

T H E

P E R I O D I C

T A B L E

by Primo Levi

Translated by Raymond Rosenthal



"The book it is necessary to read next....I was deeply impressed."

— Saul Bellow

**The
Periodic
Table**

Primo Levi

*Translated from the Italian by
Raymond Rosenthal*

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Ibergekumene tsores iz gut tsu dertsejlin.

Troubles overcome are good to tell.

— Yiddish Proverb

T h e

P e r i o d i c

T a b l e

There are the so-called inert gases in the air we breathe. They bear curious Greek names of erudite derivation which mean “the New,” “the Hidden,” “the Inactive,” and “the Alien.” They are indeed so inert, so satisfied with their condition, that they do not interfere in any chemical reaction, do not combine with any other element, and for precisely this reason have gone undetected for centuries. As late as 1962 a diligent chemist after long and ingenious efforts succeeded in forcing the Alien (xenon) to combine fleetingly with extremely avid and lively fluorine, and the feat seemed so extraordinary that he was given a Nobel prize. They are also called the noble gases—and here there’s room for discussion as to whether all noble gases are really inert and all inert gases are noble. And, finally, they are also called rare gases even though one of them, argon (the Inactive), is present in the air in the considerable proportion of 1 percent, that is, twenty or thirty times more abundant than carbon dioxide without which there would not be a trace of life on this planet.

The little that I know about my ancestors presents many similarities to these gases. None of them were materially inert, for that was not granted them. On the contrary, they were—or had to be—quite active, in order to earn a living and because of a reigning morality that held that “he who does not work shall not eat.” But there is no doubt that they were inert in their inner spirits, inclined to disinterested speculation, witty discourses, elegant and sophisticated, and gratuitous discussion. It can hardly be by chance that all the deeds attributed to them, though quite various, have in common a touch of the static, an attitude of dignified abstention, of voluntary (or accepted) relegation to the margins of the great river of life. Noble, inert, and rare: their history is quite poor when compared to that of other illustrious Jewish communities in Italy and Europe. It appears that they arrived in Piedmont about 1500, from Spain by way of Provence, as seems proven by certain typical toponyms and surnames, such as Bedarida-Bédarrides, Momigliano-Montmélian, Segre (this is a tributary of the Ebro which flows past Lérida in northeastern Spain), Foà-Foix, Cavaglio-Cavallio, Migliau-Millau; the name of the town Lunel near the mouth of the Rhone between Montpellier and Nîmes was translated into the Hebrew *yareakh* (“moon”; *luna* in Italian), and from this derived the Jewish-Piedmontese surname Jarach.

Rejected or given a less than warm welcome in Turin, they settled in various agricultural localities in southern Piedmont, introducing there the technology of making silk, though without ever getting beyond, even in their most flourishing periods, the status of an extremely tiny minority. They were never much loved or much hated; stories of unusual persecutions have not been handed down. Nevertheless, a wall of suspicion, of undefined hostility and mockery, must have kept them substantially separated from the rest of the

population, even several decades after the emancipation of 1848 and the consequent flow into the cities, if what my father told me of his childhood in Bene Vagienna is true. His contemporaries, he said, on coming out of school used to mock him without malice, greeting him with the corner of their jackets gathered in their fists to resemble a donkey's ear and chanting, "Pig's ear, donkey's ear, give 'em to the Jew that's here." The allusion to the ear is arbitrary, and the gesture was originally the sacrilegious parody of the greeting that pious Jews would exchange in synagogue when called up to read the Torah, showing each other the hem of the prayer shawl whose tassels, minutely prescribed by ritual as to number, length, and form, are replete with mystical and religious significance. But by now those kids were unaware of the origin of their gesture. I remember here, in passing, that the vilification of the prayer shawl is as old as anti-Semitism – from those shawls, taken from deportees, the SS would make underwear which then was distributed to the Jews imprisoned in the *Lager*.

As is always the case, the rejection was mutual. The minority erected a symmetric barrier against all of Christianity (*gojim, narelim*, "Gentiles", the "uncircumcised") reproducing on a provincial scale and against a pacifically bucolic background the epic and Biblical situation of the chosen people. This fundamental dislocation fed the good-natured wit of our uncles (*barbe* in the dialect of Piedmont) and our aunts (*magne*, also in the dialect), wise, tobacco-smelling patriarchs and domestic household queens, who would still proudly describe themselves as "the people of Israel."

As for this term "uncle," it is appropriate here to warn the reader immediately that it must be understood in a very broad sense. It is the custom among us to call any old relation uncle, even if he is a distant relation, and since all or almost all of the old persons in the community are in the long run relations, the result is that the number of uncles is very large. And then in the case of the uncles and aunts who reach an extremely old age (a frequent event: we are a long-lived people, since the time of Noah), the attribute *barba* ("uncle"), or respectively, *magna* ("aunt") tends gradually to merge with the name, and, with the concurrence of ingenious diminutives and an unsuspected phonetic analogy between Hebrew and the Piedmontese dialect, become fixed in complex, strange-sounding appellations, which are handed down unchanged from generation to generation along with the events, memories, and sayings of those who had borne them for many long years. Thus came into existence Barbaiòtô (Uncle Elijah), Barbasachín (Uncle Isaac), Magnaiéta (Aunt Maria), Barbamôisín (Uncle Moses, about whom it is said that he had the quack pull his two lower incisors so as to hold the stem of his pipe more comfortably), Barbasmelín (Uncle Samuel), Magnavigaia (Aunt Abigail, who as a bride had entered Saluzzo mounted on a white mule, coming up the ice-covered Po River from Carmagnola), Magnafôriña (Aunt Zepora, from the Hebrew *Tsippora* which means "bird": a splendid name). Uncle Jacob must have belonged to an even remoter period. He had been to England to purchase cloth and "wore a checked suit"; his brother Barbapartin (Uncle Bonaparte, a name still common

among the Jews, in memory of the first ephemeral emancipation bestowed by Napoleon had fallen from his rank as uncle because the Lord, blessed be He, had given him such an unbearable a wife that he had had himself baptized, became a monk, and left to work as a missionary in China, so as to be as far away from her as possible.

