Center for Absorption in Science (Ha-merkaz le-klita be-mada) was established by a special government decision in 1973 within the framework of the National Council for Research and Development. The consensus was that a special body should be set up to help integrate the scientists among the new immigrants into the Israeli scientific community while optimizing the use of the scientific knowledge they brought. The cabinet's decision (24 June 1973), presented by the prime minister, included specification of the Center's organizational structure, functions, and budget. At the end of 1975, the Center was transferred to the Ministry of Immigrant Absorption because it was deemed necessary not to separate problems of employment from the other difficulties of integrating into Israeli society.

Before the last wave of immigration started in 1988, the Center had helped approximately 3,500 scientists. Employers had received financial aid from the center for 2,500 researchers, 65% of whom were employed in institutions of higher education, 20% in government and public institutions, hospitals and laboratories, and 15% in industry. Over the years, the Center helped to establish about 50 research groups for scientific projects (Adler 1987).

More than 13,000 scientists from the former Soviet Union have moved to Israel since 1988. Although the Ministry of Immigrant Absorption maintains a raft of programs to keep immigrant scientists above water (from the Governmental Center for Absorption in Science's "Shapiro fund," which pays scientists a subsistence wage to work for other employers, to KAMEA, a highly competitive program that funds permanent positions as research associates), Israelis for the most part are unprepared for the onslaught. "Many Russian scientists were hoping that after all their suffering, they would be treated like heroes," said Joseph van Zwaren, director of the Exact Sciences Department at the Ministry of Science. "Unfortunately, that was not the case" (cited in Stone 1999:893).

Immigrants bring with them a collection of values, orientations, skills, and knowledge that can either promote or hinder achievement in the new society. The immigrants' insertion in the labor market is also affected by the transferability of skills and human capital resources from one society to another. First, the greater the similarity between the economic and occupational structures of the country of origin and the host country, the greater the probability that the skills demanded for a specific job in the country of origin will match those demanded in the receiving country. Second, some occupations may be highly transferable from one country to another, while others (e.g., lawyers, accountants) are country-specific and require knowledge of laws, rules, and regulations (see detailed discussion in Raijman and Semyonov 1995). The profession of scientist has been characterized as "highly transferable"; moreover, recently published research finds only minor differences between the Israeli and Russian scientific ethos and norms (Toren 1988).

As Norman Storer (1970) wrote, "Every scientist is born into a particular group and his outlook has inescapably been shaped by the culture of that group."

Nina Toren (1984, 1988) has examined this thesis empirically in her study based on a sample of 298 scientists who immigrated to Israel in the early 1970s; 70% (N = 207) of the respondents came from the USSR, and 30% (N = 91) from the United States. A comparison of attitudes of Israeli ex-Soviet and ex-American scientists toward the traditional scientific ethos (described by Robert Merton in 1949 as the synthesis of four original norms – universalism, communality, disinterestedness, and organized skepticism) yielded no significant differences, except in regard to emotional neutrality – the fifth important norm, added by Barber (1952). According to this principle, scientists are expected not to be emotionally involved in their work in order to uphold the principle of rationality which is crucial for scientific process. The Russian scientists accept the idea that "strong emotional involvement of scientists in their work is an appropriate and desirable attitude for creative scientific activity" (Toren 1980:81) significantly more than do their American colleagues. A possible interpretation of this finding is that scientific work, especially in theoretical mathematics and physics, was accorded more freedom than other activities in the Soviet Union (e.g., economic, political, artistic, and religious). Ben-David (1971) noted in this context that the relative ability of science to insulate itself from political and ideological issues, and the regime's need for scientific advice and know-how, confer on scientists in totalitarian countries a degree of freedom that others are denied. This advantage makes science a particularly attractive occupation in such societies.

