

I am the cat who walks by himself

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Abstract

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I am the cat who walks by himself,
and all places are alike to me.
Rudyard Kipling¹

I am grateful to all those who contributed to this Festschrift which celebrates my 70th birthday and therefore the beginning of my eighth decade. In the Jewish religion, there is a prayer, “she-hehyanu” to thank the Lord for having kept us alive and let us reach this day. I am an atheist and I have no Lord to thank, but I wish to thank many other people who are no longer alive and who helped me reach this point.

The city of lions

First, I thank my parents, Salomon and Salomea Pressman, for leaving Poland before World War II and going to live temporarily in France, so that we remained alive. Otherwise, I would not have been able to celebrate my seventh birthday. My family originated in a city which was called Lemberg when my parents were born in the Austrian empire, Lwów when I was born, Lviv (Ukraine) today. It also has a French name (Léopol) and other names too. This means the city of lions (in Russian, “lev” means lion). If it had a Malay name, it would be Singapore. It is the geographical center of Europe, half-way between Rome and Moscow. You could live in that area in eight different countries without ever moving from your home. The boundaries moved.

My father had always been a fighter. During World War I, when he was ten years old, as the city was encircled by Russian troops and defended by the Austrians, there was a famine. The young boy went to crawl between the two armies to unearth frozen potatoes and bring them home to eat. When he was 14, in 1919, he left home and went

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¹R. Kipling, *Just So Stories*, MacMillan, London, 1902.

to Palestine, then under British mandate, to build roads and drain marshes. Three years later, he got the malaria and returned home to recuperate. Then he had to serve in the Polish army and went to an officer's course to reach the grade of "aspirant." After that he went to France to study electrical engineering, returned to Poland to marry, and then again to France where he had found work building power lines.

My mother came from a family of modern Jews. She spoke Polish and German, not Yiddish like in my fathers' family which was more traditional. Her father, Asher Schapira, was a journalist who was jailed several times for expressing socialist opinions. He died when my mother was 16. In the gymnasium where she learnt, one of her classmates was Stanisław (Stanley) Ulam. They were close friends and lost contact only when World War II started and Ulam was a professor of mathematics in the USA. (Lwów was a famous center for research in mathematics, Stefan Banach taught there.) In 1933 my newlywed mother went to France together with my father, and she followed him to remote places where there was no electricity and he was building power lines.

Beaulieu-sur-Dordogne

And so it happens that I was born in a village, Beaulieu-sur-Dordogne, in the Corrèze district, one of the poorest areas of France. But it was more complicated than that. My mother had no previous experience with childbirth and did not know what to do. The labor lasted three days, and she was told that it was necessary to sacrifice the baby or the mother. She answered: "not him, not me." I am so grateful to my mother for having been stubborn. After that, she could not have other children. She told me that when I came out, I looked very tired. Thereafter, whenever I complained to her that I was tired, she answered "you were born tired."

My parents wanted to call me Asher after my deceased grandfather, according to the Jewish tradition. However this was not a legal first name in France. They called me Aristide, after a popular French politician, Aristide Briand. That French name later saved our lives, when we had to conceal our Jewish origin.

Soon after my birth, foreign workers and their families were expelled from France because the economic depression had caused high unemployment. My father returned to Poland to be unemployed there, and I learnt to speak (and count, and write) in Polish. I was a happy Polish child. In 1937, foreign workers were allowed to come again to France, but without their families. My father found work in Paris and went to a lawyer to declare me a French citizen (anyone born in France could declare himself a Frenchman and the lawyer did that on my behalf). Then the French consulate in Lwów issued a French passport for me, heavily stamped *non valable en Espagne* (not valid in Spain): at that time, many young Frenchmen were volunteering to fight against the Franco regime and the French government did not want me to join that war. The passport was then also stamped with a Polish exit visa, and with Czechoslovakian and German transit visas. The latter was issued by *Deutsches Konsulat in Krakau*, with Gothic characters and the usual Nazi symbols (swastika and eagle). An adult took me with him in trains for two days, until we reached France on 19 October 1938 (no need of visa, since I had a French passport).

My father put me in a pension for children near Paris, and I quickly forgot Polish and learnt French. My father came to see me every weekend and asked the French authorities

to let my mother join us (just taking care of her French son was not considered as “work”). It took many months until my mother got a French visa, and finally she arrived six weeks before the war broke out. I told the other children “you see, I also have a mother” but I could not speak with her. I had forgotten Polish, and she also had forgotten most of what she had known in French.

