The Periodic Table stands as a unique and unclassifiable work. It was chosen by The Royal Institution of Great Britain as the best science book ever written. But it is also great literature. It is a groundbreaking work in the field of memoir. But it also contains fiction. And it offers great insight into its author’s life and thoughts, and of the experience of Italian Jews in turbulent times.

What it is not is a book focused on Auschwitz. As Levi notes in the book, he has written amply about his camp experiences elsewhere. This is an opportunity to see another dimension of Levi.

Some notes before reading:

The book consists of 21 chapters. If you are not able to read the entire book, or if your group wants to emphasize particular stories for discussion, these are our suggestions as the dozen most rewarding stories for consideration:

1. Argon
2. Hydrogen
3. Zinc
4. Iron
5. Potassium
6. Nickel
7. Neon
8. Oxygen
9. Phosphorus
10. Gold
11. Cerium
12. Lanthane
13. Lutetium
14. Mercury
15. Arsenic
16. Tin
17. Antimony
18. Tellurium
19. Polonium
20. Vanadium
21. Carbon

Note that the opening story, Argon, is unlike the others. Rather than telling a story, it contextualizes Levi’s upbringing in Turin’s Jewish community, with an emphasis on the unique dialect of Piedmont’s Jews.
A Little Background Before Reading

Primo Levi
Primo Levi was born in Turin, the capital of the Piedmont region of northwest Italy, in 1919. Following a classical education, he pursued chemistry and received a graduate degree in 1941. He joined the partisans in October 1943, and was captured two months later. After confessing to his captors that he was Jewish, he was deported to Auschwitz. Of the 650 Italian Jews in his transport, Levi was one of twenty who survived the War. His book Is This a Man? (also issued as Survival in Auschwitz), published in 1947 after his return to Turin, was one of the earliest and most influential works to emerge from the Holocaust. While still working as an industrial chemist, he followed it with a number of books of essays, fiction, memoir, and poetry. He died in 1987 in a fall in the courtyard of his building—the building where he lived his entire life except during World War II. To this day, there is great debate over whether his death was suicide or accident.

Jews of Piedmont
Levi was born into the community of Piedmont’s Jews. For several hundred years, the Jews of Turin were confined to a ghetto, banned from owning property, and forced to wear badges identifying them as Jews. The emancipation of the Jews in 1848 ended this oppression, and Jews sought full participation in the greater society. One can find this assimilation reflected in Primo Levi’s secularism and his father’s tortured relationship to prosciutto.

Italy, Fascism, and Jews
When the National Fascist Party came into power in 1922 under the leadership of Benito Mussolini, the party did not have a prominent anti-Semitic dimension, and there were Jews who supported it. However, in the mid-1930s, a stronger racialist strain emerged, reinforced by an emerging alliance with Nazi Germany. In 1938 the Italian Racial Laws were passed, which limited the civil rights of Jews, excluded Jews from public office and higher education (Levi was grandfathered in), and forbade marriages between Italians and Jews. Mussolini was deposed in 1943, and Germany was soon in control of much of Italy. Many Jews were sent to concentration camps. However, because the deportations did not begin until late in the War and were less systematic, Italian Jews had a much lower mortality rate during World War II than Jews in most European countries.

Science
Chemistry provides the framework for this book, as Levi makes sense of his life and the world through his deep connection to the elements. Sometimes the elements function as metaphor, and sometimes they function literally, as encountered in the lab or in nature.
As Tim Radford writes of the book, “the reader begins to understand that chemistry is not a ‘subject,’ not an arcane and sometimes bewildering intellectual scaffolding laboriously erected to frame reality: it is reality. Chemistry is what happens when we breathe, when we touch, when we react, and even our behavior with others is chemistry at some greater level.”

**After Reading: Synopses**

With so many stories, it can be hard to remember the titles and content of each chapter when you are discussing the book. Here is a brief refresher for reference.

1. **Argon:** Levi describes his ancestors, Piedmontese Jews whom he compares to the noble gases, “inert in their inner spirits,” and gives examples of their colorful language.

2. **Hydrogen:** Sixteen-year-old Levi and his friend Enrico, budding young chemists, break into Enrico’s brother’s chemistry lab, with somewhat disastrous results.

3. **Zinc:** In contrast to the Fascist doctrine that holds racial purity to be of the highest value, Levi ponders that it is impurity that “gives rise to changes, in other words, to life.”