The same conditions also account for the fact that Jews, whose opportunities were generally more restricted than those of other citizens in the USSR, strove after academic studies and were overrepresented in science. Thus, the passionate attachment to scientific work among Soviet Jewish scientists is understandable: in the words of one of them, "Scientific work is to us not a means of livelihood, but the only source of spiritual satisfaction and the only road to genuine culture" (cited in Toren 1980:82); and another respondent claimed, "Most Jews in the big cities in the USSR are atheists. Science is our religion!" (cited in Toren 1984:134).

Since the Jews in the USSR were not walled off from the rest of the Soviet intelligentsia, it is difficult if not impossible to separate the problems of Jewish intellectuals from the problems of intellectuals in the Soviet Union in general. For several decades, the socio-psychological worldview of the Soviet intellectual was free of religious and traditional national elements, and based instead on utilitarian and general scientific ideas. In the words of Alexander Voronel, a Kharkov-born professor of physics at Tel-Aviv University, "The experience of three generations taught the Soviet intellectual that his only inherent value (and at the same time the justification of his existence) is his professional creative potential, which, in the ideological vacuum existing in society, he identified with his spiritual life" (Voronel 1983:123).

The Russian *intelligent*, or member of the intelligentsia, played a special role in the evolution of modern Russian society. With the emergence of the more liberal post-Stalin regime, the intelligentsia resumed its longstanding traditional

role as the mainspring of reform and liberal ideals within Russian society. It is likely that this pattern of active participation and involvement in various sociopolitical processes would be transferred by émigré intellectuals to the host societies and would become an essential part of their activities outside the academy. As a result, one would expect Israeli Russian scientists to participate actively in the discourse on essential issues of Israeli public life.

Comparing Israeli ex-Soviet and ex-American scientists in terms of their ideological loyalty and commitment to the basic principle of potential applicability and usefulness of their research, Toren (1980:83) argued that "the ex-Soviet scientists exhibit a higher degree of social consciousness and involvement than their Western colleagues." This conception of science also manifested itself in Toren's open-ended interviews with Soviet scientist immigrants in Israel: most respondents emphasized the importance of applying scientific research results to social needs. Their main complaint against the Israeli scientific enterprise was that research was not sufficiently planned, organized, and geared toward the attainment of predefined social-economic goals. One of the physicists interviewed explicitly expressed this feeling: "The immigrant scientist should be told what is demanded of him. The objectives of his work should be defined so that he can feel that he is doing something useful, not just running around looking for research funds and proposing projects that nobody wants" (cited in Toren, 1984:128). This orientation is particularly strong when coupled with Zionist patriotic fervor. Alexander Voronel, who in 1972 organized a Moscow seminar of Jewish scientists who were planning to immigrate to Israel, confirms this commitment when he writes that Soviet Jews are oriented toward an exodus from the society in which they are not needed and which they themselves reject, to another in which they are needed and which they perceive as dynamic, cultured, and free of the faults of Soviet society. The Soviet Jews will feel themselves needed in Israel only if their labor is used productively (Voronel 1983:126–7). There are no relevant data about scientists, but the results of Shuval & Bernstein's (1996) survey of the attitudes of immigrant physicians from the former Soviet Union toward occupational change may be applicable to the scientists as well: despite notable difficulties in passing the licensure examination, only 12% of respondents from the national sample of 520 physicians who arrived in Israel in 1990 indicated that they would not choose to be physicians if they had to start their careers again. A unique cult of profession – a religious obsession with the professional interest – which prevailed in the USSR not only stimulated Soviet intelligentsia to work more than was customary, but also forced them to attach greater importance to professional successes and failures and made them suffer deeply when they could not realize their professional capabilities in Israel. Regarding this point, it is interesting to mention that according to Toren and Griffel (1983:23), Soviet scientists view the opportunity to contribute through their work to the broader society as a social activity and a goal dependent on interaction and personal contacts with colleagues, and not as a part of their professional scientific role.