The war starts

We moved to my father’s apartment in Paris, and then the war started. My father, who had always been a fighter, volunteered to the Polish brigade in the French army and told my mother that when we lose the war (there was no doubt about the outcome) she should go to the small village where I was born and people knew her, and if he could he would join us.

All adults in Paris were issued gas masks (children had no protection). When I saw my mother trying her gas mask, I burst into tears. My mother decided not to go to the shelter in case of air raid and to stay in our apartment. We lived in a modern building and had six floors above us to protect us.

In October 1939, my mother tried to send me to the neighborhood school, but it refused to accept me because I was not yet 6 years old. They had to accept me in February 1940 so that I entered in the middle of the year without any training in school discipline, and I was punished several times for various mischiefs. The teacher once put me in the garbage can.

Drôle de guerre

The “funny war” (*la drôle de guerre*) started in a rather civilized way (at least in France). The French army was completely demoralized. The Germans would send ahead a soldier speaking French, on a motorcycle. When he met French troops he shouted: “Halt! Lay down your weapons! You are my prisoners.” And they were prisoners. There was no risk. In the worst case, the French officer would say: *pardon*, it’s an error, you are our prisoner. Not a single shot was fired. (The war did not end so nicely, later I’ll tell you about the atrocities.) In June 1940, Paris was encircled by the German army and declared “open city”: it was not defended to avoid destruction and the population was allowed to leave it in trains that crossed the army lines. My mother and I took such a train and after three days of zigzags arrived in Beaulieu, and rented there a room, the very room where I was born.

Some time later, my father arrived in civilian clothes and with false papers that an officer had obligingly given to him. Some Frenchmen were really helpful people. We soon learnt that our radio had been stolen from our apartment and was held by someone in a neighboring village. My father went there and brought back the radio, a rare item at that time, so that we could listen to the BBC and later learn of the invasion of Russia and the war on other fronts.

Going to work

When I was 6 years old, I got my first job in the bakery of the village. The task was to glue bread tickets on large sheets that the baker would redeem for more flour. It was not a trivial task: “if there is a sheet for tickets of 200 grams, you scatter here and there a few

tickets of 100 grams, as if these were errors.” There were also counterfeited tickets, not quite the same color. “Don’t concentrate them in one area, but scatter them at random places, so that they won’t attract attention.” When all the monthly sheets had been filled, I was paid for my labour: a loaf of bread to bring home. I am grateful to the baker who gave me my first practical education.

Going to school

In October 1940, I went to school in Beaulieu. My parents wanted me to go to second grade. The teacher hesitated and gave me an exam: I had to add and multiply numbers, and I recited the alphabet: “a, bé, cé, . . .” (not “a, be, ce” as the French say). I called the letter j “iott” as in Polish. I passed the exam. Madame Salesse was a clever teacher.

It was a small village, and a small school. Each teacher had to hold two classes: first and second grade in one room, third and fourth in another room, and so on. Their technique was the following: while the teacher was taking care of one half of the children, the other half had to do exercises and learn by themselves. In this way, I learnt to learn. In that small school, there was a truly outstanding group of teachers and I shall be grateful to them all my life. I realized how great they were only after I returned to Paris.

These were the nicest years of my life. I was one of the children of the village and felt perfectly at home. When I reached the third grade, there was a problem: the teacher, Monsieur Lalite, was a prisoner of war and a young woman had been hired to replace him. As she knew no one in the village, she questioned the children. One of them was like me a Jewish refugee. His name was Wolf. “Where are you from?” He was born in Germany. “Ah, the Germans are good soldiers!” and then she dictated to all the class: *Les Allemands sont de bons soldats.*

When she asked me the same question, I answered that I was born here, in Beaulieu. That did not sound right. Typical names in the Corrèze district end in “ac” as in Jacques Chirac, the French President. So she asked where were my parents from. I said from Poland. “The poor Poles, they have lost the war.” (The poor French had also lost the war.) Then she inquired about what the parents were doing, and I answered that my father was cutting trees in the forest (this was an understatement, he actually was the foreman of a group of lumberjacks). That impressed her: “You see that child, his father has such a humble job and he is not ashamed of that. There are no silly jobs, there are only silly people.” And she dictated to the class the French proverb: *Il n’est point de sot métier, il n’est que de sottes gens.* (Some time later she must have learnt that my father had a degree in electrical engineering.)

