

# Simplified transcript of the interview of XXX by Philippe Stamenkovic\* on 16/02/2022 at YYY

This interview is part of a series of interviews of former Soviet/Russian scientists emigrated in Israel, about their experience and conception of the relationship between science and (non-scientific) values, in the scope of Philippe Stamenkovic's postdoctoral project at the Jacques Loeb Center for the History and Philosophy of the Life Sciences, Ben-Gurion University of the Negev (Israel). XXX is a physicist in Israel who asked to remain anonymous. Section 1 presents the interview guide (i.e. questions) used as a basis for the interview. Section 2 summarises the interview itself. The interviewer did almost not ask any question: the interviewee essentially told his story in a chronological way. In Section 2, some headings in bold, summarising some passages, have been added by the interviewer. Parts of the interview which refer specifically to the relationship between science and (non-scientific) values have been underlined by the interviewer.

## 1 Interview guide

### 1.1 Introductory questions

In this preliminary section, I would like to ask you some questions about your identity and tasks as a scientist.

#### 1.1.1 Motivation

- How did you end up as a theoretical chemist? What was your motivation for choosing this field?
- Was your choice influenced by some specific circumstances, either personal or related to the political situation in the Soviet Union? Was it more or less fortuitous?

#### 1.1.2 Description of work

- Could you describe me your current work, daily tasks and activities?
- Has your line of research evolved during your career? Why?

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## 1.2 (Descriptive) questions specific to the Soviet Union (SU) / Russia

In this section, I would like to ask you some questions specific to your experience as a scientist who has worked in the Soviet Union / Russia. My questions concern either your personal situation and work, or those of other people which you have witnessed.

I am interested in the relationship between science and the extra-scientific context (be it social, political, ideological or economic). I am especially interested in the political and ideological values specific to the Soviet regime.

According to (? , 277), “Soviet communists understood science as rooted in human beings’ material and social life. They correspondingly declined to view scientific knowledge as independent of either industry and technology or politics and values.” Today, many philosophers, historians and sociologists of science claim that science is not, and should not be, independent from the larger, extra-scientific context<sup>1</sup>. According to Kojevnikov (300, 303), Soviets were precursors of these views of science as entangled with society, values and non-scientific interests!<sup>2</sup>

### 1.2.1 Description of the influence of non-scientific values on the various phases of scientific inquiry

- Did you notice, in your (or in others’) activity as a scientist in the Soviet Union / Russia, an influence of the extra-scientific context / non-scientific values concerning:

1. what to investigate / the choice of research avenues and questions (pre-epistemic phase)?

(a) Regarding pure and applied science : much science in the SU was devoted to applications (? , 300). Pure science was threatened by non-scientific interests, because it had no applications. But in the end the regime decided to let it go<sup>3</sup>. Was there pure science nevertheless? Or was there only “big science” related to engineering/the atomic bomb/etc.? Were theoreticians supposed to bring about practical results, or were they allowed to develop their own thoughts?

(b) Did you have to follow the already existing research avenues of the West (instead of investigating new ones), in order to “catch up and surpass” (Dognat’ i peregnat) American science (original quote from Stalin referring to the atomic bomb in 1946 (? , 144), which became a popular Soviet slogan during the Cold War)?

2. how to investigate it (gathering of evidence and choice of methods, including from the moral point of view) (pre-epistemic phase):

(a) for example the building of hypotheses/models (for example, Kojevnikov talks of the heuristic influence of Soviet ideology on collectivist models and terminology in

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<sup>1</sup>According to ? , 300, the naive “ideology of pure and apolitical science” has almost disappeared from the West and it is a good thing! Science is “grounded in social, economic, and cultural realities of human life” ? , 302.

<sup>2</sup>According to ? , 223-224, the Soviets managed to reconcile the social constructivist view of science (as it is called today) typical of Soviet Marxists (science and its concepts are, like any other human activity, related to economic, political and class interests) with scientific realism (science provides true knowledge of nature) by simply stating that: interests can be right or wrong, and that having the right extra-scientific interests helps achieve scientific truth (and conversely)! The correctness of science guarantees its *partiinosť* (its party-mindedness), and vice versa!