4. **Iron:** Levi’s friend Sandro shows him the joy of mountain climbing, along with the freedom to make mistakes and be the master of one’s own destiny.

5. **Potassium:** Levi seeks a professor who will take him on as a student assistant despite the racial laws forbidding it, finally finding a mentor who works in the Physics institute. Levi learns that “one must distrust the almost-the-same, the practically identical….The differences can be small, but they can lead to radically different consequences.”

6. **Nickel:** With his new degree, but no hope of work, his father dying, and the Germans coming ever closer, Levi is offered a job in the lab of a mine some hours from Turin.

7. **Lead:** A fictional story that Levi wrote while working in the mines, of a family that has earned its livelihood by extracting lead from certain rocks. Many generations later, with the ore exhausted, one man travels far from home in search of a new deposit.

8. **Mercury:** The second fictional story concerns an army corporal and his wife who are sent to live on a desolate island. When strangers arrive, many changes ensue.

9. **Phosphorus:** Levi leaves his job at the mine to work at a factory in Milan, secretly researching a cure for diabetes and taking a romantic interest in a co-worker.
10. Gold: Seven friends from Turin living communally in Milan separate to join the partisans. On December 13, 1943, Levi awakes to find his band surrounded by Fascists, and he and two comrades are captured and imprisoned. Levi describes his life in captivity.

11. Cerium: Levi is in Auschwitz, using his skills as a chemist to make money by selling matches. He spends night after night fiddling with the cerium from the camp’s lab to produce his flints, all the while expecting to die at any time.

12. Chromium: Working in a paint factory after the War, Levi is asked to solve the mystery of why a particular batch of paint has turned from liquid into a gelatinous mass.

13. Sulphur: Levi’s friend Lanza figures out how to avoid an impending explosion.

14. Titanium: A short pastiche in which a young girl is encircled in chalk by a painter.

15. Arsenic: A cobbler brings a suspect packet of sugar to Levi, now working as a freelance consultant, to analyze.


17. Tin: Levi goes into business with his friend Emilio in a makeshift lab in Emilio’s family home.

18. Uranium: While flailing as a customer service representative, Levi learns the implausible story of a client claiming to have been given a block of uranium by German soldiers.

19. Silver: Levi is reunited with college classmates upon the 25th anniversary of his graduation.

20. Vanadium: When Levi, now working for a varnish manufacturer, investigates faulty resin sent by a German supplier, he comes into contact with a former supervisor at Auschwitz.

Questions for Discussion

The following questions were prepared by Rabbi Hara Person for the Union for Reform Judaism’s Significant Jewish Books project.

Chapter 1: Argon

- Levi’s description of the Jews as a people inert and harmless yet "alien" foretells what is to become of the Jews. He describes the element argon as a rare gas, part of the air we breathe and need to survive but not always noticed or appreciated. In what way does Levi identify with argon? What does the element symbolize about his background?

Chapter 2: Hydrogen

- Levi writes, "If man is a maker, we were not men: We knew this and suffered from it." (p. 24) What do you think he means by this statement? What do you think is the significance of working or not working with one's hands? Why might not working with one's hands be a source of embarrassment?
- What was it about chemistry that Levi found so attractive when he was young? What qualities does a person need to possess in order to be a chemist? Is there a connection between Levi’s attraction to chemistry and the fact that he is Jewish?
- In what way is hydrogen a fitting element for the tale of a young boy?
- In this chapter Levi introduces a theme that will continue to run throughout the book—that of man's attempt to control nature. Is this a futile or fruitful attempt? What are the dangers of trying to control nature?

Chapter 3: Zinc

- Levi writes, "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, depending on whether they act on their own or 'in the exercise of their function.'" (p. 32) How does this statement shed light on Levi's way of looking at people?
- While describing his work with zinc, Levi writes, "I am the impurity that makes the zinc react...." (p. 35) Why does he call himself an impurity? What is the relationship between purity and impurity that Levi sees in chemistry? From a scientific point of view, what is good about impurity?
- How does Levi address the issue of his Jewish identity in this chapter? How does he describe what it means to be Jewish?
Chapter 4: Iron

- What kind of metaphor does Levi use to describe the laboratory? What meaning do you make of that metaphor? What does the metaphor reveal about Levi and about his belief in science?
- Levi writes, "The Institute's rough and ready morality counted on the process of natural selection to pick out those among us most qualified for physical and professional survival." (p. 39) Why does Levi use this kind of language here? What might his intent be?
- How does Levi describe science, or specifically chemistry and physics, in this chapter? What is he saying about the world in which he lived? In what way are the study of chemistry and physics antidotes to Fascism?
- Levi writes about wanting to remain faithful to the "nobility of man." (p. 41) What does being a "conqueror of matter" mean?
- Levi describes his friend Sandro on pages 43-45. Why does he use iron as the element that best fits Sandro? In the end, is iron in fact an appropriate element for this friend? Levi writes about needing to prepare themselves for an "iron future." What does he mean by an "iron future"?