Fortunately, the true teacher returned soon, under an exchange program called *la relève*: young Frenchmen volunteered to work in Germany in farms or factories and redeemed a prisoner of their choice (and also released German workers to fight on other fronts). After the war they were accused of collaborating with the enemy, a thorny moral problem.

These were the happiest years of my life. I played with the other children of the village, and like them went regularly to mass. I knew that there were Jewish children who had taken refuge in the village and I also played with them, but I did not know that I was one of them. There was a piano in the house where we lived and my mother gave piano lessons to little girls, but I had no patience for that. On my 8th birthday, I received as

a gift my first book which was not a book for the school: *Just So Stories*² by Rudyard Kipling. It had a beautiful green binding with golden letters, for sure it had been printed before the war. There were wonderful stories in the book, in particular “The cat who walked by himself.” I don’t know what happened to the book, whether I abandoned it in Beaulieu when we returned to Paris, or in Paris when we left for Israel. I hope that other children enjoyed that book. I bought a new copy, in English, when I was in London in 1965.

Fleeing from village to village

The good life ended in the spring of 1944, when someone discovered that my father was Jewish and tried to blackmail him. My father, who had always been a fighter, went to the woods and joined the partisans (FFI) where he got the rank of lieutenant. My mother and I took refuge in the house of a courageous French woman, Germaine Cheylac, who hid us in her house for several weeks (so that we would not be arrested in ours). I am most grateful to Miss Cheylac for being so helpful with us. I still continued to go to school until my father told us to take refuge further south, in a village called Nailloux from which one could see the Pyrenees mountains on a clear day. People there knew my father because he had also built power lines in that area before I was born. We went to a family called Valette who owned a small hotel-restaurant and already had some refugees in their hotel. There I also went to school, but that village was smaller than Beaulieu and a single teacher had to hold all the classes. We both quickly realized that I knew more than him and he started learning things from me.

Then, German troops came to Nailloux. They did not come to fight, but to rest from other fights. They took rooms in the village, flirted with the French girls, and had for some weeks a good life. Many came to eat in our restaurant. One of them once confided, when no other German could hear him: “Hitler kaputt.” If an officer had known, it would have been death penalty. Sometime later there was such a shortage of food that people ate their cats, and sometimes rats too. There was a rich supply of rats; some of them were so big that the cats would rather not fight them. Monsieur Valette once took me for a trip through the woods, to catch frogs that were then killed by putting them in boiling water. Absolutely delicious, even if you are not hungry. Another time, we collected a large bag of snails, also quite tasty. I decided to learn German and bought a Berlitz book. The first lesson started *Der Tee ist gut*, very useful for speaking with soldiers.

We listened to the BBC (this was forbidden of course) with its encouraging slogans:

“The goal of fifty one nations,
Capitulation without conditions.”³

On June 6, there were great news: the landing in Normandy. At once, everything changed. The partisans tried to prevent German reinforcements to move North. Of course, they could not stop a regular and much better equipped army, but they could harrass it and slow it down. My father, who had always been a fighter, blew up a bridge under a German military train, and was later decorated with *Croix de Guerre avec Etoile de Bronze* (cross

²*Histoires comme ça*, in French.

³There was also a recurring slogan that is hard to translate into English: *Patience et courage, on les aura, les Boches!*

of war with a bronze star). The citation read: while his group was under heavy fire and almost encircled, he retreated only after having accomplished his mission, and brought back all his men including two wounded ones, and all his equipment.

Playing cat and mouse

Partisans in the Nailloux region were less serious. One day they took over the village and soon after them German troops entered and the partisans fled away. The Germans were very angry. They burst into the hotel and pointed their guns at us. Everyone raised hands. A soldier disdainfully made a gesture to me to put down my hands. He told us: there are plenty of dishes in the restaurant, the partisans have eaten here (which was actually true, they must have been informed by our neighbor, who was a notorious collaborator). Madame Valette calmly answered that this was a restaurant and many people ate here. She added that some time earlier there were even more dishes because German soldiers had eaten here. Meanwhile other soldiers searched the house for weapons that would have been abandoned by the partisans.

