SCHOLARS IN SEARCH OF A BETTER WORLD: 20 TALES FROM POLAND

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COPERNICUS HEN HEVELIUS CHWIN
DOMEYKO NOWICKI ŁUKASIEWICZ
ORBITOWSKI ZAKRZEWSKA CHUTNIK
BAUDOUIN DE COURTENAY
SIWCZYK JOTEYKO ŁOZIŃSKI
SKŁODOWSKA-CURIE MORSKA
SMOLUCHOWSKI MUSZYŃSKI
ZNANIECKI IWASIÓW WEIGL GOŹLIŃSKI
MALINOWSKI KARPOWICZ HIRSZFELD
MALANOWSKA CZOCHRALSKI SIEMION
BANACH MUREK INGARDEN SZOSTAK
TARSKI MIŁKOWSKI ULAM ZAWADA
KIELAN-JAWOROWSKA WOJCIECHOWSKI
KOŁAKOWSKI BATOR

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Introduction

Scholars in Search of a Better World: 20 Tales from Poland is the story of some brilliant men and women, their passionate investigation of the world and the difficulties they had to overcome. We have chosen twenty outstanding figures from the fifteenth to the twenty-first century who represent a wide range of academic disciplines and who were connected with Poland. The unusual feature of this book is that these scholars' fortunes, often dramatic and complicated by historical events, are presented here by twenty contemporary Polish authors. As a result, this collection is not just a unique, polyphonic account of how great scholarship was achieved but also an introduction to present-day Polish literature, acquainting the reader with the sensitivity and ingenuity of twenty different writers. These authors have brought to life the formalised world of academic theories by describing the emotions, desires and imagination of their subjects, the eminent scientists and scholars.

Not surprisingly, the first text is about **Nicolaus Copernicus**. In *Narratio ultima* by Maciej Hen we meet the astronomer in the final days of his life. Bedridden after a stroke, Copernicus is visited by his one and only student, Rheticus. From his words and from the silent astronomer's limited reactions, Hen composes a moving story of the personal sacrifices Copernicus had to make as the price for his scientific passion. Set against the backdrop of seventeenth-century Danzig, Stefan Chwin's essay *Astronomy, the King's Moon and Jopen Beer* is the story of another eminent astronomer, **Johannes Hevelius**. *A Scratch* by Wojciech Nowicki is a story about **Ignacy Domeyko**, an outstanding geologist and engineer who worked in Chile, his extensive travels and

his relationships with friends scattered about the world. *The Earth Took Its Due: A Fairy Tale* by Łukasz Orbitowski is an enchanting story about **Ignacy Łukasiewicz**, pharmacist and inventor of the kerosene lamp, whom we meet here as the brave Lux fighting the dragon of darkness. In her text *A Chill Wind*, Sylwia Chutnik introduces us to the little known but fascinating figure of **Maria Zakrzewska**, a medical doctor of Polish origin who, despite the limitations faced by women at the time, revolutionised the education of female nurses and doctors in the United States. The distinguished linguist **Jan Niecisław Baudouin de Courtenay**, who was ahead of his times both intellectually and in terms of his outlook, is presented by Krzysztof Siwczyk in his text, *A Language That Speaks Us*. The next essay, *Three Days in the Life of Józefa Joteyko* by Mikołaj Łoziński, is about an outstanding physiologist and psychologist. In three distinct snapshots, Łoziński describes **Józefa Joteyko's** childhood fascination with science, her subsequent scholarly successes abroad, and finally her return to Poland and her rejection by the ossified local academic community. Izabela Morska's essay, *Maria Skłodowska-Curie, or the Hero's Journey*, is about the great physicist and chemist who won the Nobel Prize twice. Morska views **Skłodowska-Curie** from the perspective of her heroic everyday struggles, first with poverty and exclusion, and later with rejection. Andrzej Muszyński's portrait of **Marian Smoluchowski**, a brilliant physicist and mountaineer who died prematurely, is also about the fate of a region devastated by pestilence as well as by the First World War. How do you carry on working in the face of such horrors? Should you stay or leave? These painful questions, which still affect many scholars around the world today, often recur within this book. The next text, by Inga Iwasiów, is an encounter with **Florian Znaniecki**, the eminent cultural philosopher and sociologist. Iwasiów holds a personal dialogue with

him, in keeping with the autobiographical method that Znaniecki pioneered. *The Trout* by Paweł Goźliński is the moving tale of **Rudolf Weigl**, the eminent biologist who devised a vaccine against typhus, among other achievements. Goźliński tells the story through the eyes of Weigl's son, who during a fishing trip with his father thinks back to the family's dramatic fortunes during the war. Ignacy Karpowicz's essay about the world-class anthropologist **Bronisław Malinowski** is on the one hand a witty portrayal of an unusual scholar and on the other a sardonic rumination on the applicability of past research methods in the fast-moving world of today. In *The Story of an Epidemic* by Kaja Malanowska we follow in the footsteps of the great doctor and microbiologist **Ludwik Hirszfeld**. From the wide-ranging and dramatic fortunes of a man who survived two world wars, the ghetto, the death of his daughter and the Stalinist era, Malanowska has chosen a forgotten episode about his involvement in the fight against a lethal typhus epidemic that ravaged the Balkans. The next text, *Intrusions*, is Piotr Siemion's moving account of the life of **Jan Czochralski**, chemist and metallurgist, whose method for obtaining silicon monocrystals laid the foundations for the dynamic development of electronics on a global scale. Here we meet the scientist in his old age, being brutally interrogated by secret policemen of the new communist regime. Weronika Murek's text, *A Few Numbers, a Few Words*, is a brief story about the extraordinary life of the mathematical genius **Stefan Banach**. The inspiration for *Ingarden and Time* by Wit Szostak are two photographs of the Kraków philosopher **Roman Ingarde**n taken at very different points in his life. Maciej Miłkowski's story about the great logician, philosopher and mathematician **Alfred Tarski** is in the form of a family conversation that acts as the starting point for some thoughts about the nature

of truth — a key concept in Tarski's work. In *The Red Button*, over a series of brief scenes, Łukasz Zawada presents the figure of **Stanisław Ulam**, the leading physicist and mathematician who was a joint creator of the thermo-nuclear bomb. These loosely connected, sometimes quite trivial incidents in Ulam's life provide an opportunity to ask some elementary questions about the future of life on Earth and about the moral responsibility of science. *A Good Person to Meet*, by Piotr Wojciechowski, is the author's personal tribute to **Zofia Kielan-Jaworowska**, palaeobiologist, heroic nurse and legendary organiser of palaeontological expeditions. Closing the collection is Joanna Bator's text about the philosopher **Leszek Kołakowski**, an account of her experience of reading his works. The essay is crowned by some thoughts on the differences between philosophical and literary interpretations of the world.

This anthology, which presents selected figures from the long list of great scholars, has been produced to mark the seventieth anniversary of the Polish Academy of Sciences (PAN), an institution composed chiefly of a corporation of scholars and research institutes. Just as good scholarship does not progress without dialogue and cooperation between a large number of people, this book would not have been produced without the support of the many consultants and sponsors who kindly contributed to it. Our thanks are expressed in a separate acknowledgements section at the end of the book. But most of all, credit is due to the wonderful Polish authors who wrote the twenty literary portraits of the scholars included here. They have given us the opportunity to discover the fascinating world of scholarship and the great men and women from centuries past who worked tirelessly in search of the truth.

Anna Plater-Zyberk
EDITOR-IN-CHIEF

Nicolaus
COPERNICUS

1473 Toruń — 1543 Frombork

Astronomer, physician and humanist. His first schooling was in Toruń. In 1491 he became a student at the Kraków Academy, where he came into contact with the mature school of astronomy that was famous in Europe. He went on to study law in Bologna and Ferrara, and medicine in Padua. He took minor holy orders and became a canon for the Warmian Cathedral Chapter in Frombork. From 1510 to 1537 he performed numerous administrative functions. During this period he developed his views on monetary reform and worked out a tariff to regulate the prices and methods of baking bread. He also practised medicine while working on his heliocentric theory, the final version of which he set out in *De revolutionibus* (1543). Copernicus' one and only student was Georg Joachim Rheticus, who came to Frombork in 1539 from Wittenberg, and who published *Narratio Prima* in 1540, the first printed book to publicise Copernicus' astronomy. In 1542 Copernicus' essay on trigonometry, *De lateribus et angulis triangulorum*, which would form the final chapters of the first volume of *De revolutionibus*, was issued in Wittenberg. Soon after, Rheticus obtained Copernicus' consent to publish the entire treatise, *De revolutionibus orbium coelestium*, which appeared in 1543 in Nuremberg. Late in 1542 Copernicus suffered a severe cerebral stroke. There is a theory that he was able to receive a copy of his great work on his deathbed. Despite fears that his vision of the Earth revolving around the Sun, contrary to biblical tradition and to Ptolemy's notions, might be condemned, this occurred only seventy years later, in 1616, as a result of the Galileo affair. Copernicus' work was removed from the Catholic Church's index of banned books in 1819.

Maciej Hen

In 1980 he graduated with a degree in cinematography from the Łódź Film School. For some years he tried his hand at various disciplines, working as a cameraman, photographer, documentary film producer, journalist, translator from English, musician and television lighting director. He has written three novels: *According to Her* (DUE, 2004), *Solfatara* (W.A.B., 2015, winner of the Gombrowicz Prize 2016) and *Deutsch for Intermediates* (Wydawnictwo Literackie, 2019). His latest book, *The Beatles and Us*, was published by Agora in spring 2021. He is currently working on a novel, *Days with Callimachus*, to be published by Wydawnictwo Literackie.

Narratio ultima

When the patient was uncovered to be washed, for his shirt to be changed and for the gut through which urine flowed into a smooth vessel of white clay to be replaced, Rheticus discreetly withdrew behind the door. The young Jewish physician from Königsberg, sent by Duke Albert, swiftly saw to the task and nodded to the visitor through the half-open door. Rheticus entered, stood by the wall and, clutching his parcel of printed paper wrapped in canvas, watched in silence as the Jew carefully covered the patient, placing a grey cloth cap with ear flaps on his head and straightening his pillow to stop the poor man from gagging on the saliva that was trickling from his parted lips. After a brief critical examination of his work, Doctor Isaak May went to the window and set it ajar, admitting the cry of gulls and a pale shaft of March sunlight into the chamber. Rheticus remembered how Copernicus had once pointed out these windows to him, made to his own design, that could be freely tilted on pivots set into the frames in imitation of the band of an astrolabe.

"Our Doctor Nicolaus likes fresh air," said the physician, addressing the visitor with a meaningful smirk.

"Yes, he always has," said Rheticus, hesitantly returning the smile.

The Jewish medic must have been roughly his contemporary; he looked at most thirty, perhaps less, were one to remove the curly beard that gave him the *gravitas* so vital in his profession.

"Doctor," asked Rheticus, "can he hear?"

"In this state probably not," said the doctor, shaking his head. "But who can know? Sometimes he wakes up, and then he looks perfectly conscious, he follows people with his gaze, and I think he follows their voices too."

"How are you treating him?"

"Strictly according to the postal instructions I receive from Doctor Solfa, the Duke's physician. Leeches every morning, cupping once a week, but only from the nape to the scapulae, rubbing with hot oils every other day..."

"Medicinal oils?"

"Naturally. Oils of citron, clove and ginger. Apart from that, soaking the feet in hot water with salt and herbs: lily, pepper and fresh ginger root. We import them specially all the way from Lwów. In addition, suppositories once a day, camomile with nutmeg, and nasal powder to arouse the senses, made of ferula, cardamom and dried ginger. And of course a diet. Doctor Solfa has prescribed plain bread, beetroots and figs." The doctor pointed to the products he'd mentioned, set out in small bowls on a box at the head of the patient's bed. "Well, we try to give them to him, but..." He threw up his hands helplessly. "We don't want him to choke, do we?"

Rheticus nodded. "They're doing what they can," he thought. "My own father, dear Lord, shine Your light on his tormented soul, would have tried to cure him in exactly the same way."

When Doctor May departed the chamber, leaving him on his own with the patient, Rheticus moved a stool up to the bed. Only close to could he tell how very much Copernicus had changed. Two years ago, he had had a silky, shining wave of dark, flowing hair, but now it protruded from under the wretched cap like matted grey shreds;

only the tips of it retained the vestiges of a reddish tinge. His emaciated face was dominated by his large, bony nose, which pointed slightly to the left.

Rheticus cast a glance at the partly open door and then softly addressed the man lying in the bed.

"Can you hear me, dear Master? It is I, Joachim! Georg Joachim Rheticus, your devoted pupil!" He gently took the sick man's hand, leaned forwards and said in an even softer tone: "In great secrecy I begged Rector Borner for two weeks' leave to give you the opportunity of making the final corrections before the book is published, printed in five hundred copies. Look, I have it here! Right here!"

He drew Copernicus' fingers along the edge of the thick stack of papers, tangible through the canvas, but there was no reaction. He replaced the sick man's hand on the bedding and set about unpacking the parcel. Once he had brought the printed volume into the daylight, he looked sidelong at the first page, and raising it at such an angle that if Copernicus chose to open his eyes he could see it, he gave a worried sigh and said: "I don't have to ask what you'll say to this, Master. For my part I can only promise you that I shall move heaven and earth…" He couldn't help smiling at his own words. "Yes, I'll move heaven and earth to restore your original title" he went on. "Oh yes, I'm going to haul them both over the coals for those celestial spheres, you can rest assured! Petreius is less to blame here, because a printer prints whatever he is given to print. But Osiander… Ah, if at the time I had had a shadow of suspicion that he would treat your book with such impudence, I would never have entrusted its publication to his care!"

The young scholar fell silent, then snorted angrily, and there was a long pause before he continued in a wistful tone: "But in fact I had

no alternative... You know that well; after all, our mundane, petty motives and aspirations cannot hide any secrets from your powerful mind, capable of fathoming principles of the order of the universe that the most brilliant thinkers of past centuries failed to grasp. Thus, just as you believed that it wouldn't hurt to approach the Pope in Rome to extend his protection to the work, so it was that I, in order to complete the task I had set myself for the good of science and of all humankind, had to find a theological authority who would take our side among the reformers as well. I hope you don't hold it against me, my beloved Master?"

Joyfully he noticed that the baggy folds of skin drooping onto the sick man's eyelids had lifted a little, slightly uncovering his cloudy eyes.

"Thanks be to God Almighty!" whispered Rheticus. "Master, Master Nicolaus, can you see me? Or at least hear me? If you can, lower your eyelids! And now raise them! Ah, praise the Lord!"

In his excitement he tried to show Copernicus the printed proof again.

"Can you see the book, Master Nicolaus? It says in large letters, plain as day, *Nicolai Copernici Torinensis De revolutionibus*, can you see that? Don't look any further — as I said, there won't be any *orbium coelestium*. Just confirm to me that you can see it. If you can, blink once; if not, twice."

Copernicus showed that yes, he could see it.

"*Mirabile!*" said Rheticus, crossing himself and raising his eyes to the vaulted ceiling. "Master," he went on after a pause to wipe his brow, "there's one more problem with this Osiander, possibly worse than the one with the title. He has written to me from Leipzig to ask if I would scribble a foreword to your book in which I would

explain that nobody is claiming that the Earth does in fact move, but that adopting such a perspective simply facilitates the calculations. In other words that it is just a mathematical device, a useful one, of course, but having nothing in common with reality. Osiander claims this is necessary, otherwise we shall have trouble, of a serious kind."

He thought that in Copernicus' glance he could read the question: "And what did you say to that, Joachim?"

"Naturally I refused," he hastened to reply. "I wrote that in my view your dedication to the Pope in Rome fully suffices as a foreword, Master, in which, as I stressed, you explain in detail the purpose and point of your work. I thought that would be the end of it, but unfortunately in the note attached to this printed proof Osiander mentions in passing that a foreword of some kind will yet be added to it. I suspect he is thinking of writing it himself, or perhaps, I don't know, he'll persuade my good friend Professor Reinhold to do it. But don't worry, Master, I shall make sure nobody dares to contaminate your book with their own inventions. Because we don't want any foreword, do we?"

The sick man lowered his eyelids and with evident difficulty raised them again.

"Beloved Master, I can see this is an effort for you," said Rheticus with concern. "Perhaps it's enough if you close your eyelids, and only raise them in response to the next question? Unless your answer is no."

In reply, Copernicus closed and opened his eyes twice.

"You're right, Master, we'd better leave it as it was, or eventually I won't know if you're saying 'yes' or 'no'," said Rheticus with a nervous laugh. "I have something else here for you as well, another, smaller gift..." He reached into the leather pouch at his side, rummaged

in it briefly, and brought out a sheet of paper with a tangle of lines painstakingly plotted on a zodiac chart. "Pure frivolity," he continued shyly. "But drawn up by my own hand. Yes, I know, I know, you are not a great admirer of astrology, I guessed that long ago, but I expect you will enjoy hearing the horoscope I have formulated, as it is highly auspicious. Allow me to read it out to you."

He turned the sheet of paper at an angle where as much light as possible fell on it, cleared his throat and began to read.

"The soothing influence of the Sun in Pisces with the simultaneous opposite effect of Leo in the ascendant means that anyone born at the time of this constellation can at once be the kindest of people, not inclined to engage in quarrels, and also a thoroughly independent individual who lets no one impose their judgement on him, and even…"

Rheticus looked up from the text and noticed that Copernicus' gaze was wandering.

"I know that expression, Master," he said, sighing. "It says I am talking nonsense. Very well, then, I shan't continue to bore you with what the stars portend for you. Let it suffice that they speak clearly not only of your intellect, but also of your infinite kindness; when I read it in them, tears of emotion filled my eyes, because I myself have had the best possible experience of that kindness. You, Master, are like a second father to me, did you know?"

He leaned forwards to wipe the saliva from Copernicus' chin and neck.

"Yes, like a second father. My natural one was falsely accused of robbing his patients' houses when I was fourteen years old, and was obliged to surrender his head to the executioner. Forgive me for only telling you this now, somehow there has never been an opportunity.

But in any case, my father was the victim of vile calumny — there wasn't an ounce of truth in it, or so I was assured by all who knew him, and I know they spoke sincerely. Even his name, Iserin, was taken from us, in order to wipe it from human memory for ever. So we adopted my mother's name, in a Germanised form, von Lauchen, as my mother is from an Italian family, de Porris. The nickname Rheticus first stuck to me during my studies in Wittenberg, when someone observed that the valley of the Upper Rhine where I am from lies at the very centre of ancient Rhaetia."

Fleetingly he thought a small spark of amusement had flashed in Copernicus' eyes.

"What is it, Master?" said Rheticus, smiling. "The thought of Wittenberg? The cradle of reformation learning? Yes, I too find it amusing that I came here from that particular place, to absorb wisdom from you, and now I want to declare it before the entire world, although my spiritual leaders unwisely mock you and are patently itching to cast anathema on you for undermining the Scripture."

Copernicus blinked several times. Rheticus didn't know what to make of it.

"Yes, I remember what you told me," he tried to guess. "You said you were searching for the absolute truth about the construction of the universe, while the stuff of theologians is to prove the harmony between the Bible and that truth, not the other way around. Is that what you want to say, Master?"

Copernicus closed his eyes. After a short hesitation, the young mathematician took this to be an affirmative reply.

"Then I must boast to you," he went on animatedly, "that I am even planning to offer them an argument that will make it easy for them to carry out this task. I found it in St. Augustine. Aha, you're

listening to me!" he rejoiced, seeing Copernicus raise his eyelids again. "I'm sure you know it: the famous principle of accommodation! The Bible, says Augustine, is suited to the way of thinking of simple people, because its aim is universal salvation, not a lecture on the mechanisms of nature. For those, as one must allow our Bible scholars to understand, are not within the sphere of the revealed truth."

"They are not within the sphere of the revealed truth" — this was a phrase, he realised, that he must have once heard from Copernicus. It was probably four years ago, soon after he had arrived in Frombork and presented himself to the Master, unannounced, as a young professor of mathematics from Wittenberg; on the journey from his native Feldkirch he had passed through Bavaria, the Czech lands, Silesia and part of Poland, with the sole aim of questioning Doctor Copernicus about his theory of the Earth in motion. Then they had spent the entire summer together, as guests of the Bishop of Chełmno, Tiedemann Giese, at his castle in Lubawa. He remembered their all-day hike to the nearby wooded hill, apparently the highest in the district, in the company of another canon of Frombork, Aleksander Sculteti, and one Miss Suchten, a comely citizen of Gdańsk, whom Sculteti had introduced with a meaningful smile as his kinswoman. Rheticus had no illusions about the reality of the famous vows of chastity among the Papists, and although he bore them no grudge for contravening a prohibition that seemed to him pointless, he did not fully understand the urge that drove them to break it. He was slightly surprised when they were joined on the hill by yet another woman, much older than Miss Suchten — his mother's age, judging by her appearance — whom everyone addressed as "Mrs. Schilling". Mrs. Schilling lit a bonfire, on which she roasted

a freshly butchered piglet that she had brought with her. Then she carved and consumed it with everyone else, eating bread and sipping wine. Rheticus noticed her strong, white teeth, a rare sight among women over the age of forty. She sat on the grass right beside Copernicus, and as the dusk fell, she rested her head on his shoulder ever more often; once there was nothing but the embers of the dying bonfire to disperse the darkness, she shamelessly laid it in his lap. He did not reproach her at all, but gazing wistfully into the fire gently stroked the copper-red locks of her hair, streaked with silver, that flowed from under her bonnet.

They talked long into the night, occasionally adding a dry branch to the fire. Sculteti told how he and Miss Suchten were shortly to travel to Dorpat, where he was also a canon, because "in our Gynopolis" (as he jokingly Hellenised Frombork's original name of Frauenberg) it was hard to breathe amid the intrigues and denunciations made by his immediate colleagues; besides, he was under threat of a canonical trial "for reasons known to you", along with another of the Frombork canons, Leonard Niederhof. "You, Nicolaus, have escaped the executioner's axe for now," said Sculteti, "and besides, Bishop Dantyszek has a weakness for you..." "I humbly thank His Grace for that weakness," muttered Copernicus in reply. Sitting next to him, Sculteti put an arm around him, and said ardently that he realised what a price he had to pay for the bishop's favour, but he should not imagine it would end at that. They would carry on pursuing him, and Mrs. Schilling too, and sooner or later they would obtain proof that they were still seeing each other. They would also be sure to order him to renounce his friendship with him, Sculteti. "They cannot demand that of me," Copernicus said firmly. "Let us suppose not,"

agreed Sculteti without conviction. "But will you really let them separate you from Mrs. Schilling?" "Well," replied Copernicus, "I already have." "You can still retract it! Come with me to Dorpat! I'll arrange a canonry for you there." Copernicus gave him a friendly pat on the shoulder. "No, Aleksander," he said gently. "I'm not going to war against the Church. I have thought it through carefully." Hearing this, Sculteti leaned towards Mrs. Schilling to ask if she agreed with Nicolaus on this matter. "Yes," she replied, sitting up straight. "There are more important things than intimacy between two people." "What things?" In reply, she pointed at the sky, sparkling with stars. "Those things," she said. Rheticus was not sure if she meant her beloved's work, or simply Providence, but he dared not cut in on the conversation. After a brief silence, Sculteti declared that for him personally there was nothing more important, which he swiftly demonstrated by embracing Miss Suchten.

Afterwards they talked of many other things, even devoting some attention to Rheticus and his book *Narratio Prima*, designed to introduce the world to Copernicus' science; he had been working on it tirelessly all summer, aiming to take it to the printer's in Gdańsk that autumn. Eventually they all fell asleep, wrapped in rugs, inhaling the scent of the dying bonfire mixed with the aromatic oil they had rubbed onto their skin to deter mosquitoes.

Next morning, as Rheticus, Copernicus, Sculteti and Miss Suchten started on the journey back to Lubawa, going west, Mrs. Schilling went down the hill towards the north, heading for Ostróda. He never saw her again, despite having remained with Copernicus for another two years without cease, apart from short breaks, spurring him on to complete his great work. When at last he rode away with the valuable manuscript strapped to his saddle, the Master still seemed full of

strength, though in a rather gloomy frame of mind. "And now," thought Rheticus, "it is I who feel sad, and he — who knows?" The sick man lay with his eyes closed, perhaps asleep. His lips were chapped, as in their corners bubbles of thick, white saliva gathered, inflated by his whistling breath.

Rheticus leaned into the passage, and called for the young servant, Hieronim, whom he knew well. He told the boy to replace the vessel full of urine with an empty one. Then he approached the bookcase and reached for *Rosa Medicinae* by John of Gaddesden. After briefly leafing through it, he found what he was looking for — a recipe in Greek script that Copernicus had jotted in the margin. He sat down at the table, fetched his writing tools from his pouch and quickly wrote out the recipe in Latin script. When Hieronim came back with a clean vessel, Rheticus spoke to him, trying to avoid overly refined German, because the boy was a Pole.

"Hieronim, when Doctor Izaak comes, give him this piece of paper. It's a recipe for hair dye. Tell the doctor to order this mixture at the pharmacy and to apply it to Doctor Nicolaus' hair." Rheticus reached for his purse and took out a few small coins. "Look, this is for the pharmacist, this is for the doctor, and this is for you. Will you see to it? Will you do it for your master?"

"Yes, Professor Rheticus."

"Ah, and not everyone need know about it, do you understand?"

"Yes, Professor Rheticus, I do."

Rheticus approvingly brushed Hieronim's cheek with his fingers and allowed him to leave. Then he put the horoscope he had compiled for Copernicus between the pages of *Rosa Medicinae*, replaced the book on its shelf and started packing up the printed proof of *De revolutionibus*.

Johannes
HEVELIUS

1611 Danzig — 1687 Danzig

Astronomer, brewer, city councillor. He was a pupil at the Danzig Academy. He developed his interest in the exact sciences and astronomy under the influence of Peter Krüger, who taught at the academy. He built an astronomical observatory on the roofs of his Danzig houses and equipped it with modern instruments. His first work was *Selenographia* (1647), which contains accurate maps of the Moon. He recorded the results of his research into comets in *Cometographia* (1668). His next works, *Machina coelestis pars prior* (1673) and *Machina coelestis pars posterior* (1679), provide a detailed description of his observatory, instruments and observations. In 1664 he was elected to the Royal Society in London. In 1679 Hevelius was visited by Edmond Halley, with whom he conducted joint astronomical observations. A catalogue of more than 1,500 stars, the coordinates of almost 500 of which were first charted by Hevelius, was prepared for publication and issued in 1690 by his second wife, Elisabeth Koopman. In the catalogue and the atlas he identified nine new constellations, six of whose names — Scutum Sobiescianum, Lynx, Sextans, Lacerta, Leo Minor and Vulpecula — are still in use today. Hevelius' scientific publications total twenty-one books and more than thirty articles. He paid close attention to the editorial quality of his works and is regarded as one of the most important creators of the visual language for presenting scientific information in the seventeenth century. Hevelius' scientific activities were supported by the Polish kings John II Casimir and John III Sobieski, the Holy Roman Emperor Leopold I and the French king Louis XIV.

Stefan Chwin

Writer, essayist, literary critic, historian of literature and professor at the University of Gdańsk. Member of the editorial board for the *Transgresje* publishing series. His most important critical and academic works on literature include *Without Authority* (co-authored with Stanisław Rosiek); *The Romantic Space of Imagination*, *Literature and Betrayal; Miłosz: Interpretations and Testimonies* and *To Give One's Life for Poland: Altruistic Suicide in Nineteenth-Century Polish Culture*. He has published the novels *Death in Danzig* and *Esther*, an autobiographical essay titled *The Short History of a Certain Joke*, a collection of "alternative histories" titled *Bathing Together* (with Krystyna Lars) and many other works. In 2015 he published *Ein Deutsches Tagebuch* in Germany. His work has been translated into many languages.

Astronomy, the King's Moon and Jopen Beer

Hevelius was a German-speaking citizen of Danzig (now Gdańsk). He professed the Lutheran faith and had connections with Poland, to which he owed a great deal, though in terms of ethnicity it was not his native country. His ancestors had migrated from Lower Silesia in the fifteenth century and had settled in Danzig in 1526. He learned the Polish language in places including the village of Gądecz, where he was sent as a boy for this purpose, to be able to trade with Polish merchants. He may have studied it at the Danzig Academy as well, where he was taught by the eminent mathematician, astronomer and calendar compiler Peter Krüger, who also gave him private lessons in astronomy. He chose to be called "Hevelius", the Latinised version of his family name, Hewelke, because it gave him a sense of belonging to the international community of scholars. Apparently he sometimes proudly defined himself as a *civis Orbis Poloniae*, a citizen of the Polish world, because Danzig, where he lived and worked — a German-speaking city in the seventeenth century — was part of the First Polish Republic.

In fact it is hard to understand how in a single life he combined such a wide range of responsibilities and occupations. He was the father of four children, the wealthy owner of several breweries (where the famous Jopen dubbel beer was brewed), a member of the brewers' guild, an active member of the city council and a juror, as well as being

involved with the city hospitals, medical care, issues concerning judiciary matters, and the glass-makers', bucket-makers', butchers' and stallholders' guilds.

In his youth he often journeyed abroad. During his academic travels he came to know a large part of Europe, forming numerous acquaintances within scholarly circles in France, England and Leiden, where in 1630 he studied law and economics. In the same year, on the sea voyage to Holland, he conducted his first observations of the sky, but being strongly tied to Danzig, to which he returned in 1634, he preferred to work at his own house in a street named Pfefferstadt (now Korzenna Street), even when Great Britain's Royal Society invited him in 1664 to join its company as its very first foreign member, or when he was offered a prestigious post as the head of a new astronomical observatory in Paris in 1668. He wrote and published all his works in Danzig, keeping the Royal Society in London informed of the results of his research.

He was lucky in his private life, which is not often the case for scholars. His second wife, thirty-six years his junior, was Elisabeth Koopman, who came from a respected Dutch merchant family. She shared his interests and was happy to help him with his scientific research. Together they took measurements using astronomical instruments at the observatory on Pfefferstadt Street, and when he died, she carefully edited and published his works, dedicating one of them to the Polish king John III Sobieski.

He was also fortunate when it came to the monarchs who were willing to support him, because he could not rely on the support of his family, and the research he conducted was very costly. King John II Casimir conferred the rank of a Polish nobleman on him, although the Polish parliament refused to recognise this honour. The Holy Ro-

man Emperor Leopold I helped him, and he was also on the list of thirteen European scholars given financial aid by the king of France, Louis XIV, who awarded him an annual salary of 1,200 francs. Following his coronation, John III Sobieski gave Hevelius a salary of 1,000 florins and exempted his breweries from paying taxes. In recognition for his services in the field of science, both monarchs supported him generously in the rebuilding of the observatory in Pfefferstadt Street after it was destroyed by fire in 1679. After the Battle of Vienna, to commemorate the Polish king's triumph over the Turkish army, Hevelius named one of the constellations he had discovered Scutum Sobiescianum ("Sobieski's Shield"), with reference to the royal crest. He also managed to grow lemons on the cold Baltic coast, which he sent to the sovereign as a gift.

At the request of John III Sobieski he hand-crafted two globes, of the sky and the Earth, a microscope, two telescopes and a "polemoscope", a prototype periscope for a submarine, the technical drawings for which he included in his work *Selenographia, sive Lunae descriptio* (*Selenography, or a Description of the Moon*), published in Danzig in 1647. His final works, notably his atlas of the sky, *Firmamentum Sobiescianum*, were dedicated to Sobieski.

In the print produced by Andreas Stech in 1673, the original astronomical observatory that Hevelius built at his own expense on the roofs of three neighbouring houses in Pfefferstadt Street and then equipped with observational and measuring instruments of his own construction, looked impressive for the times. It was visited by royal guests including Maria Louisa Gonzaga de Nevers, her husband John II Casimir, and John III Sobieski.

Hevelius launched his scientific career by writing about the Moon, which quickly brought him international recognition and fame.

He conducted his first telescopic observations in 1641. In *Selenography, or a Description of the Moon*, he described the Moon's orbit around the Earth, and also confirmed Galileo's information about the existence of mountains on the Moon, thus becoming a pioneer of lunar topography by anticipating the publication of more precise maps of the Moon, which were produced only in the late eighteenth century. He supported his scientific reasoning with drawings, which he etched himself on copper plates. He was the first person to describe the phenomenon of lunar libration, thanks to which we can see not just half of the illuminated Moon but 59 per cent of its surface. Hevelius' texts of 1654 on lunar libration (*De motu lunae libratorio*) inspired Newton to investigate the phenomenon.

He also researched the phenomenon of sunspots, and conducted pioneering observations of double stars. He studied Saturn and Mercury. He observed changes in the brightness of volatile stars. Although the lunar terminology that he proposed was not adopted, he introduced many names into the language of astronomy that are still in use today, including those of the constellations Scutum, Leo Minor, Lacerta and Lynx, and also the names of objects on the surface of the Moon. His publications, in which he presented the results of his research, were widely read in his lifetime.

He was a supporter of Copernicus' theory, which in those days was still not fully accepted. He kept Tycho Brahe's theories at arm's length. Just outside Danzig he built a large telescope with a focal length of about 50 metres, which at the time was the largest telescope in the world.

He was fascinated by comets and discovered four new ones. He published a book on the topic, *Cometographia*, in 1668. In a splendid two-volume publication titled *Machina coelestis*, richly illustrated with

406 drawings and a copperplate engraving by Jeremias Falck, he described in detail the astronomical instruments that he used, and also presented a precise account of the observations he had conducted for many years. Contrary to Johannes Kepler's view that comets move along straight paths, he established that they move along parabolic trajectories. He wanted to produce a new catalogue of the stars, more comprehensive than the one compiled by Tycho Brahe. He succeeded in identifying and describing the positions of approximately two thousand fixed stars. He introduced nine new constellations into astronomy, including Scutum, Lynx, Canes Venatici, Leo Minor, Sextans, Vulpecula (with Anser), and Lacerta. He used a pendulum to measure time and also constructed a micrometric screw for a microscope, which allowed the tube to move freely. He knew how to construct telescopes and grind lenses, which required knowledge of metal casting, optics and metalwork. He was also skilled in clockmaking. According to some historians, he designed the sundial on the face of the royal palace at Wilanów just outside Warsaw.