Grandmother Bimba was very beautiful, wore a boa of ostrich feathers, and was a baroness. She and her entire family had been made barons by Napoleon, because they had lent him money (*manòd*).

Barbabarônín (Uncle Aaron) was tall, robust, and had radical ideas; he had run away from Fossano to Turin and had worked at many trades. He had been signed up by the Carignano Theater as an extra in *Don Carlos* and had written to his family to come for the opening. Uncle Nathan and Aunt Allegra came and sat in the gallery; when the curtain went up and Aunt Allegra saw her son armed like a Philistine, she shouted at the top of her lungs, "Aaron, what are you doing! Put that sword down!"

Barbamiclín was simple; in Acqui he was respected and protected because the simple are the children of God and no one should call them fools. But they called him "turkey planter" since the time a *rashan* (an unbeliever) had made a fool of him by leading him to believe that turkeys (*bibini*) are sowed like peach trees, by planting the feathers in furrows, and that they grow on the branches. In any event, the turkey had a curiously important place in the witty, mild, and orderly family world, perhaps because, being presumptuous, clumsy, and wrathful, it expresses the opposite qualities and lends itself to being an object of ridicule; or perhaps, more simply, because at its expense a famous, semi-ritual turkey meatball was confected at Passover. For example, Uncle Pacifico also raised a turkey-hen and had become very attached to her. Across the way from him lived Signor Lattes, who was a musician. The turkey clucked and disturbed Signor Lattes; he begged Uncle Pacifico to silence his turkey. My uncle replied, "Your orders will be carried out; Signora Turkey keep quiet."

Uncle Gabriele was a rabbi and therefore he was known as Barba Moréno, that is, "Uncle Our Teacher." Old and nearly blind, he would return on foot, under the blazing sun, from Verzuolo to Saluzzo. He saw a cart come by, stopped it, and asked for a ride; but then, while talking to the driver, it gradually dawned on him that this was a hearse, which was carrying a dead Christian to the cemetery: an abominable thing, since, as it is written in Ezekiel 44:24, a priest who touches a dead man, or even simply enters the room in which a dead person is lying, is contaminated and impure for seven days. He leaped to his feet and cried: "I'm traveling with a *pegartà*, with a dead woman! Driver, stop the cart!"

Gnôr Grassiadiô and Gnôr Còlômbô were two friendly enemies who, according to the legend, had lived from time immemorial face to face on the two sides of an alleyway in the town of Moncalvo. Gnôr Grassiadiô was a Mason and very rich. He was a bit ashamed of being a Jew and had married a *goyà*, that is, a Christian, with blond hair so long it touched the ground, who cuckolded him. This *goyà*, although really a *goyà*, was called Magna Ausilia

which indicates a certain degree of acceptance on the part of the epigones; she was the daughter of a sea captain who had presented Gnôr Grassiadiô with a large, varicolore parrot which came from Guyana and would say in Latin, "Know thyself." Gnôr Còlomb was poor and a Mazzinian. When the parrot arrived he bought a crow without a feather on its back and taught it to speak. When the parrot croaked, "*Nosce te ipsum*," the crow answered, "Wise up."

But as for Uncle Gabriele's *pegarta*, Gnôr Grassiadiô's *goyà*, Nona Bimba's *manòd*, and the *havertà* of which we will speak, an explanation is required. *Havertà* is a Hebrew word, crippled in both its form and meaning and quite suggestive. Actually it is an arbitrary feminine form of *haver*, which equals "companion" and means "maid," but it contains the accessory notion of a woman of low extraction and of different customs and beliefs that one is forced to harbor under one's roof; by inclination a *havertà* is not very clean and is ill-mannered, and by definition she is malevolently curious about the customs and conversations of the masters of the house, so much so as to force them to use a particular jargon in her presence, to which, besides all the others mentioned above, the term *haver* itself obviously belongs. This jargon has now almost disappeared; a few generations back still numbered a few hundred words and locutions, consisting for the most part of Hebrew roots with Piedmontese endings and inflections. Even a hasty examination points to its dissimulative and underground function, a crafty language meant to be employed when speaking about *goyim* in the presence of *goyim*; or also, to reply boldly with insults and curses that are not to be understood, against the regime of restriction and oppression which the (the *goyim*) had established.

Its historical interest is meager, since it was never spoken by more than a few thousand people; but its human interest is great, as are all languages on the frontier and in transition. In fact it contains an admirable comic force, which springs from the contrast between the texture of the discourse, which is the rugged, sober, and laconic Piedmontese dialect, never written except on a bet, and the Hebrew inlay, snatched from the language of the fatherland, sacred and solemn, geologic, polished smooth by the millennia like the bed of a glacier. By this contrast reflects another, the essential conflict of the Judaism of the Diaspora, scattered among the Gentiles, that is, the *goyim*, torn between their divine vocation and the daily misery of existence; and still another, even more general, which is inherent in the human condition, since man is a centaur, a tangle of flesh and mind, divine inspiration and dust. The Jewish people, after the dispersion, have lived this conflict for a long time and dolorously and have drawn from it, side by side with its wisdom, also its laughter, which in fact is missing in the Bible and the Prophets. It pervades Yiddish, and, within its modest limits, also pervades the bizarre speech of our fathers of this earth,^{1} which I want to set down here before it disappears: a skeptical, good-natured speech, which only to a careless examination could appear blasphemous, whereas it is rich with an affectionate and dignified intimacy.

with God – Nôssgnôr (“Our Lord”), Adonai Eloenó (“Praise be the Lord”), Cadòss Barôkh (“Dear Lord”).