Indeed, the partisans had left two guns in a back room. Fortunately, one of the servants had seen the guns and thrown them in a ditch outside the house. That servant was considered as the “idiot of the village.” (According to French tradition, in each village there is someone whose IQ is even lower than that of the other villagers, and he is called the idiot of the village.) I don’t remember the name of that idiot⁴ but I shall always be grateful to him for his brilliant initiative that saved many lives, perhaps my own. Maybe he was not really an idiot, he only pretended to be one.

Some days later, the partisans came again, arrested our neighbor the collaborator and took him away. His daughter was hysterical and came to our hotel to cry. Madame Valette brought her to a bed in a room upstairs and people tried to comfort her. Naturally German soldiers also came after the partisans had fled away. I was upstairs and looked through the window, as any curious boy. I saw a soldier walking and pointing his gun ahead of him. He also saw me and angrily shouted at me, but I could not understand. Surely it was not “*Der Tee ist gut.*” Then the soldier briskly waved his hand, showing me to get away from the window and inside the room: he did not want to hit me if he had to open fire. I am grateful to this unknown German soldier for having been concerned about my safety, even though I was his enemy.

The second landing

On 15 August 1944, Allied troops landed on the Mediterranean shore of France and started moving north. On August 22, Paris was liberated, as the French policemen turned their light arms against the Germans. The German commander in Paris refused to obey the orders of Hitler which had been to destroy the city. In the reception room of the hotel, we had a large road map of France, and I had pinned on it small American and British flags, to follow the advance of the armies as related daily by the BBC.

The partisans came again and I pinned a small French flag on our village Nailloux (I was later reprimanded for this act of patriotism). Naturally, German troops soon arrived too and searched through the hotel. An elegantly dressed officer entered the reception

⁴Maybe it was Jean-François, as in the song of Edith Piaf, *Les Trois Cloches*.

room. He saw the map and had a shock. Obviously, he did not listen to the BBC. That was *verboten* to him. He looked at the map, and looked, and looked, and looked, for a very long time. And then he quickly removed all my little flags, and stole the map. He was not angry at us. We were not angry at him. Obviously, he needed a good map to find his way out. We could always buy another road map in the local store, and the little flags were ready.

Return to Beaulieu

Some time later, we could return to Beaulieu-sur-Dordogne. Nothing had changed. Germans were never seen there. On the Dordogne river, there was a long bridge, so important strategically that its pillars had places ready for explosive charges, to blow up the bridge. The locations for explosive charges were still clearly indicated. Miss Cheylac was so happy to see us! I returned to school, in the class of Monsieur Faure.

However, further north, there had been the worst atrocities against the French people during that war. In Oradour-sur-Glane, SS soldiers from division “Das Reich” killed 642 villagers by herding them into a church and burning the church. When Tulle, the capital of the Corrèze district, was liberated, 99 men whom the SS had taken as hostages were found hanged to lampposts and balconies.

In December, most of France was liberated and there were battles in the Rhine valley, near the Siegfried fortification line that the Germans had built many years earlier. The British soldiers had a song: “We shall hang our washing on the Siegfried line . . .” My father had enough of fighting, and asked to be discharged from the FFI. We took a train for Paris. It was a long trip, because many bridges had been blown up and not yet repaired, and this was also the end of my good life.

Return to Paris

In Paris, we returned to our apartment. By law, we had the right to recover it, although we had not paid the rent during our absence. The people who had used it (and paid the rent) had two weeks to find other quarters. When we entered the apartment, we found that most of its contents had been stolen, the furniture and rugs were damaged, but still we were alive and at home.

I returned to the same neighborhood school that had accepted me for a few months when I was six years old, but there was a difference. Now I was a country boy with a funny southern accent, but my level of knowledge was far above that of the children in Paris. The headmaster recommended to send me to a better school, and my parents enrolled me in Lycée Voltaire, a long walk away (or three métro stations).

There were other things I had to learn. Now I was Jewish, and need not go to mass. On 8 May 1945, Germany capitulated (without conditions, as promised) and the school gave us one day of vacation. Soon however, there would be terrible news. No one remained alive in our family in Poland (later we learnt that a child had been saved by a catholic family which adopted him). My mother was so grieved that she lost her mind and for two years could not function normally. My father was stronger. He found work in a factory of electric appliances and designed new ones so cleverly that they sold well. In his contract, he was to receive a small percentage of the sales, and as this small fraction became a lot

of money, he was fired by his bosses who were not content with their much larger fraction. Later he became a teacher in an ORT vocational school.