He did not live to see the publication of his three-volume work titled *Prodromus Astronomiae*. Thanks to his wife, it was published in 1690. Dedicated to John III Sobieski, it included a baroque atlas of the constellations, *Firmamentum Sobiescianum sive Uranographia*, showing the sky viewed from both of the Earth's hemispheres.

Any scientist might have envied him his collection of more than three hundred volumes on astronomy and the exact sciences, and the fact that he had his own publishing house, where he published his scientific works to an excellent standard, personally supervising the editorial work, as the author of many illustrations and a pioneer of the visual language used to present scientific content. Not all his discoveries were accurate, for example he explained the shape of

Saturn incorrectly, and mistakenly thought that comets are disc-shaped, but the scope of his research work was impressive.

It is hard to imagine how he also found the time to write more than three thousand letters to the luminaries of European science, which he prepared for publication himself. He published twenty-one books and thirty academic papers, in journals including *Acta Eruditorum* and *Philosophical Transactions of the Royal Society*.

Just as he appears in the engraved portraits, he was a highly imaginative, visionary astronomer, who made use of home-made quadrants, sextants, octants and elaborately shaped horizontal and azimuth quadrants, which even in his day were already slightly old-fashioned. He used telescopes of various kinds, but preferred to make many of his measurements with the naked eye, aided by devices fitted with special sights, which — according to the English scientists John Flamsteed and Robert Hooke, who found fault with Hevelius on this point — gave imprecise results. But Hevelius had a firm supporter in his argument with Flamsteed and Hooke in the person of Edmond Halley, the great English mathematician and astronomer who discovered the proper motion of the stars. On the basis of the hypothesis that comets follow an elliptical orbit, Halley also foresaw the appearance in 1758 of the comet that was named after him. At his observatory, with the help of his own quadrant and optical telescopes, Halley independently confirmed the accuracy of Hevelius' calculations.

In 1679 a fire utterly destroyed the observatory in Pfefferstadt Street. The astronomical instruments, Hevelius' houses, studio, brewery, library and printing house, and all the copies of the newly published second volume of *Machina coelestis* were burned to ashes. Fortunately, his manuscripts and correspondence survived, and were later archived at the Paris Observatory and the Bibliothèque Nationale. The destroyed

buildings were reconstructed with the financial aid of John III Sobieski and Louis XIV.

Hevelius died on 28 January 1687, his seventy-sixth birthday. He was buried in St. Catherine's church. Although he was the greatest astronomer after Nicolaus Copernicus to have worked within the Polish Republic, his heirs were not very interested in preserving his memory in the minds of subsequent generations. One of the printing plates for his famous work about the Moon was made into a tray, and the rest were melted down. What he left behind were the splendid editions of his astronomical works, a proportional compass, the diploma of his election to the Royal Society, an engraving titled "Rural landscape with a bridge", entries in the city records, his birth certificate, his wedding certificate and an oil portrait by Daniel Schultz, items now kept at the Gdańsk Library of the Polish Academy of Sciences, the Jagiellonian University Library and the Ossolineum in Wrocław.

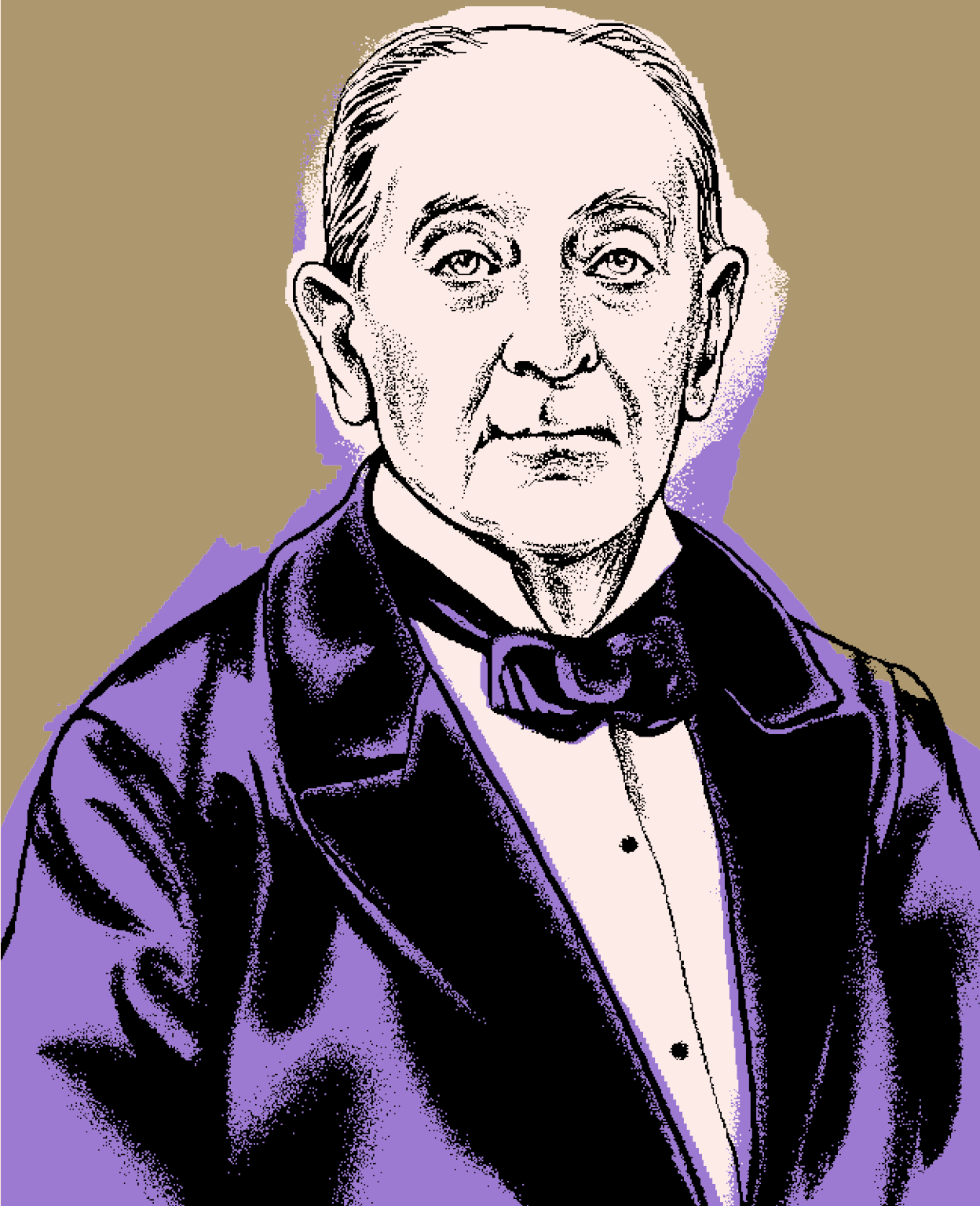
The city honoured him posthumously with two commemorative medals, the publication of the funeral oration by the Lutheran pastor Andreas Barth and a stone epitaph in St. Catherine's church. In the late eighteenth century, on the orders of the Polish king Stanisław August Poniatowski, a bronze bust of Hevelius was sculpted by André-Jean Lebrun.

Today there are several monuments to Hevelius in Gdańsk, and in memory of his wonderful wife, Elisabeth, his wise companion in the exploration of the skies, one of the city's trams (PESA Swing no. 1022) bears her name. And finally, to mark the anniversary of the great astronomer's birth, on 28 January each year the City of Gdańsk Johannes Hevelius Science Prize (established in 1987) honours outstanding scientists in various fields.

Ignacy
DOMEYKO

1802 Niedźwiadka — 1889 Santiago de Chile

Mining engineer, geologist, mineralogist, organiser of educational opportunities, honorary citizen of Chile. He studied physics and mathematics at the University of Vilnius. From 1818 he was associated with the clandestine student organisations the Philomaths and the Filarets; when they were exposed and investigated, he was exiled to the countryside for five years. He was adjutant to General Dezydery Chłapowski during the November Uprising of 1831 in Lithuania. He emigrated to Paris, where he studied at the Sorbonne and the École Nationale Supérieure des Mines, where he gained a diploma in mining engineering. He briefly worked as a chemist in Alsace. In 1837 he signed a six-year contract with the Chilean government and became a teacher at the Escuela de Minas in Coquimbo (La Serena). He devised a new system for educating miners. He became a member of the Colonisation Commission, which worked to incorporate into Chile parts of the continent inhabited by Mapuche Indians. He was a professor of chemistry and mineralogy at the Instituto Nacional in Santiago, supervised the reform of higher education and from 1867 to 1883 held the post of rector of the Universidad de Chile. At the same time he was a mining magistrate and head of the department of weights and measures. He published the results of his work in a textbook of mineralogy titled *Elementos de mineralogia*. He also wrote textbooks on metallurgy, physics and meteorology. He conducted extensive field research from the Pacific to the Andes and produced the first geological survey map of Chile. He sent rock and mineral samples to academic institutions in Paris and Kraków. He discovered an unknown copper arsenide compound that was later named domeykite. He spent the years from 1884 to 1888 in Europe and Asia, visiting Lithuania and Kraków, Warsaw, Paris, Rome and Jerusalem.



Wojciech Nowicki

Writer, restaurant reviewer, photographic exhibition curator, translator. His book *Bottom of the Eye: Essays on Photography* was shortlisted for the Nike Literary Award. For *Salki* he won the Gdynia Literary Award. He has published monographs on photographers including *Jerzy Lewczyński: Memory of an Image* and *Zofia Rydet: A Sociological Record*. His book *Up Close* was listed for the Fredro Prize. *Straits* was listed for the Jan Michalski Prize and the Gdynia Literary Award. Nowicki has been nominated twice for the Julian Tuwim Literary Award for his entire oeuvre and won it in 2020. He lives in Kraków.

A Scratch

I received your letter informing me of your marriage while I was in Le Havre. There I felt closer to you, as only the Ocean divided us. Thus, thinking of you as my neighbour across the Ocean, I received your resolute [news] about your fortunes, writes Adam Mickiewicz to Ignacy Domeyko. *Accept my best wishes*, he closes this part, for miraculously this time the letter reached its destination; the poet does not complain, as he had on other occasions over the years, that ruthless fate had torn up their correspondence, as he put it. *Our old Europe is more honest*, he would add in a joking tone, *your captains are plainly rascals, they lose or steal the letters*; for it is true that their entire correspondence is full of lacunae — they wait six months, or whole years at a time, until finally a letter arrives, but usually they wait in vain. Every letter starts with a new litany of past events, in an ever more colourless summary, as dull as the precis of a boring novel; but as they have been friends since they were pups, and have suffered together for their insurgent plots, they are on first-name terms and share many a joke, though Adam is growing old, and his friend Ignacy has been grumbling for ever, though at the same time he is active and industrious as the devil — he never stops working. This intimacy of theirs was as strange as a distant echo: it was a strong bond, but from another life.

In Le Havre he felt close to Ignacy: this remark was pure Adam the poet, like an ammonite impressed in limestone, which would have

appealed to Ignacy, because he liked stones, sometimes above all else, perhaps. Somehow it didn't occur to him that the journey from France to the home that Chile had become for Ignacy, its citizen by now, had been long and painful: he had travelled by ship with sheep and hens — the livestock that substituted for a refrigerator, and with kegs of fortified wine, for the English sailors drank that kind only, but often; and after the sea voyage he still had to cross Brazil, Bolivia and the Cordilleras, mountains so high that people are known to faint from the effort and lack of oxygen, though he was strong and no harm came to him; when they set off with their muleteer guide, the snow was so deep, said those who came from the Chilean side, that it reached the horses' ears, not to mention those of the mules; they had had to overnight in cramped cottages, casuchas or "kasuczas", as he writes it, for at the time he didn't know a word of Spanish — this man who had come on a long-term government contract to a country where it was hard to cope without the language, and he was to be a teacher. (He would learn the basics in three months.) The entire crossing, from France to Coquimbo, the site of his appointment, took four months, one third of a year.

After some years in America, and following his move from Coquimbo to Santiago de Chile, Ignacy sends Mickiewicz a detailed report of how the gathering years have prompted him to seek a retreat; *and having found a place that I liked,* he writes, *I decided to live in seclusion, quietly, far from other people. I organised a small house for myself, a bit like a hermitage*, he says, announcing his transition to an enclosed life, *shut up all day, so the neighbours would not know what was happening inside. I brought in the entire collection of ascetic writers contained in the works of Fray Luis de Granada and felt stronger and more confident than ever before.* Though elsewhere he adds that he did in fact equip

this hermitage well, for *in an orchard full of trees including oranges*, he writes, *I have almost all the Lithuanian garden produce as well: currants, sorrel, cucumbers, cabbage, raspberries, asparagus, radishes and even wild strawberries*. And he was already rejoicing: *I shall write in Polish again, and I shall live half in Poland*; but since one must get to know the neighbours, he was doing so. *Nearby*, he reports to Adam again, *there is a large house and garden, a big family with a crowd of children frolicking from morning to evening among the orange and peach trees*, though why all these descriptions he doesn't seem to know himself. It is not what he wanted to write about; he finally comes to the point — the oldest child, a girl of fifteen, was now about to marry a rich neighbour, *for here the women grow up faster than in our country, and it is not for me to wax lyrical on the nature of this strength and passion in a child's eye and a child's face — beauty of this kind you might never see except beneath a sky that is almost always bright,* and here it is time to restrain him, for he is venturing into poetry. *Suffice it to say*, he writes, *that she pleased me, or perhaps more than that.* Elsewhere he decides to go further: *and just then from the tree-lined walk emerged a beautiful young lady of fifteen,* he says, *tall, modest, shy, with large black eyes and hair a little lighter, gathered in ringlets. She blushed and I blanched* — in short, a distant flash and a sudden thunderbolt struck the geologist and would-be ascetic. And as befitted an ascetic, he writes that he is not quite sure what happened next: *I must curb this story,* he says, *to avoid inflicting injury on language or thought* — suffice it to say that when the hour came for gathering his wits, so to speak — no, he would not be shutting himself away again with the Desert Fathers, quite the opposite — when the hour came for gathering his wits, he reports, *Enriqueta née Sotomayor, whose mother was née Guzmán, became my fiancée, and in two weeks from now the marriage ceremony and wedding party will take place.*

The last time they had seen each other — the last time they ever did — was in France. Domeyko had been a witness to Mickiewicz's marriage to Celina. He had arrived in France downhearted, following his youth in Lithuania, his studies at Vilnius University, membership of the secret student organisations the Philomaths and the Filarets, and then, after a trial, five years in the countryside as a punishment for activities in the cause of Polish independence. Mickiewicz had been banished to Russia. Then came the insurgency, its defeat and immediate exile — he had crossed the border and found himself in Prussia. *I awoke with my face misted with tears*, as he wrote at the time; in short, he could not endure the disgrace of having held a weapon and dropped it. From Dresden he goes to Paris, *full of hope, but what of it, when* (as he recalls years later) *on 1 August 1832 at three in the morning the stench of Paris, the stink of coal gas, like a mixture of all the stenches in the world, aroused me from my sleep; perhaps it was this first impression, so foul and unexpected that prompted the sense of foreboding that flooded me just then, the feeling that in this city, where I had longed to be since early childhood, nothing good would happen and I might never get out of here alive*. In this frame of mind he tours Paris, with Adam as his guide. Ignacy finds everything dull and unremarkable, though admittedly fine, but of the entire tour he responds best to the vast edifice of Les Invalides, something between a hospital and a home for old soldiers. And he enthuses: *Can there be a more dignified sight in Paris these days than the Hôtel des Invalides, where soldiers from the most warlike era of a warrior nation still live!* So he writes, though France soon renders itself repulsive when in the crypt of the Panthéon there appears to him — a man intoxicated by thoughts of national freedom, though above all an advocate of reason — *a large wooden coffin*, as he will note years later, *with a touch of mildew, more like a storage*

box than a standard coffin; here lay the full value of Reason! It was the burial site of Voltaire.

At this point he stops sightseeing and starts going to lectures. Neither the Sorbonne nor the Collège de France can satisfy him, and the world-famous Académie is some old men in uniforms, a place where laughter erupts in the galleries during the speeches: where is the *gravitas* that attended the university senate in Vilnius, and where is Paris compared with Vilnius, or with Lithuania? For the rest of his life he will miss that Lithuania. He will slip into his groove only at the mining college, the École des Mines. By now he is already far removed from his compatriots. Barely has he finished his mining studies than he is sent on a contract to Alsace, where he is to search for iron ore, and he does well; but he gives up the work without regret, because there is a job waiting for him in Chile: good money, and, as he writes, *I have revived! The passion for long voyages that I first felt in childhood has revived in me*. It is 1837, he is approaching the age of thirty-five and starting life anew. After this year there follow *My Forty-Six Years of Teaching and Scientific Work in Chile* (as he titles the final volume of his memoirs), and along with them (in the words of the subtitle) *A Recurrent But Failed Plan to Return to My Country*.

The beginning was tough; he may have been a little afraid of this country: a dangerous desert, not a single small bird, butterfly or insect to be seen there, no living thing, just mirages and vultures feeding on dead horses. Miners with no education. And yet it wasn't that bad, because the work was a good remedy, and somehow along the way he reformed mining education, and also the university, not by being soft-hearted, but by arguing and fighting for his own proposals. He did not take a penny for it; the government financed only the publication of his mineralogy handbook and his journeys about the industrial

district, as well as bursaries for students of the mining school to attend the Paris college from which he had graduated. That was enough for him.

When in 1850 he talked about recent events, about the thunderbolt that had struck him in an avenue of cypresses and about — as he put it — the ineffable ardour and yearning that flooded him so late in life (for it is a shame to say that though she was only fifteen, he was already forty-eight), he forgot to take the opportunity to mention that he remained clear-headed enough to write a plan for a university course in astronomy and also to present it, and so on, faculty after faculty, until he achieved his aim: a modern university, with European connections and staff. He lectured at it and eventually became its rector for many years. Previously he had managed to be a lecturer at a school and also a mining magistrate, a job for which he thought himself entirely unsuited, yet he arbitrated successfully. To prevent the owners of silver mines from doing harm to their neighbours, he invented new border markers, christened "Domeyko's mounds". What is more, his dismay still palpable many years later (for he had the time to write his memoirs only towards the end of his life), he wrote of these mines that *although the entire mountain yields only silver, it is dry and full of holes; as far as the eye can see it is surrounded by desert and rocks; apparently there are large numbers of men in the little town, but not a single woman or child; while in the wretched shacks of overworked paupers champagne and sherry flow like water, which,* he says, *costs more here than beer at home; and the people who raise the most complaints and say the worst things about the indigent, silent miners are these rich men, the mine owners, who lord it over the miners and make all their profit out of their toil and labour.* He brought about an improvement in the situation of the Mapuche, an Indian tribe that had not surrendered

to the Spanish conquest. Something tells me that he had in him the fervent obstinacy of a Lithuanian; Mickiewicz, joker and close friend, immortalised him in *Pan Tadeusz*: Ignacy is there in the story about the quarrel between Domeyko and Doweyko. For today's Poles Ignacy Domeyko from Niedźwiadka is just a faint scratch in the textbooks, a Philomath, a Filaret, a good friend of Adam. But in Chile he left a far greater legacy: a mountain range in the Andes was named after him, as were a town, schools, libraries and squares, a chemical compound that he discovered, and the skeleton of a tyrannosaurus found in the Atacama Desert, *Domeykosaurus chilensis*. Also a small flower of the aster family, and an asteroid — the list goes on. Such was the legacy of Ignacio Domeyko Ancuta, as he is known in Chile.

Ignacy
ŁUKASIEWICZ

1822 Zaduszniki — 1882 Chorkówka

Pioneering chemist, pharmacist, industrialist, philanthropist. In view of difficult material circumstances, after four years at high school he began work as a pharmacist's assistant in Łańcut and in Rzeszów. He was active within clandestine patriotic organisations, which led to his arrest and imprisonment. On his release he found employment at Piotr Mikolasch's pharmacy in Lwów. From 1848 he studied pharmaceutics at the universities in Kraków and Vienna. On gaining a master's degree in 1852 he returned to his job at Mikolasch's pharmacy. Working together with Jan Zeh in the pharmacy's laboratory, he succeeded in distilling crude oil and thus produced kerosene. In 1853, seeking applications for it, he designed a prototype kerosene lamp, and on 31 July his invention was used to light the operating theatre at a hospital in Lwów, before going into production. On moving to Gorlice he took over the lease of a pharmacy and worked on improving his methods for refining oil. He founded the first oil mining companies and refineries in Subcarpathia. He was careful to ensure that work in the mines was well and fairly organised. He was involved in local government and from 1876 served as a deputy to the National Parliament of Galicia, where he worked to promote professional higher education. In 1873 he was awarded the title of papal chamberlain and the Order of St Gregory the Great for his charitable activities. In 1877 he organised the first oil industry congress and established the National Oil Society.

Łukasz Orbitowski

Writer of novels including *Holy Wrocław, A Different Soul* and *The Cult*. He used to specialise in horror stories, but now writes novels of manners. He is a winner of the Zajdel Prize and the Polityka Passport Award and has been listed for the Nike Literary Award and the Gdynia Literary Award. For several years he worked with the television channel TVP Kultura as producer and host of two programmes, *Deserters* and *Women of Culture*. He has lived in Warsaw, Denmark and the United States. He now lives in Kraków with his family. He lifts weights, collects rhinoceroses, plays video games and listens to heavy metal.

The Earth Took Its Due: A Fairy Tale

1.

Our story begins a long time ago, when we lived in fear of the darkness.

2.

By day our people hunted, fished, gathered their crops and feasted to show how happy they were to be alive. But by night the Dragon came creeping from under the earth, or — as the wise men would have it — the earth was the Dragon.

Nobody had ever seen the tiniest bit of any of its heads, though the nostrils of each one housed smoking volcanoes. Its innumerable tails lived in ravines, lakes, grottoes and rocky clefts. It drowned travellers and dragged babies from their cradles. Only at daybreak did it go back underground. For it was afraid of the light.

If you cut off one tail, several more appeared. Always in silence, under the cover of night. How can you fight such a monster?

But there were those who set out to hunt the Dragon. One of them was the father of a boy named Lux, our future king and saviour. Lux rightly regarded him as the bravest man in the world. He watched with bated breath as his father sharpened his sword, donned his leather armour and lit a flaming torch. There could be no doubt that he would deal with the Dragon once and for all.

Young Lux asked his father to take him with him, but his father refused. He told his son to look after his sister, hugged him and left, with his sword in one hand and his torch in the other. He didn't know that Lux had followed him.

Things didn't go according to the boy's wishes. His father descended deep underground and there he made a stand against the Dragon. He struck only one blow before the monster crushed his bones. But as the torch brushed against its body, the Dragon recoiled convulsively, and a blue flame came bursting from the wound. Young Lux saw the whole scene and never forgot it.

3.

The years that followed were hard for Lux. Without a father he couldn't train to be a knight as he had planned, and to feed himself and his sister he went into service with the alchemists. As everyone knows, alchemists are haughty, quarrelsome and secretive people. They're eager to amass knowledge, which they guard jealously. Years went by before Lux grew up and was let in on their mysteries.

He was consumed by two desires, two secrets. He swore that one day he would avenge his father, as he told anyone willing to listen. But they turned a deaf ear to these assurances as youthful blarney, for Lux did not resemble the son of a knight — he was slight and stooping, with a beard that made him look much older.

"What will you use to kill the monster, a ladle?" some of them asked.

"You'll cover it with a cauldron and that'll be that!" quipped others. Lux replied that one day they'd see. And so life went on.

Lux loved his sister very much, and from earliest childhood he'd sworn to marry her. Everyone regarded this dream as a childish fantasy. But Lux grew up, stopped being a boy, became a young man and

still talked of their wedding. Finally the alchemist to whom he was apprenticed took him aside and explained that a brother can never marry his own sister. It would be blasphemy against the gods and the people. Young Lux found it very hard to accept that this was the word of the law.

Soon after, his sister found a rich fiancé and married him. The wedding party, like any other, was held in the daytime, to prevent the Dragon from dragging the drunken revellers underground. One of them would certainly have been young Lux, who drank the most. He promised his sister: "I cannot marry you, but I shall marry your daughter!"

4.

Lux grew up and reached manhood alone. With time he gained a friend in the person of the old alchemist, who gave him access to his secrets. Together they looked into the stars, changed mud into gold and wondered if it were possible to plait the tail of a comet. People came to them for advice and good health. The alchemist's workshop was famous throughout the entire province. Lux could have married and led a quiet life. But he did not.

He reached the age of thirty and suddenly announced that he was going after the Dragon. People no longer laughed. Instead they tried to dissuade him from this plan. He wasn't fit to be a knight. An attempt to avenge his father seemed like madness. The master himself, the old alchemist, said to his pupil: "The Dragon has been with us since long ago. We are accustomed to the fact that it seizes wayfarers and children to eat them in its beloved darkness. You'll kill it, and then what? What if some even worse devilry crawls out of its carcass?"

There were genuine cries of lament when Lux showed his equipment for going after the monster. He wasn't taking armour or a sword, just a knife and a jar. "What a fine arsenal!" the people said.

Even his sister came to see Lux, with her baby daughter at her breast, and begged him not to go to his certain death.

But Lux was deaf to everyone's pleas. He ate a good supper, knowing that only a fool goes into battle on an empty stomach. He put on his sandals and, as quietly as possible, went down into the cave where years before his father had been killed. He hadn't forgotten the moment when he died and the fire that had gushed from the monster's wound, lashed by the flaming torch.

He had no armour that could jingle. No sword to strike against the rocky wall. Lux found the monster half asleep. He went up to it, stuck his knife through its black skin, collected some blood in the jar and slipped out of its clutches. The next night the Dragon came to see Lux in his dreams. "You have taken something that belongs to me," it said, "and so one day I shall take something that is yours. Do not try to prepare and do not arm yourself. You won't even be expecting it."

5.

After his battle Lux was rarely seen, and those who did encounter him said that he had aged and gone pale, but his eyes had acquired an amazing sparkle. He spent days on end in his alchemist's laboratory, had his food brought there and sent his letters via a servant. People said he had gone mad down there, in the darkness, during his battle with the Dragon. Who knows, perhaps he had brought a tiny bit of the gloom with him to the surface, into the sunlight? You can never tell what's going on with those alchemists.

Lux's seclusion lasted exactly a year. Then one day he appeared at dusk in the main street of the city, carrying before him a lamp of a kind that no one had ever seen before, made of steel and glass. Inside danced an extraordinary, bright flame that refused to go out. People

pressed their faces to the windowpanes to be able to watch him. But nobody had the courage to leave the house. Darkness had already fallen. They were afraid of the Dragon.

Lux walked about all night and came to no harm. In the morning he revealed his secret. Burning inside the lamp was the Dragon's blood, wrenched from underground. Lux had finally found a way to distil it. Until evening he was carried on high, and that night, armed with his lamp, he went to the caves for more blood. The monster recoiled before the light, in which it recognised part of itself. The next night three other daredevils went underground, each armed with a lamp and a knife. The next night seven more followed. And the night after that, eighteen.

The nights became bright, and the roles underwent a reversal. The Dragon, so lately the assassin, shrank deeper and deeper underground before its brave tormentors. It was pursued relentlessly, by widening the corridors of caves and by drilling shafts and tunnels. It had many tails, all waiting to be burned, and an endless supply of blood to be tapped. Its one thousand names ceased to inspire terror. It became nothing more than a shadow — just a memory whispering in the darkness.

6.

By selling lamps and the Dragon's blood Lux soon became the richest man in the province and no longer had to work for the alchemist. He didn't know what to do with the money, so he decided to spend it on doing good. He built orphanages, hospitals and care homes for old people, and also paid for medical treatment for anyone who had an accident while working for him. In this way, he found out that life is more bearable when it's filled with love and respect. Yet he felt there was something missing.

When his sister's daughter grew up into a beautiful girl, Lux asked for her hand and was accepted. Many greeted this idea with dismay. Who could bear to see an ageing man, albeit a hero, marry his own niece? Human memory soon forgets even the bravest of people. So Lux went to see the parish priest, and was sent to the bishop, then to the cardinal, and when they refused, he wrote to the Pope in Rome himself. In his letter he claimed that in his country it was easier to slay a dragon than marry your beloved.

The Pope asked why he was so eager to marry his own niece, and why he had desired her before she was even born. So many women would want to marry him, surely. He replied that every man must have something that he promises himself, something that keeps him alive. Only then can he vanquish monsters in caves and in his own heart as well. Soon after he was given permission for a modest wedding. Then the bride and groom went away to the countryside, to a newly acquired estate, where Lux's wife gave birth to a daughter. One would wish this tale to end here.

Unfortunately, it continues.

7.

Lux had never forgotten the Dragon's words that he had heard in his dream and he made sure his house was always properly illuminated. Every evening he went on a tour of inspection and personally lit two lamps by his daughter's bed.

A year went by. The parents surrounded their baby daughter with every possible care, but that is never enough. The ageing alchemist liked to spend time on the veranda, with the child in his arms. There were evenings when they dozed off together, father and daughter, bathed in red sunlight.

One evening Lux woke up to find that the child was not in his arms. Meanwhile the sun had vanished. Mist had flowed over the tall grass, and it was towards this grass, beyond the circle of light, that the little girl was tenaciously crawling. What had called her over there? What had she seen? That we can only guess. All we know is that the horrified alchemist rushed to save his daughter. But it was too late. The little girl was already in darkness. She seemed to have stopped moving, as if doubt had sown a seed in her tiny heart. A black shape flashed by, and the glade before the house was deserted.

Lux ordered a search for his daughter, but with the Dragon's dreadful promise in his memory, he knew full well that the effort was in vain. He stayed inside his beautiful house. Some said he was preparing his revenge, secretly arming himself, wanting to burn the monster out from underground. But nothing of the kind ever happened. He was also seen wandering among the grasses, straining to hear his daughter's cries.

8.

He tried entering the darkness without a lamp, but it refused to take him, so he calmly waited for death, knowing it wasn't in his power to summon or repel it. He fell sick in his prime and accepted his fate without a word of complaint. His funeral drew large crowds and every person came with a lamp, forming a sea of rippling light that stretched to the horizon.

Maria
ZAKRZEWSKA

1829 Berlin — 1902 Boston

Physician, pioneer of women's health services, medical educator, women's rights activist. She came from a Polish family whose property was in an area of Poland annexed by Russia. From an early age Zakrzewska showed an interest in medicine and often accompanied her mother, a midwife at a Berlin hospital, on her rounds. After several years spent trying to gain admission, at the age of twenty she started her studies at the Charité Hospital school for midwives in Berlin. When she was twenty-three, with the backing of her mentor and champion, she assumed the responsibilities of chief midwife and professor of midwifery. After several months, however, she was forced to resign by the male contingent of the medical personnel and in 1851 left for the United States, where women could gain medical degrees. She graduated in 1856. For two years she worked in New York, where — together with Dr Elizabeth Blackwell, the first woman with a medical degree in the United States — she co-founded the New York Infirmary for Women and Children. She then became professor of obstetrics at the Female Medical College in Boston. Shortly before the outbreak of the American Civil War, she was given the green light to establish the New England Hospital for Women and Children, which went into operation in 1862. It was the second hospital in the country to be staffed exclusively by female doctors and surgeons. Zakrzewska implemented a series of innovative medical treatments as well as aseptic techniques. In 1872 she established the country's first professional training programme for nurses, and among its graduates were the first African-American nurses, including Mary Eliza Mahoney. The hospital's excellent results enabled the opening of a new surgical unit in 1890, where the surgeons also included women, which was unheard of at the time. Maria Zakrzewska trained a whole generation of women physicians, midwives and hospital administrators. All her life she fought against stereotypes. She never married or had children of her own.

Sylwia Chutnik

Cultural studies and gender studies expert, writer, essayist and social activist. She is a member of the Union of Polish Writers and the Literary Union. She regularly writes for periodicals such as *Polityka* and *Wysokie Obcasy*, as well as various internet sites, and she has co-presented two programmes on Polish television — *Cappuccino with a Book* and *The Forgotten, the Recovered* — as well as the online show *Literary Lair*. Her academic texts have been included in more than twenty studies and anthologies. She has received grants from the Homines Urbani programme, the Books from Lithuania programme of the Lithuanian Institute of Culture, the Polish Ministry of Culture and National Heritage, the City of Warsaw and the Goethe Institute. She has won numerous literary and social activism prizes. She is the host of the podcast *Radio Sylwia*.

A Chill Wind

As soon as I open my eyes on waking, I go to the window, greedily inhale the smell of the sea and feel glad that I live in Boston. To be honest, I could live anywhere as long as I could run my own medical practice. There are people who claim that God chooses a place for us on earth: where we were born is where we should die. And if fortune has thrown us into the arms of another country, then at least in our old age we should set out for our homeland, as if on a last pilgrimage. But I feel good in this city. I look at the streets by the port and am pleased that this is where my journey is ending.

How many times have my colleagues asked me whether I miss Poland? It's curious because I was born in Germany. But I admit that I have always identified as a Pole. My family lost their property under Russian rule and emigrated to Berlin. My father, an officer in the Prussian army with aristocratic roots, always maintained that a free person is able to live anywhere. The only thing that matters is to know your worth and what you want to do in life. He considered attachment to material things, including land, to be a sign of weak character. He believed in science and logic and in his own reason. In moments of doubt, I have often recalled the saying he used to quote from Hegel: "What is rational is real, and what is real is rational." My reality was the belief that if I am deeply convinced of something, I should do everything to achieve it. Yes, I was considered stubborn. I thought nothing of it.

I had five siblings and I don't remember any of us, even as children, trying to dispute our father's words. Of course that doesn't mean we understood them. That's how it usually goes: family dinners where parents exchange their views while the children kick each other under the table and plan their games. But here and there we must have caught something of what was being said, because never, including as adults, were we driven by material temptations or overinflated egos. But we were ambitious. Someone might say sarcastically, too ambitious.

