CONCLUSION

Over the course of writing this book, my perspective underwent a fundamental transformation. At the outset, I focused primarily on the structural characteristics of individual pyramids. Yet only a few weeks into the project, I was confronted by a simple but decisive realization: Khufu's pyramid consists of roughly 2.3 million stone blocks; the essential question is not how a single block was produced, but how millions were quarried, shaped, transported, and assembled.

This insight shifted the entire framework of my inquiry. From that moment onward, my criterion for evaluating construction methods was no longer whether they were theoretically possible, but whether they could sustain the necessary throughput over extended periods.

Part I of this book therefore explores hypotheses grounded in throughput, sustainability, and the practical accessibility of materials in ancient Egypt. These hypotheses are not definitive conclusions; they are attempts—necessarily imperfect—to reconstruct ancient engineering practices through the lens of a modern engineer. My knowledge is not universal, and many ideas presented here remain the conjectures of an amateur.

One episode during the writing process illustrates this clearly. Possessing almost no prior knowledge of stone fracture techniques, I consulted a professional experienced in splitting garden stones. I learned that drilling a series of holes is far easier and more effective than cutting a continuous groove. Further investigation suggested that even a wooden drill shaft, when used with quartz sand, could theoretically bore holes into limestone. Yet when I attempted this myself, the experiment failed. Although the wood-and-sand combination did abrade the stone, the efficiency was far too low. This experience reminded me that engineering reality often diverges sharply from the tidy logic of theoretical reasoning.

In my former work in design and management at Panasonic, I routinely sought advice from other departments, research laboratories, partner companies, and external specialists. Expertise is most effectively obtained from those who possess it. In contrast, while writing this book, opportunities to draw upon external knowledge were limited—a fact I regret. Throughout fields such as construction, civil engineering, production technology, project management, process design, logistics, heavy-object transport, and stone processing, I often felt that true specialists could surely conceive of better methods than those I propose here.

For that reason, this book should be understood as a collection of engineering-based hypotheses about ancient Egyptian civilization. Rather than asserting definitive conclusions, I have sought to imagine concretely what ancient work sites might have looked like and to examine the feasibility of those imagined scenes. If any readers possess practical experience in construction, civil engineering, production technology, project management, process design, logistics, heavy-object transport, or stone processing, I would be grateful if you would evaluate the content from your own professional perspective and consider possible improvements or alternatives.

If, for example, a cross-disciplinary group at a comprehensive university were to bring together specialists from different fields, I believe we could come even closer to understanding the true nature of the massive construction projects undertaken 4,500 years ago. The pyramids were not merely monuments; they were the products of vast, coordinated engineering systems. To approach their reality, we must combine imagination with technical rigor—and remain open to the insights of those whose expertise exceeds our own.

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