Lycée Votaire was a large school and there were eight parallel classes with slightly different programs, labelled A (Latin, Greek, and one modern language), B (Latin and two modern languages), C (Latin and one foreign language), and M (“modern” program: no Latin, but two foreign languages). The Lycée was in a lower middle class area (near the Père Lachaise cemetery) and still, only two classes were “modern”. Parents wanted their children to learn Latin, as had been obligatory for everyone until 1940. Only then, following the shock of German occupation, the French government took the courageous decision of making Latin not mandatory.

The Lycée was not far from a Jewish area and about one quarter of the pupils were Jewish and had lost her fathers in concentration camps. The Jewish children laughed at me because I did not know Yiddish. Some of the French children were antisemitic, a few of them virulently so. One of them declared that all the Jews should go to Palestine (still under British mandate). He had nothing against their religion, but he loathed their behavior. Except that one Jewish child was perfectly OK. You guess whom: a French educated child, who had recently learnt that he was Jewish.

Joining the boyscouts

In the Lycée, another Jewish boy, Maurice Goldman, invited me to join the boyscouts. There were in France four organizations of boyscouts: Scouts de France (catholics), Eclaireurs Unionistes de France (EUF, protestants), Eclaireurs Israélites de France (EIF, Jewish), and Eclaireurs de France (EDF, atheists). Of all the persons mentioned above, Maurice is the only one with whom I still have contact. I met him during a stay in the nuclear center of Saclay in 1956-57, and again during a visit to Collège de France in 2001. His expertise is NMR (that he calls RMN) and he is a member of the French Academy of Sciences.

Another boyscout in our group is even more famous than him: Jacques Benveniste, who was awarded *twice* the Ig-nobel Prize for the discovery of “water memory”⁵ and for its transmission to other water over the Internet. His father was a physician and had a telephone, Tru 19-33, which we used for transmitting urgent messages to others in our group.

In the EIF, I passed various exams to acquire badges and raise in the ranks. I learnt the names of months and holidays in the Jewish calendar (I still remember most of them), and I had my first festive Passover dinner. We had a rabbi to teach us more of our religion. I often antagonized him. When Rabbi Feuerwerker told us that it was forbidden to mix milk and meat products in the same meal, I asked him why. He said that it was written in the Torah, and I asked why we had to do what was written in the Torah. The rabbi recommended to expel me from the EIF, but my superiors refused. One evening he asked us to choose a subject to teach us, and I proposed the life in Judea under Roman occupation. He answered that nothing interesting happened at that time. Obviously I should not have expected the learned rabbi to tell us that a prominent social activist called Jesus was put to death by the Roman occupation forces, in connivance with Jewish collaborators.

⁵J. Benveniste et al., Nature **333**, 816 (1988). See also editorial on page 787.

Learning languages

At that time I also started to learn Hebrew for my Bar-Mitsva ceremony at age 13, where I had to publicly read a passage of the Torah (Exodus, Chapt. 18). That passage included a conversation between Moses and his father in law Jethro, the high priest of the Midianites, who explained to Moses how to organize a hierarchy of public servants to rule the people of Israel. I was already a rebel. I refused to chant the text in the traditional fashion, and I read it in a natural way, as a conversation. People in the synagogue were amazed and said that this was the right way of reading the Torah.

I also learnt two foreign languages in Lycée Voltaire. Nearly everyone took English as the first foreign language. For the second one, the choice was between German and Spanish. My father forbade me to learn German. He also forbade me to ever have any contacts with German people (though he carefully added: not with the present generation). I still remember some Spanish, but by now most of it is *olvidado*. Starting to learn two new languages simultaneously may cause confusion. Once I said “al” instead of “sobre” (over). Most pupils took German as their other language, including the Jewish ones who had lost their fathers. It was easier for them, because of the resemblance with Yiddish.

Israel becomes independent

On 15 May 1948 Israel was declared an independent state and there was a great joy in the Jewish community. We applied to the Israeli Consulate for an immigration visa. At that time there was not yet in Israel a “law of return” which guarantees the right of immigration to every Jew. The Consulate refused: “You have an apartment in Paris. There are more than a million Jews in the camps, they have to come first.” We came more than a year later.