<sup>3</sup>According to ? , 305, whereas the West followed the Soviets in abolishing the distinction between pure and applied science, the Soviets in fact reverted to this distinction.

condensed matter physics)?<sup>4</sup>

3. what to conclude from our investigation: the acceptance or rejection of hypothesis/theories<sup>5</sup> (epistemic phase)?
  - (a) for example, to possibly take more risks (make/accept more risky hypotheses, see the story of the collectivist models in physics)?
  - (b) influence of the communist ritual of “critique and self-critique” (*kritika i samokritika*, see below)?
4. how to use and communicate the results of our investigations (post-epistemic phase):
  - (a) For example, to disseminate (in the Soviet logic of “critique and self-critique”, or to rally politicians’ support) or not (internationally, in the logic of competition against the West; but also, in the SU, against rival Soviet scientists/schools) the findings/results?
5. Organisational/institutional aspects<sup>6</sup> (para-epistemic phase):
  - (a) For example, what were the criteria for hiring/promoting people in the SU (membership of the Party? Etc.)?
  - (b) for funding?
6. Teaching:
  - (a) regarding the content of your (or others’) courses?
  - (b) the way they are taught (for example, the textbooks or references used)?
  - (c) the design of the curricula?

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<sup>4</sup>According to ?, xv, “some of the most fundamental concepts in contemporary [physical] science—quasiparticles and other collectivist models in condensed matter—had their roots in the socialist worldview and in the collectivist philosophy of freedom.” “Collectivist ideology provided useful heuristic metaphors for Frenkel and other theorists in their search for better mathematical models for the interactions between atoms and electrons in dense bodies. Revolutionary allusions helped stir an enthusiastic reception for the radical new theories of relativity and the quanta in the Soviet society of the 1920s. Boris Hessen, Sergei Vavilov, and others used philosophical arguments from Marxist dialectics to build justification and support for novel developments in 20th-century science.” (?, 187). I am personally not convinced by Kojevnikov’s claims regarding the link between extra-scientific and scientific considerations in condensed matter physics. I find them unsubstantiated and/or exaggerated.

<sup>5</sup>For example, failure to develop a dialectical materialistic interpretation of a theory could lead to its rejection (?, 224).

<sup>6</sup>?, ch 11 claims there was a link between science and political power: ideally a link of “preexisting harmony” (281), in fact continuous arrangements/compromises/reciprocal services (eg exchanging members between the Central Committee of the Party and the Academy of Science). It concerned the “relative shares of authority”, “scientists’ professional expertise” vs “competence of politicians” (277), not the *content* of scientific theories/hypotheses.

But even for these institutional/organisational aspects, there were in fact boundaries between the scientific and the political realms, as Kojevnikov himself acknowledges (e.g. 284).

### 1.2.2 Positive or negative influence of ideology

- Would you say (as ? claims) that politics and ideology could have a beneficial influence on science (and not only a detrimental one, as Lysenkoism typically has come to exemplify in the West), in whatever stage of research work?
- And if yes, how exactly (which stage, which process)<sup>7</sup>?
- To what extent was this effect specific to the SU/Russia (and not to be found in another political/institutional regime)<sup>8</sup>?

### 1.2.3 Evolution between Soviet Union, Russia and Israel

- [How the situation has changed for science after 1991 in Russia] Regarding now the evolution between the SU and Russia:
  - How did the collapse of the SU and the advent of “democratic” Russia affect research?
  - Did physics flourish in the SU, and then decline after the Soviet regime collapsed in 1989 (?, R1042)<sup>9</sup>?
  - In which case was it a matter of funding, of good scientists leaving the country, or something else?
- Regarding now your situation in Israel:
  - When and why did you come to Israel?
  - What is the difference with respect to Israel (once you got there)?
  - Regarding the scientific environment (selection criteria of promotion, hiring)?
  - Regarding non-scientific values, including your own?

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<sup>7</sup>For example, according to ?, 196, 201, 204, 206 the communist ritual of “critique and self-critique” (*kritika i samokritika*) could enable constructive self-criticism and progress (I do not agree: from what I have read it seems very artificial and dogmatic). This concerns the epistemic stage of theory/hypothesis acceptance/rejection.

