

# A MASTERCLASS IN LOGICAL FALLACIES

## 邏輯謬誤鑑識班

*Disrupting the field of traditional philosophy, this crash-course in practical logic teaches you to think for yourself.*

Can we assume that someone who doesn't believe in the supernatural is a sceptic? Or that there is no logic to the ranting of the shabbily dressed tramp who rails against politics? Are horoscopes and the predictions of fortune-tellers necessarily nonsense? And is the man who does the housework more likely to be emasculated? This book offers numerous practical examples of logical fallacies – when specious reasoning or flawed thinking prevents us from making impartial decisions – and steers clear of the rigid “if P then Q”-style formulations that characterize most books on the topic.

Every day we find ourselves confronted with rhetoric, online rumors, superstition, advertising, and conversational snares. *A Masterclass in Logical Fallacies* subjects them to detailed analysis and provides useful advice for dealing with them. By following the step-by-step sequence of these twenty-four lessons, the reader will learn to deploy logic, to organize thought, spot errors, tame emotion with reason, and sidestep logical traps.

Chienchih Chi aspires to promote a more philosophical way of living, creating a new means of communication that will empower readers to recognize the logic behind every problem.

### Chienchih Chi 冀劍制

Chienchih Chi has a doctorate in philosophy from the State University of New York at Buffalo, and is now a professor in the philosophy department at Huafan University. He also works as a cultural critic, organizes a writing program, and hosts a research room dedicated to logical thinking. Having switched disciplines from the world of science and engineering, he now strives to promote the idea that philosophy is a code to guide the way we lead our lives, and not just an abstruse branch of academia.



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By Chienchi Chi

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## **Part 1. Elementary class: identifying common fallacies**

- Lesson 1: The appeal to probability
- Lesson 2: The biased sample
- Lesson 3: The false cause
- Lesson 4: The straw man
- Lesson 5: The false dilemma
- Lesson 6: The irrelevant conclusion
- Lesson 7: The argument from ignorance
- Lesson 8: The tautology
- Lesson 9: The hasty generalization
- Lesson 10: Equivocation
- Lesson 11: The false analogy
- Lesson 12: The misinterpretation
- Lesson 13: Compound fallacies and exercises

## **Part 2. Intermediate class: Identifying formal fallacies and analyzing arguments**

- Lesson 14: Identifying the structure of an argument
- Lesson 15: Finding formal fallacies
- Lesson 16: Some basic practice

## **Part 3. Advanced class: Hidden assumptions, counter-examples, and analysis**

- Lesson 17: Arguments and hidden assumptions
- Lesson 18: Comprehension and hidden assumptions
- Lesson 19: Counter-examples
- Lesson 20: Analyzing fallacies

## **Part 4. Post-graduate class: Emotional obstacles, misunderstandings, and mindsets**

- Lesson 21: Emotional obstacles
- Lesson 22: Avoiding misunderstandings
- Lesson 23: Breaking free of mental frameworks

Before we start this course, we're going to test how developed your problem-spotting skills already are. Read this online advert and see if there's anything that sounds dubious:

*With disasters both natural and man-made increasing in recent years, we find ourselves thinking of a prophecy made in several major religions: "The end of the world will be preceded by calamities." And yes, the end of the world may be approaching, but there is no need to panic – only to prepare. We need to change both our state of mind and the way we live our lives. And to meet these changing times our company has produced a complete system for harmonious living.*

*First, we must avoid killing all forms of life, with our food coming from sources unpolluted by blood or pesticides. Otherwise our food will pollute both our bodies and our minds. And as our bodies, minds and spirits are one, the nutritional value of our food must bring these into balance without that brutality. Our products have been formulated by Huang Tien, who holds a doctorate from a famous US university. Dr. Huang is Taiwanese and before moving to the US won the Top Ten Inventors Annual Award. In the US his products have won a number of different prizes and he has developed several important supplements carefully formulated to maintain the balance of the body, mind and spirit. These originated from Eastern traditional philosophies – views which are being taken increasingly seriously internationally. In the bestselling book *Consciousness at the Crossroads* we see that even several important doctors of Western medicine, which has always regarded people as nothing more than physical bodies, have started to learn from the Dalai Lama on the integration of the body, mind and spirit. And so the medical world is starting to work towards that oneness of body, mind and spirit – and Dr. Huang, who combines an Eastern spirit with Western technology, symbolizes this process.*