Its humiliated roots are evident. For example, there are missing, because useless, words for “sun,” “man,” and “city,” while words are present for “night,” “to hide,” “money,” “prison,” “dream” (the last, though, used almost exclusively in the locution *bahalom*, “in dream,” to be added jokingly to an affirmation, and to be understood by one’s interlocutor and by him alone, as its contrary), “to steal,” “to hang,” and suchlike. Besides this, there exist a good number of disparaging words, used sometimes to judge persons but more typically employed, for example, between wife and husband in front of a Christian shopkeeper at the counter when uncertain about the purchase. We mention: *n saròd*, the royal plural, no longer understood as such, of the Hebrew *tsara*, which means “misfortune” and is used to describe a piece of goods or a person of scant value; there also exists its graceful diminutive, *sarôdĭn*, and at the same time I would not want forgotten the ferocious linkage *sarôd e senssa man* used by the marriage broker (*marosav*) to describe ugly girls without dowries; *hasirud*, an abstract collective from *hasir*, which means “pig” and therefore is more or less equivalent to “filth, piggishness.” It should be noted that the sound “u” (French) does not exist in Hebrew, instead there is the ending “ut” (with the Italian “u”), which serves to coin abstract terms (for example, *malkhut*, “kingdom”), but it lacks the strongly disparaging connotation it had in jargon usage. Another use, typical and obvious, of these and similar terms was in the store between the owner and the clerks and against the customers. In the Piedmont of the last century the trade in cloth was often in Jewish hands, and from it was born a kind of specialized sub-jargon which, transmitted by the clerks become owners in their turn, and not necessarily Jews, has spread to many stores in the field and still lives, spoken by people who are quite surprised if by chance they happen to find out that they are using Hebrew words. Some, for example, still use the expression *na vesta a kinim* to describe a polka-dot dress: now *kinim* are lice, the third of the ten scourges of Egypt, enumerated and chanted in the ritual of the Jewish Passover.

There is also a rather large assortment of not very decent terms, to be used not only without their real meaning in front of children but also instead of curses, in which case, compared with the corresponding Italian and Piedmontese terms, they offer, besides the already mentioned advantage of not being understood, also that of relieving the heart without abrading the mouth.

Certainly more interesting for the student of customs are the few terms that allude to things pertaining to the Catholic faith. In this case, the originally Hebraic form is corrupted much more profoundly, and this for two reasons: in the first place, secrecy was rigorous and necessary here because their comprehension by Gentiles could have entailed the danger of being charged with sacrilege; in the second place, the distortion in this case acquires the precise aim of denying, obliterating the sacral content of the word, and thus divesting it of a

supernatural virtue. For the same reason, in all languages the Devil is named with many appellations of an allusive and euphemistic character, which make it possible to refer to him without proffering his name. The church (Catholic) was called *tôneuà*, a word whose origins have not been able to reconstruct, and which probably takes from Hebrew only its sound while the synagogue, with proud modesty, was simply called the *scola* ("school"), the place where one learns and is brought up. In a parallel instance, the rabbi is not described with the word *rabbi* or *rabbenu* ("our rabbi") but as *morénô* ("our teacher"), or *kbakhàm* ("the wise man"). In fact in "school" one is not afflicted by the hateful *khaltrúm* of the Gentiles. *khaltrúm*, or *khantrúm*, is the ritual and bigotry of the Catholics, intolerable because polytheistic and above all because swarming with images ("Thou shalt have no other gods before me; Thou shalt not make unto thee any graven image... and shalt not bow down thyself to them," Exodus 20:3) and therefore idolatrous. For this term too, steeped in execration, the origin is obscure, almost certainly not Hebraic; but in other Jewish-Italian jargons there is the adjective *khalto*, in the sense precisely of "bigot" and used chiefly to describe the Christian worshiper of images.

A-issà is the Madonna (simply, that is, "the woman"). Completely cryptic and indecipherable—and that was to be foreseen—is the term *Odo*, with which, when it was absolutely unavoidable, one alluded to Christ, lowering one's voice and looking around with circumspection; it is best to speak of Christ as little as possible because the myth of the God-killing people dies hard.

Many other terms were drawn exactly as is from the ritual and the holy books, which Jews born in the last century read more or less fluently in the original Hebrew, and more often than not understood, at least partially; but, in jargon usage, they tended to deform or arbitrarily enlarge the semantic area. From the root *shafòkh*, which is equivalent to "pour" and appears in Psalm 79 ("Pour out Thy wrath upon the heathen that have not recognized Thee, and upon the kingdoms that have not invoked Thy name"), our ancient mothers have taken the homely expression *fé sefkh*, that is, "to make *sejokh*," with which one described with delicacy the vomit of infants. From *rúakh*, plural *rukhòd*, which means "breath," illustrious term that can be read in the dark and admirable second verse of Genesis ("The wind of the Lord breathed upon the face of the waters") was taken *tire 'n rúakh*, "make a wind," in its diverse physiological significances, where one catches a glimpse of the Biblical intimacy of the Chosen People with its Creator. As an example of practical application, there has been handed down the saying of Aunt Regina, seated with Uncle David in the Cafe Florio on Via Po: "*Davidin, bat la carta, c'as sento nen le rukhòd!*" ("David, thump your cane, so they don't hear your winds!"), which attests to a conjugal relationship of affectionate intimacy. As for the cane, it was at that time a symbol of social status, just as traveling first class on the railroad can be today. My father, for example, owned two canes, a bamboo cane for weekdays, and another of malacca with a silver-plated handle for Sunday. He did not use the

cane to lean on (he had no need for that), but rather to twirl jovially in the air and to show insolent dogs from his path: in short, as a scepter to distinguish him from the vulgar crowd.