TABLE 2. *Perceived importance of various job factors for general work satisfaction.*

Q: How important is …	Valid N	**Mean**	Std. Deviation	Rank order	Rank order (Toren, 1988)
Full use of knowledge and skills	115	**3.41**	.58	1	1
Good working conditions	119	**3.31**	.56	2	2
Contacts with colleagues	121	**3.30**	.61	3	3
Contribution to science	116	**3.29**	.72	4	4
Scientific autonomy	115	**3.27**	.74	5	6
Good salary	119	**3.26**	.63	6	8
Contribution to Israeli society	101	**2.88**	.95	7	5
Advancement opportunities	116	**2.77**	.86	8	9
Recognition by colleagues	114	**2.75**	.86	9	7
Influence within organization	113	**2.50**	.88	10	10

In the present study, immigrant scientists' attitudes were investigated by measuring the degree of importance that they attach to different elements of their work (see Table 2). Respondents were asked to rank the importance of 10 work characteristics for their general work satisfaction along a four-point scale ranging from very important (4) to not important (1). The items were adopted with some modifications from a list of such factors used by Pelz and Andrews (1966:93) and Toren (1988:67–70). The replication of this part of the questionnaire used by Toren enabled us to check to what extent scientists who immigrated to Israel in the middle of the 1970s (Toren interviewed her respondents in 1973–1975) and their colleagues who arrived in Israel during the 1990s differ with respect to the importance they attach to various job characteristics for work satisfaction, and thus to find out whether there exists a relatively stable socio-cultural pattern according to which the relevant job factors are perceived and estimated.

Two very interesting findings emerge from the table:

(1) The ranking of job characteristics is very similar for both scientists who immigrated to Israel in the mid-1970s and their colleagues who arrived during the 1990s. For 5 of 10 items (including 4 rated as most important and a single item rated as least important), the rank order proved to be identical.

(2) The most important job factors for general work satisfaction are full use of knowledge and skills, good working conditions, contacts with colleagues and contribution to basic scientific knowledge. These factors are of crucial importance to immigrant scientists. This choice shows that scientists emphasize good salary, recognition, advancement opportunities and influence within organiza-

tion to a lesser extent than their self-actualization. This pattern of perception of job factors represents a very stable socio-cultural model.

The opportunity to apply one's knowledge and competence (the most valuable job factor for immigrant scientists' general work satisfaction) is especially important in situations in which scientists are not completely integrated, and therefore feel the need to profess the special expertise that is the principal basis for their organizational positions. This is particularly pertinent for Soviet immigrant scientists, whose training and experience are not automatically recognized and who frequently complain that their knowledge and skills are not adequately appreciated.

Furthermore, apart from attaching various degrees of importance to the listed job factors, the respondents were asked to indicate whether they had access to each of these aspects. Admitting to general accomplishments in the field of economic and technological development and contributions of immigrants from the former USSR, a large number of respondents emphasized the inefficient use of their professional and intellectual potential. In this study, respondents were divided into two major groups: those who had studied English (N = 78) at school, and those who had studied another foreign language – German (N = 42) or French (N = 10). We then performed a cross-tabulation between the language studied by the respondent in the formal education framework and the lack or presence of the aforementioned work satisfaction factors. This analysis revealed that regarding the four characteristics found to be most crucial for scientists' job satisfaction in both Toren's study and this one, the percentage of positive answers among those who studied English at school is higher than among those who studied either German or French; in two cases ("Making full use of knowledge and skills" and "Enjoying contacts with colleagues"), the difference between the two groups is statistically significant (Table 3).