Just before we left Paris, there was Yom Kippur (the holiest day in the Hebrew calendar) and I went to attend services in the neighborhood synagogue. There was a mixed congregation, with people from Eastern Europe who spoke Yiddish, and people from North Africa who did not. The rabbi started a sermon to explain that now there was a State of Israel that we had to support. As he spoke in French, the East Europeans shouted at him “Reth Yiddish!” He answered that not everyone understood that language, and several people confirmed that this was indeed true. The rabbi explained that he spoke the language of the country where we lived, so that everyone should understand. This did not help. The East Europeans continued to shout at him to prevent him from speaking. Then the rabbi got very angry, and shouted back “*Sales juifs!*” (filthy Jews). That was enough for me. I got up and left the synagogue, and never since then did I set foot in a synagogue again.

To leave for Israel, I needed a new French passport. I was then 15 years old, and from my picture in that passport it appears that I was a handsome young man. Indeed, all the girls were running after me. But I was extremely shy, and I was running away from them.

Arrival in Haifa

We took a special train (*le train juif*, as the railroad employees called it) and arrived in Marseille. For the first time in my life, I saw the sea. We took the ship Negba. The sea

was calm and after a few days we reached the Holy Land. We were filled with emotion: at last we are at home! We stayed overnight in the ship, and went ashore the following morning. I shall never forget the welcome.

First, I was doused with a spray of DDT on my head (at that time I had plenty of hair). Then we were bussed to an abandoned British army camp. In each barrack, there were 60 beds. Our hosts didn't even charge us the rent. I had never expected such an hospitality.

My father was not unemployed a single day. He immediately found work. You guess what: building power lines. So he could rent a room near Tel-Aviv and soon I could go to school.

Kalay high school

I enrolled in the Kalay high school in Givatayim, which was run by the workers union (*histadruth*). At that time, schools in Israel were run by political organizations, as they had been during the British mandate before independence. That school had orders to accept new immigrants, even if they didn't know Hebrew, and to give them a 10% discount on tuition fees.

Tuition fees? That was a new notion for me. In the French Republic where I was born, which is the land of freedom, education is free: tuition free and religion free (that is, antireligious). Now I had to learn many books of the Bible — only the Old Testament of course. Since this was a socialist school, the Bible was not taught as a religious book, but as an expression of the struggle of classes. The Bible teacher also taught us the precepts of Karl Marx.

The pupils in that school were not supposed to go on to university studies but to start new kibbutzim (collective farms). In addition to the mandatory studies in Bible, Hebrew, Maths and English, there were also courses in history, biology and Arabic. I had other plans. I asked to be exempted from Arabic, because I knew French that the school did not teach. The management agreed, and when they gave me my final certificate two years later, I had a mark 10/10 in French. The ministry of education refused to accept it because the school was not accredited for teaching French. The school then gave me a passing grade 6/10 in Arabic.

I also did not want to learn history or biology, but physics and chemistry that the school did not teach at all. I went to the ministry of education and proposed to pass my matriculation exams as an external student, unrelated to any school. However, that was permitted only to people who did not attend any school. They found a solution: I would be examined with the pupils of a neighboring school in Ramat Gan (which belonged to a right wing party). That school kindly allowed me to practice in their chemistry lab. I had to learn the rest from books. For Marxism, there was no solution and I had to take the exam in my school.

I passed the written exams in physics and chemistry in the Ramat Gan school. My grade in physics was 8/10, because my book used cgs units, and the exam was in MKS.

Military training

I matriculated and got a deferment from military service, but I still had to do two months of basic army training during the summer. I was not a very good soldier. I broke

my glasses, and the military optometrist who prescribed new ones said that my vision was so acute that I would find the most beautiful girl in the world to marry. (How did he know so long in advance?)

Together with me in the army there were two French immigrants who had served for one year in the French army in Indochina and were already very well trained. They had to do again their military service in Israel. (Only later, in 1961, France and Israel made an agreement to prevent duplicating military services, and I went to the French Consulate in Haifa to regularize my situation.)

The Hebrew Technion in Haifa⁶

I enrolled in Technion in the department of mechanical engineering. I really wanted to learn physics, but my father had warned me that I would never find a job. (I am in good company: Eugene Wigner learnt chemical physics because his father had told him that he would not find a job as a physicist.)