Barakhà is the benediction a pious Jew is expected to pronounce more than a hundred times a day, and he does so with profound joy, since by doing so he carries on a thousand-year-old dialogue with the Eternal, who in every *barakhà* is praised and thanked for His gift. Grandfather Leonin was my great-grandfather. He lived at Casale Monferrato and had flat feet; the alley in front of his house was paved with cobblestones, and he suffered when he walked on it. One morning he came out of his house and found the alley paved with flagstones, and he exclaimed from the depths of his heart, “*N abrakha a coi goyim c’a l’an faim losi!*” (“A blessing on those unbelievers who made these paving stones!”). As a curse, however, there was the curious linkage *medà meshônà*, which literally means “strange death” but actually is an imitation of the Piedmontese *assident*, that is, in plain Italian, “may he drop dead.” To the same Grandpa Leonin is attributed the inexplicable imprecation “*C’ai takeis ’na medà meshônà feita a paraqua*” (“May he have an accident shaped like an umbrella”).

Nor could I forget Barbarico, close in space and time, so much so that he just missed (only by a single generation) being my uncle in the strict sense of the word. Of him I preserve a personal and thus articulated and complex memory. Not *figé dans une attitude*, like that of the mythical characters I have mentioned up until now. The comparison to inert gases with which these pages start fits Barbarico like a glove.

He had studied medicine and had become a good doctor, but he did not like the world. That is, he liked men, and especially women, the meadows, the sky; but not hard work, the racket made by wagons, the intrigues for the sake of a career, the hustling for one’s daily bread, commitments, schedules, and due dates; nothing in short of all that characterized the feverish life of the town of Casale Monferrato in 1890. He would have liked to escape, but he was too lazy to do so. His friends and a woman who loved him, and whom he tolerated with distracted benevolence, persuaded him to take the test for the position of ship’s doctor aboard a transatlantic steamer. He won the competition easily, made a single voyage from Genoa to New York, and on his return to Genoa handed in his resignation because of America “there was too much noise.”

After that he settled in Turin. He had several women, all of whom wanted to redeem and marry him, but he regarded both matrimony and an equipped office and the regular exercise of his profession as too much of a commitment. Around about 1930 he was a timid little old man, shriveled and neglected, frightfully nearsighted; he lived with a big, vulgar *goyà*, from whom he tried at intervals and feebly to free himself, and whom he described from time to time as *'na sotià* (“a nut”), *'na hamortà* (“a donkey”), and *'na gran beemà* (“a great beast”), but without acrimony and indeed with a vein of inexplicable tenderness. This *goyà* even wanted to have him *samdà* “baptized” (literally, “destroyed”): a thing he had always refused to do.

not out of religious conviction but out of indifference and a lack of initiative.

Barbaricô had no less than twelve brothers and sisters, who described his companion with the ironic and cruel name of Magna Morfina (Aunt Morphine): ironic because the woman, a poor thing, being a *goyà* and childless could not be a *magna* except in an extremely limited sense, and indeed the term *magna* was to be understood as its exact opposite, a *non-magna* someone excluded and cut off from the family; and cruel because it contained a probably false and at any rate pitiless allusion to a certain exploitation on her part of Barbaricô's prescription blanks.

The two of them lived in a filthy and chaotic attic room on Borgo Vanchiglia. My uncle was a fine doctor, full of human wisdom and diagnostic intuition, but he spent the entire day stretched out on his cot reading books and old newspapers: he was an attentive reader, eclectic and untiring, with a long memory, although myopia forced him to hold the print three inches from his eyeglasses, which were as thick as the bottom of a beer glass. He only got up when a patient sent for him, which often happened because he almost never asked to be paid; his patients were the poor people on the outskirts of town, from whom he would accept as recompense a half-dozen eggs, or some lettuce from the garden, or even a pair of worn-out shoes. He visited his patients on foot because he did not have the money for the streetcar; when on the street he caught a dim view, through the mist of his myopia, of a girl, he went straight up to her and to her surprise examined her carefully, circling from a foot away. He ate almost nothing, and in a general way he had no needs; he died at over ninety with discretion and dignity.

Like Barbarico in her rejection of the world was Grandmother Fina, one of the four sisters whom everyone called Fina: this first name singularity was owed to the fact that the four girls had been sent successively to the same wet nurse in Bra whose name was Delfina and who called all her "nurslings" by that name. Grandmother Fina lived at Carmagnola, in an apartment on the second floor, and did splendid crochet work. At eighty-six she had a slight indisposition, a *caodana*, as ladies used to have in those days and today mysteriously no longer do: from then on, for twenty years—that is, until her death—she never left her room on the Sabbath, from her little terrace overflowing with geraniums, fragile and pale, she waved her hand to the people who came out of the *scola* ("synagogue"). But she must have been quite different in her youth, if what is told about her is true: namely, that her husband having brought to the house as a guest the Rabbi of Moncalvo, an erudite and illustrious man, she had served him, without his knowing, a pork cutlet, since there was nothing else in the pantry. Her brother Barbarafin (Raphael), who before his promotion to Barba was known as *I fieul d' Moise 'd Celin* ("the son of the Moses of Celin"), now at a mature age and very rich because of the money earned from army supplies had fallen in love with the very beautiful Dolce Valabrega from Gassino; he did not dare declare himself, wrote her love letters that he never mailed, and then wrote impassioned replies to himself.

