



Challenging Drill Questions ④ / Solutions ⑤

“If I have seen yonder, it is by standing on the shoulders of giants.”

— Sir Isaac Newton

If a student is drilled to the hilt on the question–types, would’nt the student be only exams–smart and may not be able to handle life or career at a later stage?

This statement only spells half–truths with reference to the ultimate grading of students.

If a student is able to do nothing else, except to drill well and consequently, score well. Then I am afraid that student will not do well in life. The student would be better off just by learning a basic technical skill and work hard for the rest of his/her remaining life. But, we are dealing with very intelligent beings here, the **homo sapiens** specie. Scientists had all along deduced that our human brains are 40% too big. Even the earth’s most ferocious predator, the lion, king of the jungle, has brain that is in much smaller proportion than that of the human specie. What then contributes to this evolutionary misnomer?

The answer lies in the fact that although we, the humans, are at the top of the food chain and we don’t have much natural enemies, but yet, we are our own worst enemies. It is this constant fear of our *neighbours* that our brains grow bigger and bigger through natural selection (the **evolution theory**). It is natural that humans with bigger neural faculties are better adept to avoid danger from his *neighbours*. This greatly increases their chance of survival and as a result, their number increases.

Recently, scientists also dwell in the all important issue of **nature versus nurture**, a Cambridge scientist concluded that the human brain is much more sophisticated than we think it is. Instead of suggesting that we are born more or less capable than our *neighbours*, he suggested that the human brain is born very versatile, the natural mind is built with adaptors to take advantage of his environment. This explains why a child born of a street cabbie can still ace the exams and do well in life, while a child born of wealthy origin may still fall by the way side. Or a child with limited education can still build wealth beyond their wildest dreams, at the same time, a child with rich disposition and education, still wondering what to do next (Here I chose wealth as a measure for success, of course, one can choose other measures, but it should not affect the outcome of case study).

Since we can find great examples on both sides of education, does this argument lead to simply the conclusion that we don’t need education?

The answer is obviously no and quite the opposite. The Cambridge scientist concluded that the nurture part of the child is more significant. We thus need education ever more. The question remains how best we should know it.

Education is about learning what our predecessors have discovered. It would be silly if one would deny education and go on his own way to uncover the very same facts that his predecessors have learnt. Education for that reason is the shortest path to success. **By knowing and learning well what is already known, one now has the luxury to spend the rest of his time to uncover new truths and be better** (*i.e.*, a long winded way of restating **Newton’s quote**).

This *challenging drill questions / solutions* set is meant for direct use by students preparing for the exams. A sky diver repeatedly jumps to achieve precision and agility. A fighter pilot repeatedly flies his aircraft to co–ordinate his attack sequence and mission completion. A general of the army frequently conducts paper and ground exercises to prepare for that possible eventuality that the country might go into war. Yet, through these all, no one laughs at their doggedness but instead, praises their fervours.

When we come to students drilling for exams, the students were laughed off as nerds and geeks, something “uncool”. This is not right. It came as no surprises that Mr Bill Gates, Microsoft, the current richest man, said once that *the nerds and geeks will rule the world*.

- Every year, examiners from top schools like to create **new question–types** to test their students. This book collects faithfully these new question–types and presents them in its entirety in a **topical order to facilitate careful rapid drilling and learning (with complete answer keys)**.

- No matter how creative the examiners are, there is a physical limit to the number of question–types one can reasonably create, as the question–types are limited by the exam syllabus. This book is a **complete and true encyclopedia of question–types**. There shall be no surprises.
- Students are normally quite adept to normal question–types, but the exams more often than not involve many “trick” questions. One would notice the more recent exam question–types were involved in advanced “trickery”. “Tricks” are only surprising when they are encountered fresh. If the same “trick” reappears, the “magic” would have worn-off and no longer have any effect on the student. *But, these “trick” question–types must first be encountered.*
- Due to the large number of different question–types and time–constraint, it may not be too reasonable to insist that the student practice every single question presented in the *questions book*, after all these questions tend to be more difficult and hence, more time–consuming. The *solutions book* with **step-by-step solution** to each question, serves as a remedy for this lack.
- Top schools by far set the most difficult question–types to drill their students. If the student can answer the questions in this *question book*, one can confidently score in every single exams. **The tendency towards carelessness is also greatly reduced.**