To determine whether the differences in general work satisfaction (especially regarding the most important factor in the eyes of the immigrant scientists themselves, "Making full use of knowledge and skills") are due to their English skills or to other causes, we considered the effect of five independent variables. Besides the foreign language studied at school (1, English; 2, other languages), these variables are as follows: field of specialization (1, exact and natural science; 2, engineering; 3, medicine; 4, social science, education, and jurisprudence; 5, humanities); place of residence before emigration (1, Moscow; 2, St. Petersburg; 3, other capitals of the CIS European countries; 4, peripheral towns of the CIS European countries; 5, capitals of the CIS Central Asian countries; 6, peripheral towns of Central Asian countries); last workplace before emigration and current work place (the same scale in both variables: 1, university; 2, college; 3, research institute; 4, independent research group; 5, industrial laboratory or hospital; 6, nonscientific organization; 7, private company; 8, school). The results of multiple regression presented in Table 4 definitely demonstrate that English skills

TABLE 3. *Work satisfaction factors among immigrant scientists who have or have not studied English.*

Factors	Valid N	Respondents who had studied English (N = 78) and answered positively		Respondents who had studied German or French at school (N = 52) and answered positively		Chi-square	
		N	%	N	%	Value	Significance
Making full use of knowledge and skills	111	38	57.6%	15	33.3%	6.303	Sig (0.01)
Having good working conditions	113	37	56.1%	24	51.1%	0.276	Non-sig
Enjoying contacts with colleagues	114	59	88.1%	33	70.2%	5.649	Sig (0.02)
Having an opportunity to contribute to science	111	46	70.8%	27	58.7%	1.744	Non-sig

TABLE 4. *Influence of the foreign language studied at school and other independent variables on enjoying the full use of one's knowledge and skills.*

Multiple Regression			Independent variables (Beta and significance)				
Dependent variable	R	R Square	Foreign language studied at school	Field of studies	Place of residence before emigration	Last workplace before emigration	Current workplace
Making full use of knowledge	0.347	0.120	−0.251 Sig ([1])	−0.064 Non-sig	−0.099 Non-sig	0.013 Non-sig	−0.177 Sig ([2])

[1] Significant, $\alpha < 0.01$.
[2] Significant, $\alpha < 0.05$.

influence the feeling of personal self-actualization more than any of the additional variables.

The decade of the 1990s was characterized by rapid development of electronic technologies (such as the Internet and e-mail), which have become necessary for successful functioning as a member of the scientific community. However, the average length of the respondents' stay in Israel amounts to 7 years, so that this increased influence of electronic communication took place after they arrived in Israel. Thus, it was after their immigration that the scientists had to explore and accustom themselves to these new technologies. The data collected in this study show that about two-thirds of the respondents have succeeded in this task. However, further analysis conducted on the sample demonstrates that the respondents who studied English at school have adjusted to these new demands better than those who studied German or French; the difference between the two groups is statistically significant regarding use of the Internet (Table 5).

It is a commonly accepted view that "every émigré intellectual, without exception, is damaged. He lives in surroundings that must remain incomprehensible to him, however well he may find his way among labor organizations or traffic" (Adorno 1974 [1951]). On the other hand, immigration can be seen as providing one with a new set of possibilities. We examined these conflicting considerations by applying such parameters as the impact of immigration on "contact with colleagues who have influenced one's scientific interests," "getting access to previously unavailable publications," and, finally, "participation in a large number of forums." Regarding these factors, immigration has resulted in positive professional outcomes for approximately half of the respondents. In this case, too, the respondents who studied English at school benefit from their immigration more than those who did not. Moreover, the differences regarding "getting access to previously unavailable publications" and "participation in a large number of forums" are statistically significant (Table 6).

Immigrant scientists are aware of the crucial importance of English skills in their professional careers in the new country. In the words of a physicist we interviewed in the town of Rehovot in 1999:

> The situation here is ridiculous! In order to breathe, you have to know English. In my profession, there is no single journal published in Hebrew. When you go to a conference here, in Israel, guess what language you must lecture in? English, of course! I am so lucky I studied this language at a specialized English school. I feel pity for scientists who don't speak English. For them coming here is a waste of time. Therefore I advise my colleagues to study English as intensively as they can – both before and after the immigration!

