# PHILOSOPHY AND FUN OF ALGEBRA

## CHAPTER 11: MACBETH'S MISTAKE

The whole question of choosing one's next working hypothesis has been fogged, owing to people's neglect of a very simple principle. Suppose you are out bicycling in a strange place. You come to a bit of smooth, good road, which is either flat or goes very gently down hill; and presently curves in a nice, big, easy sweep round a bit of wood or a cliff, so that you cannot see far along it. What you know at once is that you can, if you choose, get up great speed without overmuch exertion. That is obvious, and needs no discussion. The question you have to settle is: Shall you choose to do it?

If you have heard the whole road spoken of, in general terms, as a nice safe one to go on, you probably do choose to make use of the specially easy bit of the road to get up a lively spin.

But supposing that, at the beginning of the gentle slope down, you come upon a notice board with an inscription "Go slowly," or "Dangerous to cyclists," I hope you would have sense enough not to think—"What do those old fogies know about the needs of the young generation? I have a right to go fast if I choose, and I shall have my jolly spin in spite of them." Nor would you say: "I can take care of myself, and if I run into somebody else that is his look out." If you are an experienced cyclist you would keep on your seat, and go cautiously; if you are still a very inexperienced one, it would be wise to get off your cycle, and not mount again till you had come to the curve, and gone round it, and seen what is beyond.

The notice board is not an actual prohibition to go along the "King's highway" if you choose. The people who put up the board have no authority over you. But your own instincts of self-preservation, and I hope also your instinct of loyalty and good comradeship with the possible other cyclist who may be at the bottom of the hill, would suggest to you not to throw away the guardianship of a caution from those who know more than you do about the road. Having given you this general indication of the principle which I am trying to explain, we will go back to the question of an imaginary working hypothesis. My imagination, as I told you, showed me that my mind would travel quickly and easily along the road opened up by supposing that Israel means Rhythm. Looking back in my memory, I could not find the smallest indication that anybody had either come to grief himself or offended any Hebrew person by behaving as if the people of Israel were the People of Rhythm; and there is nothing in the Ten

Commandments to suggest that there is any harm in doing so. So I started off on a glorious, easy, rapid spin; and arrived, without any mishap, at several very interesting bits of scenery.

Now let us take the case of the old Scotch legend of Macbeth, as told by Shakespeare.

Macbeth and his wife appear to have been, at first, very well-intentioned, good people, as human beings go; better than most people; and enormously better than Jacob, or his mother, or his uncle, or most of the people belonging to him. Macbeth was a brilliant and successful soldier; his imagination suggested to him that he had it in him to rise rapidly to fortune and power. He might become Thane of Cawdor, and some day even King of Scotland. His imagination was so vivid that he pictured three old women going through some heathen incantation and predicting to him that he would be Thane of Cawdor and King. Here was a road open, along which it was quite sure that his mind would travel easily if he would let it do so. The question was: Should he let it go along that road?

Now there were living at the time a Thane of Cawdor and a King of Scotland. While they lived, he could not be either. The commandments say, "Thou shalt not covet thy neighbour's goods." Here was a danger signal. If Macheth had known as much as Shakespeare knew about the art of sound thinking, he would immediately have said to himself, "'Cawdor' and 'King' are the roads that I had better not travel along just now, for fear the wheels of my mind should get too much way on, and carry me into danger." But Macbeth had either not learnt algebra at school, or, if he had, he had only crammed it up for examination out of a textbook, and not learned it as the Science of the Laws of Thought.

Another day his imagination showed him a dagger. A dagger is a thing to kill people with. As a soldier, he had probably used a real one in war. But, if he had had any proper nerve training, he would have known that when his imagination was so vivid that he did not, for the moment, know an imaginary dagger from a real one, he ought immediately to "go slack"; to lie down and think about the moors or the sky, or about anything or anybody that was not connected with doing anything in particular, with planning anything, with taking any resolution, and especially with breaking any of the Ten Commandments.

He had already told his wife about the three old women. If she had been a sensible woman, she would have told him that she wanted to go away from home; and got him to take her right away for a few weeks; and kept him busy and amused in thinking of other things; till he left off seeing things that were not there. But neither Macbeth nor

his wife knew as much as Shakespeare did about the value of danger signals and the conditions for making a safe working hypothesis.

You had better read the story of Macbeth and see for yourselves what they did do.

Next to the old Hebrew books, Shakespeare is the best road map that I know of for people who wish to travel safely about the country of the imagination.