There was also, regarding the pre- and post-epistemic stages, competition of scholars to translate academic issues in comprehensible language, in order to rally politicians. (This seems more convincing.)

<sup>8</sup>For example some of the institutional quarrels described by ?, 226 could be found in the West, and are not necessarily characteristic of/only to be found in a Soviet regime.

<sup>9</sup>According to ?, 300, 304, the Soviet regime praised very much science, and scientists enjoyed a high status (privileges, high social status, financial support), and the fall of the communist regime destroyed this.

- \* For example the “will to work hard”: was it lost after you came to Israel? Did the Soviet / Russian regime provide you with a specific motivation which was lost once you arrived in a ‘Western’ country?

### 1.3 (Normative) questions about their own views

[Normative questions about how they conceive non-epistemic values in their discipline, if they adhere to the VFI and why.]

- In science and in philosophy of science, there is a common view according to which science should be free from social, political and religious values and interests, either at all stages of research (from the choice of research avenues to the communication and use of results), or at least in the core phase of acceptance/rejection of hypotheses/theories.
  - Do you subscribe to this conception of science which *should* be value-free (even if it is not realised in practice)?
  - To which extent: in the large sense (during all phases) or only in the restricted sense (during the core phase)?
  - Why (can you give reasons for holding this view)?
  - If values should influence science, how should they?

### 1.4 Potential activity as an expert

[Potential activity as an expert (i.e. as a scientist providing advice for public authorities), in the SU/Russia, in Israel or elsewhere.]

- Do you have any activity as a scientific expert (providing advice for public authority)? Could you describe it [descriptive]?
- How do you understand your role as an expert [normative]?

### 1.5 Concluding questions

- Is there something else you would like to add or talk about?
- Do you know other natural/social scientists from SU or Russia whom I could interview?

## 2 Interview of XXX

- Studied in Tashkent, Uzbekistan, at the university from 1975 to 1980 at the Faculty of Physics.
- **Discrimination in Uzbekistan.** In Uzbekistan, and maybe Kazakhstan, Turkmenistan, there was competition between Uzbeks (native people) and non-Uzbeks (whatever the origin). It was not between Jewish, white, Armenian or anything. Preference was for Uzbeks. The vast majority of bosses were Uzbeks. Native people had to be on the top of hiring list, including for scientific positions (e.g. professor). And the administrative leadership was Russian (pro-rector, pro-dekan) or something else.
- In Uzbekistan the scientific level was lower than in Russia, but there were very smart people. These smart people then went to Russia (Moscow or St Petersburg). All wanted to work in Moscow.
- Research was free in Uzbekistan, ie “in Uzbekistan, as in any other place, the direction of research was determined by the subject of the institute”.
- In Russia there were three diplomas, according to a simplified version of the German system.
- **XXX’s departure of science because of discrimination about his Jewishness.** XXX didn’t work in Uzbekistan, only studied: he graduated from Tashkent University. He made his last 2 years of study in Lebedev’s Institute of Physics. He obtained his basic scientific experience in Moscow. He started to look for work in Moscow, which was a very good place for science. Didn’t want to look for something in Uzbekistan because didn’t want to stay and work there. Didn’t find something wrong for Jews in Uzbekistan, didn’t feel any anti-semitism. But anti-semitism was very strong in Ukraine and Russia. In Moscow, because he was Jewish he didn’t receive the position of PhD candidate (had just graduated from the university and was not PhD yet), even if he was deemed very good. On the documents the nationality (Jewish – not Uzbek) was indicated. There were government regulations forbidding to hire Jewish people. In Russia, there was an unspoken law on student admission. Leading institutions took no more than 2.5% per course. From the beginning it was not possible to get a position to make the doctorate. He didn’t find any position for a doctorate, whatever the place. He looked for scientific as well as technical work (programming), and didn’t find any place because he was Jewish. In a computer center, because he found a boss from the same place where he was born, he got a position as a simple programmer. In SU, especially Ukraine, the influence of nationality was very strong. If you were Jewish it was very hard to find a job. Not only him but also many people he knows.
- **His return to science, in a Jewish-friendly environment.** In parallel to his work, he made contact with his boss in Lebedev Institute, he worked during the day as a programmer, and in the evening as a scientist (physicist). Very hard. He told himself that he would wait 3 years to find a job as a scientist, otherwise continue as programmer. After 2 years he heard of an opening for a position for a doctorate at the Institute for applied geophysics. Even if he was specialized in particle physics and this position was in atmosphere and ionosphere physics, he took three exams, and after that he received a position for the doctorate. He understood later that the director of the Institute was not antisemitic, he had many Jews in his team.