The feelings of another respondent, an immigrant chemist affiliated with the Hebrew University of Jerusalem, were similar:

TABLE 5. *Use of electronic communication technologies by immigrant scientists who have or have not studied English.*

		Respondents who had studied English at school (N = 78) and answered positively		Respondents who had studied German or French at school (N = 52) and answered positively		Chi-square	
	Valid N	**N**	%	**N**	%	Value	Significance
Using e-mail	126	52	69.3%	32	62.7%	0.593	Non-sig
Using the Internet	124	55	75.3%	29	56.9%	4.692	Sig (0.03)

TABLE 6. *Professional outcomes of immigration to Israel for scientists who have or have not studied English.*

		Respondents who had studied English at school (N = 78) and answered positively		Respondents who had studied German or French at school (N = 52) and answered positively		Chi-square	
Immigration to Israel enabled me:	Valid N	N	%	N	%	Value	Significance
To contact colleagues who have influenced my scientific interests	120	43	62.3%	22	44.9%	3.515	Sig (0.05)
To access previously unknown publications	118	37	52.9%	15	31.3%	5.393	Sig (0.02)
To participate in a large number of scientific forums	120	39	56.5%	21	41.2%	2.762	Non-sig

> At school I studied German. However, when I came to Sverdlovsk University, they told me that there was no German group there. Thus in addition to studying exact sciences, I had to cope with a new foreign language – English. At that time, I was extremely envious of my classmates who went to other institutes of higher education and were enabled to continue studying German there. They could "relax," while I had to work so hard! Today, however, I am thankful to those who made me study English. I've got a promising job, in the framework of which I travel abroad. Finding such a job would have been impossible, had not I known English! (Both quotations translated from Russian by the authors.)

Although the percentage of scientists who had found jobs in Israel had been growing since the outset of the mass immigration from the former Soviet Union in 1989 until the middle of the 1990s, it was in 1994 that the proportion of immigrant scientists who had ever worked in Israel reached its peak of about 75%. This ratio has remained at the same level. In other words, since 1994, 25% of immigrant scientists have never been employed in their professions here (see Table 7). This state of affairs is evident in the sample as well: one-fourth of the respondents reported that they had never worked as scientists in Israel.

Furthermore, the fact that one has found a job does not guarantee that one will keep it. As one of the respondents said:

> I studied German at university. After my immigration I studied Hebrew intensively. Though I took a special English course a few years ago, my mastery of this language leaves much to be desired. When I found my first job in Israel, I felt that this lack of knowledge of English had a negative impact both on my professional sphere and on my everyday communication with colleagues. I could not make use of the professional literature available because it was all in English. Moreover, it was extremely hard for me to get used to the English terminology. As a result, I often could not understand my colleagues' discussions because their Hebrew abounded in English terms. Furthermore, when they exchanged jokes and phrases in English, I had no inkling of what they were talking about. I could not participate in their conversations as an equal. Soon I started thinking that they were laughing at me. I could not communicate with my colleagues because I was sure they did not respect me. Now, looking back, I am sure that these difficulties in communication were among the main reasons for losing my first job. It seems to me that had I known English better, this would not have happened. (The interview was conducted in Rehovot in 1999, translated from Russian by the authors.)

However, the statistics presented by the Governmental Center of Absorption in Science do not specify how many scientists who became employed have managed to keep this status. Perhaps the most important problem of the immigrant scientists is that the majority of them are employed on a temporary basis; as a result, many scientists have changed their place of work several times since their

TABLE 7. *Scientists who have ever worked in Israel (percent of total number of immigrant scientists, 1990–1998).*[1]

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total number of immigrant scientists	2,250	5,310	7,630	9,200	10,140	10,965	11,700	12,500	13,275
Scientists who have ever worked in Israel	710	2,360	4,315	5,985	7,400	8,250	8,820	9,290	9,800
Scientists who have ever worked in Israel, % of immigrant scientists	31.5%	44.4%	56.6%	65.1%	73.0%	75.2%	75.4%	74.3%	73.8%

[1] Source: Governmental Center of Absorption in Science, *Annual Report* (1999).