Some weeks before I started my studies, as I had nothing to do except giving private lessons, I learnt from a mathematics book of my father and solved all 2500 exercises. After that, I used not to come to lectures, but to learn by myself, at my own pace. I would still come to one lecture by each teacher, to see who he was. When I came to a lecture by Professor Zakon, the teacher of mathematics, I caught an error in a proof. He was terrified, and promised to give me the grade 100 provided that I never come to his lectures.

In this way, I acquired a good reputation, got top grades sometimes without exam, and had plenty of time left to learn physics. Only when I reached the fourth year I had difficulties with the one of the teachers who lived in Tel-Aviv and did not know that I had a good reputation.

Relativity

I learnt the elements of relativity theory from Einstein's booklet *The Meaning of Relativity*, and stumbled on a difficulty: what were the Lorentz transformation laws of electric and magnetic susceptibilities. I asked Prof. Nathan Robinson, the head of the physics laboratory for freshman, whom I knew. He had studied many years earlier in the University of Berlin, and in his student notebook he had the signatures of his teachers, including Einstein and Planck. Meanwhile, however, he had specialized in rainfall measurements and had no idea of what I asked. He sent me to ask a new professor who had just arrived at Technion: Nathan Rosen who had been a close collaborator to Einstein.

Rosen also did not know the answer to my question (later I found it in Landau and Lifshitz, *Electrodynamics of Continuous Media*). Rosen lent me his personal copy of Tolman's book *Relativity, Thermodynamics, and Cosmology*, from which I could learn more. Then sometime during my second year of mechanical engineering, as I was supposed to learn about bolts and nuts, I found that the Maxwell equations in curved space had a property that the resulting wave equation was like that for particles of finite mass (the Compton wavelength was equal to the radius of curvature of spacetime).

⁶Today called Technion — Israel Institute of Technology.

I wrote a short note and sent it to Prince Louis de Broglie,⁷ who was the perpetual secretary of the French Académie des Sciences. De Broglie kindly answered that Madame Tonnelat had found a similar result and I should quote her work. I did that and he accepted my note, which was published in *Comptes Rendus* **239**, 1023 (1954). A copy of his handwritten letter to me appears here.

I am most grateful to Prince Louis de Broglie. He was not only a prince by birth. He also was a noble person who understood that beginners should be encouraged in their first steps, even if their work had little value.

Asher Peres

When I came to Israel, I informally restored my true first name Asher. However my formal documents (in the army, and my identity card) still had my French first name Aristide. Once my army commander called me “Artistide.” Also I had difficulties to cash checks bearing the name Asher. I decided to legalize the situation, and also to change my family name Pressman to a Hebrew name, as was then customary in Israel. Most people tried to keep in the Hebrew name something reminding the old one. There were plenty of jokes. Someone would change his name from Bernstein to Ben-Satan (son of Satan).

The government agency who took care of name changes also gave advice on this matter. They recommended to shorten Pressman into Peres (a mountain eagle, *gypaetus barbatus*), or to keep all the consonants and become Afarsamon⁸ (a fruit, *diospiros virsinata*). I chose Peres, and my parents reluctantly followed suit. That change of name later helped to save me from jail when I returned to France for one year of studies in 1956.

With hindsight, I should have chosen Afarsamon, so as to be the first author of my future publications. For example the famous teleportation paper⁹ would have been Afarsamon et al..

Metallurgy

In my third year I had a course in metallurgy. As usual, I went to have a look at the teacher, Professor Taub, and I read a book: Cottrell, *The Physics of Metals*. When the exam came, I answered with notions well beyond what the professor had taught. He called me and proposed that I become his teaching assistant for the following year, or else do some research. You guess what I chose. The project I had in mind was to measure the cold work energy in copper: when a metal is subjected to plastic deformation, most of the work done is released into heat, but a small part remains in the metal as internal stresses. The difference can be measured by calorimetric methods. I proposed a direct measurement by making an electric cell whose electrodes would be copper under stress and unstrained copper. I estimated the potential difference to several millivolts.

This was a reckless idea. I did not know that electrochemistry is akin to black magic, with unexplained surface phenomena called “polarization” and other parasitic effects much larger than what I intended to measure. I saw the potential difference change erratically with time. To stabilize it, I introduced a third electrode (a grid, as in a triode) and

⁷Nobel Prize in Physics, 1929.

⁸In Hebrew, the same character is used for f and p (and ph). Most vowels are not written.