- In Russia there was no postdoc system in the Western way (going to many places), it was impossible. After his doctorate he continued his work in this institute. Applied physics (atmosphere).
- **Degradation of the economic situation after 89.** Until 89 he worked in this institute, it was still the USSR. Then Perestroika. At the beginning it was interesting, but then after some years he understood that science was going down, there was no money, and he thought it was not a place for him. He spent 5/6 h per day to look for food each day, it was terrible.
- **Rise in antisemitism.** In 89 there was a very hard antisemitism in Moscow (which was already there during the entire 80s). Death threats. Fear to open the door of their home! Received letters that people would kill him at his home. In addition to antisemitism from private persons, there was political, governmental antisemitism. The Institute was not allowed to hire Jews. State antisemitism had existed since the post-war years, approximately since 1947. Only 2% of the students should be Jewish (even less than before the Revolution, during the Tsar).
- State anti-Semitism began to be cultivated in the Soviet Union around 1948. It was strongly associated with the creation, the State of Israel. During the UN vote, Stalin supported the creation of Israel. Also during the Israeli War of Independence in 1948, he supported it. However, when it became clear that Israel did not want to be a satellite of the USSR, Stalin abruptly changed his policy and began to plant and support anti-Semitic sentiments in the country. If he had not died in 1953, then most likely all the Jews of the USSR would have been resettled in Siberia, as he did with other peoples (Crimean Tatars, Ingush ...). After Stalin's death, the authorities were confronted with the fact that some Jews in the USSR wanted to be repatriated to Israel. Thus, the Jews became not reliable citizens. In addition, the USSR began to actively support the Arab countries against Israel, which was supported by Western countries. There was already a cold war. This also affected the position of the Jews in the USSR. And this continued until the collapse of the USSR in 1991.
- XXX didn't receive enough salary at the Institute. Worked a few hours as a taxi driver. At the end he decided he had to immigrate.
- **Emigration to Israel.** Emigrated in Israel in 91. One million people from the USSR. Maybe 60 000 scientists from Russia. Very high competition in Israel. In Israel they didn't have information about the level of the institutions in the USSR. There was the Shapira programme: step by step to find a position. There was support for science in Israel. 80% of salary was paid by the government and 20% paid by the university. At the beginning you had to learn Hebrew. The first 3 years XXX was in the Shapira programme. After 3 years the grant was closed. In 95 he received position in magneto-hydrodynamics laboratory of Prof Branover. In 99 he followed the programme Kamea. After 10 years only 10-15% of the scientists who emigrated to Israel continued to work in science. This high competition pushed up the level of Israeli science.
- **Difference between Israel and the USSR.** Firstly, in Israel there is no antisemitism of course. Secondly, in the USSR they had no connection with foreign people. In a way it was good for science because the smart people were forced to stay in the country, and there were still connections through the journals. The science level was very high, there were brilliant people (Ginsburg, Kapitza, etc.). When you are a scientist you are ready to do everything

for your passion. Smart people stayed in Russia (eg Ginsburg, or Abrikosov, a student of Landau and a Nobel laureate who left for the USA in the nineties) because they were not allowed to emigrate. Connections took place at a high level only, at conferences. XXX prepared abstracts and the big boss made presentations for all the subordinates. Only a small part of the scientists came to conferences. It was a common situation when one or two representatives were allowed into a conference abroad, who made presentations for everyone. They didn't know about the projects of other countries, except for space. 95% of the people didn't think about going to conferences in the West.

