

# PHILOSOPHY AND FUN OF ALGEBRA

## CHAPTER 10: THE STORY OF A WORKING HYPOTHESIS

In an old Hebrew book there is a story of a person named Jacob, which means the Supplanter. If you want to know why, you had better read the story for yourself some day. It is not entirely a pretty story, but it is very instructive. Jacob had a dream in which he saw “angels” coming down a ladder. It would be a very profitable exercise of your imagination to ask yourselves why this particular patriarch saw angels on a ladder, whereas so many other Hebrews saw them in clouds, or flying down on wings, or mixed up with flames and other romantic, pretty, moving things.

Jacob had another dream, and saw an angel who wrestled with him, and apparently left him with sciatica for life; which is not surprising, for he had been sleeping out of doors on bare ground, just when he had been wrestling with very serious difficulties caused by his own dishonest tricks. At such times, as I told you before, people had better be a little extra careful not to catch cold; because colds caught under such conditions are rather prone to leave unpleasant traces, which last a long time, and sometimes all one’s life.

Well, the angel who gave Jacob sciatica gave him something else: a new name. Why did he give him a new name? Taking a new name was an ancient ceremony which meant entering a new service. Sixty years ago servants in Devonshire were called by their employer’s name. A gardener would have two names—his own, which he got from his father, and his master’s. I have even heard dogs called by their master’s names, for instance, Toby Smith, or Ponto Jones.

You will often notice in old books that when people were converted, that is to say, when they either took up a new religion or turned from bad ways to good ones, the people who persuaded them to be converted gave them a new name, very often the teacher’s own name. Well, the angel who wrestled with Jacob appears to have converted him. He seems to have persuaded Jacob that there are other ways of getting on in the world and promoting the fortunes of one’s children and grandchildren besides cheating everybody, including one’s own nearest relations.

Therefore Jacob was not to be called “the Supplanter” any more: his new name was to be “Israel.” Jacob’s descendants are called Hebrews, and also “the people of Israel.” “Israel” was the new name which Jacob got when he turned from cheating to a better way of getting on in life.



What was that better way? That is our  $x$ , our first unknown. What does the word "Israel" mean? That is our  $y$ , our second unknown. I may as well tell you at once that, so far as I am concerned,  $y$  remains unknown. I want you to take notice that I do not know what the word "Israel" means. But some twenty years ago my imagination supplied me with a working hypothesis:

—Suppose "Israel" meant "rhythm."

Now if I had gone telling people that "Israel" means "rhythm," I should have been contradicted and laughed at and told that I had no proof of what I said and was talking of what I knew nothing about; and whoever said so would have been perfectly right. I should have been cheating myself and getting into bad slipshod habits. What I did was to post up inside my brain as a working hypothesis: "Suppose 'Israel' means 'rhythm,' what would be the consequence of that hypothesis?" Then I read through old books of the Hebrews, putting in my mind the word "rhythm" wherever I found the word "Israel," and "the people of rhythm" instead of "the people of Israel."

In the stories that are told about Jacob and his grandfather Abraham the angels are represented as telling the two men that if they would obey the angels, not only they themselves would be blessed, but all their descendants would be blessed too, and be made, at last, the means of conferring a great blessing on all the world; Moses warned them that, if they did not obey their own special angels, some special trouble would come to them.

My imagination suggested to me that perhaps getting into the swing of rhythmic beats is good for all people, but more good for the people of Israel than for anybody else; and that wandering off into irregular un-rhythmic freaks is more bad for the people of Israel than for anybody else.

This, again, you will observe, is purely imaginary hypothesis. I had not the faintest warrant for saying anything of the kind; therefore I did not say it; but I experimented at treating my Hebrew friends and acquaintance as if they were natural born ministers, or servants, of the principle of rhythmic beat; as if it was their business to introduce respect for rhythm and an orderly arrangement of time into the general morals of the world; and as if they would, of course, become degraded more than other people, if they allowed themselves to drift into being irregular and disorderly. Now you will observe that, though all this was purely imaginary hypothesis, it was of a harmless kind; there is nothing contrary to the ten commandments, or to any other register of safe rules, in treating one's Hebrew acquaintance as if one expected them to be more orderly as to time than other people.

The registered rules allowed me to consider this a safe road; and my imagination showed me that it was one along which I could travel quickly; therefore I started to go



along it and waited to see where I got to. One consequence which came was that some of the people of Israel began telling me that I seemed to know things about their old books (even some old books that I had never read), which they themselves had never observed before; I had enabled them to get at real values for the  $x$ 's and  $y$ 's; of some of their problems.

Please notice that all this is pure imaginary hypothesis. Ancient peoples made a hypothesis, for which they had no authority, about angels; and I made one, for which I had no authority, about some of those supposed angels. And, by dealing logically with these imaginations, we got to some very real knowledge.

