Reality Assumptions

Chapter 3, Becoming a Critical Thinker
A Critical Thinker understands that people have different assumptions about the world that form the basis for their opinions; he or she also examines these assumptions.

A Critical Thinker understands basic patterns of deductive reasoning.

A Critical Thinker uses reasoning to discover truth and avoid stereotyping.
There is no point in bringing evidence to support a point of view until we address the issue of the clashing values. 64

Reality Assumptions are beliefs about what is true and factual about the world.... They are based on the unique experience and education of each individual. Reality assumptions are sometimes directly stated.... but they are usually implied. 64
Conflicts in reality assumptions address the questions “What is true and factual?” and “What do we take for granted or as a given fact?

Critical thinkers need to be aware of the assumptions that are basic to arguments they are hearing or making.
Finding hidden assumptions in arguments is like reading or watching mysteries; you accumulate from what people say and then make guesses about what important things they believe but aren’t actually saying. 64, 65
Reality Assumptions

- Reality assumptions may be hidden from us because they are so deeply ingrained. We may only discover our own reality assumptions when we come across a group that holds different assumptions.

- SAT scores are often a measure of the struggle a freshman must make in a college, not necessarily a measure of the intelligence. 65
Different perceptions of time: US (on time, the clock is running), Hispanic (mañana), Vietnamese (the clock is walking). 65
Detecting Reality Assumptions

When we have a foundational disagreement about reality assumptions, we should discuss those assumptions before we discuss any arguments built upon them. 67
Detecting Reality Assumptions

Often, individuals presenting arguments will comment: “You are assuming that...” or “This argument is based on the assumption that....” These phrases help us identify the foundational but unstated elements of an argument.
The Importance of Examining Assumptions

Good researchers and investigative reporters often uncover questionable assumptions. When we examine assumptions with the goal of discovering what is true, we can take more useful action.
The Importance of Examining Assumptions

- As critical thinkers, we need to actively discover and then question the assumptions underlying arguments so we are not building arguments on a foundation of falsehood. 71, 72

- Knowing why we believe what we believe helps us to be more credible and effective when we present an argument.

- Examining the reality assumptions of others helps us to understand and assess their arguments more fully. 72
What are some assumptions made by people in your field of study?
Critical thinkers realize that their knowledge and perceptions are limited and they look for solid evidence before accepting or advocating a viewpoint.

In the important decisions of our life as people in relationships, and as students, professionals, citizens, and consumers, we do need to question why we believe what we believe, and whether our beliefs are true.
Those who study reasoning have come up with two general frameworks for discovering truth: inductive and deductive reasoning.

Inductive reasoning involves finding truth through making observations: statistics, controlled experiments, polling and relevant analogies.

Inductive reasoning will tell us what will probably occur on the basis of what usually occurs. 75
Deductive reasoning is structured in such a way as to give us certainty about what is true in a given situation.

The conclusion’s certainty is established when deductive arguments contain true premises (reasons) stated in the correct form.

When the correct deductive form is followed, we call the argument valid. 75
**Deductive Reasoning**

The pattern of a deductive argument can be considered its form; the statements placed in the pattern can be considered its content. Correct form makes an argument valid; accurate content makes it true. When the form is correct and the content is true, the argument is called sound. 75, 76
A syllogism is a deductive argument in which a conclusion is inferred from two premises.

All men are mortal. (major premise)

Socrates is a man. (minor premise)

Therefore Socrates is mortal. (conclusion)
The Syllogism

- the form of deductive reasoning can be coded in letters as follows:
  All As are Bs.
  m is A.
  Therefore, m is B.
- The first premise is a categorical statement, the major premise.
- The second is the minor premise.
- The third statement is the conclusion, inferred from the major and minor premises. 76
In a conditional (hypothetical) premise, if the we are asserting that if the first part of the statement is true, then the second part is also true.

If A, then B. (major premise)

A. (minor premise)

Therefore, B. (conclusion) 76

(In formal logic this is called Modus Ponens)
Another form of deductive argument from a conditional statement is this:

If A, then B. (major premise)
Not B. (minor premise)
Therefore, not A. (conclusion) 77, 78

(In formal logic this is called Modus Tollens)
A third form of conditional argument is often called a chain argument.

If A, then B.

If B, then C.

Therefore, if A then C.
Another common pattern of deduction is called disjunctive syllogism.

Either A or B.
Not B.
Therefore, A. 79
The Syllogism

A variant of disjunctive syllogism, argument by elimination takes these forms. 79

Either A, or B, or C.  
Not B or C.  
Therefore, A.

Either A, or B, or C.  
If B or C, then D.  
Not D  
Therefore, A.
We don’t speak in syllogisms, but our reasoning can often be placed into a syllogism.

We speak often in enthymemes. They are syllogisms with a premise implied rather than directly stated.

As you might guess this is what Toulmin calls a warrant for the connection between reasons and conclusions.
Using Toulmin’s Method

- It is the implied premise, often a reality or value assumption.
- The missing parts are expected by the speaker to be supplied by the listener or reader.
A deductive argument may be valid... without being true.

The untrue premise can be seen as a faulty reality assumption.

Toulmin’s method emphasizes the need to pursue truth in argumentation.

The claims or reasons of each person need evidence of what Toulmin calls grounds. 81
## Argument Soundness

<table>
<thead>
<tr>
<th></th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Sound Argument: Correct Form, True Premises</td>
<td>Unsound Argument: Correct Form, Untrue Premises</td>
</tr>
<tr>
<td>Invalid</td>
<td>Unsound Argument: Incorrect Form, True Premises</td>
<td>Unsound Argument: Incorrect Form, Untrue Premises</td>
</tr>
</tbody>
</table>

82
Uses of Deductive Arguments

- Illuminate our beliefs (reality assumptions).
- Help us consider whether those beliefs are rational.
- Help us decide whether to act on those beliefs.
- Help us discover truth, especially when there is a right or wrong answer.
- Help us avoid stereotyping and distortion of information. 82
Uses of Deductive Arguments

- Using deductive reasoning to discover truth
- What eludes logic is the most precious element in us, and one can draw nothing from a syllogism that the mind has not put there in advance. 85

- Deductive reasoning is most useful when the major premise is known to be true, to be a “given.” Then we can test the truth of individual cases that may fall under the category or condition of the major premise. 85
Combatting Prejudice and Stereotyping

- A critical thinker needs to distinguish between major premises (reality assumptions) that fit into these limited truth categories [of types and species, categories of the natural sciences] and major premises that have not and often cannot be proven.

- A “hardening of the categories” occurs when we choose to believe in rigid and untrue reality assumptions.
Stereotyping is a form of classifying people, places or things according to common traits. Stereotyping works fine for identical inanimate objects.

When we stereotype people, however, we are classifying them in ways that do not meet the truth factor in deductive reasoning. 91
Because it is impossible to know and study all members of any human ethnic, religious, gender, political, economic or interest group, a stereotype about people on this basis can always be challenged as unprovable and unsound. 91
A}n issue involves controversy, that is, more than one plausible side of an argument. 82

Understanding the process of deduction helps us to outline our own reasoning and the reasoning of others, so that we can see if it is first of all logical (following correct form), and second, grounded in truth.