- **Decline of scientific level in Russia.** When USSR went down, flow of scientists to all over the world. The level of science went down so quickly because of good people leaving the country. Many smart people emigrated to the US and Europe. Some people stayed in Russia. After 1991 some people in Russia continued working very hard until today, some small spots of good level.
- **Detrimental influence of money on science.** Now in Russia scientific level grows up slowly, but the situation around science in Russia is not so good, because of people who take money for science: it has become business. All projects are applications: oil, gas, metallurgy, medicine. And if they give money they want to receive something in return. In all projects the managers don't understand the specificities of science (this was the situation before the present war).
- In the USSR you had to plan what you would do, how many papers you would publish per year, what discoveries you would make! Now it is the same, in Russia, you have to say how many papers the Institute will publish. They must publish not less than 5 articles per year, in good journals. It is very hard. 30% of the time researchers write reports about their work for the managers who fund. People who make regulations don't understand anything in science, but they follow the politics.
- There are simple ways for students to go work in science through open ways which have opened in the last 30 years: Moscow University, Moscow Institute of Physics and Technology, 5 or 6 institutes which produce young science at same level than in Europe/US. After that students go to doctorate (in Moscow, Novosibirsk, St Petersburg), and then postdoc to US/Europe and stay there. Because of that so many smart people go to the West.
- There is no motivation for science in Russia now, for young people, because life is not simple. Young people want to make money. Specialties which are popular: not scientific ones.
- In the last 50 years, 60%-70% of research projects in Russia were closed because of lack of money, because they were theoretical, not applied projects in the energy sector.
- In Israel, from 60 000 scientists, 1 000 scientists started on program Kamea from 99. Program for financial support of universities for scientists from Russia (90%).
- In Israel the situation is completely different, it is an open country. Connections with, and money from all the world. Scientists can go anywhere for postdoc. Some of them come back.
- Contrary to Israel, until now Russia is not part of the worldwide scientific community. First because citation indexes of publications made in Russia are not so high. For example experimental and theoretical physics, a Russian journal: citation index only 1, very low. It is



only for the Russian people. Popularization of Russian science is zero. There are very good papers in Russian journals but people don't know about it. For example an excellent article in 41 by Kolmogorov about turbulence. Only in 59 did people in England reproduce these results and the original article became famous. The same for an article published in 69 in theoretical physics, made public in 78 in the West, and the authors received the Nobel prize. (In 2004, American scientists David Gross, David Politzer and Frank Wilczek were awarded the Nobel Prize for explaining the behavior of quarks. They proved that if the quarks were pulled apart, energy would be released that was several orders of magnitude greater than nuclear energy. A similar theory was put forward in the late 1960s by Nikolai Bogolyubov in collaboration with Albert Tavkhelidze and Viktor Matveev. However, the development was secret and therefore remained unknown to the scientific community.) It is impossible to increase the level of science in a closed country. But in Israel no problem with that, so that there is more or less the same scientific level as in the rest of the world.

- In Russia and the USSR before, they have many smart people, but the politics have a hard influence on people. Some people who worked with Western scientists (in history, “journalist science”) are now in jail, because the Russian authorities think they divulged some secrets<sup>10</sup>. And of course, there is the influence of money and corruption, in and around science. There was faking of papers for making money, or agreements between factories (eg metallurgy) and institutes for putting up studies. In Ukraine, now, for each project which is financed, 84% has to be paid back to people from government offices (“atkat”). (This was the situation before the war.) In the USSR the corruption was not so high and open as it is in Russia now. In his institute (which was the head institute) the money was concentrated and distributed to other lower institutes. In his institute they took in people from the Army (Air force), generals who produced no work at all and gave money in return. Again this was the situation before the war.
- Politics disturb science, because people who distribute money for science don't understand science, how scientists work. They come to a minister position for 2, 3 years and then take another political position. Norbert Wiener in the 30s: money is helpful to science, but can destroy it.

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<sup>10</sup>XXX doesn't think they were political prisoners, see eg <https://www.themoscowtimes.com/2020/06/15/russian-arctic-scientist-charged-with-treason-for-passing-state-secrets-to-china-a70575> ; <https://www.wsj.com/articles/russia-accuses-space-agency-official-of-passing-military-secrets-to-nato-11594136070>.