From the perspective of years, and I have lived for more than seventy now, I can see how often I had to pay the price for the values with which I was raised. I don't mean to say that I regret my decisions. However, I realise that if I had been less stern with myself and more understanding towards those around me, perhaps I could have led the peaceful life of a doctor. Or perhaps it's the exact opposite: the stagnation would have bored me terribly. That's why I don't like this sort of reflection or looking back. More and more often, however, I recall snatches of my childhood: my grandmother, who treated sick animals, or a blind cousin who was in an eye hospital. And that pang in my heart when as a girl I first saw things done badly and a system that, instead of healing people, humiliated them. It's a strange feeling, as if I were looking through an album with photos arranged in no particular order. With hindsight, certain seemingly insignificant details become key turning points: choosing a dress for my exam at the medical college in New York (black but with a navy-blue ribbon pinned to the lace at the neck) or doing knitting jobs (I thought I'd go blind slogging away at it) to support myself during my studies in Pennsylvania.

Looking back on life, you can see how many opportunities have been wasted. It's sad to realise your own deficiencies and be aware

that it's too late. I cannot indulge myself; my medical career has taught me as much. Sometimes I would like to pat myself on the back and say, "Maryśka, you've done a lot of good: you created the first medical institution for women and you didn't let racists intimidate you when they threatened to burn down your house." But moments later I hesitate and think that if I had worked more and tried harder...

I have not been idle. Ever. Before the age of thirty, I had founded this country's first hospital for women and children that was staffed entirely by women. By then I was an experienced midwife, so I could share my knowledge with others. My colleagues underwent practical training and instruction at the hospital. I ran it for more than forty years, employing hundreds of women. Sometimes I remember their faces. Some of them made their profession and career their priority, sacrificing their personal lives. They had an approach similar to mine, in that sometimes you need to decide on a single project in life and carry it out in such a way that at the end you can say, "I have fulfilled my task." And who assigned it to me? I did.

However, in the case of female physicians, it's not that simple. I don't want to count how many times I took not only professional but personal risks to fight for the position of women in the medical world. For the position of non-white women, who are, after all, numerous in the country where I have come to work. Many times I had to use tricks, subterfuges and virtually political games. All this to achieve my goal and create jobs for those who wanted to fulfil themselves professionally, rather than just within the family. I had countless bizarre discussions, resorting to arguments that many people found unacceptable while to me they were as natural as breathing. Speaking them out loud, I felt truly ashamed that I had to mention

them at all. Logical errors in my opponents' thinking drove me to the brink of anger. But I knew I had to be prudent and focus on what was most important. In newspaper articles I argued that only women should assist with childbirth. Since they are the ones who have the experience of falling pregnant and giving birth, they will best understand another woman. I tried to show that if, as some claim, our biology determines our behaviour, then clothing it in science and medical practice will increase the safety of women in labour, while giving those who assist them the opportunity for professional fulfilment and a sense of empowerment. I could not comprehend why most of my male co-workers were against women working in hospitals. I suspected that they were simply jealous of their female colleagues' achievements and industriousness. And since it is women who have the gift of giving life, would there be room for men in this miracle of birth? The situation was similar when it came to the question of skin colour. My friends who campaigned for the abolition of slavery always said that being part of the abolitionist movement was sometimes like having conversations with children who are only just learning about societal relations and how the world is organised. That's exactly how I talked to some of my adversaries. I chose my words as if addressing ignorant creatures, which on the one hand was unbearable — I have never liked being a mentor — and on the other allowed me quickly to assume the role of an understanding mother. My experience as a nurse was a great help. Solicitude, patience and, above all, the desire to serve: for many years I felt I had a debt to humanity that demanded spreading enlightened ideas, but in such a way as to see them put into practice as quickly as possible, rather than remaining mere slogans. I was not content with stormy salon discussions about women's suffrage or the dominance of the

white man. I wanted change, and I wanted to know how an idea that's been implemented fares in practice. Maybe sometimes I was hot-headed and didn't listen to those who instead of inciting a revolution simply wanted to help? But when you're a young female doctor, it's hard to wait for changes to occur of their own accord.

In any case, my drive and courage came from my upbringing. My mother never accepted my decision to become a midwife. In fact, that's the great tragedy of my life: when I was studying in Cleveland, she was supposed to visit me. She died in a shipwreck. I still feel guilty as if it were my fault.

In any case, I got my own way. First I spent a long time trying to get into a school in Berlin (the wives or widows of officials usually had priority). Then I became Dr Schmidt's favourite student and deputy. I had not only to work hard but also to contend with people for whom a woman in a managerial position was unthinkable. I suffered a defeat: I managed to hold on to the job for only half a year. Hence the idea of going to America, where female doctors had slightly better opportunities. I didn't choose this country voluntarily. It was more a matter of following — let's not be afraid of the word — a calling. Because I knew that what I wanted in life was to become the best doctor I could be.

Where did I get that from? Probably from my mother, whom I used to accompany sometimes in her work to deliver babies. Sheets, a basin of water, cutting the umbilical cord with a kitchen knife. When you're a teenager and you see a tiny human being who has just come into the world, all red and wrinkly, you become convinced that our biology needs a bit of help on occasion. It can manage without us too, but maybe to the detriment of the people involved. That teaches humility.

I quickly came to know my place as a physician. Instead of fighting the body, I supported it. That's why I didn't think of a doctor as God in whose hands a person's fate rests. Many of my male colleagues saw themselves as new creators, but that led to many disappointments, especially when the patient died. In such moments, I tried not to break down: if I had done everything within my power to save life and health, I accepted what came. I simply tried to learn for next time what medicine could do, and looked for different solutions.

Why did I do it? Why did I constantly want more and more? I founded a hospital, I argued for women-only staff, I supported the women's movement and demanded civil rights for both sexes. Maybe the concept of destiny is close to my heart. I know it doesn't sound very serious, and after all I am a well-known, respectable doctor, but as far back as I can remember, I wanted to help people, and I don't think any other scenario ever occurred to me even once.

I remember one episode: our parents had been invited out to supper, and my siblings and I were left in the care of the woman who sometimes came to help with the cleaning. I must have been around six. I brought all the dolls, teddy bears and toys we had into the kitchen and laid them side by side. This was a hospital. The beds were handkerchiefs I had taken out of a cupboard, and items of underwear served as quilts. I was so engrossed in performing operations, taking temperatures, listening to my patients' hearts and lungs and nursing them that I didn't notice when my parents came home. They stood leaning against the doorframe, staring at me in shock but also smiling. Apparently I was using medical jargon with such conviction that it sounded as if I had already spent a lifetime in the profession.

When I was older, I was different from other children of my age. I had good marks, but I wasn't popular. If I didn't like something,

I said it straight out. I didn't have time for all those games, fake smiles and friendly gestures towards people who didn't interest me in the least. It has stayed with me my whole life, this lack of patience with things that don't matter. Sometimes it irritated my employees. They thought I was rude and impossible to befriend. I guess they were right, because I haven't had many friends or partners in my life. But I was very focused on my work and quickly became self-reliant. I saw a lot of wrong and harm done to people when I visited women's shelters and orphanages. I saw meanness in palaces and nobility in hovels. I learned that a life filled with mere appearances was downright harmful, and I lost any desire for charitable balls and fundraising. Maybe I haven't danced enough in my life? Yes, I think that's what I regret the most. And now, even if someone were to invite me to a ball, I wouldn't have the strength to enjoy myself properly.

I find it hard to imagine the future. But mine is rather easy to foresee. Feeling worse and worse leaves a doctor under no illusions. All my life I have worked beyond my strength. Shifts at the hospital often lasted more than twenty-four hours. At all costs, I wanted to show the sceptics that a woman could work physically as much as a man. Because all too often I had heard that I wasn't fit to be in charge of a hospital as I wouldn't be able to handle the hard work required. Decades later, however, the lack of sleep, all that bending over and the constant running around have taken their toll on my health. Who will now care for the woman who took care of others all her life?

I'm not bitter. I have never liked those stubborn old ladies who endlessly hold grudges. I know that I have trained scores of brave women who will continue my work. Yet I do sometimes wonder whether I will leave anything behind. I'm not talking about fame, and I don't think my difficult name will be remembered. But the

ideas I have worked for, the seeds I have tried to sow here and there, have to survive, spread and bear fruit. Otherwise what would have been the point of all that effort and sacrifice?

I'm going to close the window; the wind is very strong today. Reminiscing is exhausting, so I'm getting back into bed, since it's almost time to take my medication.

Jan Niecisław
BAUDOUIN DE COURTENAY

1845 Radzymin — 1929 Warsaw

Linguist, social activist, freethinker, essayist. He was born into a Polish aristocratic family of French descent on his father's side. He graduated from Warsaw's Main School (which later became the University of Warsaw), and then studied linguistics in Prague, Vienna, Berlin, Jena and St Petersburg, gaining his doctorate in Leipzig in 1870. As a Pole he could not count on employment in Warsaw (because it was in the Russian partition of Poland), so he continued his academic work at the University of St Petersburg and then at the University of Kazan. There, in cooperation with a group of students, he worked on the nature of language, distinguishing language from speech, making phonological discoveries such as the definitions of the phoneme and the morpheme, and conducting research into the proto-Indo-European origins of the Slavonic languages and also into dialects. The group he led came to be known as the Kazan school of linguistics. From 1883 to 1893 he taught comparative grammar of the Slavonic languages in Dorpat (now Tartu in Estonia), then from 1894 to 1899 in Kraków and, until the Russian Revolution, in St Petersburg. His students included several linguists worth mentioning, such as Lev Shcherba, Yevgeny Polivanov, Nikolai Trubetzkoy and especially Roman Jakobson, thanks to whom Baudouin's influence spread to the Prague school of linguistics. He was also famous for his radical beliefs: he combated every form of nationalism and anti-Semitism, spoke out in favour of equal rights for women, and was an atheist (*My Attitude to the Church*, 1927) and a pacifist. In 1914 he paid for his liberal views with three months in a tsarist prison. He wrote in eight languages, as well as in Latin, Ancient Greek and Sanskrit. In 1918, when Poland regained independence, he returned to the country. He lectured as an honorary professor at the University of Warsaw and in 1922 was put forward as a candidate for the post of president of the Polish Republic.

Krzysztof Siwczyk

Poet, essayist, reviewer. He graduated in cultural studies from the University of Silesia. He has written sixteen poetry collections (including *Wild Children*, *Poems for Smokers, In the Middle Kingdom*, *Nuptials*, *Brightscript* and *Medians*). *Wild Children* won him an award conferred by the monthly literary journal *Czas Kultury*. He has published books of literary criticism, essays and fiction (*Ephemeral Objects of Attack*, *Sconces in Hell*, *Near the Place/A Primer* and *Spiritless*). He has also played the lead role in two feature films: *Wojaczek* (directed by Lech Majewski, 1999) and *Deported* (directed by Adam Sikora, 2010). He is a winner of the Kościelski Foundation Prize and the Gdynia Literary Award. He lives in Gliwice.

A Language That Speaks Us

According to Friedrich Hölderlin, "what will remain, the poets decide". But that is not so. What will remain, the philologists and linguists decide — as Friedrich Nietzsche, the forerunner of the twentieth-century linguistic revolution, was painfully aware.

As far as our own, Polish backyard is concerned, it is hard to pinpoint the moment when we became conscious of the language in which we began to speak on the eve of the twentieth century. Following Poland's loss of independence, in the era of moral decay that came after the partitions, during the industrial revolution, and, finally, in the noisy confusion of national identities, there were in fact some individuals involved in establishing meaning with a capital M. One of these people was Jan Niecisław Ignacy Baudouin de Courtenay: a contemporary of Nietzsche to whom history has given a less prominent place and who, thanks to his nomadic existence as a lecturer at German, Russian and Polish universities, became a major creative force within at least three cultural spheres. It would be hard to find a person with a clearer mind or an intellect as independent and uncommon, who — working multilingually at the turn of the nineteenth and twentieth centuries — devised a strategy for understanding language as an organism, the complexity of which tells us to bid farewell for ever to our naive faith in the control that as users we exercise over it. Indeed, there will always be mystery surrounding the

phenomenon of the scholar who in language saw immanence rather than transcendence, a toolbox rather than a sacrament. This basic impulse to discover and learn has been appreciated, as confirmed by a weighty bibliography and a long chain of kindred twentieth-century scholars, who see in Ignacy Baudouin de Courtenay a precursory common denominator. From today's twenty-first-century perspective, I do not think it is the taxonomy of language that he produced in his famous essay *An Attempt at a Theory of Phonetic Alternations* that is of the greatest significance, but his attempt at reconstructing the mental hinterland from which he brought to light the idea of a dialect in which we could understand each other within the world's great Tower of Babel. While the previously quoted Hölderlin, residing in a tower of insanity and solipsism with a fine view of the Neckar, left us a dictionary of metaphors for madness, de Courtenay laid the foundations for the equally phantasmagorical Esperanto. At the same time the linguist's phantasmagoria proved more loaded with epistemological consequences than the poet's speculation. First, de Courtenay — almost in parallel with the ideas of Ferdinand de Saussure — drew a distinction between the concepts of language and speech. Grasping this diametric difference appears to have been a Copernican revolution in both linguistics and literature. I can see absolutely no other starting point for structuralism and poststructuralism than this primordial, although polluted, source of a dichotomy. The result of this rupture was that the tradition of the Romantic creative act that leans towards the world beyond corroded at lightning speed, releasing powerful intellectual energy that from this point on would focus on a new commandment: it is not what but how we write that matters! From here on, the world's sacred volumes, which de Courtenay studied with the me-

ticulous care of a mediaeval copyist, simply became literature written by human beings, rather than tracts dictated by the gods. Now we knew, and could not deny, that language is a multi-elemental abstraction that produces local meanings, which can undergo curious manipulations when used in speech — the collective testing ground for negotiation, where we agree or not to the meanings produced by language. This discriminating, ground-breaking approach to examining language and speech dispossessed us of our childish faith in the presence of a stable *arche* for the world. The separation of the order of words and of things, as decreed in the philosophy of the pre-Socratics, gained a modern name and the support of verifiable academic reasoning.

Naturally, de Courtenay shunned the systematic theory of language in favour of the poetics of the fragment, in which respect he is highly reminiscent of Nietzsche. Emil Cioran's observation fits him perfectly: "Hegel was a murderer. He devised a system." Whereas de Courtenay was opposed to systems in every possible incarnation. He paid for this attitude with a stretch in a Russian fortress. He was driven to it not by madness, but by an uncompromising moral attitude that made him an advocate of what we would now call human rights in a world that was unable to recognise rights that did not pay off politically. The right to be human is above all the right to be idiomatic and individual, to be local and diverse and, finally, to be free of the ideology of the "political unity" that standardises uniqueness and individuality. How up-to-date this programme of new freedom is in our times, the era of a return to an ideology that excludes the existential exception! De Courtenay was not just a celebrity in the academic world but above all he gave us the concept of "ethnicity", which has not

caught on at all in Polish history. And this is his second remarkable feature, because he was divided, just like language and speech. He was the embodiment of many different cultural and linguistic elements. He spoke and wrote in eight languages, was educated between East and West, and journeyed intellectually between metaphorical Rome and Jerusalem. He actualised his spiritual and intellectual potential in the borderlands of the great cultural traditions. His was a mind working at a crossroads, within the liminal sociopolitical sphere that is home to minorities and outcasts, the stateless and the rebels. Thus the submission of his candidature for the post of president of Poland in 1922 is a typical episode in his biography. In a profound way he was a citizen of the world, which in the twenty-year interwar period made him a suspect figure, and although he did not live to see anti-Semitism in Poland at full throttle, he had a perfect sense of it. He demanded that Yiddish and Polish should be taught simultaneously at schools in the Second Republic (in other words, independent Poland between the wars). I see in this demand an honest approach to historical remembrance and a reference to the best traditions of openness in Polish culture, inspired and jointly created by various sources. From the increasingly blurred and distant perspective of the co-existence of languages and cultures, de Courtenay emerges as the representative of a hospitality that in the twentieth century would most fully be described by Jacques Derrida. This may be a rather remote, intellectual suggestion, and yet it harmonises well with the Polish linguist's French roots. Were we to apply the concept of deconstruction historically, then de Courtenay could be seen as its very first proponent. Through his academic activity he deconstructed the Polish intellectual's faith in nineteenth-century language as a trustworthy vehicle for a truthful description of the world. As an

active freethinker he opposed the clerical and xenophobic pressures that burdened and ossified Polish social life. He studied Slavic idiolects. Perhaps his belief in Pan-Slavism expressed a desire for a higher order to organise greater, historical communities. His pacifist and feminist views were also deconstructive in spirit. Reading his works and public statements gives us the impression that he wanted to bring about a grammatological revolution within the culture of the word, and the "feminative" (the feminine noun form) came to him naturally. He died in 1929.

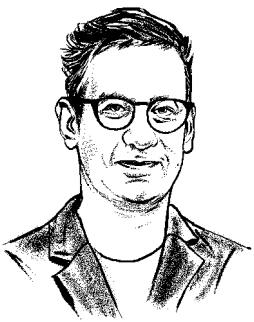
Somewhere between 1889, when Nietzsche went mad, and 1929, when the Polish linguist died, a paradigmatic change occurred in the organisation of the life of European societies. These four decades were crucial years for the development of modernity — of a world from which in just a short while the technology of mass genocide would emerge, as well as the equally mass language of its justification. Language would cease to be a collection of abstract elements and would become a concrete tool for pointing out "the enemy", the Other, the Alien. Ten years after de Courtenay's death, a process that would entail the loss of language and common speech for negotiating the rules of individual life would begin. There would be no more talk of negotiations. Following the experience of the Second World War and the Holocaust, the world would recognise itself as a mute nonentity. From then on, the "poetic Esperanto" created by Paul Celan and Tadeusz Różewicz would grapple with Theodor Adorno's view that "to write poetry after Auschwitz is barbaric". The search for a language of mutual understanding would be the domain of poetry, not of philology or linguistics. The new Tablets of the Law would be carved in the lines of the most famous post-war poems.

From today's perspective, the intentions that 150 years ago may have prompted Jan Niecisław Ignacy Baudouin de Courtenay to begin his journey to the sources of language and speech in search of a meaning in which we human beings would be able to feel at home seem extremely radical. Here academic flesh fits perfectly onto moral backbone, civic convictions come to the aid of social activism, and speaking up for minor cultures in the face of dominant ones seems heroic. The strength of this integral personality comes from total polyglot diffusion.

Józefa
JOTEYKO

1866 Poczujki near Kiev — 1928 Warsaw

Physiologist and psychologist, pioneer in the ergonomics of labour, expert on child education and women's rights activist. She began her studies in Warsaw (1884), gained a bachelor's degree in experimental physiology in Geneva (1888) and a medical diploma in Paris (1896). From 1896 she was employed as a junior lecturer at the newly founded (1894) Solvay Institute of Physiology in Brussels, while also conducting laboratory research in experimental psychology at the medical faculty of the Université Libre. In this period she developed a technique for testing muscular metabolism, establishing criteria for physical function and fatigue. After 1907, this work was cited by the opponents of Taylorism, a theory of management that was dominating industry. From 1906 she taught at academic institutions in Mons and Charleroi, widening her interests to include the psychophysiology of pain. Following the German invasion, in 1914 she took refuge in Paris, where she lectured on physiological and developmental psychology at the Sorbonne and at the Collège de France, and from 1918 in Lyon. In her Parisian years she formed a liaison with Michalina Stefanowska, an older scholar who shared her scientific interests. Because of this liaison, among other reasons, on her return to Poland in 1919 she was refused a chair in psychology at Warsaw University, and the National Pedagogical Institute, which she co-created, was closed down after five years. From then on she taught at the Free Polish University and the Institute of Special Education, while also organising an institutional and publishing movement for practitioners of educational psychology. In the final year of her life she was appointed to the Council for Health and Safety at Work, the first of its kind in the world, within the Ministry of Labour and Welfare.



Mikołaj Łoziński

Writer, screenwriter and photographer. He studied sociology in Paris. His novels have been translated into many languages and have won prizes including the Kościelski Foundation Award (for *Reisefieber*) and the Polityka Passport Award (for *The Book*). The novel *Reisefieber* was listed for the Nike Literary Award. His most recently published novel, *Stramer*, was named Book of the Year 2019 by the monthly *Books: A Magazine for Reading* and the weekly *Polityka*, and it was also longlisted for the Nike Literary Award and shortlisted for the Angelus Central European Literature Award. He is the father of twins and lives in Warsaw.

Three Days in the Life of Józefa Joteyko

1.
A mole in Smolna Street

What does a little girl do when she finds a dead mole in the gateway of her home at 23 Smolna Street?

It is the spring of 1877.

A year ago, she arrived in Warsaw from Poczujki, near Kiev. Their mother had decided that Józefa and her three siblings should be given a decent education. Józefa too had been dreaming of getting away from the family estate and moving to the city.

One night in bed at Poczujki she had eavesdropped on her parents' conversation.

"The days are gone when it was enough to equip one's children with good manners, a knowledge of languages and a musical education," her mother had said.

"I refuse to leave the family estate! It's out of the question," her father had replied. "You know I'm tired as it is."

After that Józefa had fallen asleep, but the conversation must have continued, because two months later her father leased part of the estate (a sugar-beet plantation) and the entire family moved to Warsaw, taking their French governess, Madame Perosette, with them.

They found a spacious apartment in the city centre, hired some domestic servants, and, just like their neighbours, started going to Switzerland for their holidays.

Everything would have been fine if Józefa's mother had not been disappointed by her daughter's school. "The standards are low, and to make matters worse they are teaching even Polish in Russian now. We did not move to Warsaw for that." She came up with the idea of organising classes in Polish at their own home. Warsaw's best teachers of natural history, Polish and world history, mathematics and drawing have started coming to Smolna Street.

Józefa is happiest when they tell her about the university. It is a large, mysterious edifice, fifteen minutes' walk from Smolna Street. The solemn professors and students who come and go through the tall, ornate gateway also have an air of mystery about them. Józefa imagines it is because under those top hats they are carrying knowledge of the world in and out of there. And that explains the look on their faces too.

Józefa also likes the students' simple, practical uniforms. But why are there no women among them?

She often takes a roundabout route home on purpose, just to walk past the university. And at home she practises making solemn faces before the mirror.

Once she overheard some students talking. One of them put his pince-nez to his eyes and declared: "I wish to investigate everything in existence, and then make new discoveries…"

And then he cursed loudly, because he had stepped in a puddle, which amused not just his fellow students and the governess, Madame Perosette, but even the tsarist officers smoking by the gateway.

Ever since that day, Józefa has kept repeating to herself that she "wishes to investigate everything in existence, and then make new discoveries", but she has also remembered to avoid puddles.

Not long ago her father asked her what she wanted for her eleventh birthday. He was surprised by her answer. In exchange for the banknote that he discreetly pressed into the guard's hand (Józefa could not see how many roubles it was), they were admitted into the side wing of the university, and then into the zoological laboratory, where there were no classes in progress.

Holding her father's hand, she examined the animals — behind glass, in formaldehyde, and pinned to wooden boards. She took a careful look at the skeletons on the shelves and at the boards with pictures showing what people and animals have underneath, inside, below the skin. Each organ was described in Cyrillic.

Now, in the gateway on Smolna Street, she is reminded of the skeletons at the zoological laboratory. She looks out to make sure the caretaker is not there, and carefully brings the dead mole into the courtyard. She lays it under a chestnut tree to make it as hard to spot as possible. She will be right back. She just has to run upstairs and fetch a sharp kitchen knife from the maid before performing her first post-mortem.

2.
A crowd at the Collège de France

On 21 January 1916, there are no empty seats at the Collège de France. The lecture hall and the corridors are so packed that it is hard to breathe. Someone says the last time he saw such a large crowd here was for the French philosopher Henri Bergson.

Józefa has five more minutes. She goes outside for a cigarette. On the way she waves to the eminent Polish chemist and physicist Marie Skłodowska-Curie, who is sitting in the third row, next to France's

leading feminists. As in the 1840s, when Poland's greatest poet, Adam Mickiewicz, was lecturing here, the two front rows are occupied by the "Polish colony".

For the first time in the history of this famous Paris academy, founded almost four hundred years ago, a woman is about to give a lecture.

Józefa read about it in bold type in the four newspapers that Michalina Stefanowska brought to her in bed this morning.

"Look at this, they've even quoted the title of your lecture correctly. 'La Fatigue dans la fonction motrice' — 'Fatigue in Motor Function'."

Józefa grabbed Michalina's hand, pulled her close, and they stayed together for a while longer. "But let's not tire ourselves out," they said, laughing.

Afterwards Michalina brought Józefa a cup of coffee to have in bed. That had been their ritual for years. First in Paris, later in Brussels, and now in Paris again.

They had met exactly thirty years earlier, in 1886, while studying natural history in Geneva. Michalina could not help noticing the slim, twenty-year-old student at Professor Vogt's first lecture.

The professor had told them that mental processes occur only on the physical level, and that compared with physical processes they are derivatives; as she gazed at the blonde girl's beautiful, pale pink complexion, she could not fail to agree with him.

They were taught that thoughts and emotions emanate from the brain, and are dependent on the chemistry of the nerve cells.

Or at least that is how they viewed their relationship for many years after.

"There's no thought without phosphorus!" Vogt had concluded his lecture, after which Michalina dared to approach Józefa and ask her for a match.

Józefa audaciously smoked cigarettes. She wore a pince-nez and a straight, close-fitting dress. In fact, she never changed her style. She always ignored fashion, hated going to department stores and had her own personal tastes: dresses made of solid fabrics, extremely plain, with no frills at all. She often complained that she was not free to dress like a man.

Today, at the Collège de France, she is wearing a grey skirt suit of English cut, a white, turndown collar and a ribbon tie.

After two years in Geneva and a short period in Warsaw (to sort out family affairs following the death of Józefa's father), Michalina and Józefa had moved to Paris to continue their studies. They rented a modest room together in the Latin Quarter, on rue Glacière. As the more practical of the two, Michalina kept house. Józefa never even tried to learn to cook. By night she wrote theoretical papers on muscle fatigue in French, and by day she studied medicine.

After her studies at the École de Médecine she spent several months working as a doctor. But she could not bear to listen to her older colleagues during case conferences as they once again agreed to prolong the treatment of a rich patient, purely because it would guarantee them a source of income for some time to come.

She missed Michalina ("Because of you I'm an emotional wreck," she wrote in her letters), who had landed a job as a physiologist at the Solvay Institute in Brussels.

Finally, one day Józefa arrived on Michalina's doorstep without warning, carrying two suitcases. She had decided to return to academic work, and Michalina managed to find her a job at the Solvay Institute.

The best time in their lives began. All day long they were together. As well as their spacious apartment, at the Institute they shared

a laboratory and also a study with large windows that overlooked a beautiful pond in Leopold Park. They researched muscle, nerve and nerve-centre fatigue.

All this was described in the morning newspapers too, but in a different way:

> Józefa Joteyko, Poland's most distinguished woman scientist alongside Skłodowska-Curie, in the seven-year period from 1900 to 1907 published eighty-eight articles, reports and papers based on research she had conducted singly, or in cooperation with M. Stefanowska, V. Kipiani[1] and C. Henry. Almost all her works are the result of research in the field of physiology. Since 1907 she has published a growing number of works relating to psychophysiology, psychology and education. Additionally, from 1901 for fourteen years she lectured on experimental psychology at the Solvay Institute while also conducting research in this field, and since 1906 she has also lectured on educational psychology at teacher-training colleges.

The article ended with a statement by Józefa's favourite student, whose name was Maria Grzegorzewska, and about whom Józefa and Michalina often quarrelled:

> Joteyko is always interested first and foremost in the human being. She has a highly philosophical mind, with thorough grounding in natural history. In her research and papers on physiology and psychology, she has sought solutions to the fundamental problems of fatigue, human labour and pain. She then shifted her interests to the laws of human development and the human psyche, leading the educational movement and becoming one of its

1 "Also a lady!", notes the newspaper editor.

pioneers. She recognises that science should go beyond the narrow confines of the laboratory and be of service in people's lives.

Holding a pile of papers, Józefa approaches the lectern. The lecture hall falls silent. She is trying not to feel stress, and to forget about the fact that the only Pole to have lectured at the Collège de France before her was Adam Mickiewicz.

3.
A rented room at 47 Wilcza Street, Warsaw

It is 1928. Józefa is finding it hard to climb the stairs to the fifth floor. She has to stop and rest on each landing. She is sixty-two years old, and these days she rarely leaves the house. She has just been to buy enough rolls to last the entire week.

She returned to Poland a year after it regained independence. She yielded to the positive mood inspired by this event. She was pleased to be bringing home her scientific achievements and techniques (most recently she had been working on problems relating to psychology, in particular issues concerning intelligence and methods for researching the intellectual level of children), and above all she would convince the greatest Polish émigrés with whom she had worked in France and Belgium to return to Poland. That was why in Paris in 1918 she had founded the Polish Teaching and Education League.

Following the success of her lectures at the Collège de France and the Sorbonne, she was sure she would gain a chair in psychology at Warsaw University. Of course she knew it would not be an academic institution on the same level, but in her youth she had dreamed of studying at Warsaw University. She had spent several nights in tears at the thought that women were not admitted, and that she would have to

go abroad to study. And now she would return and lecture there — to her there was something symbolic about it, a sort of fortuitous justice.

She could not believe it when she found out that the Warsaw University professors had voted against her candidature.

Why had this happened? She heard various possible reasons. "Reluctance to appoint a female professor." "Antagonism between the conservatism of decision-makers at the university and the progressive spirit apparent in your views, methods, educational activities and scientific output as a whole." Someone said it was to do with her "friendship" with Maria Grzegorzewska.

She tried to find her own explanation for it too. As she told Franciszka Baumgarten, a friend and scientist, who was hesitant about returning to Poland from Switzerland: "Taking steps independently is a difficult thing to do, both in the life of an individual and that of a nation. Mistakes and injustices occur, including major ones. One should forgive. These are our own people, after all."

Finally, she gained a position at the National Pedagogical Institute in Warsaw, where she taught general and educational psychology to future teachers. But later the Institute closed down, and for a while she was unemployed.

Fortunately, Maria Grzegorzewska became director of the State Institute of Special Education and gave Józefa a job. Józefa delivered her last lecture, on topics including the necessity of introducing a school psychologist into the Institute's schools, three months ago, on 3 November 1927.

Her legs are swollen, and she has trouble walking and breathing. 47 Wilcza Street is not far from Smolna Street, where she once lived with her parents and siblings. It is also quite close to Warsaw University, though she would no longer be able to walk that far either.

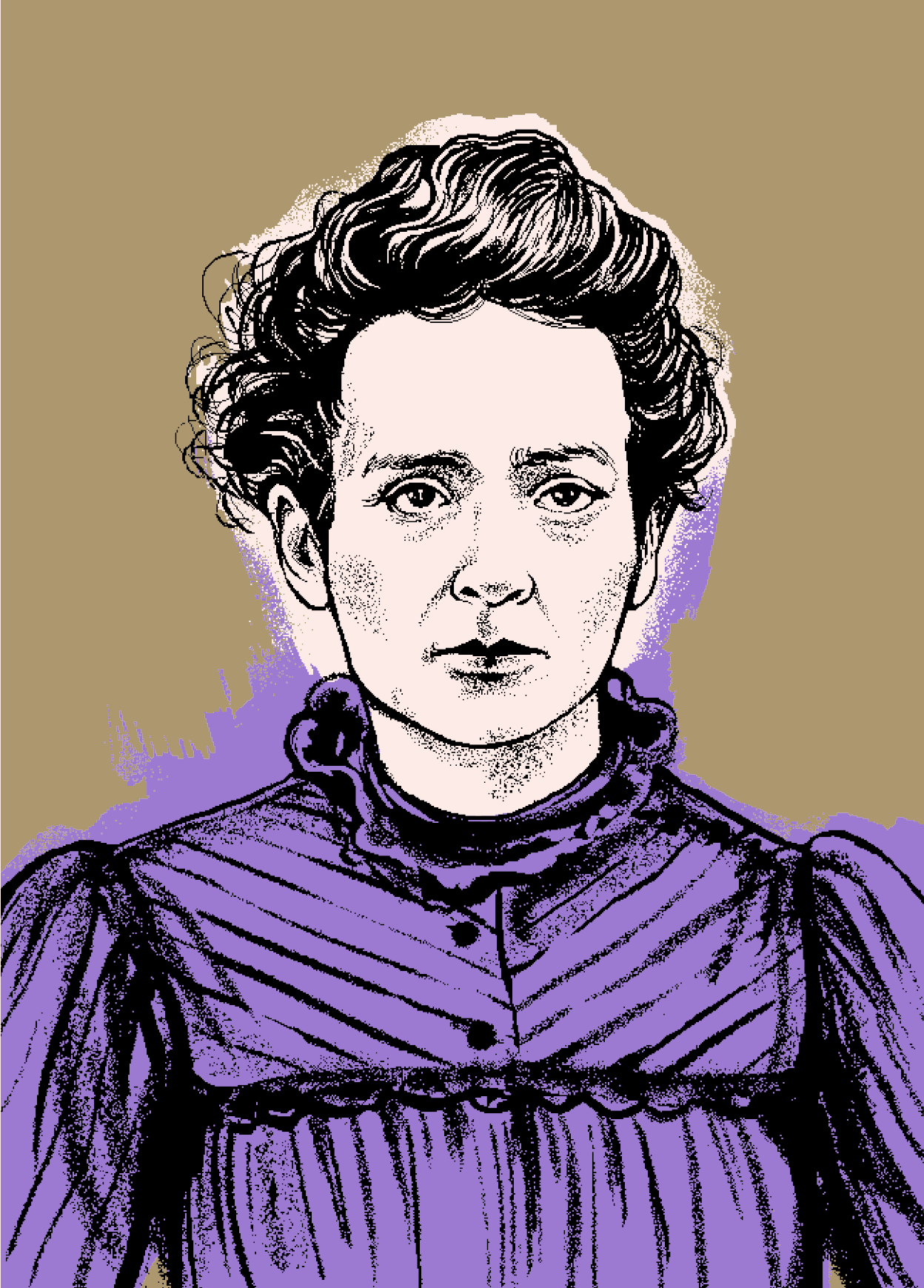
She lives in a modest room rented from the Zylberg family. She pretends not to notice the hostile way they look at her — old, decrepit and incapable. How brusquely the servant addresses her and her visitors.