Marchin, too, an ex-uncle, had an unhappy love. He became enamored of Susanna (which means "lily" in Hebrew), a brisk, pious woman, the depository of a century-old recipe for the confection of goose sausage; these sausages are made by using the neck of the bird itself as casing, and as a result in the Lassôn Acodesh (the "holy tongue," that is, in the jargon we are discussing), more than three synonyms for "neck" have survived. The first, *mahané*, is neutral and has a technical, generic use; the second, *savar*, is used only in metaphors, as "breakneck speed"; and the third, *khanèc*, extremely allusive and suggestive, refers to the neck as a vital passage, which can be obstructed, occluded, or severed; and it is used in imprecations, such as "may it stick in your neck"; *khanichésse* means "to hang oneself." In any event, Marchin was Susanna's clerk and assistant; both in the mysterious kitchen-workshop and in the store, on whose shelves were promiscuously placed sausages, holy furnishings, amulets, and prayer books. Susanna turned him down and Marchin got his abominable revenge by selling the recipe for the sausage to a *goy*. One must think that this *goy* did not appreciate its value, since after Susanna's death (which took place in a legendary past) it has no longer been possible to find in commerce goose sausage worthy of the name and tradition. Because of this contemptible retaliation, Uncle Marchin lost his right to be called an uncle.

Remotest of all, portentously inert, wrapped in a thick shroud of legend and the incredible, fossilized in his quality as an uncle, was Barbabramín of Chieri, the uncle of my maternal grandmother. When still young he was already rich, having bought from the aristocrats of the place numerous farms between Chieri and the Asti region; relying on the inheritance they would receive from him, his relations squandered their wealth on banquet balls, and trips to Paris. Now it happened that his mother, Aunt Milca (the Queen) fell sick and after much argument with her husband was led to agree to hire a *havertà*, that is, a maid, which she had flatly refused to do until then: in fact, quite prescient, she did not want women around the house. Punctually, Barbabramín was overcome with love for this *havertà*, probably the first female less than saintly whom he had an opportunity to get close to.

Her name has not been handed down, but instead a few attributes. She was opulent and beautiful and possessed splendid *khlaviôd* ("breasts"): the term is unknown in classic Hebrew where, however, *khalàv* means "milk.") She was of course a *goyà*, was insolent, and did not know how to read or write; but she was an excellent cook. She was a peasant, *'na ponaltà*, and went barefoot in the house. But this is exactly what my uncle fell in love with: her ankles, her straightforward speech, and the dishes she cooked. He did not say anything to the girl but told his father and mother that he intended to marry her; his parents went wild with rage and my uncle took to his bed. He stayed there for twenty-two years.

As to what Uncle Bramín did during those years, there are divergent accounts. There is no doubt that for a good part he slept and gambled them away; it is known for certain that he went to pot economically because "he did not clip the coupons" of the treasury bonds.

and because he had entrusted the administration of the farms to a *mamser* ("bastard"), who had sold them for a song to a front man of his; in line with Aunt Milca's premonition, my uncle thus dragged the whole family into ruin, and to this day they bewail the consequence.

It is also said that he read and studied and that, considered at last knowledgeable and just, received at his bedside delegations of Chieri notables and settled disputes; it is also said that the path to that same bed was not unknown to that same *havertà*, and that at least during the first years my uncle's voluntary seclusion was interrupted by nocturnal sorties to go and play billiards in the cafe below. But at any rate he stayed in bed for almost a quarter of a century, and when Aunt Milca and Uncle Solomon died he married a *goyà* and took her into his bed definitively, because he was by now so weak that his legs no longer held him up. He died poor but rich in years and fame and in the peace of the spirit in 1883.

Susanna of the goose sausage was the cousin of Grandmother Malia, my paternal grandmother, who survives in the figure of an overdressed, tiny vamp in some studio portrait executed around 1870, and as a wrinkled, short-tempered, slovenly, and fabulously deaf old lady in my most distant childhood memories. Still today, inexplicably, the highest shelves of the closets give us back her precious relics, shawls of black lace embroidered with iridescent spangles, noble silk embroideries, a marten fur muff mangled by four generations of moth, massive silver tableware engraved with her initials: as though, after almost fifty years, her restless spirit still visited our house.

In her youth she was known as "the heartbreaker"; she was left a widow very early and the rumor spread that my grandfather had killed himself in desperation over her infidelities. She raised alone three boys in a Spartan manner and made them study; but at an advanced age she gave in and married an old Christian doctor, a majestic, taciturn, bearded man, and from then on inclined to stinginess and oddity, although in youth she had been regal and prodigal, as beautiful, much loved women usually are. With the passing of the years she cut herself off completely from any family affections (which in any case she must never have felt very deeply). She lived with the doctor on Via Po, in a gloomy, dark apartment, barely warmed in winter by just a small Franklin stove, and she no longer threw out anything because everything might eventually come in handy: not even the cheese rinds or the foil of chocolates, with which she made silver balls to be sent to missions to "free a little black boy." Perhaps out of a fear of making a mistake in her definitive choice, on alternate days she attended the *scola* on Via Pius the Fifth and the parish church of Sant' Ottavio, and it appeared that she would even go sacrilegiously to confession. She died past eighty in 1928, watched over by a chorus of unkempt neighbors, all dressed in black and, like her, half demented, led by a witch whose name was Madame Scilimberg. Even though tormented by her renunciation, my grandmother kept a sharp eye on Scilimberg until her last breath for fear she might find the *maftekh* ("key") hidden under the mattress and carry off the *manòd* ("money") and the *hafassim* ("jewels"), all of which turned out to be fake.

At her death, her sons and daughters-in-law spent weeks, filled with dismay and disgust, picking through the mountains of household debris with which the apartment overflowed. Grandmother Malia had indiscriminately saved exquisite objects and revolting garbage. From severe carved walnut closets issued armies of bedbugs dazzled by the light, and the linen sheets never used, and other sheets patched and threadbare, worn so thin as to be transparent, curtains, and reversible damask bedspreads; a collection of stuffed hummingbirds which as soon as touched fell into dust; in the cellar lay hundreds of bottles of precious wines which had turned into vinegar. They found eight overcoats belonging to the doctor, brand new, stuffed with mothballs, and the only one she had allowed him to use, a patch and darnings, its collar slick with grease and a Masonic emblem hidden in its pocket.