TABLE 8. *Prospects of successful employment and risk of losing a job among scientists who have or have not studied English.*

	Respondents who had studied English at school (N = 78) and answered positively		Respondents who had studied German or French at school (N = 52) and answered positively	
	Count	Percentage	Count	Percentage
Never worked in Israel as a scientist	20	25.6%	12	23.5%
Worked in Israel as a scientist, but lost job	7	9.0%	11	21.6%
Continues working	51	65.4%	28	54.9%

arrival in Israel. The main reasons mentioned for losing jobs were "lack of research funds" or "termination of a project." The data obtained in this research demonstrate that 15% of the respondents had worked in Israel as scientists but were unemployed when questioned. In light of these findings, it is important to examine to what extent one's knowledge of English is likely to influence both finding a job and losing it.

Knowledge of English is commonly considered a necessary condition for successful employment as a scientist. Our research has revealed, however, that scientists who did not study English at school succeed in finding jobs to exactly the same extent as those who studied this language. Indeed, the proportions of respondents who have ever worked do not vary from group to group – about three-fourths in each one. Nevertheless, knowledge of English does make a difference where one's risk of losing a job is concerned: the percentage of respondents who have lost their jobs among those who studied English at school (9.0%) is less than half that among those who studied another foreign language (21.6%) (Table 8).

In sum, the research data demonstrate that English is a crucial factor which not only affects immigrant scientists' adaptation to Israeli society but also helps to shape the patterns of their integration into it. The results of multiple regression presented in this study definitely demonstrate that English skills influence the feeling of personal self-actualization to a greater extent than such variables as field of specialization, place of residence before emigration, last workplace before emigration, and current workplace. Chi-square tests demonstrate statistically significant differences between those who studied English and those who studied either German or French in regard to access to factors that were found to be crucial for scientists' job satisfaction ("Making full use of knowledge and skills" and "Enjoying contacts with colleagues"), as well as in the use of electronic technologies and some other new possibilities ("Contact with colleagues

who have influenced one's scientific interests" and "Getting access to previously unavailable publications"). Moreover, the language studied at school proved to be a factor that affects the risk of losing a job. The percentage of respondents who had lost jobs among those who studied English at school was less than half that among those who studied another foreign language.

RUSSIAN SCIENTISTS' LINGUISTIC CAPITAL IN THE CONTEMPORARY ISRAELI MARKETPLACE

It is a commonplace that command of the national language is crucial to the process of integration and acculturation in a new country. Without it, newcomers' contacts with the natives, their occupational opportunities, and their acquisition of the new culture are all narrowly limited. Language is a system of conceptualizations, the result of a long history during which the concepts have become standardized and traditionalized. In contemporary nation-states, a legitimate language is usually inseparably bound to the definition of the national culture and collective history. Various national movements stressed language as the necessary and sufficient condition of nationhood; as Fishman (1972:44–55) has pointed out, language serves as a link with "the glorious past" and with authenticity. In the words of Bernard Spolsky, "The issue of language choice is most critical in the case of a newly independent state" (1998b:58). Influenced by European nationalism, the leaders of the Zionist movement emphasized the importance of creating a new society, with social, religious, occupational, and political structures that differed drastically from those of the past. The "ingathering of the exiles" to the Jewish homeland and a cultural revolution (which started with a linguistic revolution, the revival of Hebrew; see Even-Zohar 1981) intended to transform the Jewish legacy were the principal tenets of Zionism. Hebrew became a central symbol for the awakening and maintenance of national sentiment. The promotion of Hebrew was a reminder of the glorious tradition connecting the Jewish people to their ancestors, and a sign of the national self-determination that they could win again. In principle, any common language can serve to mobilize the masses, but an indigenous language, the carrier of a great classical, religious, and historical tradition, is an eminently powerful symbol around which to rally.