Józefa Joteyko spent all those years studying pain and fatigue in theory, and now she is experiencing them for herself.

Maria SKŁODOWSKA-CURIE

1867 Warsaw — 1934 Sancellemoz

Physicist and chemist, discoverer of the elements polonium and radium, researcher into the phenomenon of radioactivity. One of the originators of the twentieth-century scientific revolution, she began her partly clandestine education in Russian-administered Warsaw. From an early age, she held secular and democratic views. She began working as a governess in Poland in order to support her sister's studies in France. In 1891 she herself left for Paris and after two years at the Sorbonne obtained a degree in physics and, a year later, another in mathematics. She met and later married the eminent physicist, pioneer in crystallography and discoverer of piezoelectricity Pierre Curie, with whom she worked closely until his death in 1906. The two scientists, alongside Henri Becquerel, the discoverer of radioactivity, were jointly awarded the Nobel Prize in 1903 for the results of their research. After her husband's death, Skłodowska-Curie became the first woman at the Sorbonne to hold the position of the chair of physics, previously occupied by Pierre. In 1911, she was awarded her second Nobel Prize for her success in producing radium as a pure metal, among other achievements. During this period, her research focused mainly on a theory of radioactive decay and on medical applications of radioactivity. During the First World War she developed and organised mobile X-ray units, which she also operated. After the war she continued her research into radiology at the newly organised Radium Institute in Paris (1921), the equivalent of which she also founded in Poland (1932). She died of leukaemia caused by long-term exposure to radiation. In 1935 her daughter Irène, also a physicist, with her husband, Frédéric Joliot, were jointly awarded the Nobel Prize for their discovery of artificial radioactivity.



Izabela Morska

The author of a number of books of poetry, plays, prose and essays, including the academic work *Glorious Outlaws*. In 2018 she received the Julian Tuwim Literary Award for her work. In 2020 her memoir focusing on illness, titled *Disappearing*, was awarded the Sea Breeze Pomeranian Literary Award. Her interests include postcolonial literature, secular and religious Jewish traditions, gender and queer studies, post-humanism and ecology, alternative culture and civic disobedience. Active in many cultural spheres, she tries to combine her research and academic activities with creative literary practice.

Maria Skłodowska-Curie, or the Hero's Journey

The life of Maria Skłodowska-Curie has a well-established, practically undisputed trajectory. The daughter of two teachers and the youngest of five children, who lost her mother at an early age. Departure for France, higher education, marriage to the like-minded researcher Pierre Curie, their joint discovery of the phenomenon of radioactivity and of two new elements, radium and polonium. Perseverance, work and love, which were to triumph over mourning and death. Patriotism understood as emergency assistance to those wounded at the front. The opening of the Radium Institute in Warsaw.

The heroine's maturation into her own destiny can be half-jokingly fitted to the circular scheme of the hero's journey as described by Joseph Campbell. Here, heroic deeds count as much as the path taken. Her acceptance of the invitation to follow the path of destiny is, of course, her departure for the Sorbonne — the culmination of the first act. But before that, in order to obtain the funds for the journey, the young woman takes a job as a governess. When she meets a student, her wealthy employers' son, the goal becomes the pursuit of love, and she the heroine of a romantic narrative. Eventually she leaves for Paris, where she is amazed by the air of freedom: the university does not charge fees, so she can set the pace of her own learning. This is a time of independence (she soon moves out of her sister's and friendly brother-in-law's home to be closer to the university),

of testing her own abilities and, finally, of fascinating discoveries, when in 1898 she and her husband Pierre Curie jointly identify the two new elements. Their research focuses on the previously unknown phenomenon of radioactivity, for which in 1903 Marie — as she is known outside Poland — and Pierre, together with the French physicist Henri Becquerel, are awarded the Nobel Prize in Physics.

Pierre Curie dies in an accident in 1906, before he can be diagnosed with radiation sickness. This is a trial, an entry into an antagonistic world, the innermost cave. Another trial, at the end of act three, is the forced termination of Marie's love affair with Paul Langevin (described by writer Irène Frain), when a press scandal coincides with her receiving her second Nobel Prize, in 1911, this time in chemistry. A new support network forms to defend Marie, despite the fact that her downfall had been planned as a new Dreyfus affair and she herself branded a foreigner, an outsider, an immigrant. This is the climax of the third act and of the whole story, although the opening of Curie's laboratory in 1919 and the gala at the Paris Opera, where Sarah Bernhardt recited the "Ode to Madame Curie", and after which Marie, accompanied by her daughters, Irène and Ève, sailed to New York to collect one gram of radium — a gift from the women of America — could also stir the imagination as a possible ending.

So, to backtrack: childhood in Warsaw, in a family of modest means. But what a family! The father is a walking encyclopaedia, fluent in four languages: French, Russian, English and pretty good German. The mother, Bronisława, is the head of a girls' boarding school in Freta Street. She must have been very talented to have got that far by the age of twenty. Within seven years, five children are born — Zofia (b.1862), Józef (b.1863), Bronisława (b.1865), Helena (b.1866) and Maria (b.1867) — but this period in the family's life is

associated with relative material comfort. In 1868 Bronisława stops working when her husband, Władysław, becomes the deputy head of a Russian-run secondary school. However, he soon loses this job. To save on household expenses, Bronisława learns shoemaking to make footwear for their offspring. Clearly, five children quickly wear out shoes or grow too big for them. But this is a family that cannot be worn down.

In hero narratives, upbringing is the preparation for great deeds later in life. At the Skłodowski home, even play has an educational aspect. The game of lotto is used to teach history and building blocks are handy for studying geography. Every night before bed, the father has the children do physical exercises. This putting into practice of the idea *mens sana in corpore sano* must have been seen as risky and innovative. On Saturday evenings he reads literature to the children and instils in them a love of poetry. However, the end of his career within the Russian schools administration also puts an end to the educational family idyll, as the Skłodowskis are obliged to take in boarders. Later, one of the children who will come to stay with them will bring them typhus. That is how Bronisława and Władysław will lose their eldest daughter.

Life at home is poor but high-minded. It rests on three pillars: shared thoughts and dreams, education and a patriotic atmosphere. This attitude clashes with the strict Russification policy adopted by the Russian administration after the fall of the January Uprising of 1863. Public signs must be bilingual, and for a few years the atmosphere in the city is funereal; many Polish women wear black. The Skłodowski family embodies both the ideals and the disappointments of the socially downgraded, impoverished gentry that has managed to transform itself into the intelligentsia but not into the

middle class. Władysław's professional instability stems from the fact that Polish teachers are not allowed to teach chemistry or physics — perhaps because this knowledge could be utilised to perpetrate acts of terrorism. Such dangerous lessons can therefore take place only under the supervision of teachers whom the authorities can trust.

The patriotic myth in its lofty, combative version goes bankrupt. Uprisings end tragically, and the best people perish in them. Patriots are left feeling exhausted and powerless. They lose friends, who die, are exiled or emigrate. Each generation inherits these losses from the one before. It is the women who remain. Having lost their husbands in one of the uprisings or through repression, they learn how to run family estates and manage finances. The younger ones are educated at private schools. At the age of fifteen, Maria Skłodowska graduates with a gold medal from a Russian-run and Russian-language secondary school for girls in Warsaw — but she retains her inner freedom. She has many interests: literature and sociology, mathematics and physics. She writes poetry and draws (the biography written by her daughter includes a good portrait of the family dog, Lancet).

Just as Maria finishes school, Jadwiga Szczawińska-Dawidowa establishes a secret academy for women. In 1882 there are about 200 attendees. Young women without a fortune want to be educated. The meetings take place in groups of eight to ten at private addresses, including that of the twenty-something teacher Bronka Piasecka, whom the Skłodowski sisters know. It is she who fires up Maria, Bronisława (also known as Bronka or Bronia) and Helena with positivist ideas. The lessons cover natural sciences, including anatomy and biology, as well as sociology, philosophy and the history of literature. Eminent Warsaw scholars (without academic degrees) take great risks to share their knowledge with young women,

at a time when none of the universities — neither the Russified Warsaw University nor Kraków's famous Jagiellonian University — will admit women. Participation in illegal education involves an element of conspiracy and carries the threat of arrest, imprisonment or even exile. Nevertheless, in 1886 the number of those eager to study keeps growing, so Dawidowa transforms the academy into the Flying (sometimes also called "Floating") University. The premises of several Warsaw institutions are used in secret to hold the lessons. The teaching programme allots two hours per week to each subject. The studies last six years and end with the student obtaining a diploma. Tuition fees apply, but it is possible to obtain an exemption in case of "meagre resources". In 1889–90 there are already a thousand female students.

While studying, the Skłodowski sisters patch up the family finances by tutoring, until Maria — who is not afraid of radical solutions — takes a job as a governess at the home of a Warsaw family, "Mr and Mrs B". She does not stay there long. As her daughter Ève will later write, the outrage and surprise with which Maria reacts to the atmosphere in this home indicate that "she had never before met plainly second-rate people". Scrupulous and brought up by her frugal mother with a strong work ethic, the teenage proponent of women's rights is surprised that five servants are employed for the upkeep of the house but at the same time the owners try to economise on paraffin for the lamps. She considers her employers to be "demoralised by wealth". She discovers that these rich people are behind with paying their bills to those who really need the money — a situation described by Thackeray in *Vanity Fair*. She notes, "I have learned that the characters described in novels really do exist."

Soon she decides that half-measures are not enough: she will become a governess somewhere in the provinces. She lands a well-paid

position: 500 roubles a year. This departure for the Płock governorate at the age of eighteen recalls the ancient tradition of selling oneself into bondage, although here it is really a matter of earning for one's future. At the manor house in Szczuki, which belongs to the Czartoryski family, the Żorawskis are merely the administrators, yet they do not regard Maria as a good enough match for their son. Maria remembers the education of the local landowners' daughters as follows: "Some of them are even intelligent, but their upbringing has not developed their minds, and the crazy local amusements have completely addled them." Provincial reluctance to learn seems to her a kind of collective insanity. She, on the other hand, is seen as odd, perhaps even dangerous, because she is a "positivist" — although she does go to church every Sunday.

She will spend almost four years there, pursuing further learning on her own because she wants to have a stock of knowledge similar to that of a French lycée graduate when she finally begins at the Sorbonne. She studies physics; she reads Spencer's sociology and Paul Bert's anatomy and physiology. Her father helps her work through algebra and trigonometry problems by correspondence. She also finds time for "work at the foundations". Like the eponymous heroine of Stefan Żeromski's short story "Strongwoman", she teaches a group of peasant children, sometimes two and sometimes five hours a day, in her own room (which has a separate entrance) — yet again risking arrest, perhaps even exile. But Maria has been instilled with the idea that the duty of an educated individual is to sacrifice herself for the good of the community.

Yet there is also an element of adventure to this life. Studies abroad are the result of a plot hatched by two sisters: Maria and Bronia, with their friend Maria Rakowska, make plans together and

discuss how to overcome the issue of money and to secure a professional career. It will be Maria Rakowska who will accompany Bronia on the long-awaited journey to Paris. Maria Skłodowska's correspondence is a testament to the existence of a friendship network within the bounds of which the young women compare their abilities, clarify their goals, assess risk, evaluate their strengths in light of their aims and give credibility to their dreams. It brings to mind the correspondence of the Enthusiasts a generation earlier, except that what counts here is not so much Romantic emotionality but practicality and a focus on one's goal.

The young women associated with the Flying University are convinced that educational work is the only hope for the Poles. Bronisława plans to return to Warsaw after obtaining her diploma. The Skłodowski sisters have plenty of role models when it comes to women's independence: their mother was the head of a girls' boarding school, while their uncle Zdzisław's wife, Wanda Skłodowska, attended university in Geneva and achieved success as a writer. This belief in independence but also in having a vocation is another reason why Maria Skłodowska almost decided against leaving for France.

Perhaps, as Ève Curie suggests, it is because Maria grew up in a milieu with such high standards, surrounded by exceptional people and talented siblings, that, paradoxically, nobody realised her brilliance when she was young. Aware of her ambitions, Maria sees herself as a member of a team, like a runner in a relay race. It is she who decides that her elder sister, Bronka, who is stuck keeping house for their father and siblings despite her dreams of medicine, will go abroad first. In Paris, a different network will claim Maria when the house at 108 Boulevard Kellermann becomes a Sunday meeting place for Pierre's fellow students and young researchers, often

seduced by business in those days. At the Curie home, they will hear a different message: "Science must be disinterested." Both Pierre and Maria put this ideal into practice[1].

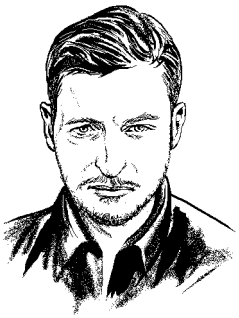
Today, when we know the rest of the plot, the future scientist's departure for the Sorbonne seems the only sensible course of action. So it is hard to accept that it was just as likely for Maria not to have left Poland at all. There were no systemic solutions, no scholarships for the most gifted of all, while at the same time intelligentsia families were inept when it came to financial matters, to put it mildly. For members of the intelligentsia, which lacked the foundations proper to the middle class, a faith in idealism was their mainstay. The teachers and friends whom Maria had met through the Flying University would foreshadow the successive support networks that would help her to rise — because individual success, although that is how the scientific hagiographies often present it, is never a solitary effort.

1 Blind faith in the beneficial nature of the radioactive elements radium and polonium came at an exceptionally high price. Had Pierre Curie not died in an accident on 19 April 1906, he would have certainly died of radiation sickness. Of particular interest in this context is Irène Frain's 2015 biographical novel, written in French, *Marie Curie prend un amant*. The book presents an episode from Marie Curie's life after Pierre's death and her reaction to an attack on her by the press. This attack was meant to make the French public realise that she had not ceased to be a woman and a foreigner — and, who knows, might perhaps even be a fraudster, and in any case a person unworthy of the respect and privileges accorded to her, a double alien.

Marian
SMOLUCHOWSKI

1872 Vorderbrühl — 1917 Kraków

Physicist and mountaineer. From early childhood Marian Smoluchowski showed exceptional talent in the field of the exact sciences. He studied at the Collegium Theresianum and graduated from the University of Vienna. After academic travels throughout Europe, he returned to Vienna and then transferred his right to give lectures to Lwów, justifying this decision with the chance to lecture in Polish. At the age of 28 he assumed the post of associate professor of theoretical physics at the University of Lwów. He was one of the creators of statistical physics. In 1904 he presented arguments confirming that it is possible to observe large density fluctuations. On this foundation he explained the essence of Brownian motion, which along with the earlier work of Albert Einstein led to general acceptance of the existence of atoms. Next he explained the phenomenon of critical opalescence and jointly with Einstein provided the right answer to the question: "Why is the sky blue?" He was one of the forerunners of the use of stochastic processes as a tool for describing physical phenomena. He was the author of a statistical interpretation of the second law of thermodynamics, on the basis of which he explained a series of misunderstandings connected with this principle. He elaborated a theory for the coagulation of colloidal particles, which is still the model for approaching analysis of this phenomenon. He received many distinctions for his achievements, including the Haitinger Prize, awarded in 1908 by the Austrian Academy of Sciences for his work on Brownian motion. He died prematurely at the age of 45. Three Nobel Prize laureates won their awards for work closely connected with Smoluchowski's achievements: Richard Adolf Zsigmondy, for chemistry in 1925, Jean-Baptiste Perrin, for physics in 1926, and Theodor Svedberg, for chemistry in the same year. Marian Smoluchowski and his brother Tadeusz were two of the leading European mountaineers of their time.



Andrzej Muszyński

Born 1984, author of *South* and *Cyclon*e, both nominated for the Beata Pawlak Prize for reportage. Thrice nominated for the Gdynia Literary Award for the short-story collection *The Border*, the novel *Without*, and the novel *Podkrzywdzie*, which was also listed for the Polityka Passport Award. He is a winner of the Adam Włodek Prize awarded by the Wisława Szymborska Foundation. His latest work of fiction, titled *Without* (Wydawnictwo Literackie, 2020), addresses the topic of infertility. He won a Kolos travel award for his expedition to the Himalayas in northern Myanmar. He lives in the Polish Jurassic Kraków-Częstochowa Upland. His book about our prehistoric ancestors, *The Fathers' House*, is due to be published soon.

A Genius at a Time of War and Epidemic

What could life have been like in Cieszyn in January 1915? Was the room large or small, hot or cold? Did they heat up the professor's stove to stop him from freezing? Did they put him in a uniform, the man who was Einstein's sparring partner, or were things more relaxed? Someone must have come to his office to deliver the heaps of letters he was to review as an army censor. These would include a few business letters to check, and the rest could be anything: written by lovers male and female, the wounded, the crippled, a day away from death, or with black borders around the names of fallen soldiers. So let us imagine the scene: it is winter, the little table creaks, and the professor's expressive eyes, as narrow as Amerindian canoes, are running down the words steered onto those sheets of paper by minds purged of illusions, minds he finds harder to reach than the greatest mysteries of matter. Following your work in Lwów, I want to say to him, you might not have accepted your appointment to the post of professor of experimental physics at the Jagiellonian University; you might have stayed in Vienna, where it all began, in your second, or perhaps first homeland, where you felt best, and where you were called "the best of the best" (by Professor Alois Höfler), or more affectionately "Marianna" (by your family and close friends). There, perhaps, no army call-up would have arrived at all; incidentally, in a letter of that kind were academic titles and world status respected,

or was it addressed to you as an ordinary citizen? Yes, you should have stayed there, or in London, where on your youthful travels you had felt the beat of a city that was probably still pulsating at the back of your mind — perhaps they would have left you alone.

But yes — the war. Cold stone walls. A blizzard. An unsteady night. Freezing cold and loneliness, far away from his laboratory and everything he loves best — his family, group picnics, his bicycle. Finally his friends at the Jagiellonian University arrange an *Enthebung* — an exemption from service, and he returns to Kraków, but what does he find there? Pretty much a pandemic, because almost a third of the population has been evacuated, yet the anxiety is still rising, and the place seems more crowded than before: there are queues at the stations, for bread full of wood shavings, nastier by the day, and for chicory (substituting for coffee) at Meinl's in the main square; the taverns are closed, there are ration cards for paraffin and coal, American soldiers distributing condensed milk "made in the USA" to children in gateways, and no more parties at Michalik's Den; the tipsy gentlemen in bowlers have disappeared from the streets, as have the Rachelas in flowing shawls. "It looks as if a global catastrophe has befallen humanity, rendering the individual a nonentity. There is no end to this cataclysm in sight. If we have the luck to survive, it will be like starting a new life. I regard the old life as a bygone era, with a full stop after it. But it was lovely, that life of ours, wasn't it?" he wrote to his wife from Cieszyn.

I do not know what it was like in the early twentieth century, when women hiked along mountain ridges in calf-length waterproof skirts, while you and your brother charted new routes up the faces of the Alps and the Tatras, but high on the ridges today, we mountain climbers address each other informally. And now, with great

resistance, I shall return to the third person for one reason alone: he preferred this form, and spoke of himself only with restraint and reluctance, as if wanting to survey everything with an objective eye, including the space occupied by his own body and his mind as it fathomed the structure of reality with unfathomable success.

So what passes before the professor's eyes on the way home to Kraków from Cieszyn after his military service? The steam train runs like a wardrobe on wheels. There is a smell of wood, outside the window cottage after cottage, and purple-faced peasants standing over wells full of black water that steams in the cold air. What has ended along with the war? The era that gave him everything. A solid upbringing outside Vienna, the grand piano in the family drawing room and expeditions to the mountains with his brother Tadeusz. One of the last before the war, in 1911, was to Hungary, to climb Mihailecul and Farcaul in the Eastern Carpathians: in those days, who on earth went to such a remote place when they had so much to do in the Tatras or the Alps? Alighting from the train, then the local inn — a smell of beer, arak and old sweat, the map spread out on the table between the glasses and stains sunk into the wood. Searching for a carriage, because it was a non-working Saturday. Some forty kilometres in a farmer's cart, with freezing cold air drilling up their noses as they ascend almost two kilometres in the snow. Their bodies reduced to pure existence; the pleasure of a schuss across the primordial landscape into the valley where, according to the map, there is a forester's lodge — but there is nothing of the kind, just a few rotten beams. They find a hole beneath a large boulder and pass a sleepless night on branches, wet through, with no fire, just the weak beam of a torch, some bear tracks and their Brownings loaded. "Only once we had stretched out on the benches in the train did we

feel the kind of exhaustion that is also sheer bliss," he later wrote in the journal *Taternik* (*The Mountaineer*). Was it the bliss of being close to matter, never as close as at dawn in the mountains? A twofold assurance of reality, already illustrated by a mathematical formula? The war made Smoluchowski start to feel trapped in a cage. At this time he writes to Höfler: "As you know, I am a Pole, and I shall always be one. But I am not so chauvinistically blinded as to feel unhappy to abandon my narrower linguistic zone. In fact I feel just as much at home in Vienna as I do in Kraków or Lwów, and the atmosphere of the big city suits me better than the confined conditions of a provincial town." Perhaps he is smiling at the recollection of a family anecdote about how he and his brother Tadeusz met after a long time apart, but instead of talking they eagerly read the newspapers. Or as he leans his brow against the cold glass of the compartment window, does he wonder for the first time who has dared to steal their smiles?

Scientific giant, citizen of the world, he returns to Kraków, which has been poisoned by the war. With its building still occupied by the military authorities as a military hospital and pharmacy, the physics faculty has been transferred to Professor Olszewski's former flat, and it is hard to get hold of books and official files. Smoluchowski works in the same room where laboratory classes are held — there the Buddhist side of his character is revealed to the students who, when he is not involved in their classes, are invisible and inaudible to him; he is as mentally focused as a lama, or so he looks in the photographs, which, unlike thousands of others from that period do not feature the typical old-fashioned hairstyle, a symbol of the times, a particular expression, nothing of the kind — he looks masculine, always handsome, his eyelids as straight and neatly defined as a razor slash.

This prompts us to seek a flaw in the biographies and memoirs — just one, to destroy, in a creative way, the symmetry of this figure that emerges from the memories; a small crack to let us get inside, and then come back with his secret and a chance to make friends. He expected great stature in people, recalled the geologist Walery Goetel, and apparently if swamped by common types he suffered and became withdrawn or fled into the mountains. But that is all, just a small scratch, as if Smoluchowski let himself be shaped in the manner of the refined laws of physics, and understood that we cannot divide rationality, that rule of reality. After all, as a philosopher of nature, he often said: let us not yield to the horror of specialisation, yes, accuracy is ethical, but that should prompt us to take a wide view, to speculate, to apply imagination to science and to join the threads — as if he could sense an approaching threat. He never made his students learn anything by rote.

It is August 1917. Epidemics are raging in Kraków. There are not enough district doctors, who have the responsibility for treating infectious diseases. Some have been incorporated into the army, others have themselves fallen sick or become infected and died. Those who remain are complaining and demanding a pay rise. Reading the daily press, Smoluchowski finds that at the turn of 1913 and 1914 there were 299 doctors living in the city, but by mid-1916 there were only 143. They are toiling beyond their strength and not receiving their money on time. In the suburban village of Prądnik Biały the Urban Health Centre has finally been opened, including two barracks for contagious patients, and within the city, flats abandoned by victims of dysentery are being regularly disinfected. The daily scenes visible from the window are of carts driving up to front doors to collect convalescents and their relatives, to be transported to quarantine housing.

It looks as if they are leaving for ever. Smoluchowski is watching out for the end of it all. His close friend the physicist Friedrich Hasenöhrl has been killed on the Italian front. As Smoluchowski stands by the window, he finds it hard to recognise himself — he is increasingly anxious, his health is not what it used to be, and he can feel a strange darkness extinguishing his inner radiance.

It is a hot summer's day. Professor Smoluchowski, for the past month rector of the Jagiellonian University, author of a recently published paper on the objectivist concept of chance, is by the river. He takes off his clothes. Does he fold them up? Perhaps he knows it is risky, but the desire to douse his overheated body is stronger; perhaps it is the same desire that led him into the wilds of Farcaul. Smoluchowski plunges into the soothing water. He dies of dysentery a few weeks later.

I wonder what was whispered at his funeral, not close to the coffin as his colleague Władysław Natanson spoke over it, but further away, where the crowd grew thinner in the shade of some huge trees and where people were gossiping — imagine him, of all people, bathing in the river during an outbreak of dysentery!

Florian
ZNANIECKI

1882 Świątniki near Włocławek — 1958 Urbana, Illinois

Psychologist, cultural philosopher and sociologist, pioneer of the sociology of science and of social psychology and proponent of humanist sociology. Znaniecki studied in Warsaw, Geneva, Zürich, Paris and Kraków, where he obtained his doctorate. He was an active member of the Polish Psychological Society and the Society for the Welfare of Émigrés in Warsaw. In 1914 he went to the USA, where he became a close collaborator of the American sociologist William Isaac Thomas. He lectured at the University of Chicago. In 1921 he became the chair of the University of Poznań's philosophy department, renamed the Department of Sociology and the Philosophy of Culture — a post that was specially created for him. He founded Poland's first Institute of Sociology and its first sociological periodical. He lectured at Columbia University and became a member of the International Institute of Sociology in London and the Warsaw Scientific Society. In 1939 he left for the United States, where he became a professor at the University of Illinois at Urbana-Champaign and the president of the American Sociological Association. Znaniecki focused on the philosophy of values, advocating the examination of social processes from the point of view of their participants rather than outside observers (the notion of the humanistic coefficient). He was among the first sociologists to apply the method of studying personal documents. He introduced the idea of systems into social theory, made an original contribution to the sociology of nations and developed and promoted the concept of social technology.

Inga Iwasiów

Literary studies professor and critic, writer, journalist and activist. She lives and works in Szczecin. Between 1999 and 2012, when it ceased publication, she was the editor-in-chief of the Szczecin literary and cultural bimonthly magazine *Pogranicza* (*Borderlands*). Her novel *Bambino*, focusing on identity and resettlement in post-war Poland, was nominated for the Nike Literary Award. A scholar of nineteenth-, twentieth- and twenty-first-century literature, a feminist and a gender theoretician, she is a member of the Council of Scientific Excellence, the Committee on Literary Studies of the Polish Academy of Sciences, the Polish PEN Club and the Literary Union. She is the editor-in-chief of the academic periodical *Autobiografia: Literatura, Kultura, Media*.

The Future in the Archive of Subjective Notes, or What I Owe to Florian Znaniecki

I owe a lot to Florian Znaniecki, although for years I considered his legacy to be a wide-ranging interpretation of the classics of the social sciences that did not require any exploratory effort, and hence I did not read his works in the fever of discovery. Nevertheless, I thought and acted within the band of frequencies that transmits the ideas of this philosopher, sociologist, organiser, polymath and teacher. I mention these labels not out of attachment to academic formulas but out of my conviction that this rather overwhelming list will help initiate a dialogue with the figure in question. Which one of these were you most, Florian, and where could we have met if there had been more options than just reading your books?

Looking for a way to write this text, and rejecting in turn ideas situated somewhere between an essay, a classic portrait and a fictionalised episode, I realised that I often think "Znaniecki-style", somewhat contrary to his own belief in the need to separate research expertise in different disciplines and avoid "everythingism". To delineate sociology or the science of science, Znaniecki first had to use a compass to demarcate their territories. Eighty years after the publication of *The Social Role of the Man of Knowledge*, I consider his notion of the purity of expertise to be outdated — but also note that my hero was an explorer who crossed boundaries, even though he himself had drawn them. I am thinking about his way of shifting between literature

and philosophy and between hermeneutics and the sociology of science, as well as between different points on the map, languages, and even life and death, when in his youth he staged his own drowning in Lake Geneva.

Znaniecki's biography can be presented in several ways: by summarising his achievements, by describing their social and historical context while highlighting his intellectual leadership, or by focusing on a specific point in his life, which is as rich as a script for a television series about a courageous, unconventional, daring and adventure-seeking man of two epochs. Such a series would have to cover the protagonist's youth, emigration, numerous odd jobs, higher education in several countries and work at various prestigious Polish and American universities. It would also include powerful moments such as the aforementioned audacious faking of his own death in Lake Geneva, after which he started a new life, first with a brief stint in the French Foreign Legion and then as a French veteran and student. Particularly attractive from the narrative point of view are his travels, which present sudden twists and turns: for example, his interrupted voyage from the United States to Poland in the autumn of 1939. There are private dramas as well — the death of his first wife, Emilia Szwejkowska, in a car accident in Chicago — in addition to teaching, publishing, a rich social life and a flair for leading the debate. Did he have someone like himself in mind when he devised his typology of people who influence social groups? He placed the need for self-knowledge at the heart of modern thinking, which means that he was capable of analysing his own role in setting the direction of research and in producing changes. From among the various possible ways of describing Znaniecki, I have chosen the autobiographical method, or rather the conclusions drawn from its

application. I am autobiographising the effects of a theory belonging to the Polish humanist tradition — a theory that extends beyond the library shelves arranged by discipline. I am explaining my premises because Znaniecki himself always included robust methodological commentary in every one of his books.

The autobiographical method was first put forward in the five-volume study *The Polish Peasant in Europe and America* (1918–20), which William Isaac Thomas invited Znaniecki to write with him. The very fact of their collaboration, which launched the Polish scholar's intercontinental career, is particularly noteworthy today, when Poland's successive teaching and higher-education reforms insist on "internationalisation" in various guises. Znaniecki was certainly "internationalised" in every sense: he studied in Switzerland, France and Poland, he formed research teams in Europe and North America, and he published in Polish and in English. A number of his works were translated into Polish only years later.

During Znaniecki's lifetime, the autobiographical method metamorphosed into long-running memoir-writing competitions, giving rise to a rich resource of texts whose significance goes beyond the needs of specific research topics. The memoir-writing, letter-writing and witness accounts that these competitions prompted became a distinct branch of literary production, of interest today not only to sociologists and ethnographers but also to historians, literary scholars, linguists, cultural commentators, biographers and writers. Znaniecki, in accordance with his agile and nearly all-encompassing intellectual prowess, designed a sort of capacious archive organised along pre-established rules and started a movement that would genuinely transform culture, which happens to fit perfectly with the principles of culturalism, of which he is the father. Of course,

regardless of the competitions organised by the various institutes and associations, we would still have scattered writings by people of the twentieth century, but without the explicit invitation to set things down several areas of life would never have found their chroniclers at all. In turn, the lacunae that we can identify today in those first collections overseen by the master, his students and his successors enable us to interpret the past as burdened with a historically variable "humanistic coefficient". The archive continues to operate. And it serves others as well as sociologists.

The first competition, titled "The Worker's Own Biography", was announced in 1921, following the foundation of the Department of Sociology and the Philosophy of Culture at the University of Poznań on the initiative of Professor Florian Znaniecki. The success of the programme prompted sociologists of the Warsaw school to announce subsequent competitions: "Peasants' Memoirs", "Memoirs of the Unemployed", "Emigrants' Memoirs", to name just a few. Between 1956 and 1971 there were several more memoir-writing competitions for settlers of the Western and Northern Territories (also known as the Recovered Territories). Another compilation focused on "A History of Szczecin Families", and local archives were re-evaluated. Currently, in the time of the pandemic, various research centres are collecting diaries, invoking the patron of such activities, thanks to whom we have been "writing ourselves" intensively for the past hundred years. Of course, this culture of insight has other origins too, and the tendency to autobiographise can be found long before Znaniecki in all literary genres, art forms and creative media. For me, however, the idea of writing memoirs is not only part of the methodology of social sciences but also shows that non-professional, personal narratives form

a collective whole that is on a par with literature or historiosophy. They unblock those who are silent; they liberate different social classes, groups and individuals.

As a writer and literary scholar with a culturalist bent — which manifests itself in my search for traces of, suppression of and relationships between life experiences in all texts, artistic practices and works of art — I approach induced autobiography with a touch of suspicion but also with enthusiasm. It is obvious today, now that the incredible store of competition material at our disposal has been read and interpreted, that people who are invited to give an account of their life are posing for a portrait, following rules that are considered important and showing themselves in a favourable light and with some degree of censorship. Literary experts are good at deciphering this: they can infer intentions and detect the intrusion of the subconscious in the flow of metaphors. They can guess where an author is seeing to his or her own business, shifting from an account of living conditions to a therapeutic diary. Memoir is a sensitive genre: the authors do what they can; those who are illiterate will not respond to the call for submissions, and those who have not had the privilege of reading literature will not describe events colourfully. Among the entries for the "peasant" competitions, there are hardly any by women, which is very conspicuous today. I am most familiar with the material from the Recovered Territories; the early entries in particular show signs of strong self-censorship, but by the 1950s the women were bolder than the men in describing their everyday reality.

In his youth Znaniecki tried to become a writer, seeking a place in intellectual circles via a path of self-reflection that was common in the late nineteenth and early twentieth centuries. He could not have foreseen that memoirs of the peasant and working classes —

notebooks of materials which opened the door to a culture that previously had been treated only objectively, at best being mythologised in works of art — would effect a breakthrough not only in empirical studies but also in the understanding of what is and what is not literature. Of course, this did not happen overnight, but when we consider today the role of writing per se, and of recording and memorialising, we can cite the work of numerous people who were inspired by the ideas of this sociologist who gave up becoming a poet. When I ask myself where I could meet Florian, I see the writers/academics who move from scholarship to literature in search of a language that can bring them/me closer to recognising reality. Znaniecki found himself on this path in keeping with the rhythm of his own era. We all belong to the republic of those who write, although we give different reasons for joining it.