⁹C. H. Bennett et al., *Phys. Rev. Letters* **70**, 1895 (1993).

let an alternating current pass which was not recorded by the DC voltmeter. When I finally obtained reproducible results, whatever they meant, Professor Taub let me publish them.¹⁰ This was my first and last experimental paper. Thereafter I worked only on theory, which is much safer.

Return to France

At that time, the French and Israeli governments agreed that the French would help build a powerful nuclear reactor in southern Israel (its purpose was not disclosed, but it was obvious). Israel needed to train a large number of experts for its maintenance, and Technion was asked to send a metallurgy expert for training in France. Professor Taub recommended to send me although I still was an undergraduate, because I knew French. This assignment was considered as part of the military service that I had to start upon graduation.

I obtained my first Israeli passport (a nontrivial task at that time, because the government did not like Israelis to travel) and I went to the French Consulate in Haifa to get a visa to study for one year. The Consulate gave me a visa for three months only, specifying that it could not be extended under any circumstances. I arrived in Paris in October 1956 and asked the scientific attaché in the Israel Embassy, Mr. Shalevet Freier¹¹ to help me. He put me in contact with a special police agent called Monsieur Cirinelli, who accompanied me three times to Préfecture de Police to extend my visa.

I found a room with an old lady, Madame Grimon, who had an apartment in Ile Saint Louis, the smaller of the two islands that had been the ancient Paris (the larger island has the Notre-Dame cathedral). She rented two rooms in her apartment. Her other tenant was Monsieur Goubault who had been a pilot in the French Air Force during World War I and meanwhile had become an expert on wines. Ile Saint Louis is charming. Once I asked in the street where could I buy a small lock and was answered “you won’t find that in *the* island, you must go to Paris.”

I started my studies in Centre d’Etudes Nucléaires de Saclay. My old friend Maurice Goldman was also there, working on NMR with Anatole Abragam. First, I had a course on nuclear reactor structure which gave me a formal degree in “atomic engineering,” and then I went for a stage in the metallurgy department. A security guard there saw in my foreign identity card that I was born in Beaulieu. He was born in Uzerche, also in the Corrèze district. For him I was *un pays* (a fellow countryman) and he liked me.

Escape from jail

My visits to Préfecture de Police with Monsieur Cirinelli arose suspicion. As my Israeli passport showed, I was born in France. If I also had French citizenship, I should have done my military service there, or else I had been condemned *in absentia* to one year in prison, and after it still had to do the regular military service in France. Fortunately, the French police is highly compartmented and the branch that keeps a watch on foreigners is not the one that looks for deserters, because these are two disjoint sets. However, I belonged to an even smaller subset: foreigners born in a remote village in rural France.

¹⁰A. Peres, Bull. Research Council Israel **6C**, 9 (1957).

¹¹Freier later became the head of the Israel Atomic Energy Commission.

One day, I received a letter requesting to bring my birth certificate to the nearby police station. That was no problem. I asked my former teacher Madame Salesse in Beaulieu to send me a birth certificate specifying that my parents had Polish citizenship, and all was quiet for some time.

However in September I got another letter, ominously carrying both my old and new names, asking me to report again to the police station. The nooze was tightening. I reported instead to the El-Al office, and asked to take the first plane for Israel. This was just before the Hebrew New Year and the other high holidays. All seats were booked for several weeks, but I knew personally the El-Al clerk, Suzanne Puderbeutel. We had played together when we were small children and our parents lived in the same building. Recently we had gone once to the movies. I am grateful to Suzanne for giving me a seat in the first plane, so that I could fly to safety.

After Suzanne, there is no one else I have to thank for “having kept me alive and let me reach this day.” At last I was safe.

Aviva

I rented an apartment in Haifa (one room without kitchen) and I started to teach nuclear engineering in Technion. This was considered as part of my military service in Israel. I also started graduate work toward a PhD degree in physics under the guidance of Professor Rosen.

On 5 January 1958, I took a train from Tel-Aviv to Haifa. Two pretty young women wearing army uniforms took seats opposite to me and started speaking French. One of them was indeed *very* pretty. I had always been terribly shy with women, but they could not know that I was shy. I decided to be courageous and I bravely entered into their conversation, in French.

Two hours later, when the train arrived, Aviva and I exchanged addresses. We already wanted to marry, but we did not reveal that to each other until some weeks later. We actually married in August.

The rest of my story is in my formal CV.