

## Chapter 6

# Two-Part Invention

*I am the Walrus – The Beatles*

### 6.1 Abstract

Bach also wrote fifteen two part inventions. This two-part Dialogue was written not by me, but by Lewis Carroll in 1895. Carroll borrowed Achilles and the Tortoise from Zeno, and I in turn borrowed them from Carroll. The topic is the relation between reasoning, reasoning about reasoning, reasoning about reasoning about reasoning, and so on. It parallels, in a way, Zeno's paradoxes about the impossibility of motion, seeming to show, by using infinite regress, that reasoning is impossible. It is a beautiful paradox, and is referred to several times later in the book. *GEB pp. viii*

### 6.2 Lewis Carroll's Paradox

- The basic axiom of reasoning is call “Modus Ponens”.
- Failing to agree to this axiom leads to “infinite regress.”
- What distinguishes these paradoxes?
- How do we resolve these paradoxes? Zeno should that Motion Is Inherently Impossible and thus Motion Unexists ( $MIII \Rightarrow MU$ ), but now Carroll seems to show that reasoning is impossible too!

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Gödel, Escher, Bach: A Mental Space Odyssey  
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