This sketch constitutes my own autobiographical practice or even a fledgling autoethnography, an analysis of my personal conditions for absorbing tradition. From one sentence to the next, I conjure up within myself an image of the man with whom I share the conviction that nothing happens outside culture, and that for the creative person everything hinges on expressing one's own biography. Many writers have discussed this — including, in the twentieth and twenty-first centuries, many women writers. Although in the 1920s it would not have occurred to the professors in Poznań or New York to offer women a separate invitation to write down their stories, the belief in the necessity of recreating the testimonies of our female forebears had an important impact on feminist research. So in this matter too, indirectly, Znaniecki may be close to my heart.

Today, culturalism, which was the answer to nineteenth-century naturalism, is subject to criticism, so when I declare that I share

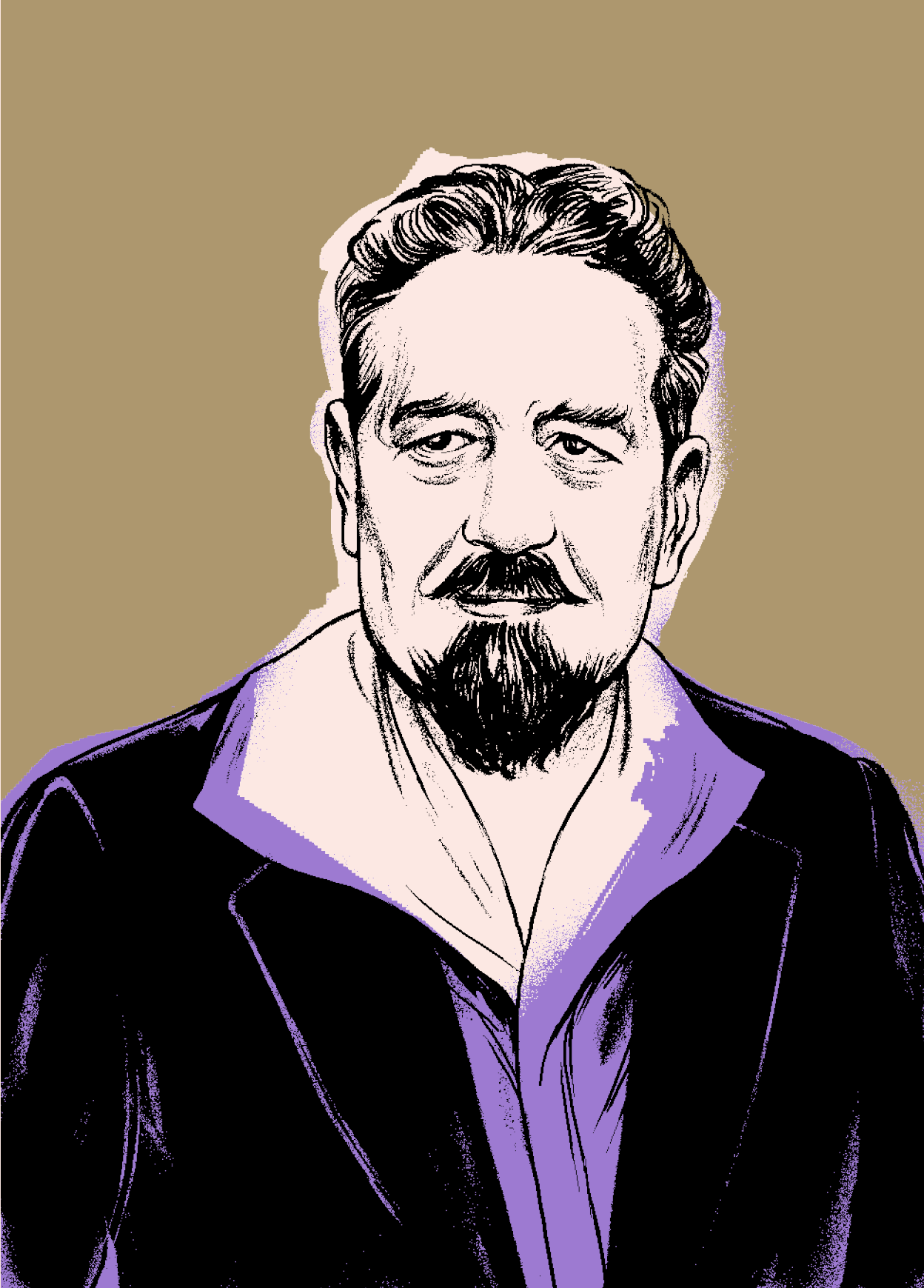
the belief that we experience the world only as a result of being part of a culture, I put myself in a difficult position with regard to post-humanist discourse. It is hard to deliberate on what a scholar who died in 1958 might think about today's widespread sense that human wilfulness has led all creatures living on our planet, as well as the Earth itself, to the brink of biological extinction, so the only option is to pay close attention to that which is not human. Would Znaniecki see the need to introduce "non-human agents" into his research? The "voice" of entities that do not express themselves in language? I am asking amateurish questions, although I know that from the scientific point of view they make no sense. Some ideas slip out of laboratories and university departments, fuelling the imagination. The autobiographical method carries the conviction that narration brings order to the world not only through its aesthetic qualities but also by cleaving close to life itself.

Even while conducting research, I am constantly working on my self-knowledge, leaving notes in the margins that might provide data to scholars investigating the various characteristics of my professional group. So I also see myself as someone completely different from the protagonist of this sketch, in terms of gender, background and status. I have studied and still work in the same peripheral city, and the university has lost some of its traditional functions. My life reflects the changes that mirror larger processes. This could be a banal statement, but it is justified by my consistent application of the autobiographical method. I give myself the right to include personal impressions, adding to the forever changing archive of subjective remarks that in my opinion have a future. And in this way I am in dialogue with Florian Znaniecki.

Rudolf
WEIGL

1883 Przerów — 1957 Zakopane

Biologist and university professor. He was of German-Austrian descent, but was raised by his stepfather in a Polish cultural environment. He studied biology at the University of Lwów, and on gaining his doctoral degree he became assistant to Professor Józef Nusbaum-Hilarowicz. During the First World War he worked at the Austrian army's bacteriological laboratory, conducting research into typhus. After the war he ran a similar laboratory under the auspices of the Military Health Council in Przemyśl. He devised a technique for producing vaccines against typhus by multiplying *Rickettsia prowazekii* micro-organisms within the bodies of lice infected with the help of a microenema. The world heard of his vaccine when it was used not just in Poland but also by Italian, Belgian and French Catholic missions in Africa, Australia and China. In 1939 he refused to be evacuated with the Polish army to Romania and worked at the University of Lwów. When the Germans replaced the Russians as the occupying force, the Weigl Institute was taken over by the Wehrmacht. Weigl was given a large degree of independence and took the opportunity to employ many Poles (including Stefan Banach) on the excuse that they had to feed the lice essential for the production of vaccines. Thanks to Weigl, the vaccines also reached the civilian population, members of the Polish resistance and people inside the Lwów and Warsaw ghettos. Despite these activities, when the war ended he was unfairly accused of collaborating with the Germans. After the war he was a professor at the Jagiellonian University in Kraków and later, until his retirement, at the University of Poznań. He was widely expected to win the Nobel Prize. He combined science with passions including fishing, photography and archery. The Yad Vashem Institute awarded him the title Righteous Among the Nations.



Paweł Goźliński

Editor and writer who wrote his doctoral thesis on Romanticism under the supervision of Maria Janion. His books include *God the Actor*, which is about Juliusz Słowacki, and the novels *Jul*, *Forebears* and *Akan* (inspired by the life of the cultural anthropologist Bronisław Piłsudski). He was also the originator and editor of the anthologies *Not-alien* and *Hope*. He is a former editor of the culture and reportage sections at *Gazeta Wyborcza* and also of its reportage supplement, *Duży Format*. He founded and until 2019 was editor-in-chief of the monthly *Books: A Magazine for Reading*. He is now editor-in-chief of Agora Publishing. In 2010 he co-founded the Reportage Institute and the Polish School of Reportage with Mariusz Szczygieł and Wojciech Tochman.

The Trout

An epidemic never ends — it just lies in wait, lurking deep inside furs and in warm blood. It has its preferred species, favourite routes it follows with them, special hiding places that you have to discover, mark on the map and carefully watch if you're going to stifle the plague before it erupts again. If you don't know where to look for its sources, your efforts will always be too little, too late.

Is this still on his mind, or has he finally given up?

Water scours the stony streambed. Harsh sunlight blurs the contours. The bushes on the riverbank are like green-and-white clouds, the boughs of the trees are rippling in the sun-baked air, the figure of the father and his reflection are sparkling and quivering. The son watches as his father carefully steps on slippery rocks, wading upstream to avoid startling the trout that are hiding among the stones. Right now they can't sense him, because they're positioned with their heads downstream, battling against the current. They're letting him come close.

It was his father who taught him how to behave around fish and how to catch them, including with your bare hands. But that was long ago. Now his father straightens up, raises his arms and, with his fingers interlocked, stretches them above his head. The thin fishing

rod is invisible — the son perceives nothing but the motion. A flick, a cast, a flash.

This river only looks like that other one. His father only looks similar too, though he's trying to pretend he hasn't changed at all. How many years have passed since that last holiday in Iłemnia? It's of no importance. The picture of it is still there in the son's mind, both moving and static at once. As if someone had extracted the core of time from his memories, transformed them into a roll of film and joined it in a loop.

Skinny-dipping in the river and lying around on slabs of slate. The fishing flies his father designed himself, and his unerring arrows with helical fletching that flew as if fired from rifled barrels. The targets made of straw. The rabbit hunts. The hat worn by the Belgian missionary who'd turned up at their holiday home and begged his father to save his brothers from the plague.

What's the colour of these memories? Some are in black-and-white, like the animations his father drew for him on unexposed film. Others are in pale pastel shades, like the colour prints he'd extract from his processing trays each evening.

In Iłemnia his father's skin always tanned evenly. Everything: calves, buttocks, hips, belly. Only the marks left by the tiny coffins went purple around his thighs and arms. Now that it's inappropriate for him to bare his naked flesh — not because of his age, but his experiences — he has only removed his vest. Its pale image can still be seen on his skin, as can his red arms and neck emerging from it.

The wounds from the tiny coffins have healed. His father's no longer feeding. The fish aren't biting.

"Let's move over there, into the shade."

The river drowns out the words, but he can guess them. Gestures are a help. He replies with a nod and heads after his father. They're still divided by at least a dozen paces and many years of silence.

The silence between father and son set in before the start of that final summer. That year he had passed his school leaving exams. Only his mother was with him — his father had gone to Ethiopia, where he was to put a stop to an epidemic, teach the people how to produce a vaccine and save his lice in the process.

"There's less and less life in them. It's the side effect of inbreeding," he said. At the Institute they were still breeding the same strain, all from the same family. It dated back to the days when his father was still trying to invent a way of sticking blood infected with *Rickettsia* into their backsides. And a way of feeding them. He personally tested the tiny coffins veiled on one side with gauze, through which the lice could bite into the skin and drink. Once they were well fed and diseased, they went purple, and then he dug their bacteria-filled guts out of their corpses and ground them into a paste.

The undiluted vaccine was the colour of coffee.

The invitation came in the nick of time. The lice were dying off. Never mind the fact that a fascist leader was inviting him to an occupied country. His father believed that disease was bigger than politics or history, and war provided fertile ground for epidemics to flourish.

Disease disregards nationalities, borders, languages and ranks. And so what matters most is to corner it whenever it changes form and stifle it. Regardless of the place and circumstances. Regardless of the protests of his mother, who didn't want to go, and didn't want the other woman to go with his father.

The air is close. He feels like plunging into the river, up to his neck, to cool his head and make it easier to forget about his father's rages whenever production stalled and the disease moved faster than he did. About the rows with his mother, and her tears. But now the sun is burning his arms, and the memories are taking hold of him. They're leaping out of oblivion, struggling to break free.

"Help!"

His father brought back new strains from Ethiopia, which he crossed with the Institute's lice. Also a shield made from the hide of a hippopotamus and a film about a plague of locusts. But he did not return to the house — he would drop by rather than live there. He'd stay late at the Institute, often spending the night there. Lots of work, that was his excuse, for as long as he felt the need to explain. After that he just said nothing.

When the son and his mother got home in the ambulance from Iłemnia, the war began. His mother died soon after, and that woman took her place. But not for him.

He wanted to break free of her, and of his father; he was more in touch with his memories of the man than with the actual person. But it was too late. If he wanted to survive, he'd have to stay.

The rod bends into a tight arc, the tip plunges into the water, but the trout keeps pulling harder and harder. Any moment now the line will break, it's sure to happen.

His father slackens it a while, and the reel quivers. Now he calmly lets the fish swim in a semicircle, while slowly drawing it towards the riverbank. With an effort he reels in the line. Arms tensed, collarbones protruding, perspiration.

"He worked for the enemy."
"He was on friendly terms with the Nazis."
"He went too far."
"It was collaboration."

Lies! Yes, they kept wanting more vaccine from him, and he gave it to them. After all, he still believed that disease was bigger than politics. In exchange he could employ more and more people at the Institute. He secured safety for them, hundreds of them, and he only wanted them to stop scratching. The bites itch like the devil, but lice aren't able to bite through scabs.

Professors, musicians, doctors and members of the resistance fed them. Poles and also Jews. Don't his father's accusers know that? Or don't they want to know? Have they forgotten that the Russians and the Germans both tried to buy him exclusively, but his father wouldn't give in? And what did he get in exchange?

The war ended, the Institute has gone, all that's left are some pitiful remains and promises he doesn't believe in anymore. But he's not angry. He brushes off his accusers. It's his son who's angry on his behalf. He has his own unfinished business with his father, but so what? Now he must defend him at any price, against them and

against himself. He must preserve the loop of memories. Skinny-dipping, fishing flies, straw targets, rabbit hunts.

"My father was an extremely honest man. Honest to the point of obsession."

The fish opens its mouth wide, as if choking on air. The son strives to keep hold of its slippery, wriggling body. His father holds its head in his fingers and carefully removes the hook.

"Release it," he says.

His father was wrong. Politics and history are bigger than disease. That's why an epidemic never ends. There's always someone who's relying on it to continue, who's trying to take advantage of it to set one group against another. It's the healthy against the sick, never the other way around. Fear becomes a weapon, the vaccine a tool — even the vaccine loses its innocence.

The red sun is sinking into the cliffs as they climb the wall of a ravine. They're going home.

"We must do this again one day," says his father.

"Yes, one day," replies the son.

"And have a talk."

"Yes, have a talk."

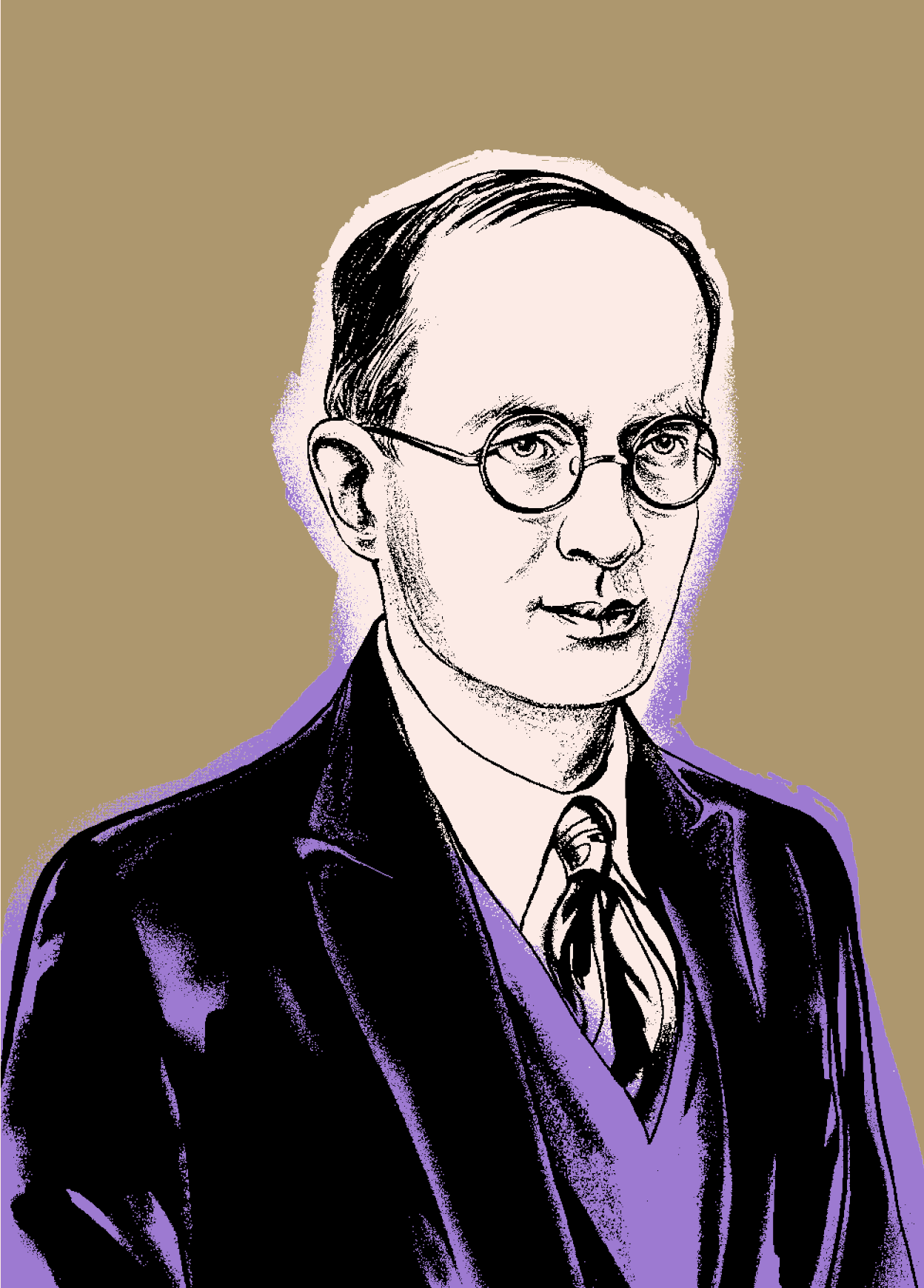
Then they shake hands.

Something else ought to happen. But perhaps by now they know that nothing will.

Bronisław
MALINOWSKI

1884 Kraków — 1942 New Haven

Polish and British anthropologist and professor who made outstanding contributions to ethnography, sociology, linguistics and field research. He was born into a Kraków intelligentsia family and from early childhood demonstrated exceptional abilities, despite poor health. In 1908 he defended his doctoral dissertation at the Philosophy Department of the Jagiellonian University in Kraków and afterwards became interested in ethnology. He went on to study economics and psychology at the University of Leipzig under Karl Bücher and Wilhelm Wundt. From 1910 to 1913 he continued his studies at the London School of Economics under Charles Seligman and Edward Westermarck. In 1914 he travelled to New Guinea and began his field research on nearby Mailu Island and the Trobriand Islands. After the outbreak of the First World War, he was unable to return to England, but the Australian authorities facilitated the continuation of his research on the Kula ring system of exchange. In 1922 he published his famous book *Argonauts of the Western Pacific* and defended his doctoral dissertation at the London School of Economics. Malinowski was the founder of British social anthropology. In his field work, he used the method of participant observation. He studied, among other things, the mechanisms of barter trade among islanders and the specifics of their family life, including sex life. His diaries from his sojourn in New Guinea and the Trobriand Islands caused much controversy after they were published posthumously. After the outbreak of the Second World War, Malinowski lectured at the University of Yale and became one of the founders of the Polish Institute of Arts and Sciences of America.



Ignacy Karpowicz

Writer, translator and traveller. He studied at the University of Warsaw as part of its interdisciplinary humanities independent study programme. In 2006 his debut novel *Niehalo* was nominated for the Polityka Passport Award. He is the author of *The Miracle*, *The Emperor's New Flower (and Bees)* and *Gestures*, as well as *Balladynas and Romances*, for which he won the Polityka Passport Award in 2010. *Gestures* book was also shortlisted for the Nike Literary Award, as were his novels *Fishbones*, in 2014, and *Sońka*, in 2015. In 2017 he published *Love*, and his most recent novel, *Softly, Softly*, appeared in 2021. He is a translator from Spanish, English and Amharic into Polish.

Yanagihara's Turtles

1.

"Forgive me, for leaving you, Broneczek," wrote Witkacy, "but you don't know what extreme suffering is. Farewell, my friend. Don't be angry with me. You alone have learned the full horror of my distress."

Bronisław Malinowski, or "Broneczek", reciprocated by making Witkacy — the artist and writer Stanisław Ignacy Witkiewicz — the heir to his Klimax 8.2 × 10.8 cm plate camera, "just in case".

Witkiewicz did not commit suicide until much later, and Malinowski never parted with his camera.

The friendship between Malinowski and Witkiewicz, replete with all sorts of experiments, was free of the obligation to keep one's word.

2.

Bronisław Malinowski brought anthropology from behind the office desk into the field, but the relocation took place under special conditions. Let's say, with an acceptable degree of exaggeration, that for the duration of his research it was the office that relocated to the field.

For the purposes of his most famous and grandest expedition, our hero obtained the sum of 450 pounds sterling: 250 from the Constance Hutchinson Scholarship and 200 from Robert Mond, an industrialist with a passion for archaeology. At the time, this constituted a small fortune. For two years of research.

He spent a portion of this sum on "a rug, a tropical wall clock, a tarpaulin bathtub and washbasin, a parasol with a green underside and a top-quality tent, which cost a whole six guineas."

The researcher did not fail to provide for his appearance either. He had two Norfolk jackets tailored for him in London's prestigious Chancery Lane. The large external pockets could accommodate hunting accessories. The jackets went best with knickerbockers or riding breeches (needless to say, also purchased for the expedition). There was also a hunting overcoat, suitably expensive, a wide-brimmed hat, a pith helmet and various accessories, such as gaiters and brown shoelaces (a dozen of them). Plus a pair of red plimsolls. In London, his mother and a friend helped him choose socks.

The author of *Argonauts of the Western Pacific* did not fail to consider gastronomic problems that might occur if the local food turned out to be troublesome for his digestion or his tastes. Luckily, a method of canning that allowed for nearly everything to be safely sealed in tins for several months at least had just been perfected. The tins went into crates, the crates into the hold. Let's take a look inside!

Definitely French mustard, to improve or cover up the flavour of dishes, depending on the need and the amount used. In the tins, hare fricassee, as well as crab meat, sardines, mackerel, oysters and cod roe. Let's not forget Heinz ketchup, biscuits, Nestlé Ideal milk (two cases), brandy (one case). And for all these dozens of cases, Bronisław Malinowski packed only one toothbrush.

Another item worth taking on the journey was a portable medicine chest. Malinowski limited himself to just over five thousand pills. They included laxatives, bromide (to soothe the nerves), iron (for the blood), arsenic (for syphilis, skin ailments and tiresome companions) and buckthorn bark (which grew on America's Pacific

coast, and so made it all the way around the world). Also aspirin and quinine. And Dover's powder, popular since the eighteenth century, which contained powdered opium and the root of ipecacuanha — always sure to cause a reaction.

The most important parcel — the heart of the expedition — did not take up much room. It contained twenty-four custom-made notebooks: hundred-page octavos of smooth cream paper.

Malinowski prepared better than the Americans for the Apollo lunar mission. Nevertheless, he experienced many tribulations: the tent turned out to be too small, the wax cylinders for the phonograph were not much use, and he ran out of notebooks.

If you think there's something odd going on here, let's put it plainly: yes, at times Malinowski overdid things. And in this overdoing, he did not restrict himself merely to his hypochondria. His health had been poor since he was a child; various disorders had taken root and refused to be uprooted. In a way, his exceptional, revolutionary scientific achievements grew out of an unexceptional, difficult character.

A cautionary tale for future scholars, as a side note: his bills and invoices have survived. They have certain comic potential. He could have destroyed them, but he didn't.

3.

The extensive shopping, preparing, packing, additional shopping and the lengthy voyage to Australia were overshadowed by two suicides: one already in the past and another predicted for the future. The mysterious suicide of Witkacy's fiancée in February 1914 caused Witkacy to have a nervous breakdown. He was planning to follow in her footsteps. Before he could put his plan into action, however, "Broneczek" managed to persuade him to come on the voyage to

the Antipodes. He hoped that the journey would make his friend abandon his grim plans. During the trip they often argued, which proved enlivening. Thus Witkacy and Malinowski arrived alive, albeit in a different world than the one from which they had set out. The First World War had broken out. Witkiewicz, a Russian subject, could go back to Europe and get himself killed at the front. Malinowski, an Austro-Hungarian, and therefore an enemy alien, was offered a choice: internment or exile.

He chose exile in the Trobriand Islands.

And created a new form of anthropology.

Language is the key; a lack of prior assumptions is the door. You must cross the threshold and beyond it learn the rules that apply there.

On the anthropological front, this method had the same effect as the introduction of tanks and aeroplanes into the arsenal of the army. The university office's lines of defence were breached, and non-European cultures started to be described in ways other than as a list of bizarre curiosities.

4.

In her novel *The People in the Trees*, the Hawaiian-born American writer Hanya Yanagihara summoned up the ghost of Bronisław Malinowski. The protagonist, Doctor Perina, sets out for unexplored Pacific islands. The expedition makes a single major discovery. The researchers come across a group of physically robust sixty-something-year-old islanders with obvious dementia. It eventually turns out that they are much older. They owe their longevity to eating the meat of a local species of turtle.

Let's imagine that our hero happened to come across Yanagihara's turtles and stayed on the islands for decades, until he received

a summons in connection with the Klimax camera, bequeathed to Witkacy's heirs.

A team of lawyers and their accomplices manages to get him out of the Trobriand Islands.

5.

The journey on board the strange, unreasonably fast boat hasn't prepared Bronisław for Australia. It has changed beyond recognition. The inhabitants seem only vaguely related to the people he remembers when he left for the Trobriand Islands. They dress differently; they're taller and insufferably direct. He calms down a little when he's told they are still subjects of the British Crown. The name of the monarch has changed. He set out during the reign of George V and has come back during that of Elizabeth II.

He's famous. One of his colleagues copied his notes and published them. He, Bronisław Malinowski, turned anthropology upside down.

He travels to London on board an enormous double-deck airship. He completes the several-week journey in less than twenty-four hours. This world is more alien than he could ever have imagined.

He needs time to come to terms with this new world. First he looks up his friend: he has committed suicide, or perhaps faked it and died many years later in Łódź.

He finds the new world difficult: there's too much of everything. Too much information, too many lights, too much noise and too many people. His jackets look worn out. The red of his plimsolls has faded.

He wraps himself in the noise and the lights, in that quilt of incomprehensible posts, hashtags and texts. He feels as if everything

inside him has been dragged into the limelight; even stranger, he's not the provider of any of this content. He's simply drifting along.

It has happened all by itself. He has come back and become a sensation rampaging across the internet.

First of all, he notes down, the new world is a self-determining world, driven by a strange inertia. All you have to do is throw a little pebble resembling content into the web — a bizarre means of communication — and instantly others imitating its meaning appear all around it. In this way, a small nothing turns into a big nothing. He concludes that with time, this nothing turns into something. And this something can no longer be ignored. It grows big. That's what he thinks.

At first he corrects the statements of others using a keyboard. The more he corrects, the less credibility he possesses.

He realises that the only solution is to produce stupidities. They do an excellent job of diverting attention from the first nothing.

For a while he's engrossed in incomprehensible battles in front of his screen.

Communication has lost the tangible quality to which he was accustomed.

He finds the world unbearable.

6.

Fortunately, that tailor in Chancery Lane is still there: not the same one, not even his son, but still. In general, tailoring has largely fallen out of use. Summer clothes cover the body almost as skimpily as those of the people of the Pacific islands.

As part of this new world's immaterial nature, money is also absent. It exists, of course, but in a notional way. Hardly anyone has

physical banknotes or coins. You pay with a small card or a little box, which has many different uses; for example, you can speak into the box and pretend that a voice has answered. This box also holds musical components and moving pictures.

His Klimax seems painfully heavy and literal.

His analyses — of which he is, after all, proud — slide off the surface of the world around him.

Maybe that's all that's left? The surface.

In trying to get to the heart of other cultures, he has paid insufficient attention to things that are easy to see.

Dejected, he thinks about his friend. It takes courage to cut one's carotid artery.

Ludwik
HIRSZFELD

1884 Warsaw — 1954 Wrocław

Physician, microbiologist, immunologist and serologist, as well as pioneer of seroanthropology and freethinker. He came from an assimilated Jewish family. Together with the German scientist Emil von Dungern, in 1910 he laid the foundations for the immunogenetics of blood groups. Before the First World War he worked in Heidelberg and Zürich, and during the war he helped fight a typhus epidemic in the Balkans. In Serbia, working jointly with his wife, Hanna Hirszfeld, he discovered the bacillus Paratyphi C. In 1920 he established the National Institute of Hygiene in Warsaw. As a professor at the Polish Free University, he worked to popularise medicine. During the Second World War, he was stripped of his various appointments and in 1941 was forced to move to the Warsaw ghetto, from which he managed to escape in 1943. Soon after, he wrote his autobiography, *The Story of One Life*, which was published in 1946. He was one of the founders of the Maria Curie-Skłodowska University in Lublin and from 1945 lived in Wrocław, where he lectured in microbiology and founded the Institute of Immunology and Experimental Therapy under the auspices of the Polish Academy of Sciences. He created the rules for blood transfusions. He also demonstrated how blood groups are inherited and how they can be used to establish paternity. Starting with Polish clinics, he introduced a procedure for determining the Rh factor. He was the first physician in the world to use antihistamines in the treatment of immunological disorders during pregnancy, and he developed a therapy for babies born in serological conflict. He authored more than four hundred scientific works, including *Blood Groups in Relation to Biology, Medicine and Law* (1934) and *General Immunology* (1948). He was a member of the Polish Academy of Sciences.

Kaja Malanowska

Writer, columnist for *Krytyka Polityczna*, microbiologist and teacher. She is the author of five books, including a children's book titled *A Home for Tosia*, which she also illustrated. Her debut, *Small Madnesses of Everyday Life*, was nominated for the Gwarancje Kultury prize. Her novel *Look at Me, Klara!* was shortlisted for the Nike Literary Award and nominated for the Polityka Passport Award. Her crime novel *Fog* has been translated into English and German. She has a PhD in genetics from the University of Illinois at Urbana-Champaign and works as a biology teacher at a secondary school in Warsaw.

The Story of an Epidemic

At night, when I stand outside my house, the sky looks so menacing I have to close my eyes to overcome vertigo. Apparently the Milky Way is composed of four hundred billion stars and has a diameter of one hundred thousand light years. There are three hundred and fifty billion large galaxies in the universe. Out there in space, which my troubled brain cannot encompass, countless planets are spinning. Four billion years ago, life began on one of them. Less than a billion years later, certain beings that would take possession of the Earth appeared — the ancient and best adapted inhabitants of our planet. To understand their nature, you have to contend with a universe almost as multitudinous and as little known as the starry sky above our heads.

"During that time, many people saw demons in human form," Procopius related in *The Persian War*. "Those who encountered them thought they had been accidentally struck in some part of their body during this chance meeting. Immediately after seeing the apparition they fell ill. (...) Some fell into a deep coma; others were seized by a sudden delirium. (...) And in those who were affected neither by delirium nor coma, the swellings became infected. When they could no longer endure the pain, they died." A few months later, John of Ephesus noted: "Many saw the outline of bronze boats and, seated inside them, figures resembling people with their heads cut off. Holding poles, in some cases also made of bronze, they moved along the sea and could be seen heading in every direction. These figures were seen everywhere and aroused fear, especially at night."

The army of demons that arrived from Ethiopia, attacked Constantinople and then sailed its ghastly flotilla along the coast of the Mediterranean was in fact much smaller in size than the residents of Byzantium had imagined. Human eyes would finally see it a millennium later, thanks to Antonie van Leeuwenhoek, a draper with a passion for constructing amateur microscopes. In 1676, using his instruments, Leeuwenhoek noticed microscopic creatures moving in a drop of water: bacteria.

Today we know that bacteria come in all sorts of shapes, from spheres, rods and sticks to spirals, commas, beads on a string, grapes and multibranched coral skeletons. Some are covered in mobile hairs, or cilia, while others are propelled by whip-like flagella. They live in the middle of ice-bound Antarctica, within the "death zone" of mountaintops, many kilometres under the surface of the ocean and in warm springs where the temperature reaches nearly 100°C. They grow in an invisible layer on the objects all around us. They colonise every bit of space, including the bodies of other organisms. And despite the fact that without certain symbiotic bacteria we could neither digest nor breathe, in our everyday lives we tend to forget about their presence. Sometimes, however, they can remind us of their existence in an exceptionally cruel manner.

"The plague in Byzantium lasted four months; its peak, about three. At first, there were not many more deaths than usual, but then mortality increased more and more, until it reached ten thousand and even beyond. (...) All burial rituals were abandoned. There were no customary funeral processions, no traditional mourning songs. People simply carried the corpses to the coastal part of the city and threw them on the ground. Tossed in heaps onto boats, the bodies would then be transported to wherever," Procopius wrote.

They called it Justinian's plague. When it visited Europe again in the sixteenth century, it was referred to as the Black Death and eventually as the bubonic plague. Hidden behind these popular names, the Gram-negative and rod-shaped *Yersinia pestis* was the cause of undeniably the most famous — but of course not the only — bacterial epidemic to have struck the world. Illnesses such as syphilis, leprosy and tuberculosis have decimated human populations from time immemorial. They appeared in places where hunger and poverty reigned; they accompanied wars and natural disasters, adding to them their own terrible toll. Some of these cataclysms belong to fairly recent history.

