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The Periodic Table

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The Periodic Table is a difficult book to classify, but it may best be described as a series of stories illustrating the significance of chemistry to the author throughout his life. Each chapter emphasizes a particular insight or incident (which may sometimes have no direct relation to Levi, himself) in which chemistry – and one element in particular – has played a significant roll.

The chapters take their names from these elements – as does the book – but the impact of each revelation is explored far beyond the realm of chemistry. Indeed, the work often ranges into character studies of particularly influential people in Levi's life or wry asides on the ponderous nature of corporate bureaucracy. Every element, however, serves as one facet of a coherent – if unorthodox – account of the relationship that Levi has had with chemistry throughout his life. From Table, then, one may learn much of the meaning of science to a scientist, and how his craft has shaped Levi's perception of the world. This work is never dry, however, and all but the most basic scientific details are explained in such clarity that anyone with a basic background in chemistry should find it accessible.

It is important to state that The Periodic Table is not strictly a memoir. Even though the bulk of the work is drawn from events in the author's life, in even the most autobiographical sections Levi chooses to focus on certain key lessons or emotional turning points rather than biographical details. Additionally, there are four chapters in which Levi does not enter at all and several more where he is only tangentially involved in the affairs mentioned. On the whole, Table is concerned far more with tracing a few key insights from the author's career in chemistry than with providing a comprehensive biography: many years from his professional career, for example, are left entirely unmentioned, while an entire chapter is dedicated to a character study of one of his college friends. In omitting these details, however, and only discussing a handful of events and people about whom he deeply, Levi has made Table a much more intimate and powerful work.

The loose structure of The Periodic Table allows Levi to address a wider variety of topics than would otherwise be possible, and because of this he is often able to introduce lessons for young chemists starting in the field. Because of the intensely personal tone maintained throughout, though, these lessons never seem condescending or arrogant. In one particular instance, he asserts the need of researchers to consider the impact of their discoveries by discussing his own research as a young man in Fascist Italy. He traces his ultimately fruitless attempts to develop a new method for extracting nickel from a particular ore, describing in vivid detail the exhilaration and frustrations of pursuing his hypotheses. It is only after completing this study of the almost reckless energy of his early research that Levi mentions, with arresting carelessness, the fact that had he succeeded, his method would have been employed directly in the Fascist war effort. Left tacit here – in a display of understatement that attests to his skill as a writer – are the abuses of the Fascist powers, including his own horrific experiences at Auschwitz. Levi is clearly haunted by the fact that he risked complicity in such atrocities without realizing it, and this regret serves as a potent admonition for scientists to consider the implications of their work. Such deft and earnest writing is to be found throughout Table, and it makes it a valuable source of advice for those considering a career in chemistry.

Experienced chemists might enjoy Levi's description of the common rights of passage that they,
themselves have undergone, and those outside the field may find that this book offers valuable insight into the profession. Levi writes as one who has a deep and sincere affection for his work. His initial, clumsy encounters with experimentation are discussed with such candor that his thrill and inexperience are instantly recognizable by anyone who has ever made a baking soda and vinegar volcano or dabbled in incendiaries for a science fair. Likewise, the manic energy and seething frustration described in his early research projects will be familiar to anyone who has been swept away by a hypothesis. Levi's relationship with chemistry is a long and varied one, and each major stage in his career is discussed from the point of view of both the younger man embarking on these adventures and the older scientist reflecting upon his past. This unusual balance of naiveté and experience gives Levi's accounts rare accessibility and insight: it is easy to identify with the young man fascinated by melting glass and swept away by unrequited love, and this emotional intimacy makes it easy to understand the wisdom offered by his elder counterpart. Through this careful balance of honest and detailed description and retrospective musing, Levi is able to offer a vivid and insightful narrative that carries rare emotional power.

One particularly distinctive characteristic of Levi's writing is a tendency to find philosophic meaning in prosaic facts or events. The low reactivity of ultrapure zinc, for example, suggests to Levi the detached permanence of ideals founded on purity and the necessity of so-called impurities to the mercurial vitality of life (34). This interpretive musing seems an organic extension of the emphasis placed on underlying causes and motivations found throughout The Periodic Table. Levi seems at times as much a philosopher and poet as he does a chemist, as he has a rare perception for the emotional significance of events and is quick to distill underlying truths from his experience and apply lessons learned in one sphere of life to others. For more pragmatically-minded readers this almost Transcendentalist fascination with the reflection of the sublime in the mundane may be off-putting, but it matches well the general style of the work and allows Levi to explain certain points more deftly than he might otherwise be able. By introducing a particular reflection through these metaphoric tangents, Levi is able to precisely frame the topic he discusses and draw ready parallels between seemingly disparate concepts. At the very least, this unusual technique gives Levi a unique narrative voice, helping to make Table an even more intimate book. At most, however, these correspondences give Table the air of a much deeper, almost spiritual work, holding as much wisdom as Levi can give.

Perhaps the most unusual inclusion in The Periodic Table are two short stories written by Levi as a young man and inserted into the narrative at approximately the time when he wrote them. On their own, the stories are not particularly remarkable: one is narrated by a bronze age metallurgist, and the other by a Victorian-era Englishman who discovers mercury on a remote island. Although the premises are interesting, the writing is clearly less deft than is found the rest of the book, and Levi goes to almost embarrassing lengths to include bits of historical or chemical trivia in these tales. Despite their flaws, however, it seems natural to include these stories. They are, in a sense, a time capsule from Levi's youth, and they reveal much about his conception of chemistry at the time. For each protagonist, their chosen element becomes a path to freedom – a prospect that Levi, as a Jew facing increasing persecution in the early Forties, must have found enticing. Additionally, despite the immature writing style, each story closely resembles the rest of Table in its belief that the laws of chemistry have deeper, more philosophic parallels in everyday life – indicating Levi developed this rather poetic sentiment at a young age. Presenting these stories as honest appraisal of his thoughts in the early Forties is, in a way, merely an extension of the other efforts that Levi has made to candidly document his thoughts.
and feelings in the rest of *Table*. Thus, these stories may be seen as a particularly effective way in which Levi offers his readers candid insight into the life and growth of a professional chemist.

Although *The Periodic Table* was written in Italian and translated into English, it has not suffered for the transition. Rosenthal's translation is excellent throughout, and the language often borders on the poetic. There are only a handful of instances where it is apparent that the work is a translation (generally because of some quirk of sentence structure or phrasing), but even in these rare moments, the language remains lucid and the meaning clear. Indeed, such attention is paid to nuance and detail in the translation that the short story “Mercury”, which is set in the mid-19th century, even features the stilted, formal narrative style common to works of that time.

In the closing chapter of *The Periodic Table*, Levi begins by stating – with deadpan understatement – “the reader, at this point, will have realized for some time now that this is not a chemical treatise,” and this is certainly true. Although chemistry is the unifying theme of this work, it is often little more than a metaphor allowing Levi to introduce a character study or particular vignette. That being said, *Table* still provides an honest and resonant examination of a life dedicated to science. Every chapter is powerful and full of insight, and Levi's considerable skill as a writer elevates it to the realm of a truly great book. *The Periodic Table* is a work suited for both professional chemists, students just entering the field, and any who enjoy an insightful examination of a life by a masterful writer.