I remember almost nothing about her, whom my father called Maman (also in the third person) and loved to describe, with his eager taste for the bizarre, slightly tempered by a veneer of filial piety. Every Sunday morning my father took me on foot in a visit to Grandmother Malia: we walked slowly down Via Po, and he stopped to caress all the cats, sniff at all the truffles, and leaf through all the secondhand books. My father was *l'ingegn * ("the engineer") with his pockets always bulging with books and known to all the pork butchers because he checked with his logarithmic ruler the multiplication for the prosciutto purchase. Not that he purchased this last item with a carefree heart: superstitious rather than religious, he felt ill at ease at breaking the *kasherut* rules, but he liked prosciutto so much that, faced by the temptation of a shop window, he yielded every time, sighing, cursing under his breath, and watching me out of the corner of his eye, as if he feared my judgment or hoped for my complicity.

When we arrived at the tenebrous landing of the apartment on Via Po, my father rang the bell, and when my grandmother came to open the door he would shout in her ear: "He's the head of his class!" My grandmother would let us in with visible reluctance and guide us through a string of dusty, uninhabited rooms, one of which, studded with sinister instruments, was the doctor's semi-abandoned office. One hardly ever saw the doctor, nor did I certainly want to see him, ever since the day on which I had surprised my father telling my mother that, when they brought him stammering children to be treated, he would cut the fillet of skin under the tongue with his scissors. When we got to the good living room my grandmother would dig out of some recess the box of chocolates, always the same box, and offer me one. The chocolate was worm-eaten, and with great embarrassment I would quickly hide it away in my pocket.

It was January. Enrico came to call for me right after dinner: his brother had gone up into the mountains and had left him the keys to the laboratory. I dressed in a flash and joined him on the street.

During the walk I learned that his brother had not really left him the keys: this was simply a compendious formulation, a euphemism, the sort of thing you said to someone not ready to understand. His brother, contrary to his habit, had not hidden the keys, nor had he taken them with him; what's more, he had forgotten to repeat to Enrico the prohibition against appropriating these same keys, and the punishment threatened should Enrico disobey. To put it bluntly, there were the keys, after months of waiting; Enrico and I were determined not to pass up the opportunity.

We were sixteen, and I was fascinated with Enrico. He was not very active, and his scholastic output was pretty meager, but he had virtues that distinguished him from all the other members of the class, and he did things that nobody else did. He possessed a calm, stubborn courage, a precocious capacity to sense his own future and to give it weight and shape. He turned his back (but without contempt) on our interminable discussions, now Platonic, now Darwinian, later still Bergsonian; he was not vulgar, he did not boast of his virile attributes or his skill at sports, he never lied. He knew his limitations, but we never heard him say (as we all told each other, with the idea of currying comfort, or blowing off steam): "You know, I really think I'm an idiot."

He had a slow, foot-slogging imagination: he lived on dreams like all of us, but his dreams were sensible; they were obtuse, possible, contiguous to reality, not romantic, not cosmic. He did not experience my tormented oscillation between the heaven (of a scholastic or sports success, a new friendship, a rudimentary and fleeting love) and the hell (of a failing grade, a remorse, a brutal revelation of an inferiority which each time seemed eternal and definitive). His goals were always attainable. He dreamed of promotion and studied with patience things that did not interest him. He wanted a microscope and sold his racing bike to get it. He wanted to be a pole vaulter and went to the gym every evening for a year without making a fuss about it, breaking any bones, or tearing a ligament, until he reached the mark of 3.5 meters he had set himself, and then stopped. Later he wanted a certain woman and he got her; he wanted the money to live quietly and obtained it after ten years of boring, prosaic work.

We had no doubts: we would be chemists, but our expectations and hopes were quite different. Enrico asked chemistry, quite reasonably, for the tools to earn his living and have a secure life. I asked for something entirely different; for me chemistry represented a

indefinite cloud of future potentialities which enveloped my life to come in black volute torn by fiery flashes, like those which had hidden Mount Sinai. Like Moses, from that cloud expected my law, the principle of order in me, around me, and in the world. I was fed up with books, which I still continued to gulp down with indiscreet voracity, and searched for another key to the highest truths: there must be a key, and I was certain that, owing to some monstrous conspiracy to my detriment and the world's, I would not get it in school. In school they loaded me with tons of notions which I diligently digested, but which did not warm the blood in my veins. I would watch the buds swell in spring, the mica glint in the granite, make my own hands, and I would say to myself: "I will understand this, too, I will understand everything, but not the way *they* want me to. I will find a shortcut, I will make a lockpick, I will push open the doors."

It was enervating, nauseating, to listen to lectures on the problem of being and knowing when everything around us was a mystery pressing to be revealed: the old wood of the benches, the sun's sphere beyond the windowpanes and the roofs, the vain flight of the pappus down in the June air. Would all the philosophers and all the armies of the world be able to construct this little fly? No, nor even understand it: this was a shame and an abomination, another road must be found.

We would be chemists, Enrico and I. We would dredge the bowels of the mystery with our strength, our talent: we would grab Proteus by the throat, cut short his inconclusive metamorphoses from Plato to Augustine, from Augustine to Thomas, from Thomas to Hegel, from Hegel to Croce. We would force him to speak.

This being our program, we could not afford to waste any opportunities. Enrico's brother was a mysterious and choleric personage, about whom Enrico did not like to talk, was a chemistry student, and he had installed a laboratory at the rear of a courtyard, in a curious narrow, twisting alleyway which branched off Piazza della Crocetta and stood out in the obsessive Turinese geometry like a rudimentary organ trapped in the evolved structure of a mammalian. The laboratory was also rudimentary: not in the sense of an atavistic vestige but in that of extreme poverty. There was a tiled workbench, very few glass receptacles, about twenty flasks with reagents, much dust and cobwebs, little light, and great cold. On our way we had discussed what we were going to do now that we had "gained access to the laboratory," but our ideas were confused.