In July 1914, Austria-Hungary attacked Serbia, triggering the First World War. In the winter of that year, the Serbs managed to break through enemy lines and force the invaders to withdraw. The retreating army left behind sixty thousand prisoners of war, who were gathered together near the town of Valjevo. Stunned by their momentary victory, the Serbs did not have adequate supplies to feed such a large number of prisoners, nor buildings suitably equipped to accommodate them. An infestation of lice soon spread among the exhausted, closely packed soldiers, and with it, an epidemic of typhus. Those infected were tormented by a persistent fever, vomiting and diarrhoea. After a few days, a rash would appear in the form of red spots, which would transform into bleeding under the skin. The sick quickly grew weak; some became delirious or lost consciousness and all contact with the world. Out of the sixty thousand prisoners, the plague spared just over half.

The epidemic, however, did not stop at the prisoners' quarters. It crawled beyond the walls and barbed-wire fences and within a few

weeks conquered the town, then ravaged the whole country. The health services in Serbia were poorly organised; workers, sulphur and disinfecting equipment were in short supply. Hospitals were bursting at the seams. The infected were dying by the dozen. Nobody had time to bury the bodies. The dead were taken outside and stacked next to the walls of buildings.

While hell raged in the Balkans, life in neutral Switzerland continued its usual, peaceful course. People went to concerts and visited each other for dinner, there were picnics and literary events, and theatres announced their programmes for the coming season. In Zürich, a new academic year began. Professors opened the doors to their studies and laboratories. Students started attending classes. At this time, the lectures on infectious diseases delivered by a certain young, charismatic associate professor of foreign origin enjoyed particular popularity. Students came early to be sure of a seat because the lecture hall was always packed.

The lecturer they so eagerly awaited did not have a particularly eye-catching appearance. He was short, with fine features and closely set eyes. His wiry hair stuck out above his brow, and his soft cheeks quivered at the start of each lecture. And yet he only had to open his mouth in order for the whole auditorium to fall silent. He spoke loudly, freely, in a way that created the impression that he was picking out individuals from the crowd and addressing each student separately, aiming his bright, intense gaze at every single one of them. Complex problems in microbiology took form, seemed to undulate, hover and circulate among the listeners.

This magnetic lecturer was thirty years old and had just received his doctorate for a dissertation on the connection between the coagulability of blood and immunological phenomena. Ludwik Hirszfeld

was born in Warsaw, but had studied in Würzburg and Berlin, and in 1911 had moved to Zürich, where he intended to settle permanently. He later recalled the years spent in Switzerland as one of the happiest periods of his life: "Switzerland is beautiful, and so is Zürich. In the distance you can see the Bernese Alps — the Jungfrau, the Mönch and the Eiger, covered in a whiteness that knows no earthly dirt — and the sun setting in the Limmat valley. How often we used to pause our work and go up to the windows to immerse ourselves in this boundless beauty. And at night, when the lights go on in the villages surrounding the lake, it all looks like an eternal fairyland."

In Zürich, Hirszfeld, a Polish Jew, found himself in a progressive environment. "My youth was a happy one because I met good and wise people. And nobody asked who one's parents were or where one had come from. For them, a young person who wanted to work was a rare species of flower that should be tended." He quickly climbed the academic career ladder, and in all these endeavours he was accompanied by his wife, Hanna.

They married while at university, during a break between lectures, and this in itself probably best describes their marriage. Hanna completed her medical studies in France. A few years later, she obtained two doctorates and was offered an assistant lectureship at one of Switzerland's state-of-the-art paediatric clinics. Ludwik conducted research at the university's Institute of Hygiene. Both were absorbed in their work. Both believed in the power of science and the good that it could bring to the world. They shared this passion and an unwavering faith in a better future. In the summer of 1914, the Hirszfelds found themselves on one of the last remaining oases of peace in the middle of a burning Europe.

"What am I to do?" Ludwik Hirszfeld asked himself. Most people's answer would be: absolutely nothing. Work. Lecture. Publish scholarly articles. And thank God that the storm is raging elsewhere. Ludwik felt a connection to Poland, for whom the war might bring independence, but he was a cosmopolitan and a scientist, not a freedom fighter. He was also a man endowed with extraordinary sensitivity and sense of duty. When news of the typhus epidemic in the Balkans came, he requested leave from his job and said farewell to his students. One of his colleagues asked: "If you want to commit suicide, why go all that way? After all, it's a hopeless fight."

A journey across Europe in 1914 must have been like a journey in a dream, where everything seems the same as always— a familiar road and railway station, a familiar landscape outside the window — and yet the air is vibrating with tension. Anxiety lurks around every corner. Fear permeates the familiar sights, the smiles of the other passengers, seemingly sincere yet distorted, as in a funfair mirror. One experiences a dread of everyday objects, a feeling that a mere glance beneath the torn wallpaper might reveal a gaping abyss. In Florence he said farewell to Hanna. Then came a voyage across the Adriatic, in whose waters submarines had taken the place of deep-sea fish. The Acropolis, with a view of the sea shimmering with tiny ripples. And finally Niš, where the remains of Serbian sovereignty had taken shelter. Here the dread was no longer hiding in the cracks of the visible world. It had crawled to the surface and ensnared the town in its tentacles. A multitude of terrified refugees was camped out in rented flats and hotels. In the hospital yard a pile of corpses swarmed with flies. The air was heavy, feral with terror. People flitted through the streets like ghosts.

Since rail travel for civilians had been suspended, Hirszfeld reported to the Ministry of Military Affairs and asked for a pass. Those in charge

issued him one with a mixture of astonishment and sympathy. What a strange impression a lone doctor travelling with a military transport deep into Serbia must have made — with no equipment or protection, a dogged madman heading for the very heart of madness: Valjevo. A makeshift laboratory was waiting for him there, with an incubator, a retort stand, a few test tubes and a small assortment of reagents — all the apparatus he would have in order to grapple with the epidemic.

The hospital where he ended up did not impose quarantine. Nobody was distributing drugs, nobody was looking after the patients, nobody was feeding them or giving them anything to drink. There were not enough doctors and nurses because the majority of them had been struck down by the disease. The wards were filled with the screams of delirious patients. From time to time, somebody would get up from their sick bed and run into town, sowing panic among the healthy residents. As a result, a few unfortunates fell into the river and drowned. Hirszfeld realised that he would not be able to defeat typhus with just an incubator and a few test tubes, so he reached for the only weapons he had: his charisma and ability to organise people.

Today we know that the cause of the Balkan epidemic — the aerobic, rod-shaped *Rickettsia prowazekii* — is an obligate parasite, which means that it can reproduce only inside the cells of a host. Viewed under the microscope, this fat, lazy organism dozing inside a double shell like a chrysalis in a cocoon looks harmless. After all, what harm can a creature whose DNA contains less than a thousand protein-coding genes — forty times less than the mighty human genome — do to people? And yet this microscopic organism is capable of instantly turning into a ruthless killer: it attacks quietly, quickly and effectively. It strikes down its victims within days and kills one in four of those who fall ill. In adverse conditions it can lurk for many

weeks, waiting for the right moment to launch a renewed attack. No wonder the residents of Valjevo felt helpless against such an invader.

When Hirszfeld arrived in the Balkans, the strain of bacteria causing typhus had not yet been discovered. Not much was known about the epidemiological spread of the disease either, apart from the work of the French bacteriologist and future Nobel Prize winner Charles Nicolle, according to whom the disease was carried by lice. Nicolle strived to show that the infected insects excreted bacteria in their faeces and vomit, and when a person scratched a bite, microbes would enter through the damaged skin and attack the heart, the nervous system, the lungs and the kidneys, leading to extreme exhaustion.

Combatting pediculosis — lice infestation — was the only way to curb the disease. But all over the country there was a shortage of sulphur and disinfecting equipment, while overcrowding and the lack of organisation among medical personnel posed a far greater problem. In the dying town of Valjevo, each medical mission operated separately, pursuing its endeavours in a chaotic manner that yielded few results. The campaign against the epidemic had to begin by uniting the local doctors. All that remained to be done was to convince them of this.

Hirszfeld called a meeting, which he intended to open with a science lecture. Standing in front of a crowd of pale, resigned faces, he realised that one careless word could mean that these exhausted people on the brink of breakdown would refuse to listen to him. He began quietly, gradually gaining confidence. Nobody interrupted him, and as he spoke the tension in the room eased. Once he had finished, there was silence. A moment later, a murmur went through the audience, quickly increasing. Perhaps the listeners were captivated by the lecturer's unusual personality and the strength emanating from him. No doubt his Swiss authority played a part too. Suffice it to say that the

reaction was close to an ovation, and the proposal of uniting forces and methodically disinfecting the town was received with enthusiasm.

In reality, Hirszfeld's plan bordered on madness. The disinfection of a town where civilians and soldiers, both Serbian and Austrian, were crowded in hotels and various hovels that were not much more than burrows, with no doors or glass in the windows, seemed an impossible task. Despite this, 1.5 tons of sulphur was imported, fifty orderlies trained and the work began. House after house, flat after flat, every one of the four thousand residents of Valjevo had to submit to delousing. It is not clear to what degree these measures actually brought the situation under control, but the fact is that the wave of the epidemic slowly began to subside.

Hirszfeld set up a makeshift, portable laboratory in a car in which he toured the medical missions, investigating specific cases and looking for a potential vaccine. He also gave a series of lectures on infectious diseases. A few months later, he was joined by Hanna, who could not stand being idle in neutral Switzerland. For many weeks, both of them would lead a nomadic lifestyle trying to rescue the dying in field hospitals. Although they did not manage to come up with a vaccine, they jointly discovered two strains of bacteria related to typhoid fever: Paratyphi A and C.

Working shifts in military hospitals did not merely involve administering the correct drugs. It also meant constantly having to monitor the medical staff as well as the patients in order to minimise violence and theft, which occurred frequently. Hanna would get up several times in the night to make the rounds. During the day she would not allow herself even the briefest rest. The Hirszfelds bought milk and fruit to distribute to the Austrian prisoners of war suffering from scurvy. In addition to typhus, Valjevo was plagued by malaria and other subtropical

diseases of unknown epidemiology. Every now and then, a doctor would fall ill and die, while the rest lived in a state of uncertainty that only hard work helped them endure. "There was nothing of the refinement of the Swiss clinics there," Ludwik wrote. "But a powerful note of partnership resonated inside us. Never for a moment did we miss the Swiss palaces we had voluntarily abandoned."

In the summer of 1915, the epidemic died out. At the same time, the situation at the front changed: Bulgaria joined the Central Powers in their offensive against Serbia. The Hirszfelds decided to evacuate and set off through the Balkans towards safer regions of Europe. Many years later, both of them would again face a typhus epidemic, this time in the Warsaw ghetto.

Hirszfeld's autobiography bears the deceptive title *The Story of One Life* — deceptive because it could easily be said to describe not one but several lifetimes. The story about the happy years of intensive work, the discovery of blood groups and the Rh factor, and the explanation of the mechanism behind serological conflict is intertwined with a chronicle of dark times marked by two world wars, the ghetto, the death of a daughter and Stalinism. In 1956, Hanna wrote about her husband in a memoir titled *Ludwik Hirszfeld*. In 2019, a book about both of them, *The Hirszfelds: Understanding Blood* by Urszula Glensk, was nominated for Poland's top book prize, the Nike Literary Award.

Their biographers usually do not devote much time to Ludwik and Hanna's Balkan episode. After all, it is just a prelude to the rest of their story. I decided to focus on it because it brought back to me the years I spent in a laboratory, as well as my abandoned passion, which I miss and will probably always miss. I wanted to take a closer look at this story. But when I started gathering material, I realised

that I was reading it differently from the way I would have read it only a few months earlier. Unexpectedly, events that seemed distant and almost as unreal as Justinian's plague described by Procopius gained clarity and force. This story started to concern me, too. It started to concern all of us.

Until recently, armed with vaccines, antibiotics and polymerase and neuraminidase inhibitors, convinced that world cataclysms belong to a chapter in history that would never be repeated, we listened to stories about epidemics from the safe distance provided by our belief in modern medicine. How fragile our tiny bit of stability seems now. In the face of the coronavirus pandemic, forced self-isolation, climate change and a global crisis, long-forgotten fears are manifesting themselves again, and the world has suddenly become much larger and far more dangerous than it used to be.

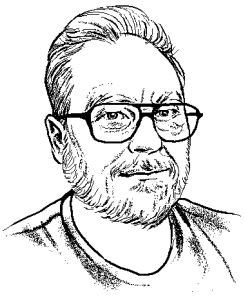
We appeared on the Earth only two hundred thousand years ago and quickly declared ourselves its rulers. Meanwhile, billions of years earlier, it had already been colonised by others, and they will remain here long after the last traces of reckless humans have disappeared from the face of this planet. Meadows will bloom, forests will grow, new species will emerge. The Earth will rally, regenerate and continue its steady course, and with it, those microscopic creatures, oblivious to tragedy and joy.

"The end is drawing near for me. So I look back and remember that I was not merely a passive link in a chain, a tiny particle of life reborn, a leaf destined to be devoured. But that I also knew pride and the delight of being a giver. I want to forgive this world. God, I forgive you this world, as one forgives a woman on account of her beauty," wrote Ludwik Hirszfeld in the afterword to his autobiography, and it is with these words that I would like to close this short piece.

Jan
CZOCHRALSKI

1885 Kcynia — 1953 Poznań

Chemist, metallurgist, autodidact. He was born the son of a carpenter and studied at a teacher training college but never gained a high-school graduation certificate. In 1901 he left for Berlin, where he was assistant to the engineer Wichard von Moellendorff. They jointly published the world's first paper on the crystallography of metals. Czochralski's greatest achievement was his method of extracting crystal from molten metal, guaranteeing a stable rate for the crystallisation of metal on the surface of a seed crystal, which he described in 1916. After Czochralski's death, his method became the basic technique for producing semiconductors from silicon throughout the world. He jointly developed a tin-free substitute alloy for bearings, for use in railway engineering. He was one of the founding members of the German Society for Metals Science. In 1928 he resigned from the posts he held in Germany and at the invitation of Polish president Ignacy Mościcki moved to Warsaw. In 1929 he received an honorary doctorate from the Warsaw University of Technology, where he was also a professor and lecturer. He was accused of a mercenary attitude and pro-German sympathies. During the Nazi occupation of Poland he made use of his good relations with the Germans to organise a Materials Research Unit within the grounds of the university, working for the needs of the occupying powers and the Wehrmacht; at the same time, a secret Home Army cell was in operation there, producing parts for weapons. Czochralski protected many people by employing them at this unit. After the war he was charged with collaboration and spent four months in prison in Piotrków Trybunalski. Thanks to the statements of witnesses he was cleared of the charges, but the university senate stripped him of his professorship. Czochralski returned to his home city of Kcynia, where he founded a company named "Bion". A search by the security police caused him a fatal heart attack. A year after his death a team of scientists constructed the first transistor made of silicon crystal produced by Czochralski's method, and thus launched the dynamic development of electronics throughout the world.



Piotr Siemion

Writer and lawyer, member of Wrocław's countercultural movement. From 1988 to 2000 he lived in the USA and Canada, then moved to the Warsaw district of Radość. He took a degree in English at Wrocław University and in 1994 gained a PhD from Columbia University in New York, before studying American law, also at Columbia. He has worked at a number of academic institutions. He was first published as a translator of fiction (winning the *Literatura na Świecie* first translation prize, 1986). While living abroad he collaborated with the literary journal *BruLion*. In 2000 his first novel, *Low Meadows*, was published and was critically acclaimed as the most interesting debut of the year. His second novel, *Finimondo*, consolidated his reputation. In 2015 his *Year of the Snake Diary* was published. He is now completing a novel with the working title *Bella Ciao*.

Intrusions

It is early morning, and the year is 1953. The place is a study on the first floor of a villa in Poznań. Were we to take a scientific look at this room, as if it were a single cubic crystal filled with bright light, under the matrix of a radio microscope our eye would detect three additives in its structure — pollutants that disturb the perfect symmetry of the monocrystal. The first of these intrusions is a thug in a leather coat, who is pulling books from their shelves one by one, riffling through their pages and tossing them onto the parquet floor. The second is in the shape of a pimply rogue in a skimpy little jacket, who is sitting on the desk, coolly rapping the butt of a TT pistol against the mahogany. The third additive is lying on the floor, face down. He has interlaced his hands on the back of his neck, just as he has been told to do.

"Once again, but let's be more civil this time. Name?" he hears the pimply man say from above.

The man lying prone, aged sixty-seven, has snow-white hair. He has been ordered to lie with his face to the floor and the order has been backed up by a forceful push, so there he lies. Pressed to reply, he tilts his head and feebly whispers: "Jan Czochralski. Professor... Jan... Czochralski..."

"Very nice, Czochralski. Place of birth?"

"Kcynia. On my birth certificate it's Exin," adds the man on the floor, perhaps too promptly, as if eager to get this part of the interrogation behind him. The secret policeman is interested.

"What's that? Exin, you say? Not a Polish name. Permanently registered where? Well? In the people's homeland everyone has to have a registered place of residence."

"Kcynia... where I was born."

The policeman tuts, possibly disappointed by this reply.

"Your nationality, comrade?"

Czochralski freezes. As he lies there, his left hand feels horribly numb. He's finding it hard to breathe. If he were told to stand up, he wouldn't manage. It's lucky he was up and dressed when the black Citroën drove up to the house — a car to be afraid of. Ha, he'd always been an early riser.

"Nationality?" the policeman insists, as another fat volume crashes to the floor, its ornate spine breaking.

"We're talking in Polish, aren't we, so..." There's a pleading tone in his trembling voice. Finally he spits out the word: "Polish".

"Polish, you say?"

"And German," adds the old man hesitantly.

"So which one is it? Which nationality?" asks the one who has been pulling out the books. "Make a decision. Because every book you own is in German."

"Polish and German..." Czochralski says, but breaks off, because what is there to explain? He was born in Exin, near Bromberg, which was not yet Bydgoszcz in those days. In the Prussian empire. But at home they spoke Polish, though of course he had grown up speaking German as well. As an apprentice pharmacist he had served the customers in German, and had studied in German in Berlin. There, within a German environment, as time passed, he — Jan, never Johann or Hans — had achieved the scientific expertise that many years later prompted President Ignacy Mościcki (who was himself

a chemist) to offer him a professorship at the Warsaw University of Technology. In Poland, reborn after the partitions. And naturally the professorship entailed Polish citizenship.

"That's right. Make up your mind, comrade," says the policeman in the jacket scornfully. "Never mind the war — those Kraut swine have ravaged our country, so it's a disgrace to admit it. But come on, be a good fellow... Pole or German? There's a difference, you see. You can't sit comfortably in between, a little bit this and a little bit that," he adds, experimentally stepping on Czochralski's hand. "It's against nature, isn't it? I'm right, aren't I?"

A white flash of pain sears through his trampled, arthritic fingers.

"We're in People's Poland, granddad, not the Reich. There's a war on. Yes, it's still on, and everyone has to choose! Got it?" The policeman steps away, and Czochralski presses his crushed fingers to his mouth. "This country needs unity, not a little bit of this and a little bit of that. Otherwise the place will be full of shit, imperialist shit, not communism."

Once again the policeman crushes the old man's hand with his shoe and wearily continues his lecture: "And that won't ever change, don't even think about it. And why's that? Because communism is steel, the purest of pure metals!"

Although it's the last thing he should do, Czochralski can't suppress a silent snigger.

"What's up with him?" wonders the other policeman, looking up from the books. "Has he gone mad? Give him a thump."

Czochralski is sniggering because — as every chemist knows — steel is by no means "pure". Steel is an alloy of iron and carbon, with other admixtures too, which refine steel. He forces himself to restrain another paroxysm of laughter, because the ideology drummed into

the heads of these uninvited guests is primitive. Unscientific, despite all their claims in the newspapers about dialectic materialism and that sort of stuff! "There's a war on"? A war that requires steel? That is how simpletons think. But Czochralski knows that war is an all-consuming leviathan. In addition to steel, it devours petroleum, cordite, copper and tin. War means major transformation: of ore into iron, iron into steel...

But above all war means movement, the transport and relocation of million-strong armies and millions of tons of cargo at Berlin's marshalling yards. War means logistics, war means mass migration. That requires transport, the circulatory system of railway lines from factories and barracks to the front. The Entente, led by perfidious Albion in their fight against the Prussians, were fully aware of this. To immobilise Greater Germany, the enemy coalition had blocked the supply of tin. This metal was essential to every roller bearing. There are two bearings in every axle of a railway car, and twenty-four in every cannon. Millions of bearings are needed in every year of war and peace. Was that really the end? When the entire Prussian war machine was in danger of grinding to a halt, an ordinary engineer from AEG, a semi-educated man with an impossible name had presented his invention to the despairing commissariat. Metal B — a mixture of common lead with calcium, sodium, lithium and traces of aluminium. An alloy that was cheaper and more durable than the unavailable tin and that could be used in every single bearing and every machine. The idea was taken up without hesitation, after which the wheels of war began to turn smoothly again, though who could have foreseen the capitulation in 1918?

And he, Jan Czochralski, was that engineer. After the war he was no longer a Wasserpolak — as the Nazis scornfully termed those of Polish origin, no longer a pharmacist's assistant from Krotoszyn but

a learned metallurgist, the owner of patents for Metal B among others, a personal acquaintance of President Hindenburg and a guest of Henry Ford. He owed all his successes in the years following the first war to Metal B. And that was an alloy. In other words, a harmonious mixture of various substances, a perfect mixture, one of a kind. Czochralski had heard plenty of nonsense about "purity" all his life, both at school and in the sick speeches of the chancellor, Herr Hitler. He shrugged it off. It wasn't just to do with scientific truth. He too had always felt himself to be an alloy of this kind, since the most important things are inclusions, additives, intrusions. He still believes it now, lying flat on the floor of his Poznań study with his nose squashed against the swirling grain of the parquet blocks.

The smaller policeman has lit a stinking cigarette with no filter. He carelessly flicks ash onto the floor. The room smells of burnt gasoline from his lighter. It's the odour of hydrocarbons. They're tangled, untidy structures. Czochralski has always preferred metals and crystals.

"Profession?" asks the policeman, though of course they've been familiar with all the facts in the old man's file for years. At least since he spent time in the Piotrków prison, eight years earlier, when the liberators tried to cast him as a collaborator, a Nazi lackey. After a few months they left him in peace, but the police file remained in place. It's always that way.

"Chemist," mumbles Czochralski.

"And I thought perhaps factory owner? A survivor of our battle for trade. So what should I put?"

"Indeed... I run a small factory in Kcynia. Headache pills, perming solution." As he utters these words, Czochralski is gasping for breath.

"Perming solution, well, I never," says the policeman. "What do we need perms for nowadays? For a woman to be like a flower?" he

sneers. "Bourgeois times and parlay voo are over, comrade. You want to put our working women in permanent waves? Our female tractor drivers, or our lady bricklayers who are busy rebuilding Warsaw? It's not worth the trouble."

The bigger policeman snorts with laughter. He whinnies like a horse, through uneven teeth. Specks of saliva land on the parquet by Czochralski's face.

"How delightful: factory owner," the smaller one mutters to himself and scrawls in a notebook. "Education?"

Czochralski briefly wonders how to answer.

"University professor."

"What university's that?"

"The Warsaw University of Technology. And the Berlin one."

"I'm asking if you've got a high-school certificate, dammit!"

"No, I haven't," replies Czochralski, and a picture of that time floats up in his memory — arguing with his teachers, being punished, and then a nomadic phase. Kcynia, Krotoszyn, Berlin — lean years. He had no high-school certificate because he had deliberately been barred from it. *Kein Abitur für dich, Zokralsky!* So all his life he had had to be extra-mural. Someone from the outside. When he was refused the opportunity to sit the exams at teacher training college in Kcynia, and even when he was entrusted with a large industrial laboratory in Frankfurt. Despite his lack of qualifications, he had spent his entire life studying and domesticating metals, inventing new materials and teaching others...

"No high-school certificate. So don't give me that bullshit about being a professor," the policeman interrupts and then reads aloud from another sheet of paper: "Eighth child of a carpenter, no education. Anyone would have thought you were our man, one of the people.

But you're not. Factory owner, professor. In a posh suit from the start of the day."

"But I am a professor," Czochralski corrects him from the floor. He is wincing with pain and coughing. There's something in his mouth, a sort of froth. What the hell? He's finding it harder and harder to breathe. He's surprised that the policemen care about these details of his CV. President Mościcki appointed him to the professorship in the winter of 1928. Ignacy Mościcki, president and professor, a fellow chemist, who built the Azoty chemicals factory at Mościce near Tarnów for Poland's military needs. Mościcki had a similar mission for Czochralski, involving metals, alloys — the fodder that feeds war, corroding everything with its acid except the noblest of ores. Bearings and their parts, smooth coats for high-friction surfaces. For Polish armoured cars and fighter planes.

"You're a piece of shit, not a professor!" rages the policeman, no longer feigning ignorance of the man he has before him. "You could have used that title until… just a moment… 19 December 1945. Until the Senate of the Warsaw University of Technology passed its resolution. In which you were exposed. And for what? For collaboration with the enemy. Splendid stuff!" he adds, putting away his spiral notebook.

"A wolf in sheep's clothing," says the other policeman from the window. "Once a traitor, always a traitor."

Czochralski is lying torpidly like a sack full of pain. An ice-cold spasm is radiating through his body from beneath his sternum to the nape of his neck, his jaws, ears, arms and wrists. So he doesn't even try to explain that he opened the metals laboratory during the occupation on the orders of the Home Army — the Polish underground. Yes, officially the factory worked for the Germans, but it secretly

produced weapons for the resistance movement, and people wanted by the Gestapo were hidden there... The snag was that everyone who could have testified in Czochralski's favour was either dead or imprisoned for political reasons in Wronki or Strzelce Opolskie.

"Delightful. So where have you hidden the hard currency?" comes the next question.

Czochralski cannot believe his own ears. Admittedly, before the war he was one of the richest men in Poland, but it all went up in flames. His new house in Kcynia has survived, and some furniture. The small factory has brought an income, but plenty of officials and avid people's inspectors have already queued up at the till.

"Don't you understand? Where's the hard cash?"

"Gentlemen, I..."

"Don't try telling us British intelligence pays you in zlotys! For what? For the military secrets you so dutifully bring them!"

His throat tight, Czochralski is choking. He's about to lose consciousness.

"What? Feeling unwell, are we?" says the policeman. "May I recommend 'Dove' tablets — the ones you churn out in Kcynia."

"Used to churn out," the other one corrects him. "They won't be doing that anymore. You can put your mind at rest." And suddenly he adds: "Zenuś, what's up with him?"

"Get them to call an ambulance! The silly old fool!" Czochralski hears them say.

Around him his study, a cube of light, starts to solidify like real crystal. Before his eyes the maze of swirls on the floor is spilling in all directions, extending its coils to the far reaches of his vision, spinning so hard that his eyeballs hurt. In this fraction of a second Czochralski still manages to catch the thread of that thought. The secret policemen

who have come for him — a hybrid! a dubious element! — are doing it in the name of alleged Unity. Exactly the same thing was drummed into his head by the wartime propaganda during both wars. Unity! A joint effort! Purity of intention — as pure as the monocrystals produced by "the Czochralski Method" discovered and perfected in 1918, patented in every country, the source of his wealth and fame. Giant, pure crystals of metals and reactive silicon, for which the world's armaments and radio factories are waiting. Crystal eyes and bearings for the leviathan of war. Here is the pivotal idea, the axis of the modern world!

But human beings are not monocrystals. They'd be too fragile and couldn't act as conductors — and would thus be lifeless. To animate labyrinths of veins and nerves, to start to conduct blood and electricity, intrusions are vital. Czochralski has known this since 1925, when he discovered that a radio crystal can conduct electricity when it contains microscopic non-metallic additives. Without a foreign element the purest crystal will be lifeless. Quite another matter when thallium or germanium are embedded in previously pure silicon, as apparently the Americans are now trying to do. Maybe then it will be possible to use small semiconductors as the building bricks for electronic brains the size of houses? Or one day in the distant future for people to carry tiny radiotelephones on their wrists? Or maybe, thinks Czochralski, though he cannot imagine it, not even in a dream that's fading like an electrode, it will be possible to connect all of humanity with a wireless network, like a communal nervous system?

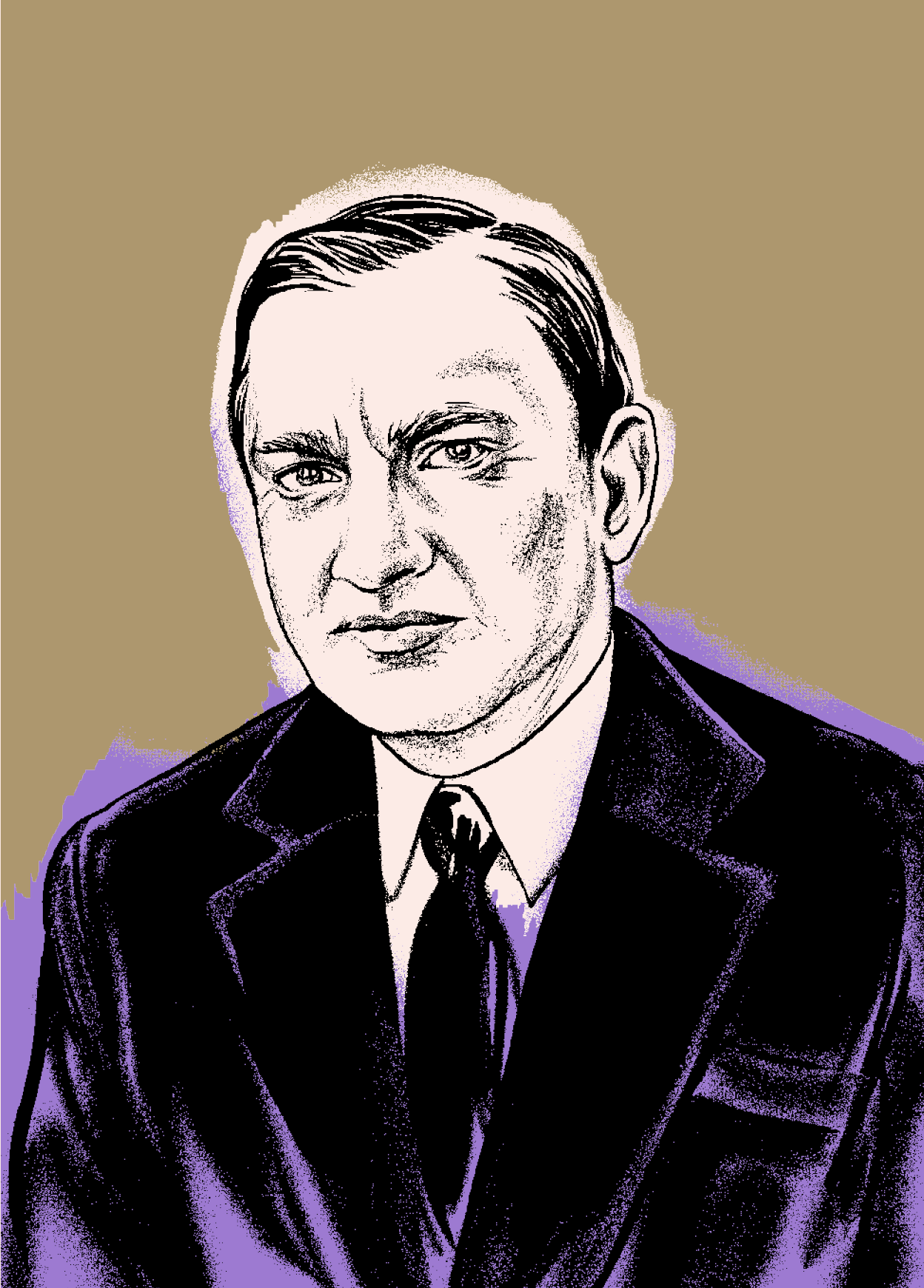
"So what now?" whispers one angry policeman to the other. "What next?"

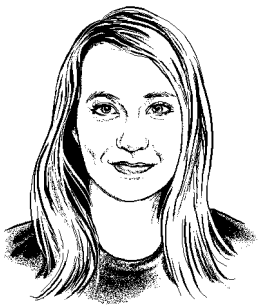
"Let him die," comes the reply. "He's not going to save the world anyway."

Stefan
BANACH

1892 Kraków — 1945 Lwów

Mathematician, member of the Polish Academy of Arts and Sciences, co-founder of the Polish Mathematical Society (1919), joint creator of the Lwów school of mathematics. He was the son of a soldier in the Austrian army and a housemaid, but was raised by a foster family. After gaining his high-school certificate in Kraków in 1910 he started technical studies in Lwów. When the First World War began, he returned to Kraków, where he spent a lot of time discussing mathematics with Otto Nikodym and Witold Wilkosz. In 1916 one of these conversations happened to be overheard by Hugo Steinhaus, who discovered Banach's great mathematical talent. Thanks to Steinhaus' intercession, after the war Banach was given employment at the Lwów Polytechnic. In 1920 he defended his doctoral thesis, which featured the axiomatics of spaces, later named in his honour "Banach spaces". In 1922 he became a professor at Jan Kazimierz University in Lwów. A group of young mathematicians gathered around him and Steinhaus. They were concerned mainly with functional analysis and spent long hours at the Scottish Café (where they recorded the mathematical problems they discussed in a notebook that came to be known as "the Scottish Book"). Banach's work, *Théorie des opérations linéaires*, published in 1932, was for many years the essential monograph on functional analysis. In 1936 Banach gave the plenary lecture at the International Congress of Mathematicians in Oslo. In 1939 the Red Army entered Lwów, and soon after Banach became dean of the Department of Mathematics and Physics at Ivan Franko University (as Jan Kazimierz University was renamed). He also served on the city council. During the German occupation he was a louse feeder at the Institute for Typhus and Virus Research run by Rudolf Weigl. In addition to Banach spaces, a large number of theorems bear his name, including several of fundamental importance. Of all the world's mathematicians, Banach's name features more frequently than any other in the titles of mathematical articles in the reference database *Zentralblatt für Mathematik*.