Chapter 5: Potassium

- The idea of purity is a central theme in this chapter. In what sense does Levi use purity here?
- The idea of religion vis-a-vis science is also central to this chapter. Part of what Levi describes in this chapter is a spiritual crisis, a crisis of faith that gets played out in mainly scientific terms as he searches for what he calls "sources of certainty." What else might this crisis be about? How are the spiritual and the scientific intertwined in this chapter? How is Levi's ongoing search for Truth impacted by his spiritual/scientific crisis?
- How does Levi use irony in this chapter, particularly in regard to the issue of purity? In what way does potassium, especially as it is described in the end of the chapter as the mistrustful "almost-the-same," come to be a metaphor for Levi himself in the face of what is happening in Europe?

Chapter 6: Nickel

- In the beginning of this chapter, Levi writes about himself as an outcast. In what ways does that self-perception motivate the work with nickel that he does at the mine? What role does it play in his brief moment of triumph and then in his more sober realization afterward?
- What new kinds of truths about science does Levi discover in his early adult years?
- This chapter is unusual in the book as a whole for its retelling of the stories about other people. What new truths about people does Levi learn while he is at the mine? The
ongoing theme of nature is more dominant in this chapter. Describe Levi's relationship to nature and the natural world.

Chapter 7: Lead

- As Levi himself points out, this chapter is written in a markedly different style. What purpose did this kind of a chapter serve for Levi? As readers, do you find this chapter disruptive to the flow of the book? An interesting diversion? What role does it play in the narrative as a whole?
- What is the relationship among magic, knowledge, and science in this chapter?
- Levi calls lead the metal of death. What does he mean by this? Why lead, when many of the other elements are lethal? Why death, when for the narrator lead is life-giving and provides him with a good living? Perhaps Levi is making a statement here about people's free choice in using what the earth has to offer. Do you agree?
- In the previous chapter Levi explains that he wrote this story during the period he spent at the mine. How is his ever-increasing sense of being an outsider expressed here?

Chapter 8: Mercury

- What does this tale say about the rules of nature versus the rules of society? Is there an convergence in this story of science and morality? Is there a conflict or tension between the two?
- In the previous story Levi deals with the issue of people's use of the elements, which are in and of themselves neutral but can become agents of death or givers of life, depending on how they are used. In this story how is the issue of control over an element played out?
- What other issues might this story be addressing in the form of allegory or metaphor?

Chapter 9: Phosphorous

- This chapter deals with contrasts-precision, order, and efficiency versus sloppiness and lack of order; rules versus breaking rules; the rational versus the emotional; and male versus female. What other contrasts do you find?
- How has Levi's sense of himself as a Jew changed as the war escalates? In what ways are these changes expressed in this chapter?
- Levi writes that phosphorous "is not an emotionally neutral element: it was understandable that a Professor Kerrn, half biochemist and half witch doctor, in the environment impregnated with black magic of the Nazi court, had designated it as a medicament." (p. 120) What do you think this passage means?

Chapter 10: Gold

- What does Levi mean when he says that they were all writing poetry? (p. 128)
• How does Levi relate to the war in this chapter? In what ways does it reflect his relationship to war in previous chapters? In what ways does it mark a turning point?

• At the beginning of the chapter, Levi writes, "Each of us did his or her work day by day, slackly, without believing in it, as happens to someone who knows he is not working for his own future." (pp. 128-129) What do you think Levi means by this? Contrast this description with the description of the gold collector whom Levi meets in prison. What does this prisoner represent to Levi?

Chapter 11: Cerium

• Levi writes, "We were not normal because we were hungry." What else might he mean by saying that those who stayed alive in the camps were not normal?

• Levi refers to his friend Alberto as someone who is free. What does he mean by the use of the word "free" here?