The story of the revitalization of Hebrew has been told repeatedly. Starting from the early and tentative teaching of Hebrew in the schools of the colonies in the 1890s, to its use as their main language by the Zionist socialists who founded the communal settlements and its establishment as the only sanctioned public language in the new Jewish city of Tel Aviv, this language spread through the Jewish Yishuv of Palestine. By the 1920s, Hebrew was a native language for many and the public language of the Jewish community of Palestine (Bachi 1956). By 1948, when the state of Israel was established, Hebrew was the principal language of the bulk of the Jewish population. In the next decade, large numbers of new immigrants arrived, but their high linguistic heterogeneity contributed to

the rapid acceptance of Hebrew by the new arrivals and their children. North African Jews, many of them bilingual in at least Maghreb Arabic and French (often their language of education), soon added Hebrew. In some families, Arabic was dropped and French retained as a home language alongside Hebrew; in others, it was the vernacular Arabic that continued as the language of the first generation, with passive knowledge passed on to later generations (see Ben-Rafael 1994). Hebrew has thus continued to penetrate immigrant groups, succeeding, often in a generation or two, in replacing the original language.

Many of the Jews arriving in the 1920s from eastern Europe went first to kibbutzim, where communal pressure encouraged them to move from their use of Yiddish and Russian or Polish to private as well as public use of Hebrew. Their children, "children of the kibbutz," grew up as monolingual native speakers of Hebrew, with a moderate passive knowledge of their parents' other languages and no respect for their importance. As has been demonstrated by Ben-Rafael 1994 and Spolsky 1998a, the unique revitalization of Hebrew resulted in a strong tendency for an ideological and instrumentally motivated monolingualism to replace the earlier multilingual pattern; however, this trend has been challenged, on the one hand by the successful resistance to language shift by Arabic, Russian, Yiddish and many other languages, and on the other by the fact that Hebrew is now forced to compete with English in an increasing number of domains. The second generation sometimes learned Arabic for ideological or pragmatic reasons; the third one was strictly Hebrew-speaking, with a growing tendency to add English. Traditional Jewish multilingualism has been superseded first by a ideological Hebrew monolingualism and then, with the inexorable global spread of English, by a new Hebrew–English bilingualism.

The monolingual ideology was bolstered by a number of myths and assumptions: Hebrew would be learned by immigrants only if all home languages were abandoned; national unity depends on national monolingualism; learning Hebrew is a key part of acculturation and integration, which would be slowed if immigrant languages and the related memory of Diaspora life were allowed to be continued; maintaining other languages weakens national identity (Shohamy 1994). However, the former Soviet Jewish intelligentsia's perception of the Israeli dominant policy of language shift to Hebrew is extremely negative, because it reminds them of the Soviet policy of cultural imperialism, specifically language shift to Russian (Kheimets and Epstein 2001). Simultaneously, owing to the success of Soviet language policy in suppressing Yiddish and Hebrew, the contemporary cultural world of Russian Jews has been mediated mostly in Russian. A unique type of self-identification which is neither purely Jewish nor purely Russian is predominant among the Russian Jewry (Nudelman 1983): the self-identification of today's Russian Jewish intelligentsia is a unique combination of Jewish ethnic and cultural legacy and the heritage of the Grand Russian culture, which was created in part by Jewish writers and poets

(Markish 1996). Therefore, Russian Jews tend to consider Russian a more important channel than Hebrew for the conveyance of their cultural values, including those related to their Jewishness (Ben-Rafael, Olshtain, & Geijst, 1997). In other words, the Soviet Jewish intelligentsia are striving to retain a multilingual identity: while they do appreciate Hebrew and the cultural values it conveys, they share a strong feeling that their own cultural-linguistic identity is of great value to them.