Weronika Murek

Writer, dramatist, lawyer (graduate of the Faculty of Law and Administration at the University of Silesia). Winner of the Gdynia Drama Prize (2015) for *Feinweinblein*. Her first work of fiction, a short-story collection titled *Growing Southern Plants the Michurin Way* (2015), was listed for the Nike Literary Award, the Gdynia Literary Award, the Conrad Literary Award and the Polityka Passport Award, and won the Witold Gombrowicz Literary Award. In 2019 a collection of her plays was published, *Feinweinblein and Other Plays*, and was listed for the Polityka Passport Award. She writes for literary journals including *Dwutygodnik*.

A Few Numbers, a Few Words

We have happy days, remember good dinners.
Charles Darwin

1, in words: one

What can you do in an hour? Work up an appetite for pineapple.

Christopher Columbus picks it up, tastes it and says: Much sweeter than melon, far more delicious. This is one of the first things he will present to the Spanish king, who according to legend will let a tear fall and say: This is the best thing I have ever eaten. Pages of the crew's diaries are filled with accounts; as Gonzalo Fernández de Oviedo y Valdés notes: I doubt there is anything in the world more exquisite or of more excellent appearance than the pineapple; no pen can describe it, no words suffice.

Glasshouses for growing pineapples, heated by steam, were constructed all over seventeenth-century Europe. The pineapples took two or three years to mature in these conditions, writes Jessica Kerwin Jenkins, which means they were a luxury that few could afford. English entrepreneurs were the first to come up with the idea of renting out cultivated pineapples: if a London host wanted to show off, add splendour and make their dinner the talk of the town for years to come, they could hire a pineapple, put it on the table, and then return it.

There are plenty of other things you can do in an hour: wash clothes on a cotton setting, go to the dentist — both can be done in an hour.

In a single hour you can also survive an experience that enables you to survive the entire month that follows, all 730.484398 hours of it.

Every day for an hour Stefan Banach feeds lice.

What's it like?

According to Mirosław Żuławski, lice hate dirt.

If the lice are to grow big and strong, if they're to stay hungry and eager to feed, the breeder must give them the best possible living conditions. A human being can survive anywhere at all, but it's clear that a louse cannot. So right from the start it's crucial to care for them as if they were one's own children, clean up after them and support them.

According to Mirosław Żuławski, next on stage are the feeders.

Anyone can see what a louse is like — only its feeders are better or worse, but it's the louse that determines who is better and who is worse; those who feed healthy lice are not as highly rewarded and valued as those who feed lice that are already sick.

Where are these lice? In a small flat cage, writes biotechnician Wacław Szybalski. There's a piece of gauze attached to one side of it, he adds, with a mesh so small that the lice can only just fit their heads through it; unable to detach their mouths or turn their heads, the test lice spend their whole lives looking forwards.

Where is this little cage? It stays put against the feeder's leg — writes Arthur Allen, a journalist specialising in science and medicine — held on by a wide rubber band. And not always in the singular: there could be dozens of cages attached to a single leg.

What can you do in an hour? Work up an appetite for blood.

2, in words: two

What can you do in a month? Prepare century eggs.

I'll give you the recipe: put duck eggs into a solution of clay, quicklime,

salt, water and tea that you prepared earlier. The quicklime causes the eggs to heat up, and when the temperature falls, a hard coat will form around them that keeps them from going bad.

What can you do in a month? Earn a hundred zlotys that you then spend — writes Arthur Allen — on five kilos of butter or ten kilos of sugar. And you might be deserving enough to get margarine, jam or a piece of sausage.

In a month you can feed a single louse or as many as twenty-five thousand — from louse conception to maturity.

A shining louse is a louse whose feeding cycle is coming to an end.

3, in words: three

What happens in the 1790s? French restaurants start to serve dishes as follows: in the order determined by the hosts of the evening and their chef. In short, if they have seated you at the beetroots, you're most likely to spend all evening eating mainly beetroots, as it'll be simplest and easiest to reach for them. The following principle comes into effect: in company, you are what you eat, and you eat what's nearest to you on the table, and so you are what you're seated in front of at the table, full stop.

Meanwhile, in a single month at Dr Weigl's laboratory it's possible to meet just about everyone from the University of Lwów, writes Szybalski. There's a long table. Sitting at it are the feeders. Over there are the feasters. It's usually the other way around. The ones who aren't doing the eating are reading books. Sometimes they have a snack. Usually they spend the time in conversation.

What else can you do? Raise a louse on your knee that will later be infected with bacteria by means of a microscope that magnifies thirty-two times, writes Allen; by looking very closely, you can stick

a glass pipette into the louse's rear end and inject a suspension to infect it.

The infected louse ends up in another cage and continues to be fed.

What happens in the 1940s? War.

You can survive it if you have immunity: the lice need human beings, they cannot do without them, and you're contributing to a higher cause. You get an *Ausweis*, and then the Germans can't touch you. Zbigniew Herbert takes advantage of this, and so does Stefan Banach.

But first a word or two about the laboratory run by Dr Rudolf Weigl.

He was apparently born to Austrian parents (hence the name) and brought up by a foster father within Polish culture. He went to school and university, gained a doctorate and began work on a post-doctoral thesis — the rapid course of a typical scientific career; subject: zoology, alma mater: the University of Lwów.

During the First World War the army made use of his skills and knowledge by tasking him with suppressing a typhus epidemic; after the war he continued to develop his laboratory, aiming to perfect the typhus vaccination on which he had been working.

4.7.1941, in words: the fourth of July 1941

In early July the arrests begin: first to be affected are the academics at the university's Department of Medicine and at Lwów Polytechnic, as well as their relatives or guests. They are all taken to a hall of residence: they undergo interrogations that aren't really aimed at proving anything, or even forcing any sort of a confession; it's just a way of wasting the hours the murderers have to fill – a small number of people are released for various unclear reasons.

At dawn forty-five (45) people are shot dead.

Apparently some time earlier Governor Frank said that the Jagiellonian University professors arrested after the Germans took Kraków caused too much trouble, so now he says: In the future don't arrest, don't deport, solve the problem on the spot.

Professor Weigl understands: just a semblance of cooperation with the Germans – for which he will later pay a bitter price when falsely accused of collaboration – will allow him to carry on working at his laboratory, also to choose people to staff it and save their lives in the long run.

4, in words: four

What reaches its lowest-ever number in 1946? The number of courses at the Nobel Prize banquet.

In the twentieth century it has been falling steadily: in 1901 five courses were served, in 1919 there were four, and in 1945 there were three.

At the first one after the Second World War they serve sandwiches, poulet fermière, gâteau de pommes, vanilla sauce, red wine and sherry.

Should Stefan Banach be among the guests? Yes.

Is he? No.

Is Stefan Banach still alive? No.

But before that:

A table at the Scottish Café: the most regular clients who spend the longest time here are the mathematicians, leaning over the famous marble table to write equations on it in pencil.

It seems they were capable of spending hours on end like that; over brandy, or coffee, rarely speaking, and when they did, they said things that were meaningless to outsiders, entirely divorced from the

order of the day, sometimes bursting into laughter, sometimes sinking into a reverie. Banach's wife came up with the idea of instituting a thick notebook to save the equations written on the tabletop from being erased by the waiter's cloth.

In conversation with Mariusz Urbanek, author of a book titled *Geniuses: The Lwów School of Mathematics*, mathematician and historian Roman Duda will say: No other name apart from Euclid appears as often in the academic papers as that of Stefan Banach. The Lwów school was the one where the concept of functional analysis was devised, writes Professor Mazur: the year 1922, when Stefan Banach published his doctoral thesis, is regarded as a watershed in the history of twentieth-century mathematics.

He will add: This was the foundation of mathematical analysis as a new discipline of great significance not just for the field of mathematics but also for physics and the other exact sciences.

Was he a genius? Undoubtedly.

It's pure chance that he ends up at Lwów Polytechnic, and he continues to climb the rungs of his academic career as if by chance too.

What do we know about pure chance?

That it needs some assistance. Banach doesn't provide it. It's his acquaintances, colleagues and friends who do that for him.

Chance number one: Professor Hugo Steinhaus is walking through the Planty Park in Kraków; it's an April day, not the worst; the wind carries scraps of the sentences spoken by the people he passes and scraps of the conversation of those who have perched on benches along the way to rest a while or tell each other something.

Let's suppose Stefan Banach and Otto Nikodym, students, have sat down to resolve several things they're sure about and several that are still unclear, all to do with the Lebesgue integral.

What does Steinhaus think? I'll go up to them, say something and ask a question.

What does Steinhaus do? He goes up to them, says something and asks: Would you gentlemen be interested in working with me?

Banach has humble origins but great talents. He taught himself mathematics and foreign languages; he worked in a bookshop and supported himself by tutoring. The First World War passed him by: he is short-sighted and automatically reaches for objects with his left hand. He loves mathematics but is not particularly interested in a career; he likes solving problems for the fun of it – it's answers that make his pulse race, not honours.

Chance number two: even his superiors at the University of Lwów help him out.

For some time Banach has been accompanied by his assistants on his visits to pubs and restaurants: they are conscientious and diligent, they see and remember everything – the point is to gather and note down every idea and solution that appears. Stefan Banach loves to work amid noise: he adores the hubbub of conversations being carried on at the tables, even the ones that race into the night, when as the intake of alcohol increases nobody pipes down for the others anymore; he loves the clink of cutlery, the shuffle of chairs, he loves all that din, which helps him to focus and prompts the best solutions to occur to him.

So the assistants sit and take notes, then – in secret, because Banach might fly into a rage, and if he doesn't, he might be discouraging, and if he isn't, he'll be sure to laugh at them, but if he doesn't, he probably isn't at all bothered – use them to compile his doctoral work.

Chance number three: to make Banach defend his doctoral thesis, a whole intrigue is contrived, involving quite a number of the

university's employees. Someone has to approach the mathematician and ask him to come into the next room for just a moment, where – as Professor Andrzej Turowicz told the story – he'll find a group of amateurs who can't come to an agreement on certain mathematical problems; they're not missing much, all they need is a puff of air to set them in the right direction; as in the tale of the three little pigs, the house of their doubts is made of straw, or wood, or bricks, all that's needed is a bit of huffing and puffing, and Stefan Banach is the perfect man for the job – he just has to take a deep breath.

So off he goes, helps to solve the problem, and answers all the questions; and in the process – what do you know? It turns out he hasn't actually taken part in a dispute but defended his own doctoral thesis.

4½, in words: four and a half

This story starts with appetite, so to finish its hero must find his place at the table.

The one at the Scottish Café, for instance. They meet at it regularly – the Lwów mathematicians, students, friends and observers – to drink, eat and think. The most devoted to dining there are Banach, Stanisław Ulam, Władysław Orlicz and Stanisław Mazur: they leave formulae and notes written in pencil on the tabletop, hasty signs put up to help them remember whenever someone has a brainwave or hits upon a solution.

The Scottish Café soon becomes an obligatory stopping point for visiting mathematicians from the world over; until, on 1 September 1939, the world discovers how much can change in the course of a single day, and Stefan Banach discovers what can be done in an hour – as above.

5, in words: five as in 1945

He dies of lung cancer and is bid farewell at the cemetery by sixteen (16) speakers.

Roman
INGARDEN

1893 Kraków — 1970 Kraków

Polish philosopher, university professor, member of the Polish Academy of Arts and Sciences and of the Polish Academy of Sciences. He studied mathematics and philosophy in Lwów and, from 1912, philosophy in Göttingen with Edmund Husserl, under whose supervision he wrote his doctoral dissertation. He was appointed a lecturer and later professor at Jan Kazimierz University in Lwów. During the Second World War, between 1941 and 1944, he secretly taught philosophy at the university and mathematics to secondary-school students, while also working on *The Controversy over the Existence of the World*. After the war he lectured at Nicolaus Copernicus University in Toruń. In 1946 he moved to the Jagiellonian University in Kraków, where he was given a chair, but in 1949 he was banned from teaching for his "idealism" and being "an enemy of materialism". The ban was overturned in 1957, at which point he resumed teaching until his retirement. Ingarden was critical of positivism and relativism. He was one of the main proponents of phenomenological ontology. He searched for a middle way between the reductive physicalist realism popular among analytic philosophers and the transcendental idealism of Husserl. He authored more than 200 works, mainly in Polish and in German. His best-known publications focus on aesthetics and the concept of the literary work of art, as well as problems in ontology, epistemology and axiology.

Wit Szostak

Author of novels, short stories and plays. His books have been nominated for the Nike Literary Award (*Fugue*, 2012) and the Polityka Passport Award (*One Hundred Days without Sun*, 2014). His debut appeared in the periodical *Nowa Fantastyka*, and his most recent novel, *Others' Words*, was published in 2020. He lives in Kraków with his wife and three children and writes under a pseudonym. He obtained his PhD in 2008 from the Philosophy Department of the Jagiellonian University in Kraków and, as Dobrosław Kot, is the author of various philosophical works, most recently *The Raft of Odysseus: An Essay on Refugees* (2020). He works as a lecturer in the Philosophy Department at the Kraków University of Economics. His master's dissertation focused on the philosophy of Roman Ingarden.

Ingarden and Time

The young man in the first photograph will never grow old.
The old man in the second photograph has never been young.
Neither of them will die, even though the photographs can
be destroyed.

The young man is in black-and-white; the old man is in colour. The first is dressed in shades of grey, grey eyes looking out from a grey face. The second is wearing a navy-blue suit jacket, and in the semi-darkness behind him there are books on the shelves. There is no access to the books in the photograph; the library is closed to us. The books have only spines, the letters on them are blurry, the focus is on the face emerging out of the shadows.

The young man is not looking into the camera. He is standing against a grey wall, which in real life could have been green, yellow or blue, and gazing with a slightly weary expression somewhere just above the lens, towards the right edge of the photograph. His gaze does not meet the viewer's eye, as if the photographer had taken his picture accidentally. Yet the framing is that of a carefully posed portrait, even if the subject does not seem to know that his face is about to be captured on a piece of light-sensitive film. The old man is looking intently into the camera; he does not pretend to be ignorant of the photographer's presence. His lips are slightly parted, and

he seems bored by having his photograph taken, perhaps because he has been posing for quite a while.

The young man and the old man are not moving. They have remained immobile for many years. Their faces are not frozen, because only something that has not been frozen before can freeze. Something hot can freeze; something that is moving can become immobile. But for as long as these two photographs have existed, ever since the light struck the momentarily exposed film, the men have remained stock-still.

The old man in the second photograph does not look like the young man in the first. Only a closer comparison reveals a certain similarity in the eyes and the shape of the mouth. Without knowing that these two photographs are of the same man, however, one could easily miss this fact.

The knowledge that both photographs show the same person comes from beyond them. The first photograph was taken on 20 May 1916 in Karlsruhe. So says the caption, which is not part of the photograph. The second was taken in 1960 in Kraków, and this piece of information is not part of the photograph either. The photographs are separated by forty-four years of someone's life and more than a thousand kilometres.

The man in the first photograph had to live through another forty-four years in order to appear in the second. He also had to cover the distance between the photographic studio in Karlsruhe and the Kraków flat with the bookcase. And one can assume that he must have travelled much further than the thousand kilometres separating those two cities. In between these two photographs, he had time to go grey and partially bald, to gain weight, and to swap peak lapels for notch lapels, a waistcoat for a burgundy woollen jumper, and

a dark tie for a light one. He also had time to take off his pince-nez and arrange a white handkerchief in his breast pocket. This is evident from the photographs. According to information that comes from beyond them and is available to everyone, including those who know nothing about the man, it appears that he lived through two world wars. This means that he must repeatedly have changed his clothes, his hairstyle and his glasses.

> The young man in the first photograph will never grow old.
> The old man in the second photograph has never been young.
> Neither of them will die, even though the photographs can
> be destroyed.

The man who posed for the two photographs is long dead. But his death is of no relevance to these two men. Is it really the same man? According to information from beyond the photographs, he continued to use the same name; he had the same parents and relatives. As an old man, he probably remembered himself when he was young, even if he did not remember visiting the photographic studio in Karlsruhe in 1916, and as a young man he might have imagined himself in old age, wearing a suit and surrounded by books.

Both men have been photographed facing the camera. Neither of them has a back. Turning the photographs over will not reveal the reverse of the scene. The man who in 1916 was the young man in the first photograph and who in 1960 was the old man in the second had a back. And on this back he had a shirt and a jacket, but the men in the photographs have only fronts. They have no insides either. We cannot see their lungs, hearts or kidneys; we cannot see their thoughts, memories or plans. The man who let himself be

photographed in 1916 had kidneys and a liver and thoughts, as did the man who looked into the camera in 1960.

Neither of the photographs tells us who the man was; we can establish that thanks only to extraneous descriptions. From the photographs we can conclude that he dressed well and took care of his appearance. He could have been an official, a diplomat, a politician or even a military man who on at least two occasions let himself be photographed in civilian clothes. The background in the first photograph tells us nothing about him. A grey wall can be the backdrop to any life or destiny. The background in the second seems to tell us more. Rows of shelves, hardback volumes with gilded spines; to the left of the old man, a small figurine — the body of a naked woman with no head or arms; to the right, the contours of a table and the back of a chair on which he is resting his elbow, leaning to one side. The bookcase and the antique figurine could point us to the man's profession, or to some of his earlier life choices. But to draw such conclusions, we would need to be absolutely certain that the old man in the second photograph is at home. That these are his books, his table and chair. Yet his clothes are not casual clothes to wear at home. Perhaps this photograph was taken just before he went out, and this is why he had put on a navy-blue suit and tie, and arranged his white handkerchief? Or perhaps the photograph was taken somewhere else, in a place the old man was just visiting, or — a possibility that cannot be discounted — where he worked? The combination of the old man and the bookcase, although preserved in the photograph, does not allow us to assert with certainty that the books can tell us anything about the man. He might have just sat down for a moment and let someone take his picture.

The two photographs do not allow us to say much more with honesty. We could add a few details to the previous descriptions or

refine our observations. But the rest is all conjecture and imagination, which can be supplemented by snippets of general history. The man shown in the photographs is hiding. He is the old man and the young man, but at the same time he is more than that and is neither of them. He is gone.

Yet perhaps the shared name, fingerprints and date of birth, the same biographical details, and the presence of the young man's experiences and memories within the experiences and memories of the old man, are not enough to conclude that it is the same person in both photographs? Perhaps time — those long forty-four years that separate the photographs — is too powerful a force to speak of the identity of these two men? How much of the young man remains in the old? What about the first heralded the second? What the young man saw as the present the old man sees as the past. What the young man saw as the very recent past, such as the moment just before he pressed the door handle of the photographic studio in Karlsruhe, the old man sees at best as a memory, or as an indistinct void where a memory used to be. The young man is probably not planning many of the things that the old man has accomplished in life and then simply forgotten. Those forty-four years connect the two men. Yet for neither of them do these years exist. For the first, they are not here yet, and he doesn't even know whether they will come at all, while for the second they no longer exist: they are gone.

The captions to the photographs allow us to state merely that the first was taken in 1916 and the second in 1960. It is only the story connecting these photographs that lets us add that the man in the first is twenty-three years old while the old man in the second is sixty-seven. The person whose image has been preserved in these two photographs is neither the young man of the first nor the old man of the

second. He was young and he was old, but he was also a child, a middle-aged man and, finally, a man who was ten years older than the one in the second photograph when he died unexpectedly in 1970.

The man who is young in the first photograph and old in the second was never either of these for me. And this is a completely different story, unknown to him or to his relatives, who have kept the two meticulously captioned photographs. For me, he was the author of books, someone I never met and whose external appearance, despite the two photos, with which I have been familiar for years, has not embedded itself in my memory. When I call his name to mind, it is not the young man or the old man that I see, but book covers; what I remember is not his face but his ideas, his theories and the circumstances in which I read his works. I recall the people with whom I discussed them. And some of these people are also gone.

These are not just my first associations when I hear his name or see his photographs but my own first-hand experiences. I remember myself, many years ago, the person who, at roughly the same age as the young man in the first photograph, read his books, written over the course of those forty-four years between the two photographs. And that me is also long gone.

Alfred **TARSKI** [Teitelbaum]

1901 Warsaw — 1983 Berkeley

Logician, philosopher, mathematician, methodologist of science and researcher of the semantics of natural and formal languages. He was born into a family of Polish Jews with rabbinical traditions. While studying philosophy at the University of Warsaw, he became a key member of Jan Łukasiewicz and Stanisław Leśniewski's Warsaw school of logic. In 1922 he and his brother Wacław both changed their surname to Tarski. As an associate professor at the University of Warsaw (1925–39), he innovatively combined elements of mathematical logic with the logic of semantics, formulating the first formal and internally non-contradictory definition of truth (*The Concept of Truth in Formalised Languages*, 1933). His work on "semantical notions" significantly influenced the development of analytic philosophy worldwide. Tarski maintained close ties with the Lwów and Warsaw schools of mathematics. He was turned down twice for the position of chair of philosophy, in Lwów (where Leon Chwistek was appointed) and in Poznań (where no appointment was made at all for racial reasons). In addition to his research into formal languages, he studied the foundations of mathematics, including geometry, algebra and set theory (*A Decision Method for Elementary Algebra and Geometry*, 1951). Tarski had great social skills and a good sense of humour, and was friends with artists such as Stanisław Ignacy Witkiewicz. At the outbreak of the war in 1939, he was in the United States, where he remained. He obtained a post at the University of California at Berkeley and taught many outstanding students there. Despite political difficulties, he maintained contact with Polish scholars and visited the country several times after 1956.

Maciej Miłkowski

Writer, translator and literary critic. He graduated with a degree in psychology from the University of Łódź and has translated more than a dozen books from English, including fiction, non-fiction and genre fiction. He writes a column for the Kraków edition of *Gazeta Wyborcza* and works as a psychologist. He is the author of two short-story collections, *Whist* (2014) and *A Second Meeting* (2017), both published by Zeszyty Literackie, as well as the novel *Sult's System*, published by Nisza. His stories have been translated into English, Lithuanian, German, Dutch, Ukrainian, Russian and Hungarian. He writes essays for the periodical *Czas Literatury* on the craft of short-story writing. He lives in Kraków.

Truth

"To tell you the truth..." Tarski replied. "To tell you the truth..."

"Alfred simply didn't want to worry you," his brother Wacław interjected. "Isn't that the truth?"

Truth, he thought. In the everyday meaning of the word... In everyday language...

"Yes, it's the truth," Tarski admitted.

"Well, I would prefer to know when one of my children loses his job!" their mother protested.

"While I," their father cut in, "truth be told, by now am quite used to the fact that nobody ever consults me or tells me anything."

"So what about the job?" their mother continued.

"I've been promised a new one," Tarski said. "At another school. A much better one, in fact..."

"But what exactly happened?"

"There was a denunciation," Wacław said. "An anonymous letter."

"Which said...?"

"That a Jew was teaching mathematics," Tarski replied.

"Well, isn't that the truth!" their father said.

Truth, he thought. In everyday language, it's impossible to... It's not at all possible to...

"The headmaster called me in," Tarski continued.

"And what did he say?"

"That personally he was on my side, but let's look truth in the eye, there was no other option, he had no choice..."

"That's all you gained with your little disguise!" the father said, laughing.

"Ignaś!" the mother exclaimed.

"What, am I not telling the truth? It's true, isn't it! Could somebody please explain to me what's wrong with the name Teitelbaum? Maybe one of you Mr Tarskis here can enlighten me?"

"Please leave it, Father," Wacław said. "We've already been over this..."

"Of course we have! And I told you straight away that it wouldn't do either of you any good. They'll always see through you; they'll never accept you as one of their own. You two have disowned your father, you've disowned your mother. And what do you have to show for it? Nothing — and that's the truth."

Truth, he thought. It's not possible to define truth within the framework of everyday language. It is necessary to...

"It's only the one denunciation, Father..."

"Yes, only the one, I understand. But how many people have written to denounce me? How often do you think someone has written, 'Dear Sir, I hasten to inform you that the timber merchant Ignacy Teitelbaum is a Jew.' What do you think? Nobody has ever written such a thing about me! Because nobody needs to inform anyone that I'm a Jew. Because I am a Jew. There, that's the whole truth! And I've never suddenly been called Malinowski or

Wiśniewski. And it's no secret, that the timber merchant Ignacy Teitelbaum..."

"Ignaś, that's enough..." his wife cut in.

"But if mathematics is taught by Mr Tarski..." her husband continued. "When the distinguished Mr Tarski is teaching mathematics... That's when it suddenly becomes a secret! And sooner or later someone will see through it — because the truth will always come out. And when it does, that's when somebody writes a denunciation. And suddenly everyone pretends that only now have they uncovered the truth!"

To uncover the truth, he thought. To formulate and define truth: that is possible only within the framework of formal languages.

"There's a grain of truth in that," said Wacław in a conciliatory tone. "But you have to understand, Father, that we had no alternative. I realise they can dismiss Tarski from the school. But they would never have hired Teitelbaum in the first place. We don't live in Vienna. We don't live in Berlin. Over there it's totally different. But we live in Warsaw. And the situation is what it is. That's the bitter truth. We need to adapt to it somehow."

"I guess you need some money now?" the mother asked.

"Aha!" the father snorted. "No doubt! And no doubt old Tarski will gladly shell out!"

"Father, seriously!" Wacław cut in.

"Fine, fine... I won't say any more!"

"No, Mother, truly," Alfred said. "I've already got a new job."

"But what about that professorship in Lwów?" the mother asked. "Well? Why are you looking at each other like that? Tell me — and tell the truth!"

To speak about truth, to define truth, to describe truth — this can be done only within the framework of a formal language. Except that even then…

"I didn't get it," replied Alfred. "Someone else did. Case closed."

"Who?" the father asked.

"Chwistek… Maybe it's for the best. I'd have had a long journey to come and see you all the way from Lwów…"

"And this Chwistek…" the father began.

"An eminent scholar," Alfred replied. "Ideal for the job."

"But not a Jew?" the father wanted to be sure.

"No. But truly, it would be hard to find a better logician."

In the language of logic, he thought, of course. But even then… There would have to be another language, a metalanguage…

"There was also a logician named Teitelbaum!" the father laughed. "He co-wrote works with Tarski! No, seriously. I have it somewhere here… Clearly written: Teitelbaum-Tarski…"

"That's true too," Wacław admitted. "One day they're going to ask you what happened to that logician Teitelbaum that you used to write articles with!"

"And with regard to Lwów, you think that's what decided it?" the mother asked.

"I don't know, Mother. Truly…" Alfred said. "Chwistek is a wonderful logician. A good deal older than me… Maybe that's what guided their choice. He might not get another chance. I still have time… There are other possibilities, other fields. Maybe I should go beyond logic…"

And beyond logic, he thought, beyond the formal language of logic… Another language could be superimposed on this formal language… And then in this second language…

"That's true," the mother said. "You will get a professorship somewhere else. I'm sure of it. Anyway, how is Irenka?"

"To tell you the truth, I don't know," Alfred replied. "We haven't been in touch much recently…"

"So it's definite?"

"Yes."

"That's a bit of a shame," the mother said. "I liked her very much…"

"There are other fish in the sea," Wacław said.

"I've been kicked under the table quite enough for one day by now," the father began. "And there are going to be more reproachful glances cast in my direction… Because I know: the truth hurts. But wouldn't it be right to say that Irenka wanted to marry Teitelbaum? But not now that he's Tarski? Isn't it the case that she became engaged to Teitelbaum, and suddenly found he'd been replaced with Tarski? I think she preferred to spend her time among her own people. She has never been ashamed of her own people. I've always really liked that about her…"

"There are things I liked too, Father…" Tarski said. "But let's look truth in the face, we weren't very well suited to each other. For her, politics was her whole life, but I … I've always been looking for something different, something…"

Different, he thought. A different language. Alongside that first one, or above it. And in this metalanguage, one could successfully determine the truthfulness of statements in the first language. And paradoxes would not apply.

"In any case," Wacław said, "as for a fiancée, it's the same as with the job. He's already got a new one! And, in actual truth, a much better one!"

"Ooh! And is she...?"

"She's Polish," Tarski replied. "And a Catholic."

"Maria," Wacław added.

"Ave Maria!" the father chimed in. "Isn't that something you Catholics say? We can get it straight from the horse's mouth, seeing we happen to have two Catholics here for dinner today!"

"Father..."

"Maybe that's good," the mother said. "I have nothing against it. As long as my sons are happy. Let them marry whomever they wish. Let them..."

"Get baptised!" the father interrupted.

"Why not, let them get baptised. Why not, truth be told."

Truth, he thought. It cannot be defined within the framework of everyday language. It can be described only within the framework of a formal language, using a different language — a metalanguage — which will determine the truthfulness of statements in the first language. And this metalanguage will not be subject to this process of determination. It will not describe itself. It will not get caught up in paradoxes. It's so simple.

"It's not so simple..." Wacław concluded. "Anyway, it's time for me to get going. I have a tough day in court tomorrow. I need to do some more work."

"How about you?"

"What about me?" Alfred asked.

"Are you leaving too? Do you also have to do more work?"

"No... Not me. I've done enough work for today."

Stanisław ULAM

1909 Lwów — 1984 Santa Fe

Mathematician, representative of the Lwów school of mathematics, nuclear physicist who worked in the United States from 1936, took part in the Manhattan Project and co-created the thermonuclear bomb. He and his younger brother, the Sovietologist Adam Ulam, were born into an assimilated Jewish family. He studied at Lwów Polytechnic, where he also took his doctorate in 1933, but he never held an academic post in Poland. From 1939 to 1941 and after 1951 he lectured at Harvard University, from 1941 to 1943 at the University of Wisconsin and after 1945 at the University of Columbia. In 1943 he became an American citizen. From 1944 to 1967 he worked at Los Alamos, collaborating with Edward Teller on solving mathematical problems involved in the construction of the thermonuclear bomb. Some of his work in this field is still classified. He was a pioneer in the fields of set theory, real-valued function, topology, group theory and measure theory, and developed the Monte Carlo method, a way of using random simulations for the approximate numerical solution of mathematical and physical problems. He made a valuable contribution to the early stages of cybernetics, information technology and mathematical modelling of biological and natural processes (including meteorology). He was one of the first mathematicians to use a computer in his research. He left a significant academic legacy as well as an autobiography, *Adventures of a Mathematician* (1976), and a translation of the *Scottish Book* into English.

Łukasz Zawada

Born 1984 in Radom, graduated in literary studies from the University of Warsaw and lives in Warsaw. His writing, which is eclectic and has a specific laid-back feel to it, combines a critical view of modern civilisation with a large dose of black humour. He occasionally works in collaboration with visual artists. He practises Thai boxing, plays chess and avoids social media. His debut, *Extracts from an AI Diar*y (2018), was listed for the Polityka Passport Award, the Witold Gombrowicz Prize and the Conrad Prize. His second book, *Expenses*, is due to be published this year by Wydawnictwo Filtry.

The Red Button

His part in the shaping of the modern world may seem rather quiet, but it is impressive, so one could take a broad swing and present Stanisław Ulam in ninety-two (the atomic number of uranium) or ninety-four (plutonium) picturesque scenes. This analogy may seem contrived, but there are more journeys to the outer limits of good style in store for you below. For instance, it's tempting to find a place to squeeze in the idea of the Big Bang, which doesn't really have much in common with the nuclear one, except perhaps for a flash that the eyes can't tolerate, but it brings to mind an extreme situation similar to the delirium of war, exceptional circumstances on a unique scale, and also chaos, not in the form of disorder but as a total absence of any rules, where today's laws of physics did not yet apply, and neither did those of style. At the same time, despite his great mind, in his own and his friends' memoirs Ulam comes across as a laid-back kind of guy. So let's not overexert ourselves in advance, let's just see how many loose observations we can fit in here.