It seemed to us an *embarras de richesses*, and it was instead a different embarrassment deeper and more essential: an embarrassment tied to an ancient atrophy of ours, of our family, of our caste. What were we able to do with our hands? Nothing, or almost nothing. The women, yes—our mothers and grandmothers had lively, agile hands, they knew how to sew and cook, some even played the piano, painted with watercolors, embroidered, braided their hair. But we, and our fathers?

Our hands were at once coarse and weak, regressive, insensitive: the least trained part of

our bodies. Having gone through the first fundamental experiences of play, they had learned to write, and that was all. They knew the convulsive grip around the branches of a tree which we loved to climb out of a natural desire and also (Enrico and I) out of a groping homage and return to the origins of the species; but they were unfamiliar with the solemn balanced weight of the hammer, the concentrated power of a blade, too cautiously forbidden us, the wise texture of wood, the similar and diverse pliability of iron, lead, and copper. man is a maker, we were not men: we knew this and suffered from it.

The glass in the laboratory enchanted and intimidated us. Glass for us was that which one must not touch because it breaks, and yet, at a more intimate contact, revealed itself to be a substance different from all others, *sui generis*, full of mystery and caprice. It is similar in this to water, which also has no kindred forms: but water is bound to man, indeed to life, by a long-lasting familiarity, by a relationship of multifarious necessity, due to which its uniqueness is hidden beneath the crust of habit. Glass, however, is the work of man and has a more recent history. It was our first victim, or, better, our first adversary. In the Crocetti laboratory there was the usual lab glass, in various diameters and long and short sections, all covered with dust: we lit the Bunsen burner and set to work.

To bend the tube was easy. All you had to do was hold the section of tube steady over the flame: after a certain time the flame turned yellow and simultaneously the glass became weakly luminous. At this point the tube could be bent: the curve obtained was far from perfect, but in substance something took place, you could create a new, arbitrary shape; potentiality became act. Wasn't this what Aristotle meant?

Now, a tube of copper or lead can also be bent, but we soon found out that the red-hot tube of glass possessed a unique virtue: when it had become pliable, you could, by quickly pulling on the two cold ends, pull it into very thin filaments, indeed unimaginably thin, so thin that it was drawn upwards by the current of hot air that rose from the flame. Thin and flexible, like silk. So then silk and cotton too, if obtainable in a massive form, could be as inflexible as glass? Enrico told me that in his grandfather's town the fishermen take silkworms, when they are already big and ready to form the pupa and, blind and clumsy, try to crawl up on the branches; they grab them, break them in two with their fingers, and pulling on the two stumps obtain a thread of silk, thick and coarse, which they then use as fishing line. This fact, which I had no hesitation in believing, seemed to me both abominable and fascinating: abominable because of the cruel manner of that death, and the futile use of a natural portent; fascinating because of the straightforward and audacious act of ingenuity presupposed on the part of its mythical inventor.

The glass tube could also be blown up; but this was much more difficult. You could close one end of a small tube: then blowing hard from the other end a bubble formed, very beautiful to look at and almost perfectly spherical but with absurdly thin walls. Even the slightest puff of breath in excess and the walls took on the iridescence of a soap bubble, and

this was a certain sign of death: the bubble burst with a sharp little snap and its fragments were scattered over the floor with the tenuous rustle of eggshells. In some sense it was a just punishment; glass is glass, and it should not be expected to simulate the behavior of soap water. If one forced the terms a bit, one could even see an Aesopian lesson in the event.

After an hour's struggle with the glass, we were tired and humiliated. We both had inflamed, dry eyes from looking too long at the red-hot glass, frozen feet, and fingers covered with burns. Besides, working with glass is not chemistry: we were in the laboratory with another goal. Our goal was to see with our eyes, to provoke with our hands, at least one of the phenomena which were described so offhandedly in our chemistry textbook. One could, for example, prepare nitrous oxide, which in Sestini and Funaro was still described with the not very proper and unserious term of laughing gas. Would it really be productive of laughter?

Nitrous oxide is prepared by cautiously heating ammonium nitrate. The latter did not exist in the lab; instead there was ammonia and nitric acid. We mixed them, unable to make any preliminary calculations until we had a neutral litmus reaction, as a result of which the mixture heated up greatly and emitted an abundance of white smoke; then we decided to bring it to a boil to eliminate the water. In a short time the lab was filled with a choking fog which was not at all laughable; we broke off our attempt, luckily for us, because we did not know what can happen when this explosive salt is heated less than cautiously.

It was neither simple nor very amusing. I looked around and saw in a corner an ordinary dry battery. Here is something we could do: the electrolysis of water. It was an experiment with a guaranteed result, which I had already executed several times at home. Enrico would not be disappointed.

I put some water in a beaker, dissolved a pinch of salt in it, turned two empty jam jars upside down in the beaker; then found two rubber-coated copper wires, attached them to the battery's poles, and fitted the wire ends into the jam jars. A minuscule procession of air bubbles rose from the wire ends: indeed, observing them closely you could see that from the cathode about twice as much gas was being liberated as from the anode. I wrote the well-known equation on the blackboard, and explained to Enrico that what was written there was actually taking place. Enrico didn't seem too convinced, but by now it was dark and we were half frozen; we washed our hands, bought some slices of chestnut pudding and went home leaving the electrolysis to continue on its own.

The next day we still had access. In pliant obsequiousness to theory, the cathode jar was almost full of gas; the anode jar was half full: I brought this to Enrico's attention, giving myself as much importance as I could, and trying to awaken the suspicion that, I won't say electrolysis, but its application as the confirmation of the law of definite proportions, was my invention, the fruit of patient experiments conducted secretly in my room. But Enrico was in a bad mood and doubted everything. "Who says that it's actually hydrogen and oxygen?" he

said to me rudely. "And what if there's chlorine? Didn't you put in salt?"