• As Levi himself indicates, he has written extensively on his Auschwitz experience. This chapter does not sum up that period in his life, but rather provides the transition from "before" to "after." Which words does he use to summarize that experience? To whom or what does Levi credit for his survival?

Chapter 12: Chromium

• Discuss the contrast in this chapter between science—that which is logical and comprehensible—and magic—that which is mysterious.

• This is the first chapter in which Levi writes self-consciously about the act of writing. What motivates him to write? How does writing help Levi deal with his wartime experiences? How does love affect his writing and why? Levi refers to the book that he wrote during this period as a "liberating book." (p. 159) What makes writing an act of liberation for Levi?

• In what way does Levi's professional quest-to find out what went wrong with the livered paint—parallel his personal quest as a writer and survivor? In what important ways do the two quests diverge?

Chapter 13: Sulfur and Chapter 14: Titanium

• How do these chapters address the issue of human control over nature?

• Anger is an important theme in these chapters, as it is elsewhere in the book. What does Levi say about anger? In desperate situations, is anger positive or negative, helpful or harmful? Why?

Chapter 15: Arsenic

• What does this chapter say about forgiveness?

• What role does anger play in this tale? What role does humor play?
Chapter 16: Nitrogen

- What is beauty for this rational chemist? How is beauty determined? What is the source of beauty? What is the role of nature in beauty?

- Levi writes, "The trade of chemist (fortified, in my case, by the experience of Auschwitz) teaches you to overcome, indeed to ignore, certain revulsions that are neither necessary or congenital: matter is matter, neither noble nor vile, infinitely transformable, and its proximate origin is of no importance whatsoever." (pp. 180-181) How would you interpret this statement? What connection is Levi making between his experience as a chemist and his experience as a survivor of Auschwitz? What role can morality and ethics play in such a system?

Chapter 17: Tin

- In this chapter Levi writes, "So fly now: you wanted to be free and you are free you wanted to be a chemist and you are one." After his experiences in Auschwitz, freedom would seem to be a positive thing. Yet the tone here is almost self-mocking. What is the downside to freedom? What is the opposite of freedom? Is "freedom" the same as "safety."

- As Levi watches the ventilation hood drop and disintegrate, what else is he seeing? What else is being destroyed?

Chapter 18: Uranium

- In this chapter in particular, Levi addresses the issue of integrating different facets of his personality. Why is this difficult for him?

- The metal that Bonino gives Levi turns out not to be uranium but rather cadmium. Why would Bonino have fabricated such a story? Why would he have tried to fool a chemist, who could easily test the metal? Yet despite the deception, Levi seems to admire Bonino. What does he admire about him and why?

Chapter 19: Silver

- For Levi what is trust? Can someone who has not previously been trustworthy be trusted? Why or why not?

- Why does Levi want the world to know about the work of chemists? Does his explanation ring true to you, or do you think something else is motivating him?

- In what way are chemistry and the material world anthropomorphized in this chapter? What attributes does Levi assign to matter?

- How does Levi describe guilt and innocence? What is the relationship between guilt, sin, and innocence?
Chapter 20: Vanadium

- In the midst of business negotiations and technical jargon in a letter at work, Levi was able to identify the writing as that of a German with a very common last name as an inspector who oversaw the work he did as a skilled prisoner at Auschwitz. In this account, Levi allows for basic humanity to overcome numbers and jargon. Where else in this work can this be seen?

- Levi writes, "Duty first." Why does he choose to take care of business right away and wait to reveal himself to his previous captor until another time?

- Levi and Dr. Muller are conducting two simultaneous dialogues on two different levels. Why was it necessary for them to act in this way? What purpose did their behavior serve?

- How you understand the line, "reality is always more complex than invention." (p. 218)

- How does Levi deal with the issues of forgiveness and repentance in this chapter? What does being a hero mean? Is his response to Muller surprising? Is it understandable?

- How does Levi feel about Muller and why? This episode in which Levi interacts with Muller ends abruptly when Levi is informed that Muller has died. What do you think is not being said here? Why do you think that Levi ends the chapter the way he does?

Chapter 21: Carbon

- What does Levi mean when he writes that carbon is not specific?

- Discuss the meaning of this story of carbon as an allegory. What does it say about human existence? About people's control or lack thereof over nature? About our ability as humans to make a difference in the world? About Jewish history? About fate vs. free choice?

- Is this chapter a fitting end to The Periodic Table? Why or why not?

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