Apparently, the absorption philosophy of Israeli society has been transformed from the model of a "melting pot" to a more pluralist one (although it seems to be more similar to the "separatist pluralism" model than to that of "interactive multiculturalism"; see Smolicz 1981, Moodley 1983, Sever & Epstein 1999, Epstein & Kheimets 2000). As Kimmerling 1998:306 states:

> The traditional sociological research posed the question how to "re-socialize" the immigrants to be "absorbed" into the Israeli society and how to "Israelize" them as deeply and as fast as possible. Under the present circumstances the most proper question is the reverse. That is, how the immigrants groups are contributing to the changes presently occurring in the Israeli state and society. What seems almost obvious is that the entrance of each of these new segments into the Israeli state gave impetus to the trend of cultural segmentation and the transition from a mono-cultural hegemonic system toward a structure of plurality of cultures.

In Israel, as in Canada and Australia, there is an increasing awareness of citizens' rights to enjoy their own culture and use their own language. The role of the linguistic factor is especially important because, in minority ethnic groups, a main system-forming element is language, and ethno-national community development is a function of opportunities for language study, use, and development (Epstein 1999). Contemporary Israeli society is much more tolerant toward maintaining immigrants' native languages than that of several decades ago, so that Russian speakers' aspiration to maintain the language of their country of origin is perceived as quite natural (Leshem & Lissak 1999). Moreover, Israelis are probably the most tolerant people in the world with respect to the bad Hebrew spoken by newcomers; their attitude to a beginner's linguistic derailments is quite lenient.

However, the situation regarding English is significantly different. As a social resource, language is also a base of power, a kind of capital available to groups in competition for access to the goods and services of a nation. "Typically, multilingual societies tend to assign different tasks to different languages or language varieties" writes Fasold (1987:8); English, Israel's principal high-status language, is an ultimate "entrance card" to the Israeli upper middle class (Ben-Rafael 1994). Although teaching in all Israeli universities is almost entirely in Hebrew, most advanced courses in all subjects except Jewish studies expect students to be able to read a large quantity of textual material in English. Whatever

language they actually read it in, the fact that so much material is assigned in English has both practical and status effects. Moreover, for many students, opportunities for graduate study or postgraduate work involve studying in an English-speaking country (Spolsky & Shohamy 1999b:166, 2000).

The images and stereotypes that Israeli scientists hold of their ex-Soviet colleagues play an important role in the process of occupational adjustment and integration (see Epstein et al. 1999, Stone 1999). Expectations are modeled according to these beliefs, and in the eyes of many Israeli scientists and officials, a scientist who does not speak English is not really a scientist. Israeli-born scientists and policy-making institutions in the field of scientists' absorption and integration have inadequate knowledge not only of the specific circumstances of Soviet science development in various historical periods, but also of Soviet policy on foreign-language training. For veteran Israeli scientists, English is a key to participation, a basic criterion of immigrant scientists' professional evaluation. A distinguishing feature of the Soviet wave of migration was the large number of scientists who arrived with some knowledge of English, usually gained in schools and limited to reading rather than speaking; only a few had studied English enough that they were fluent at the time of immigration. However, for the large number of scientists who did not study English at all, professional and social integration has been significantly less successful.

Accordingly, Israeli language policy – which, for ideological reasons, has traditionally perceived the acquisition of Hebrew by immigrants as its major goal – should be reformulated. Apart from studying Hebrew, immigrants who did not have an opportunity to study English beforehand must be provided with access to this language, since without it they are unlikely to become equal members of the Israeli middle class.

NOTES

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[1] The Giladi program (named after its architect, Tel-Aviv University chemist Eliezer Giladi), was created in 1995, when 500 scientists were chosen according to their scientific achievements up to that time. The selection of a scientist for the Giladi program was on an individual basis for a period of three years. Beginning from 1998 the KAMEA program (Klitat Madanim Olim, 'Absorption of Immigrant Scientists') was put into operation to place outstanding scientists who have completed the Giladi program in research positions, and in accordance with the academic procedures in force in scientific institutions.

[2] Because the majority of respondents attended formal education institutions in the 1950s to 1970s, special effort has been made to review the literature that accounts for these years.

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