*To meet the needs of this era, Dr. Huang has formulated a special "Detoxifying and Calming Nourishment Powder." One sachet a day is all you need, and you will see results in three days. The product's remarkable results have made it hugely popular and despite extra production demand still outstrips supply. So order soon, as we don't know how long you might have to wait if you miss out this time. We must all take care of our health – whatever you do, don't ignore the warning signs of your body.*

At first glance this online advert might seem to make sense and to present solid arguments. But give it a closer look and do some problem-spotting. Is there anything that triggers a warning – a sense that "that's odd"? When you get that warning, don't ignore it – stop and think some more about what's causing it. Is there a problem with the reasoning? Take as long as you want – the longer you take, the more likely it is your problem-spotting skills will improve. And when you really can't spot any more problems, look at the analysis below. Someone with excellent problem-spotting skills is likely to identify the following issues:

1. "...he won the Top Ten Inventors Annual Award." Does this award exist? You certainly haven't heard of it, but there are many awards you've never heard of – it doesn't mean they don't exist. But remember that apart from the most famous of awards – The Golden Horse Awards, The Golden Bell Awards – it would not be usual to give the award's name alone. You would expect to hear the organizer's name or some other information: "The Ministry of the

Interior Top Ten Inventors Annual Award” or something similar. When you haven’t heard of an award and you aren’t told who gives the award you should be skeptical: it might not exist, or it might be some small company giving itself awards. Similarly, many brands of tea describe themselves as “competition-winning” – but even if they have won a competition, it may be one the company itself held. In these cases, winning is meaningless.

2. “*The end of the world will be preceded by calamities*” does not mean that the end of the world is inevitable after calamities occur. This is a “formal fallacy”: P may imply Q, but this does not mean Q implies P. For more detail see Part 2: Formal Fallacies.

3. “...holds a doctorate from a famous US university”? If it’s a famous university, it would be more persuasive to name it. Failing to do so is dubious indeed. Maybe it isn’t really famous at all – but the definition of “famous” is fuzzy and so the term can be used without risk. And what is his doctorate in? Why not explain?

4. “his products won several different prizes” – as above, it is suspicious that the prizes are not named.

5. “*In the bestselling book Consciousness at the Crossroads we see that even several important doctors of Western medicine, which has always regarded people as nothing more than physical bodies, have started to learn from the Dalai Lama on the integration of the body, mind and spirit. And so the medical world is starting to work towards the oneness of mind, body and spirit.*” This is an example of the “biased sample fallacy: a conclusion about the entire medical world is drawn from the opinions of a few doctors. See Part 1.

6. “even several important doctors of Western medicine” – Who are they? Why not name these doctors? This is another cause for suspicion – but a weaker one, as a specific book is at least named and could be checked. And if they were named it is unlikely the names would be recognized, so there is a plausible reason not to do so.

7. Anytime people are rushed into a decision there is cause for doubt. If supply is already failing to meet demand, why place all the adverts telling people to hurry up and buy the product?

8. “*We must all take care of our health – whatever you do, don’t ignore the warning signs of your body.*” This sounds very persuasive, but is actually nonsense and communicates no meaningful information. See “Lesson 8: The tautology” in Part 1.

9. There are also many other suspicious points that would need specific knowledge to challenge. For example, is the description of *Consciousness at the Crossroads* accurate? Does traditional Eastern philosophy really see the body, mind and spirit as a whole? What does “unpolluted by blood” mean? Is blood a form of pollution? Does that pollution contaminate the spirit?

How many of those problems did you spot? If you got them all, or even found others, you already have excellent problem-spotting skills and this book is likely to be of little if any use in improving your abilities. But if you’d like to help others improve their skills, perhaps you could use it as reference material as you do so.

If you only spotted about half of the above issues, you have average problem-spotting skills and will be able to spot many issues in everyday life. If you haven’t been given any specific

training in these skills previously, this must be a natural talent. This book will help you rapidly bring your skills up to an advanced level.

And if you only spotted a few of the issues, your problem-spotting abilities are currently at a basic level. This means you haven't made much effort to spot such issues before and tend to think about things in a very casual manner. But if you want to develop your problem-spotting skills, this book can help.

And if you spotted even fewer problems, or perhaps none, you must be one of those people who takes people and events at face value. Such people are innocent and naive and as such are adored by their many friends – but also easily conned. Perhaps think about maintaining that lifestyle, but make sure you have friends around to look out for you. Or you can start to train yourself – you don't have to change your personality to do so, as you can choose when to be skeptical, or only be so when absolutely necessary. After all, in most everyday situations we believe what we are told – it is only when something seems odd that we start being skeptical, in order to avoid being conned. Perhaps this is the perfect combination of both trust and skepticism.