Making Arguments

• Critical thinking
• Making inferences
• Developing arguments
• Types of reasoning
• Problems in reasoning

Critical Thinking

• Vincent Ruggiero: “The process by which we test claims and arguments and determine which have merit and which do not.”
• My definition: To develop godly wisdom by actively engaging as whole persons in the process of understanding reality from the perspective of Christian faith.

Critical Thinking

• Three basic activities (Ruggiero):

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<th>Definition</th>
<th>Requirements</th>
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<tr>
<td>Investigation</td>
<td>Finding evidence to answer key questions</td>
<td>Evidence must be both relevant and sufficient</td>
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<td>Interpretation</td>
<td>Deciding what the data means</td>
<td>Must be the most reasonable interpretation</td>
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<td>Judgment</td>
<td>Reaching a conclusion</td>
<td>Must meet the test of logic</td>
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Critical Thinking

- How we know something:
  - Actively: our own experience, experimentation, reasoning.
  - Passively: someone else tells us.
- Knowing can be difficult.
- Is faith a form of knowledge?
- Should we think critically about our faith?
- Obstacles to knowing: assuming, guessing.

Making Inferences

- Kinds of data:
  - Personal experience
  - Unpublished reports, published reports
  - Eyewitness testimony, celebrity testimony
  - Expert opinion, experiment
  - Statistics, surveys
  - Formal observation
  - Research review

Making Inferences

- Making inferences turns data into evidence.
- Inference = conclusion based on examination of data.
- Check your facts: cross-check your sources.
  - Check internal consistency of primary sources.
  - Check primary sources against each other.
  - Check primary sources against secondary ones.
- Make sure your inferences are warranted.
Making Inferences

- **Deductive inferences**
  - Apply general rule to particular circumstances.
  - Interpret limited data in light of generally accepted principle to draw a conclusion.
  - Principle serves as the warrant for the inference.
  - To challenge a deductive inference, question the warrant (principle) behind it.

Making Inferences

- **Inductive inferences**
  - Begin with particulars and make generalization.
  - Gather large amount of data, observe relationships between them, draw conclusions.
  - Warrant: basing conclusions on large amount of data will likely result in a valid inference.
  - To challenge an inductive inference, ask if the data are sufficient to establish it.

Making Inferences

- Beware of anachronistic inferences (Storey)
  - Respect the perspective of people in the past.
  - We can ask contemporary questions about the past, but we must be clear about the difference between their perspective and ours.
Developing Arguments

• Bridge between research and writing = developing arguments.
  – Argument = “a line of reasoning that supports a judgment” (Ruggiero).
  – Moving from research question to thesis statement.
  – Thesis statement = your central claim based on the evidence from your research.

• Parts of an argument (Booth et al.):
  – A claim
  – Evidence that supports the claim
  – The warrant (principle that explains the logical relationship between claim and evidence)
  – Qualifications of the claim and the evidence
• You must state the claim and the evidence; it’s often wise to include the others.

• Features of claims (e.g., thesis statement)
  – Substantive: important, meaningful
  – Contestable: able to be debated
  – Explicit: detailed and specific
• See handout on “taxonomy of contradictions”
Developing Arguments

- Features of evidence (Booth):
  - Accurate: important, meaningful
  - Precise: appropriately exact
  - Sufficient: enough to prove your claim
  - Representative: fairly reflects the population you’re making the claim about
  - Authoritative: reliable and current
  - Perspicuous: explained for the reader

Developing Arguments

- Evaluating evidence (Ruggiero):
  - It’s sufficient if it permits you to make a judgment with certainty.
  - It’s sufficient if it shows you that one view has “the force of probability.”
  - In all other cases, it’s insufficient.

Developing Arguments

- Warrants: general principles that show the logical relationship between your claim and your evidence.
  - The streets are wet, so it must have rained.
  - Warrant: Wet streets are a sign that it has rained.
- Warrants have three elements:
  - General kind of evidence (wet streets)
  - General claim that follows (it has rained)
  - Logical relationship (rain causes wet streets)
Developing Arguments

• Form of warrants: Whenever X, Y.
  – Whenever the streets are wet, it has rained.
  – When supply decreases, prices increase.
• Test your warrants to test the foundations of your argument.
  – If your reader might not accept your warrant, state it and support it.
  – Test warrants to identify necessary qualifications and any need for further research.

Developing Arguments

• Warrants can be based on different grounds.
  – Empirical evidence
  – Authority
  – Prior systems of knowledge and belief
  – General cultural assumptions
  – Methodology (e.g., principles of logic)
  – Articles of faith (unquestioned assumptions)
• All of these grounds can be challenged.

Developing Arguments

• Unstated warrants in the problem of evil.
  – God is good. God is all-powerful. Evil exists.
  – If a good, all-powerful God existed, God would eliminate evil. Evil exists. Therefore a good, all-powerful God does not exist.
  – Many writers “solve” the problem by redefining or limiting God’s goodness or power.
Developing Arguments

- Unstated warrants that all would agree with:
  - A good being would desire to eliminate evil.
  - An all-powerful being could realize his desires.
- Contestable unstated warrant: A being will always exercise his power to actualize his desires.
  - Could God choose not to exercise his power?
  - Creating a world with free will allows evil.
  - Free-will answer to the problem of evil.

