THE WIZARD WHO OVERSIMPLIFIED: A FABLE

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In a certain kingdom, there was a school for the education of princes approaching manhood. Since the king and his court spent much of their time playing chess — indeed, chess was called the sport of kings — it was decided that the subject called "games" should be added to the curriculum of this school. A wizard was engaged to develop the course.

Never having played chess himself, the wizard was a little uncertain about what to teach in this course. (Only a *little* uncertain because his ignorance of chess was outweighed by his strong confidence in his general ability.) He sought the advice of a colleague in another kingdom and from him received the following communication:

"Above all else, a course in games should be rigorous and intellectually challenging. We wizards long ago concluded that chess, as actually played, is so complicated that it is impossible to formulate a body of principles and decision rules; these are essential to the rigorous analysis of any subject. We have therefore introduced a few simplifying assumptions. For example, in chess, the pieces move in a bewildering fashion — some forward, some on the diagonal, and some even at a right angle; we have tidied up this confusion by assuming that all pieces move according to the same rule. With such assumptions, we have been able, albeit with great difficulty, to develop a model, a set of principles, and decision rules which are teachable, and intellectually challenging. A 700-page treatise describing these is enclosed."

The wizard was much impressed by the 700-page treatise, and used it in his course. He found that it was teachable, and that the task of learning this model and solving problems with the decision rules was indeed rigorous and intellectually challenging, as proved by the fact that good students did well on their examinations, while poor students failed them.

The wizard maintained an active correspondence with wizards in other kingdoms about the model and its decision rules. In this correspondence, the game was referred to as "chess" although this was solely for convenience of expression; it was taken for granted that everyone knew that their game was not quite like chess as played in the real world. Eventually, some of this correspondence came to

the king's attention. Although he didn't understand the formulas and the jargon, he did notice that the word "chess" was mentioned, so he commanded the wizard to appear before him.

At this audience, the wizard asked, "How can I serve you, O King?"

And the king replied: "I understand that you are teaching the princes how to play chess. I wish to improve my own game. Can you help me?"

"What we call chess may not be exactly like your game, your majesty. So before answering your question, I must analyze the problem. Please describe chess as you play it."

So the king explained the game of chess. As he did so, the wizard noted that it had the same physical layout, the same number of pieces, and apparently the same objective as the game he taught in school. It seemed clear therefore that the solution was simply to apply the decision rules for this game, although he of course did not immediately reveal this fact to the king for he wanted to preserve his reputation for wizardry. Instead, he said thoughtfully: "I will study the problem and return in ninety days."

At the appointed time, the wizard appeared again, carrying a crimson pillow on which lay a spiral-bound report with a Plexiglas cover. It was a paraphrase of the 700-page manuscript. "Follow the rules in this report, your majesty, and you will become the best chess player in the world," he said.

The king avidly studied the report, but soon ran into difficulty. He summoned the wizard again. "I see reference to kings, and men, and squares, which are familiar terms to me; but what is all this about 'jumping,' and 'double jumping,' and 'countervailing force,' 'suboptimization'; and where do you mention queens, rooks, bishops, and knights?"

"But your majesty, as I have clearly explained in the introduction, it was necessary to simplify the environment a trifle. I doubt that these simplifications lessen the practical usefulness of what I have written, however."

"Have you by chance watched some chess players to find out?" asked the king.

"Oh, no, your gracious majesty, but I do carry on an extensive correspondence with other wizards. This is better than observing actual practice because it is generally agreed that wizards are smarter than chess players."

"And your princes. Are they equipped to play chess in the real world because of what they have learned in your course?"

"No offense intended, sir, but we wizards do not believe this to be a proper question. The purpose of our course is to teach princes to think, not to prepare them for a mere vocation."

At this point, the king lost his patience, but since he was a kindly king, he sent the wizard back to his school room rather than to a dungeon.

Moral for economics professors: An education in checkers does not prepare one for a life of chess.

Moral for operations researchers: Half a loaf is not necessarily better than no bread; it may be only chaff.

Moral for businessmen: A consultant who wants to play his own game rather than yours is worthless.

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