

Chapter 1: What is logic?

The road that led to Ayar's estate stretched as far as eyes could see, but this length was mitigated by aged, tall trees of all varieties that were covered with light snow. As morning was conquering the night, a solitary rider whose blue chain mail and purple breeches made him look like an exotic bird was almost flying through the long road to Ayar's home with such speed that the winter-deadened trees began to move, as if to wake up from an imposed slumber.

Upon arrival, the steward of the estate recognized Karl Gutenberg, Ayar's international cousin, and sent someone to inform Ayar, who was in his study.

Ayar was, as usual, studying. In front of him lay Descartes's meditations, and an original copy of Ghazali's *The Incoherence of Philosophers*. He was wearing a white Persian long shirt, and a black *tonban*, and was just taking a break when the steward appeared:

'Sir, it's your cousin, Karl.'

'Karl? How nice! Please serve refreshments. I will be there right away.'

The steward nodded and left. Ayar went to the guest room and saw Karl admiring his bookshelf.

'Asalam-o-Alaikum Karl! You must be wondering why I put some books in the guest room.' said Ayar, extending his hands.

'Walikum. Knowing you, I would not wonder. I think it makes sense since guests might sometimes need some time alone and in the company of books.'

Thus, they talked and caught up on all the new and old, and then after a sumptuous breakfast, Ayar went to attend to some business. Karl went to the book shelf and was browsing, when Sydney, the English cousin's head appeared in the doorway:

'As soon as I heard you went to Ayar's I did not waste anytime and arrived here just this minute!' said he, almost panting.

The two cousins greeted and while Sydney was being served tea, he broached the topic they had discussed last time.

'Karl? do you remember you promised to talk about logic last time? Well, I am glad to say that apart from seeing you and Ayar, I also enjoyed our talk so much that I wish you would continue it.'

'Of course, if you can put my knowledge to test, I will be glad to match wits with you. But Ayar is not here, so we can start first, and when he joins us, we will have enough material to interest him, too.' Karl smiled, and his bright, shiny eyes gave a kind twinkle.

Sydney began thus:

'So what is usually meant when we say logic?'

- 'What is meant is concepts and rules of reasoning, in other words, logic is the language of science of reasoning,' answered Karl.

'And what good is this science of reasoning for? Since you know I am extremely practical and I don't have time for time-wasting garbage that some people put in some books.'

This made Karl laugh.

- 'I could give you a mnemonic. VATIF.'

'What if?'

- 'Well, no. V for validity, a for argument, t for truth, i for inference, and f for falsity. These aims as samples of the science of reasoning are representative enough.'

‘And what are the uses of those samples?’

-‘One could say, that in the main, they help us clarify our thoughts and ideas, which in turn could solve problems, or help us with decisions under uncertainty, and so forth.’

‘That does sound appealing. If you define the science of reasoning so, I cannot find any applied skill as valuable the ability to reason well.’

Karl poured Sydney some Indian tea and continued:

-‘Our sage, Descartes said something similar.’

‘Wait, wait, I know. It was his first [rule for the direction of the mind](#)!’

-‘You are well-read. Descartes’s rule 1 is: “The aim of our studies must be the direction of our mind so that it may form solid and true judgments on whatever matters arise.”. This can be used to claim that Descartes holds the science of reasoning as the most important rule for the mind, as it then can be applied to any field.’

‘But, since the science of reasoning is so useful, what role does logic play in it?’

-‘Suppose you asked me why I am wearing a chain mail, since we are living in the 17th century and this was popular in between 10th and 14th centuries? and if I told you simply because I like it, I have given you a reason for my action.

But is this a good reason? The existence of a reason is no guarantee of its being valid or correct. Logic’s task is to differentiate good reasoning from bad.’

‘But then, being an amateur psychologist, I am prompted to say that when we study how people reason, this is psychology, not logic?’

-‘True. However, there is a subtle difference. Logic’s tasks are studying the principles of good reasoning, not how people reason.’

‘I must say, you have confused me.’ said Sydney, with a neutral smile.

-‘It goes like this: logicians study principles of good reasoning, develop terms and definitions, demarcate arguments as valid or invalid based on standards, and in general contribute to your becoming an even better critical thinker.

But when psychologists study people, they observe how people reason because their task is to see how a specific case of reasoning by some people can be generalized to show a pattern that could allow psychologists to make predictions or manage certain behaviours.

But when psychologists study how people reason, they rely on the foundations—the alphabet and the terms—developed by logicians.’

Sydney said:

‘Then, can we say psychologists study reasoning in action, whereas logicians study reasoning in itself?’

-‘You can. Instance of reasoning are called arguments, and please wait until the time-travel portal opens so that my sister arrives from the future to give you an even more interesting example of this in the context of programming.’

At this time, Ayar entered and greeted Sydney, asking:

“So what have you two been talking about?”

‘I asked Karl what purpose logic served in the society and he told me that its purpose was to study the nature of arguments in order to distinguish good ones from bad ones.’

“Indeed, Karl is right. When we study an argument, we can also study dis-arguments.”

Karl laughed and said:

-‘You mean fallacies.’

“Right, my English is influenced by classical Arabic that I was reading this morning.”

‘So in summary, can we say logic is the study of arguments?’

“You can, for sure.”

At this time, Ayar remembered something and told them of a plan to go riding to the next village where he said they were to meet his good Slav friend, Wantumski, who is an expert critical thinker and perhaps they could discuss more over a game of Carambole. Ayar said he had a standing open invitation.

Sydney could not suppress a laugh:

‘I say Ayar, your neighbor does have a strange name.’

“She is, you will find, even more interesting than her name.” Replied Ayar with his characteristic good will.

With this, preparations were made to go to Wantumski’s estate, in order to spend a pleasant evening playing games and discussing logic with Master Wantumski.