Developing Arguments

- Arguments can be qualified in four ways:
  - Rebut mistaken objections.
  - Concede objections you can’t rebut.
    - A problem that requires further study?
    - The evidence outweighs the problem?
  - Give conditions that limit your argument.
  - Specify your degree of certainty.
- You want to appear “thoughtfully confident.”

Types of Reasoning

- Inductive: particular to general.
- Deductive: general to particular.
- Provide inductive warrants:
  - TV watching causes increased violence among children.
  - Christianity has been the primary reason for the social progress of minorities in the U.S.
Types of Reasoning

- Classical deductive reasoning: syllogism.
  - Categorical syllogism = starts with categorical statement (all X is Y).
  - Enthymeme = categorical syllogism with unstated premises.
  - Hypothetical syllogism = major premise with “if.”
  - Disjunctive syllogism = major premise with “either/or.”

Types of Reasoning

- Evaluating deductive arguments:
  - Sound argument = premises are true and reasoning is valid.
  - Unsound = premises are false and/or reasoning is invalid.

Types of Reasoning

- Evaluating deductive arguments:
  - All Martians are green.
  - Jeffrey is not green.
  - Therefore Jeffrey is not a Martian.
  - No Chinese are North Americans.
  - All Americans are North Americans.
  - Therefore all Americans are Chinese.
Types of Reasoning

• Evaluating deductive arguments:
  – Either Hitler is dead or he is hiding in Argentina.
  – Hitler is not hiding in Argentina.
  – Therefore he is dead.

  – All price-fixing is immoral.
  – Some immoral actions are illegal.
  – Therefore some price-fixing is illegal.

Types of Reasoning

• Evaluating deductive arguments:
  – No fish are mammals.
  – No fish are birds.
  – Therefore no birds are mammals.

  – Jane has been a success in business, so she must have worked hard.

Types of Reasoning

• Evaluating deductive arguments:
  – If two people fight, they must not be in love.

  – Higher gas prices shouldn’t be a problem. Most poor people don’t need to buy gas, since they aren’t working.
Types of Reasoning

• Evaluating deductive arguments:
  – Homosexuality is genetically determined, so homosexual activity can’t be a sin.

Types of Reasoning

• Evaluating deductive arguments:
  – President Bush is a Christian, so his decisions must be guided by God.

Types of Reasoning

• Evaluating deductive arguments:
  – Public schools should encourage moral values.
  – Displaying the Ten Commandments would encourage moral values.
  – Public schools should display them.
  – No cultural or religious group should be treated preferentially by public institutions.
  – Displaying the Ten Commandments would treat Christians and Jews preferentially.
  – The Ten Commandments shouldn’t be displayed in public schools.
Problems in Reasoning

• See handout “Notes on Critical Thinking”
• See handout “Errors of Argumentation”
• Easiest place to find examples: politics and advertising.
  – They want to manipulate your thinking.
  – They don’t want you to think for yourself.

Problems in Reasoning

– The priests were right – when we threw those virgins into the volcano, it stopped erupting!
– Are the people in your hometown still rednecks and bigots?
– The ranting of *Time* magazine and the pseudo-Americans over the CIA disclosures would be comical if it were not so childish and tragic. What the U.S. needs is a stronger CIA, and let the chips fall where they may.

Problems in Reasoning

• Evaluate these arguments:
  – Students here are rude. Last night someone next door played loud music till 2 a.m. This morning somebody nearly ran me over with a bicycle.
  – Since you loved your husband so much, you’ll want to purchase our top-of-the-line casket. He deserves nothing less.
  – When I get married, either I will run the family or my spouse will.
Problems in Reasoning

• Evaluate these arguments:
  – The people of Rome lost their vitality and desire for freedom when their emperors decided that the way to keep them happy was to provide them with bread and circuses. What can we expect of our own country now that the government gives people free food and there is a constant round of entertainment provided by television?

Problems in Reasoning

• Evaluate these arguments:
  – The declining sexual morals of young people is caused by the increasing teaching of sex education in public schools. Statistics prove that one out of every three high school students who has been enrolled in a sex education course goes on to have intercourse at some time in the next two years.

Problems in Reasoning

• Evaluate these arguments:
  – You are a superb mechanic. You seem to have a natural talent for diagnosing the problems with cars and fixing them. You should have no trouble revising the rough draft of your thesis.
Problems in Reasoning

• Evaluate these arguments:
  – Ann: “When Thomas Wolfe was at his best, he was very good, but too often he was painfully verbose.”
  – Jim: “You have no appreciation of the sort of spontaneity and lyricism Wolfe was capable of. I suppose you also think that Faulkner was no good and that Flannery O’Connor and Carson McCullers were decadent writers. What have you got against southern writers?”

Problems in Reasoning

• Evaluate these arguments:
  – The United States should never adopt universal health care. It’s common knowledge that socialized medicine has not been successful in England.