The objection struck me as insulting: How did Enrico dare to doubt my statement? I was the theoretician, only I: he, although the proprietor of the lab (to a certain degree, and then only at second hand), indeed, precisely because he was in a position to boast of other qualities, should have abstained from criticism. "Now we shall see," I said: I carefully lifted the cathode jar and, holding it with its open end down, lit a match and brought it close. There was an explosion, small but sharp and angry, the jar burst into splinters (luckily, I was holding it level with my chest and not higher), and there remained in my hand, as a sarcastic symbol, the glass ring of the bottom.

We left, discussing what had occurred. My legs were shaking a bit; I experienced retrospective fear and at the same time a kind of foolish pride, at having confirmed my hypothesis and having unleashed a force of nature. It was indeed hydrogen, therefore: the same element that burns in the sun and stars, and from whose condensation the universes are formed in eternal silence.

For five months we had attended, packed together like sardines and full of reverence for Professor P. 's classes in General and Inorganic Chemistry, carrying away from them various sensations, but all of them exciting and new. No, P. 's chemistry was not the motor-force of the Universe, nor the key to the Truth: P. was a skeptical, ironic old man, the enemy of all forms of rhetoric (for this reason, and only for this, he was an anti-Fascist), intelligent, obstinate, and quick-witted with a sad sort of wit.

His students handed down stories of his examinations conducted with ferocious coldness and ostentatious prejudice: his favorite victims were women in general, and then nuns, priests, and all those who appeared before him "dressed like soldiers." On his account we whispered murky legends of maniacal stinginess in running the Chemical Institute and his personal laboratory: that he conserved in the basements innumerable boxes of used matches which he forbade the beadle to throw away; and that the mysterious minarets of the Institute itself, which even now confer on that section of the Corso Massimo d'Azeglio a jejune tone of fake exoticism, had been built at his bidding, in his remote youth, in order to celebrate there each year a foul and secret orgy of salvage. During it all the past year's rags and filter papers were burnt, and he personally analyzed the ashes with beggarly patience to extract from them all the valuable elements (and perhaps even less valuable) in a kind of ritual palingenesis which only Caselli, his faithful technician-beadle, was authorized to attend. It was also said that he had spent his entire academic career demolishing a certain theory of stereo-chemistry, not with experiments but with publications. The experiments were performed by someone else, his great rival, in some unknown part of the world; as he proceeded, the reports appeared in the *Helvetica Chemica Acta*, and Professor P. tore them apart one by one.

I could not swear to the authenticity of these rumors: but in fact, when he came into the laboratory for Preparations, no Bunsen burner was even low enough, so it was prudent to turn it off completely; actually, he made the students prepare silver nitrate from the five-lira coins taken from their own pockets, and chloride of nickel from the twenty-cent pieces with the flying naked lady; and in truth, the only time I was admitted to his study, I found written on the blackboard in a fine script: "Don't give me a funeral, neither dead nor alive."

I liked P. I liked the sober rigor of his classes; I was amused by the disdainful ostentation with which at the exams he exhibited, instead of the prescribed Fascist shirt, a comic black bib no bigger than the palm of a hand, which at each of his brusque movements would pop out between his jacket's lapels. I valued his two textbooks, clear to the point of obsession, concise, saturated with his surly contempt for humanity in general and for lazy and foolish

students in particular: for all students were, by definition, lazy and foolish; anyone who by rare good luck managed to prove that he was not became his peer and was honored by a laconic and precious sentence of praise.

Now the five months of anxious waiting had passed: from among us eighty freshmen had been selected the twenty least lazy and foolish—fourteen boys and six girls—and the Preparation laboratory opened its doors to us. None of us had a precise idea of what was at stake: I think that it was his invention, a modern and technical version of the initiation rituals of savages, in which each of his subjects was abruptly torn away from book and school bench and transplanted amid eye-smarting fumes, hand-scorching acids, and practical events that do not jibe with the theories. I certainly do not want to dispute the usefulness, indeed the necessity of this initiation: but in the brutality with which it was carried out it was easy to see P. 's spiteful talent, his vocation for hierarchical distances and the humiliation of his flock. In sum: not a word, spoken or written, was spent by him as viaticum, to encourage us along the road we had chosen, to point out the dangers and pitfalls, and to communicate to us the tricks of the trade. I have often thought that deep down P. was a savage, a hunter, someone who goes hunting simply has to take along a gun, in fact a bow and arrow, and go into the woods: success or failure are purely up to him. Pick up and go, when the time comes the haruspices and augurs no longer count, theory is useless and you learn along the way, the experiences of others are useless, the essential is to meet the challenge. He who is worthy wins; he who has weak eyes, arms, or instincts turns back and changes his trade: of the eighty students I mentioned, thirty changed their trade in their second year and another twenty later on.

That laboratory was tidy and clean. We stayed in it five hours a day, from two o'clock to seven o'clock: at the entrance, an assistant assigned to each student a preparation, then each of us went to the supply room, where the hirsute Caselli handed out the raw materials, foreign or domestic: a chunk of marble to this fellow, ten grams of bromine to the next, a bit of boric acid to another, a handful of clay to yet another. Caselli would entrust these reliquiae to us with an undisguised air of suspicion: this was the bread of science, P. 's bread, and finally it was also the stuff that he administered; who knows what improper use would profane and unskilled persons would make of it?

Caselli loved P. with a bitter, polemical love. Apparently he had been faithful to him for forty years; he was his shadow, his earthbound incarnation, and, like all those who perform vicarial functions, he was an interesting human specimen: like those, I mean to say, who represent Authority without possessing any of their own, such as, for example, sacristans, museum guides, beadles, nurses, the "young men" working for lawyers and notaries, and salesmen. These people, to a greater or lesser degree, tend to transfuse the human substance of their chief into their own mold, as occurs with pseudomorphic crystals: sometimes they suffer from it, often they enjoy it, and they possess two distinct patterns of behavior.

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