First off, take the name "Los Alamos", or rather the sound of it. The name of a county in New Mexico and of a small settlement at a remote site in the Rocky Mountains — near which the Los Alamos National Laboratory was located, hastily established during the Second World War for the purpose of building a nuclear weapon, and where Stanisław Ulam intermittently spent more than twenty years,

most of his scientific career — sounds like an incantation, the words of a prayer, the title of a B-rated horror movie or the name of a Mexican roadhouse. Second: the ball-shaped fissionable core wrapped in explosive material — so innocent, bringing to mind safety measures and soft landings, the inflated canopy of a parachute with a capsule attached below, the sudden florescence of a second sun only a stone's throw away, a spherical tsunami of foaming Coca-Cola (except that it's totally white, then silver, gold, purple, violet and brown-and-grey), sweeping up the desert, atoll or urban landscape, the aberration of seemingly delayed sound, of a rumble that splits the sky apart, an earthquake, the earth not just being shaken but skinned, and an odour of grilled air all the way to the horizon, compared with which the smell of napalm in the morning shrinks away to hide — it's all highly sensual. No one had ever witnessed anything as spectacular before. Third, perhaps the highest concentration of intelligence per square metre in the history of humankind: Niels Bohr, James Chadwick, Otto Stern, Eugene Wigner, Felix Bloch, Maria Goeppert-Maer, Hans Bethe, Enrico Fermi, Richard Feynman, Max Born, Robert Oppenheimer... The Manhattan Project is the flower of physics and chemistry, a cocktail of steroids from Germany, Italy, Hungary, Denmark, the United States, Canada, refugees and locals, all hands on deck. Among them Ulam, with no complexes, initiated into the group by another giant, John von Neumann. Present and at the same time absent, observing the solid, physics-and-engineering aspect of the project from the distance of mathematical abstractions, as if floating above the Laboratory campus on a paraglider or other flying machine. Nonetheless, his calculations in the sphere of hydrodynamics and the branching processes of neutron multiplication push the work forwards. Not many people have the imagination to be able to

cross the borders of their own specialisation, but he had that gift. Fourth, a ten-year-old Jewish boy in Lwów in the 1920s. Without any prompting he finds inspiration in pamphlets on astronomy and algebra, and his mind is full of strange symbols alongside the usual childhood fantasies. Five years later he's reading papers on differential calculus, set theory and number theory — he doesn't like maths lessons, they're too dry, he prefers to work on his own initiative — and also the canon of philosophy and literature. He plays chess, bridge, poker, tennis and football. Once at university, and at the same time the youngest participant in the legendary meetings at the Scottish Café, he will ultimately put mathematics before engineering, especially pure mathematics, as he listens to the words of Stefan Banach, according to whom those with the talent can find analogies between theorems and theories, but the best can find analogies between analogies. Ulam will have no chance of a professorial post in Poland because of raging anti-Semitism. Another snapshot: a few years later he appears to be the same person, but is perhaps gradually becoming more of an American than a Pole. As if through glass, from the other side of the ocean he watches the destruction of that world and of his family. He has saved his younger brother, Adam, bringing him to the States at the last moment. Another image: Ulam is fooling around, amusing those around him by chanting *Annuntio vobis gaudium maximum, papam habemus*, when Enrico Fermi, nicknamed "the Pope" because his judgements are infallible, is due to arrive at the Laboratory. And another: it's 1946, and out of boredom, while convalescing from a strange collapse with symptoms similar to a stroke, he is playing solitaire. He feels like cheating a little, if that's the right word. Let's say a question occurs to him: is it possible to formulate a model that would enable one to estimate unambiguously the

probability of how a particular solitaire will be laid out? Not really, because there are too many variables. But if you were to lay out a suitable number of solitaires, a very large number indeed, and express the results statistically, you could obtain the desired solution empirically, so to speak. If a problem is complicated enough, trying things out proves a better method than the a priori study of all the possible sequences. In time he will name this "forced" method Monte Carlo. It comes in handy in his continued work on the erratic behaviour of neutrons in substances containing fissionable elements — in other words, in building the thermonuclear bomb. It comes in handy today too in the context of computer simulations (from epidemiology to the property market), artificial intelligence and all sorts of challenges requiring the estimation of a result with reasonable precision at relatively low calculation cost. Changing direction: there are fun and games at Los Alamos. Isolation and stress too. Apart from the standard poker and drinking there's baseball, fishing and skiing — they use explosives to clear the slope of trees — hiking, piano playing, dancing, gluttony, sex, marital quarrels, and hunting antelopes and tarantulas. Next scene: amazing counting cabinets, first-generation computers, the monstrous ENIAC and MANIAC, and also a lasting friendship with John von Neumann, who devised the foundations for the architecture of PCs. These two machines enabled Ulam to make practical use of the above-mentioned "forced" method of calculation (he was the main programmer of MANIAC, used especially — all roads lead to Rome — in figuring out the concept of the thermonuclear bomb). Without the input of all four, there would probably be no smartphones, which might not be such a bad thing after all. Nor, image number ten, would the Moon flights have taken place. Apparently in the early 1960s an advisor to John F. Kennedy asked Ulam

which ventures the president should support, and he (and not only he, of course) outlined the prospect of a trip to the silver orb. Eleventh: the reactions of the scientific community after the test detonation of their baby, still in the desert, at the Alamogordo test site, three weeks before dropping the first bomb on Japan. They range from "What on earth have we done…" to "What beautiful eyes it has!" Oppenheimer ruminates on a quote from the Bhagavad Gita: "'Now I am become Death, the destroyer of worlds". Twelfth: the piercing silence soon after, when the noisy centres of two Japanese cities are turned to dust in the blink of an eye. On the outskirts thirsty people, or rather something resembling people, want to drink non-stop, they'd drink bucketfuls of water, but it keeps leaking through the extra holes in their faces. And through the biggest one that's there instead of a torso. Thirteenth point: early in 1951, Ulam's wife, Françoise, finds her husband staring out of the window of their house — on the Laboratory campus — more deeply lost in thought than usual. Moments later, a sacramental "Eureka!" resounds, which simply comes out as: "I've found a way to do it". This means a breakthrough in the life story of the heroine of Ulam's tale, the thermonuclear bomb = hydrogen bomb = superbomb. It is no longer based on the reaction of splitting heavy elements, as with nuclear charges, but on the fusion of light ones, as a result of which the explosion will produce energy several thousand (!) times stronger than at Hiroshima and Nagasaki. Shocked by the effect of their work, many of the scientists involved in the Manhattan Project return to their academic jobs after the war. Others, including Oppenheimer, for the first few years are against plans to construct an even more powerful weapon, but they do not believe the superbomb project can actually be realised in terms of engineering. However, by now the Cold War arms race is beginning, Stalin is casting

a greedy eye over these highly destructive beauties, like a hungry dog eyeing a bone, and the American decision-makers realise that they can't leave the field open to him, so once again the lights go on at the Los Alamos centre and the next huge enterprise is under way. This time the research is coordinated by Edward Teller, for whom the hydrogen bomb has been an obsession for some years. Thanks to Ulam's elegant proposal to produce compression at the heart of the charge, causing the thermonuclear fuel to burn smoothly and rapidly, the idea can finally come to fruition. Soon the Teller–Ulam project is patented, and in 1952 the first explosion at Enewetak Atoll produces a fireball 160 kilometres in diameter — like the distance from New York to Philadelphia. Fourteenth, the mathematician's favourite tools: paper and pencil...

Asked about the ethical dimension of his research into weapons of mass destruction, Ulam gave ambiguous, apparently contradictory answers. At the same time we shouldn't forget that Nazism and Stalinism were like monoliths that are hard to imagine in our modern times. On the one hand he believed it made sense to increase armaments in order to maintain the balance of power (ultimately the supremacy of the United States), and thus discourage potentially apocalyptic conflict, which to some extent proved the right approach. On the other hand, he claimed that "no project should be launched that could lead to tragic consequences". But if such a project were begun, objective scientists should work on it, and not politicians; meanwhile he was working for an inevitably politicised army. On other occasions he said he was purely interested in mathematics and physics, which are morally indifferent, neither good nor bad. This is very interesting. Because indeed, there is something absurd about aiming to mirror mathematical notation with the help of a series

of concrete, "material" actions, but at the same time, *en kai pan*, as he may have read as a teenager in Lwów, "one and all", the world is a cohesive whole, mathematics is one of the languages, a way of interpreting reality, a network of meanings that is laid over reality, it's probably impossible to cut it — or oneself — out of this reality and put it to one side. But a different point of view is also possible. And so perhaps Ulam had a far-sighted and, despite appearances, deeply empathetic scenario in mind. According to the still popular *savoir-vivre* of the Enlightenment, is it the duty of the individual to be happy, and the duty of society, for example through technology, to achieve universal happiness — and from some seats the Earth really does look like a nice party. But were we to attempt an honest study of the global balance of profit and loss, the highs and the suffering, fortune and misfortune — let's say factors "f" and "m" — if we were to toss the whole lot into Excel, the result would undoubtedly be negative. The number of injuries being experienced at any moment by nervous systems of all kinds is overwhelming: just to produce foodstuffs, three billion (!) animals are done in on a daily basis, and even more plants, but then they're all happy to do each other in too; there are even more micro-organisms, insects, algae, fungi and protists that consume each other; on top of that, just from the strictly human perspective we have old age, diseases, poverty, boredom, frustration, loneliness, envy, hunger, catarrh, traffic jams, taxes, and the eternal hope that one day things will be better, but somehow that perfect tomorrow doesn't come and never will. If anyone could ever have demonstrated all this in black and white, or knocked off a bestseller to the tune of Timetable of Fortune and Misfortune, Ulam could have been the man. In view of all this, especially in the face of the gathering climatic and social disasters, it's good to have an effective

pain-relief kit at our disposal. Just think about it: with the right distribution of thermonuclear charges it'd only take a few seconds to annihilate earthly suffering, the suffering of current generations and those yet to come (a thermonuclear explosion would even snap the thread of life of creatures as tough as tardigrades or extremophile bacteria). Anti-natalists of the likes of Julio Cabrera or David Benatar would probably applaud this idea. And it's not impossible that a similar option is very widespread in the universe. Ulam's pal, the above-mentioned physicist Enrico Fermi, once formulated a famous paradox summing up the contradiction between the high probability of the arrival of aliens and the lack of any trace of their existence. Maybe those civilisations were sufficiently self-aware to put an end to this cruel and altogether pointless adventure with one push of the red button.

Imagine that since the time of Barack Obama there's been a red button shining on the president's desk in the Oval Office. But so far it performs only a rather modest function. It's there to summon a steward who serves drinks, for example. Apparently Donald Trump, that New York Shiva who must occasionally have dreamed of moving the hands on the Clock of Destruction forwards, wiping the sweat and a strand of his orange mop from his brow with one hand, and his slightly frosted nose with the other, while patting his secretary on the bum with a third, usually asked — how could it be otherwise? — for Coca-Cola... Who knows, perhaps one day, thanks to the genius of Stanisław Ulam, the Earth will be freed of despair by just this sort of middlingly genial persona (though it would be hard to suspect anyone like that of distributing the charges scrupulously, so unfortunately it would probably be a long-drawn-out, improvised bloodbath)? Vonnegut would have laughed. All our hopes lie with you, Mr President!

Zofia KIELAN-JAWOROWSKA

1925 Sokołów Podlaski — 2015 Warsaw

Palaeobiologist, long-term employee of the Polish Academy of Science (PAN)'s Institute of Palaeobiology. She took part in the Warsaw Uprising as a nurse, and was a member of the Grey Ranks (the underground paramilitary Polish Scouting Association). After the liberation she walked 80 kilometres back to the capital, where she moved into the PAN Museum and Institute of Zoology at 64 Wilcza Street along with its other homeless employees. Her mentor was Professor Roman Kozłowski. She wrote her doctoral thesis under his supervision, then worked alongside him, before finally succeeding him as head of the PAN Institute of Palaeobiology. Her first academic papers were on trilobites, sea creatures that appeared on Earth approximately 550 million years ago. She later worked on the jaw structure of bristle worms. In the course of her now legendary palaeontological expeditions to the Gobi Desert (1963–71) she discovered some small mammals that were contemporary with the dinosaurs. Thanks to her, we know that mammals first appeared on Earth in the late Triassic period, more than 220 million years ago. She lectured at the universities of Warsaw, Harvard, Paris VI, Paris VII and Oslo. She curated numerous exhibitions in Poland and abroad presenting reconstructions of the specimens she had collected on her Mongolian expeditions. They are on display to this day at locations including the Museum of Evolution at the PAN Institute for Palaeobiology within Warsaw's Palace of Culture and Science, at the Park of Culture in Chorzów and at the Museum of Palaeontology in Oslo. Other palaeontologists have paid tribute to Kielan-Jaworowska by giving her name to dozens of animal species that lived many millions of years ago. In 1991 the Yad Vashem organisation conferred on her and several members of her family the title Righteous Among the Nations.

Piotr Wojciechowski

Mountaineer, skier and potholer, author, poet, film director, screenwriter, draughtsman, film critic and journalist. His first and second books, *Stone Bees* (1967) and *Skull within a Skull* (1970), have become cult novels. He has published many novels and short-story collections, most recently *Wait for the New Moon*, *A Playing Heart*, *The Mannequin's Raft*, *The Attic of the World*, *Dressers-up and Passers-by* and *An Ill Wind*. He has also published poetry collections, including *Festive Mail* and *Bread and Rain*. He has won several literary awards, including the Kościelski Prize (1978) and the Kornel Makuszyński Award (1994), the Father Jan Twardowski Prize (2019) and the Warsaw Literary Award (2020).

A Good Person to Meet

What prompts me to write this text? What gives me the right to do so? I never met this great scientist and my biographical knowledge of her is fairly basic, from the written sources. But I am writing it, and that is because I see Zofia Kielan-Jaworowska as the perfect example of a certain model of self-education, development and a life that was typical of certain classes, and at the same time in her case was exceptionally pure and intense. I am writing it because I have always been fascinated by the Polish intelligentsia — that particular social stratum, that environment and that strength are the source of my own identity, and sometimes also the cause of concern and disappointment. I think of the history of the Polish intelligentsia with pride, and when I look into the future, it gives me hope.

Kielan-Jaworowska's life trajectory happened to follow a path close to my own. I can safely say that she was within view. Like her, in my youth I was given a thorough grounding in the scouting ethos. I was a geologist, I passed exams in palaeontology, I hiked in the mountains and went skiing. Podlasie was in my family roots too, Lublin was part of my life story, as was Warsaw and also Paris. We had some common acquaintances, including the speleologist Dr Maciej Kuczyński, with whom I came into contact on an expedition to Jaskinia Zimna ("the Cold Cave") in 1957, and who soon after went on a research trip to Mongolia supervised by Kielan-Jaworowska.

I gave up geology for the humanities, cinema and literature, but I never parted company with the geologists. And so I regard Zofia Kielan-Jaworowska as someone I didn't know in person, but to whom I felt uncannily close. As a geologist, a man of the mountains and a university teacher I can say that she was one of us. With a sense of proportion I can add that she was great.

Zofia Kielan was the daughter of an intelligentsia family. Via Lublin, the Kielans of Podlasie ended up in Warsaw in its heyday as the capital of the Second Republic. She joined the scouting movement before the war, and during the war she was a member of its Grey Ranks. She, her sister and their parents all contributed to saving the lives of two little Jewish girls, and during the Warsaw Uprising she served as a nurse in the Home Army's "Żywiciel" group. To quote her *Autobiography*: "In January 1945, following the liberation of Warsaw, I returned to the capital on foot from Skierniewice, where I'd been living with my parents since the Uprising. Our flat in Żoliborz was almost entirely destroyed by shells and wasn't fit for habitation, so I showed up at the Zoology Museum and stayed there (...) Almost all the museum staff had lost their homes to the war, so we lived amid the surviving display cases, working initially as physical labourers digging up the collections that were buried in the courtyard."

When she wielded a spade in the Zoology Museum courtyard, Zofia Kielan was twenty years old. She was dogged and devoted to her chosen scientific passions — and her refined character, polished at home, in the scouting movement and during the Uprising, enabled her to achieve a very great deal. She inherited her working style from Professor Roman Kozłowski, in whose charge she took her first steps in the field of palaeozoology. In 1953, when the Party bureaucrats reassigned her to work at the Institute of Geology, it was Kozłowski

to whom she owed their final decision to waive the order. This is what she says about it in her *Autobiography*: "It was also significant that in the early 1950s, when these events took place, many institutes in Poland were in the grip of political terror. Under the protective wing of Professor Kozłowski, who was an impeccably upright and kind-hearted person, and as an eminent scholar had great authority, we got through this difficult period safe and sound."

Everything she had learned, everything that her experiences in life had made her, served her on the path to proving herself "an impeccably upright and kind-hearted person" too. As a university teacher she knew how to form the classic "master–disciple" relationship — she was demanding but caring, interested in the development of her students and subordinates. Lively, resourceful and optimistic in scouting style, fit and disciplined, she was the precious linchpin of many working teams — in the field as well as in the laboratory. She worked at a large number of academic institutions outside Poland. She ran fruitful research trips to Mongolia, discovering many specimens and dividing them fairly with the Mongolian scholars who took part in the expeditions. In her publications, official talks and private communications she praised her colleagues and students frequently and willingly, highlighting their contributions. She was a familiar figure at laboratories and lecture halls in Paris and at numerous institutions in the United States. She also spent eight years in Oslo. Wherever she went, she formed genuine friendships and inspired groups of scholars to cooperate successfully, jointly publishing their work in the most prestigious scientific periodicals. She invited many of her co-authors to Poland to work with her at home. Here is what she says about her laboratory in Paris: "As the Jung microtome did not work reliably, I tried not to switch it off all day, so I didn't go out to *déjeuner*

but brought a sandwich from home, stood by the microtome and sliced skulls ten hours a day for three solid months." She was surprisingly flexible in the range of her areas of interest — when already working on vertebrates, she often went back to trilobites and to discoveries in the field of the jaw structure of bristle worms. The part of her work that concerns the origin and Mesozoic diversification of mammals is regarded as her major achievement, not least because it was an area that had previously been poorly studied.

In her *Autobiography* Kielan-Jaworowska writes very little about her private life — her dedicated research work did not leave her much time for it: "In 1950 I went to Morskie Oko to try mountain climbing. That was when I met Zbyszek Jaworowski, a medical student at the Jagiellonian University, with whom I formed a close friendship. But we married only eight years later, in 1958. (...) In early 1959 I delivered to the press the most extensive of my works on the Upper Ordovician trilobites of Poland, Scandinavia and the Czech lands. (...) I was in a hurry to finish it in January because in February I was due to give birth; our only son, Mariusz, was born on 21 February 1959."

Whenever she was obliged to stay abroad for an extended time, she organised a house for herself, then sent for her husband and later her son and his family too.

The former nurse with the "Żywiciel" group during the Uprising had no time to be involved in politics, but she didn't hide her views.

In March 1968 (when Polish students were suppressed for protesting against the communist regime) she had no illusions about the nature of the provocation, but at a meeting at the University of Warsaw's Geology Faculty she was one of the very few people who spoke out firmly in defence of the students — and she was the first

to do so. "Only two people supported me, Halszka Osmólska from our department, and Hubert Szaniawski, at the time a doctoral student at the PAN Geological Studies unit, later an assistant professor, and then director of our department", remembers Kielan-Jaworowska in her *Autobiography*. The Party demanded her dismissal from her post but quite quickly backed down — the matter was hushed up with a reprimand. Kielan-Jaworowska's international standing and the universal affection she enjoyed in Polish academic circles must have carried weight in this situation.

Thanks to the esteem in which she was held, when in 1981 — on a wave of changes prompted by the rise of Solidarity — the PAN Presidium formed a "Commission for the Repeal of Wrongful Decisions in the Years 1968–80", Aleksander Gieysztor, president of PAN, invited Kielan-Jaworowska to chair the commission. She took on this role and performed it judiciously and with dedication. A report on the commission's work could only be published in 1989.

Her civic, public-spirited attitude is also apparent in the fact that in addition to her academic work she managed to find the time for activities promoting science. She organised exhibitions of her finds and reconstructions and wrote two popular books.

On her death in 2015, Zofia Kielan-Jaworowska left a very special mark in the memories of her Polish and foreign co-authors, students, assistants and colleagues, and not just in the form of her scientific achievements.

To me she epitomised all the positive characteristics of the Polish intelligentsia. She combined the distinctive traits of the international academic elite — striving for professional perfection, creative dynamism and a critical attitude towards authority — with a liberal openness and respect for the continuity of tradition that came from

the environment of her youth. Her life provides an example of a deep and powerful connection between a person's intellectual rank and their personality, their character. Thinking of her reminds me of a comment made by the eminent philosopher and historian of philosophy Professor Stefan Świeżawski: "The most miraculous events in life are our meetings with others. And all life's wisdom relies on appreciating them. If only we knew how to take advantage of our meetings with others, human life would be a true masterpiece." Zofia Kielan possessed a quality that Professor Świeżawski called *cultura animae*, meaning the culture of the full encounter, an interpersonal bond at the level of mutual trust and kindly warmth. She left behind more than just her great work, which forms an important chapter in Polish palaeobiology. Her ethos, her style and her personal charm shaped her students and successors in the civic forum as well. The course of her life should be seen as a strong, distinct thread, one of the threads in a great tapestry — the special product of history that is the Polish intelligentsia.

Leszek
KOŁAKOWSKI

1927 Radom — 2009 Oxford

Philosopher, essayist and one of the main figures of the Warsaw school of the history of ideas. As a philosopher, he moved from "vulgar Marxism" to a view close to personalism in its Protestant version. During his wartime wanderings, he educated himself and worked as a labourer. In 1943 he came to Warsaw, where he attended clandestine classes organised by the underground movement. That same year his father was murdered by the Gestapo. In March 1950 Kołakowski was among the eight students, all members of the Polish United Workers' Party (PZPR in Polish), who wrote an open letter attacking University of Warsaw professor Władysław Tatarkiewicz for discussing political topics at a seminar in a tone hostile to the ruling communist regime. As a result, Tatarkiewicz was barred from lecturing. In 1953 Kołakowski defended his doctoral dissertation and began working at the University of Warsaw and, later on, also at the Polish Academy of Sciences. In 1966, as the leader of the intra-party opposition (and thus a "revisionist"), he was expelled from the PZPR and lost his position at the university. He emigrated to Canada, then to the United States and eventually to the United Kingdom. From 1970 to 1995 he was a Senior Research Fellow of All Souls College, Oxford. His research interests included the philosophy of Spinoza, seventeenth-century mystical thought (*Religious Consciousness and the Church*, 1965), positivism (*Positivist Philosophy*, 1966), phenomenology (*Husserl and the Search for Certitude*, 1975) and, above all, the history of Marxism (*Main Currents of Marxism*, 1976–78). At the same time, he wrote numerous essays, including political ones, published in collections such as *Culture and Fetishes* (1976), *The Presence of Myth* (1972), *Can the Devil Be Saved?* (1982) and others. He also wrote several widely read volumes of philosophical parables with a sceptical bent (*Tales from the Kingdom of Lailonia*, 1963; *The Key to Heaven*, 1964; *Conversations with the Devil*, 1965) as well as comedies. The quality of his philosophical work was matched by his great authority as a charismatic lecturer and as an exemplar of the changing attitudes of the Polish intelligentsia, both at home and abroad. He became a member of the Polish Academy of Sciences in 1991.

Joanna Bator

Cultural studies expert, philosopher and writer. Her first novel, *Sandy Mountain* (2009), received international acclaim, and her "Wałbrzych trilogy" — *Sandy Mountain*, *Cloudalia* and *Dark, Almost Night* — has been translated into many languages. In 2013 *Dark, Almost Night* won the Nike Literary Award, and in 2014 *Cloudalia* won the Spycher Prize in Switzerland. In 2017 Bator was honoured with two prizes in Germany: the City of Chemnitz International Stefan Heym Prize, for her work to date, and the Usedomer Literature Prize. The following year she received the International Hermann Hesse Prize. Her most recent novel is titled *Bitter, Bitter*. She lives in Podkowa Leśna and has a passion for running.

Sic et non

Sic et non: yes and no — or, in a more current version that brings to mind certain political figures so far removed from the protagonist of my essay: for and against. According to Leszek Kołakowski, the internal contradiction at the heart of European culture is the source of both its strength and its weakness, depending on whether we are enjoying relative (and always short-lived) harmony, or there is actually a war going on, and the barbarity of fundamentalism is on the rise. It is with the words *sic et non*, borrowed from the title of Abelard's treatise, that Leszek Kołakowski concludes his 1986 Jefferson Lecture titled "The Idolatry of Politics". His discussion focuses on the essential duality of Western culture — the titular yes and no — which is its living backbone but which has hardened into a contradiction, arousing the fear that many people will not find a third way between fanaticism and nihilism.

I first read Kołakowski's collection *Civilisation in the Dock* (published in Polish as *Cywilizacja na ławie oskarżonych* in 1990)[1] during my doctoral studies in the mid-1990s. Communism had collapsed, and out of the ruins of totalitarianism, of which Kołakowski had been such a severe critic, Polish democracy was being born. The times that had forced the charismatic lecturer to leave his country and his

1 Many of the essays discussed can be found in Leszek Kołakowski, *Modernity on Endless Trial*, translated by Stefan Czerniawski, Wolfgang Freis and Agnieszka Kolakowska, University of Chicago Press, 1990.

University of Warsaw students behind seemed to have passed, and humanity was going to learn from its recent mistakes. Walls were coming down, and I was particularly excited by the sudden, unlimited access to knowledge, since foreign universities and the world's finest libraries were now within reach. Poland's recovery of full independence meant access to the tools of individual emancipation, development and transformation. "I love and understand freedom; I cannot give up freedom": we all knew this song by the band Chłopcy z Placu Broni, because these were times — and forgive me for this conscious mythologising of the past — when we believed in a community based on new principles, although not without a dose of something romantic and almost mythical. The future seemed to us a promise; the past would perish on the rubbish heap of history. As we declared ironically, twisting a popular saying of dubious origin, "Anyone who isn't a postmodernist in youth will be a scumbag in old age." The conviction that nothing in the world of humankind is a given, that every notion and tradition can be challenged and "deconstructed" in order to serve the cause of true freedom, equality and sisterhood, seemed liberating and creative. So did the idea of an endlessly malleable, fluid subjectivity (including gender), formed chiefly by external influences, rather than "given" or "natural". Transcendence and the sacred, key topics in Kołakowski's philosophy, remained outside my interests, redolent of the fossilised structures of religious tradition. According to the author of "Can the Devil Be Saved?", I manifested a "mad hope", feeding myself the indigestible delusion of utopia.

I defined myself as a feminist, an atheist and finally — although I sometimes forgot about this in my political zeal — a sceptic ready to doubt and question my own stance in every field, except for what

I called, after Judith N. Shklar and Richard Rorty, a refusal to consent to cruelty. The possibilities of social and cultural change seemed endless, and I felt justified in believing that people would abandon their limiting ways of life in order to move eagerly towards a new world of peacefully coexisting, multicoloured diversity like that of Benetton adverts. Evil did exist, but it was a "technical error", as Kołakowski ironically described it: an accidental affliction for which a cure would be found in a democratic society. Because in the end surely people would realise that it's better to make love than war? That gender equality brings everyone more happiness than oppression? That there is no point in believing in heaven and hell, or, God forbid, in the devil, and that one simply ought to live decently? Utopian naivety led me to believe that evil could be eradicated — maybe not immediately, and no doubt with a tremendous effort — but eventually eradicated nevertheless. I interpreted as condescension the fact that in his *Mini Lectures on Maxi Issues* Kołakowski categorically denied this, and a few words from his essay "The Revenge of the Sacred in Secular Culture", in which he referred critically to the suppression of differences between women and men, and to recent androgynous youth fashions, confirmed for me, a twenty-something doctoral student, that the views of this distinguished sage of a passing era would be of no use.

So I have not gone back to his books until now, when a quarter of a century later I see that despite my doubts and reluctance, I did read all the essays in *Civilisation in the Dock*. The margins are full of my notes and my usual exclamation marks with a large dot, as well as question marks. In "The Illusion of Demythologisation", while discussing Rudolf Bultmann's ideas, Kołakowski mentioned the "'existential' exchange between the text and the reader", which is

an ongoing, evolving process. In other words, my personal experience has changed the nature of my affinities. A quarter of a century later, the work of many idols of my academic youth, with their pet buzzwords such as deconstruction, subversion and performativity, seems to me to be indigestible, shallow academic rubbish, and a belief in the realisation of utopian visions, a nostalgic memory. As Kołakowski put it in "Looking for the Barbarians: The Illusions of Cultural Relativism", "The degeneration into despair is common among those who once believed in a perfect and ultimate solution and later lost that certainty" — and I have certainly experienced the painful consequences of profound disappointment. A reliable if imperfect cure is Kołakowski's "inconsistent scepticism", which does not silence us but which does deprive us once and for all of youthful enthusiasm and the hope that things will be wonderful one day, as well as that they were wonderful once, and that we can return to an abandoned paradise.

For me, the most interesting passages in *Civilisation in the Dock* are ones that I ignored twenty-five years ago but would now underline, recognising their prophetic nature. In his 1979 essay "Lost Village", in the context of ecology and nuclear power stations, Kołakowski criticised our "gargantuan voracity", writing that, "It should be clearly said: 'We are ready to have less than we have, less travel, less heating, less everything.'" A percentage of us, small but growing, as I do my best to believe (or at least as I publicly express such hope, while privately doubting it in despair), increasingly feel the need to minimise gluttony in all spheres of life. This tendency, which I have felt and put into practice for only the past decade — which has meant less travel, fewer things and a slower pace — could not have found fertile ground when I first read Kołakowski's text. My

hunger for a world that had suddenly opened up was precisely that: gargantuan. In those days, predictions of "imaginary, cerebral substitutes" into which human relations were evolving seemed equally remote to me. Meanwhile, this hypothesis that he formulated in an era before the internet and social media, which have brought to perfection virtual participation in life — superficial, ecstatic, devoid of responsibility and giving a momentary, addictive pleasure — turned out to be prophetic. The loss of direct communication with a community — which even as a paradisal ideal was always a fantasy, but which nevertheless was easier to imagine in a world without avatars and likes — helps foster the desire to experience "something authentic". This desire is exploited by barbaric fundamental doctrines that spread hate but also by utopias of equality in diversity, which give the dangerous illusion of resolving all conflicts. It is easier to grow out of the latter, because if we have always desired diversity, at a certain point we realise that in a sense we already have it. That is because it is part of the essence of human nature and human civilisation, which is based on rationalism and its rejection, on secular, scientific reason and on faith in things that cannot be proved, on *libido dominandi* and the search for meaning. So we are doomed never to be reconciled, doomed to thousands of contradictions that are the essence of being human — never at peace with ourselves, with nature, with other people or with gods, unfulfilled and torn apart.

Out of this irremovable fracture in the human world leaps the devil, and today I feel a profound spiritual affinity with Kołakowski's belief in the existence of metaphysical evil. Is it possible to eradicate evil? No. Does fighting against it make sense in spite of that, and are we capable of finding the strength for it? Yes. In our weakness, are we strong enough to fight against evil without feeling hate? Here,

too, the answer is affirmative. Hatred is a "spiritual suicide" that deprives one of dignity: this is a lesson from Kołakowski that should be included in the school curricula. In his 1977 speech "Education to Hatred, Education to Dignity", Kołakowski argued that hatred is never justified, never good, and that renouncing it does not mean giving up the fight. What's more, fighting seems to make sense even when we come to terms with the fact that evil is an essential and therefore indelible part of the human world. Let's face it: it is an incurable illness. Evil is a virus for which there isn't and won't be a vaccine. This does not mean, however, that it's not possible to eradicate this or that particular evil, for example the one right next door, of a neighbour beating a child, or even closer: in our own ailing souls, unreconciled to failure and consumed by anger and envy. Even if we are not able to ascertain which "human misery" is permanent and which it is within our power to cure, we have to try — and we do. The recognition that life is worth something, despite the fact that it is a failure, requires the sacred — the presence of a transcendental order that legitimises the effort. Its destruction is a tragedy, because it means that the place of myth is instead taken by caricatures and barbaric substitutes, such as nationalism.

Intellectually I still feel closer to the Freudian notion of a radical rupture at the heart of the human condition than I do to the Christian idea of "original sin", which Kołakowski invokes, yet I find that reconciling myself to my own imperfection and inability to repair the world, as well as to everyday pain and doubt, now seems to me the only way. A myth that enables contact with transcendence allows a civilisation to produce antibodies in its fight against the viruses that afflict it, and among these antibodies, according to Kołakowski, is philosophical and artistic critique, which he understands to be

a “self-defensive organ of our civilisation”, though he reminds us — and what a handy metaphor this is in the pandemic year of 2020 — that antibodies can kill the organism too. The author of *Civilisation in the Dock* doubted the curative power of philosophy. That is why I can only express sceptical optimism that even though philosophers probably have no influence on “how the myth lives on”, writers do. Our role is to question and challenge, even if in this way we condemn ourselves to eternal anxiety and doubt.

Many of the essays discussed can be found in Leszek Kołakowski, *Modernity on Endless Trial*, translated by Stefan Czerniawski, Wolfgang Freis and Agnieszka Kolakowska, University of Chicago Press, 1990.

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About Us

PROJECT CONCEPT, EDITORIAL TEAM: **Jerzy Duszyński**

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PROJECT CONCEPT, EDITOR-IN-CHIEF: **Anna Plater-Zyberk**

A linguist and anthropologist by training, she is an expert in the field of international cooperation in science. She established the first international programmes for the National Science Centre in Kraków. Since 2017 she has coordinated PAN's activities abroad. She studied for a doctorate on the topic of conceptual metaphor theory at the Jagiellonian University and at the Metaphor Lab in Amsterdam. She is a member of the PAN Advisory Group on COVID-19.

EDITORIAL TEAM: **Eliza Kącka**

Lecturer in the Polish Studies department at the University of Warsaw. Her published academic works include *A Comparison Between Stanisław Brzozowski and Cyprian Norwid* and *Reading as an Encounter: Brzozowski — Text — Method*. Her literary works include *Elisions* and *On the Other Side of Myself*. She co-edited the anthology *Poets Cross Borders* and has edited less-contemporary poetry collections. She is a member of the board of the Adam Mickiewicz Literary Society and a juror for the Gdynia Literary Award.

ILLUSTRATIONS: **Agata Endo Nowicka**

Illustrator, graphic artist and poster and book cover designer. She draws for publications including *Wysokie Obcasy* and *Zwierciadło*, and also for *The New Yorker*, *TIME* and *The New York Times*. Her work has appeared in publications such as *American Illustration*, *Communication Arts* annual, *Digital Arts* and TASCHEN's *Illustration Now!* She has jointly curated the exhibitions *ILUSTRACJA PL* 2010 and 2012, *Where I Come From* and *Painters of Illustration*, among others. www.agatanowicka.com

GRAPHIC DESIGN AND LAYOUT: **Anna Piwowar**

She has won the Good Design Award, as well as the Most Beautiful Book of the Year contest, among others. She received the Photographic Publication of the Year Award for *Zofia Chomętowska: The Photographer's Albums*, and her work on the catalogue *Wojciech Zamecznik: Photo-graphically* was awarded the Paris Photo Aperture Foundation PhotoBook Award. In 2018 she won a distinction in the Polish Graphic Design Award competition for a publication in the series *Maps of Warsaw*. www.siostrypiwowar.pl

TRANSLATOR OF THE ENGLISH EDITION: **Antonia Lloyd-Jones**

She has translated works by several of Poland's leading contemporary novelists (including Nobel Prize laureate Olga Tokarczuk) and reportage authors, as well as crime fiction, poetry and children's books. She is a mentor for the Emerging Translators' Mentorship Programme, and former co-chair of the UK Translators Association.

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She is a literary translator and an editor. Her translations include *Swallowing Mercury* by Wioletta Greg, which was longlisted for the Man Booker International Prize 2017, a series of classic Polish children's books by Marian Orłoń and various short stories. She lives in London.

CONCEPT: Jerzy Duszyński, Anna Plater-Zyberk
EDITORIAL TEAM: Jerzy Duszyński, Eliza Kącka, Anna Plater-Zyberk
EDITOR-IN-CHIEF: Anna Plater-Zyberk
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