Part III: Making an Argument

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Reference:

- Wayne Booth, George Colomb, Joseph Williams, Joseph Bizup, and William FitzGerald, **The Craft of Research**, 4th Edition, The University of Chicago Press, 2016.

Outline

Prologue: Assembling a Research Argument

7. **Making Good Arguments: An Overview**
8. **Making Claims**
9. **Assembling Reasons and Evidence**
10. **Acknowledgments and Responses**
11. **Warrants**

Prologue: Assembling a Research Argument

- **Do some research** to get a handle on your project.
- Once you have a sense of your problem and its likely solution, **begin planning your argument**.
- **Update your plan** as your research progresses.
- When you try to make a res**earch argument that answers your readers' predictable questions** you will see what research you have yet to do.

Prologue: Assembling a Research Argument

- **Arguments here are conversations** with amiable and sometimes skeptical readers for **cooperatively finding the best answer** to an important but challenging question.
- Arguments answer the general **reader question**:

Why should I believe that?

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7.1 Argument as a Conversation with Readers

7.2 Supporting Your Claim

7.3 Acknowledging and Responding to Anticipated Questions and Objections

7.4 Connecting Claims and Reasons with Warrants

7.1 Argument as a Conversation with Readers

- Research involves more than just giving your readers a *data dump* that says, *Here are some facts about my topic*; it means explaining your problem and justifying your solution in a *research argument*.
- In a **research argument**, you make a *claim*, back it with *reasons* supported by *evidence*, *acknowledge* and *respond* to other views, and sometimes explain your *principles* of reasoning.

7.1 Argument as a Conversation with Readers

- Arguments are answers to these five questions:
  1. **Claim**: What do you want me to believe? What's your point?
  2. **Reasons**: Why do you say that? Why should I agree?
  3. **Evidence**: How do you know? Can you back it up?
  4. **Acknowledgment and Response**: But what about . . . ?
  5. **Warrant**: How does that follow? What's your logic? Can you explain your reasoning?

Real Conversation Example

Abby: I hear last semester was a little rocky. How do you think this term will go? [*Abby poses a problem that interests her, put in the form of a question.*]
Brett: Better, I hope. [*Brett makes a claim that answers the question.*]
Abby: Why is that? [*Abby asks for a reason to believe Brett's claim.*]
Brett: I'll finally be taking courses in my major. [*Brett offers a reason.*]
Abby: Why will that make a difference? [*Abby doesn't see how Brett's reason is relevant to his claim that he will do better.*]
Brett: When I take courses I'm interested in, I work harder. [*Brett offers a general principle that relates his reason to his claim.*]
Abby: What courses? [*Abby asks for evidence to back up Brett's reason.*]
Brett: History of architecture, introduction to design. [*Brett offers specific instances on which he based his reason.*]

Real Conversation Example

Abby: But what about that calculus course you have to take again? [*Abby offers a point that contradicts Brett's reason.*]
Brett: I know I had to drop it last time, but I found a really good tutor. [*Brett acknowledges Abby's objection and responds to it.*]
Abby: But won't you be taking five courses? [*Abby raises another reservation.*]
Brett: I know. It won't be easy. [*Brett concedes a point he cannot refute.*]
Abby: Will you pull up your GPA? [*Abby asks about the limits of Brett's claim.*]
Brett: I should. I'm hoping for a 3.0, as long as I don't have to get a part-time job. [*Brett limits the scope of his claim and adds a condition.*]

7.2 Supporting Your Claim

- The **core of every research argument is the answer to your research question**, the solution to your problem—your main claim. You have to back up that claim with two kinds of support: **reasons** and **evidence**.

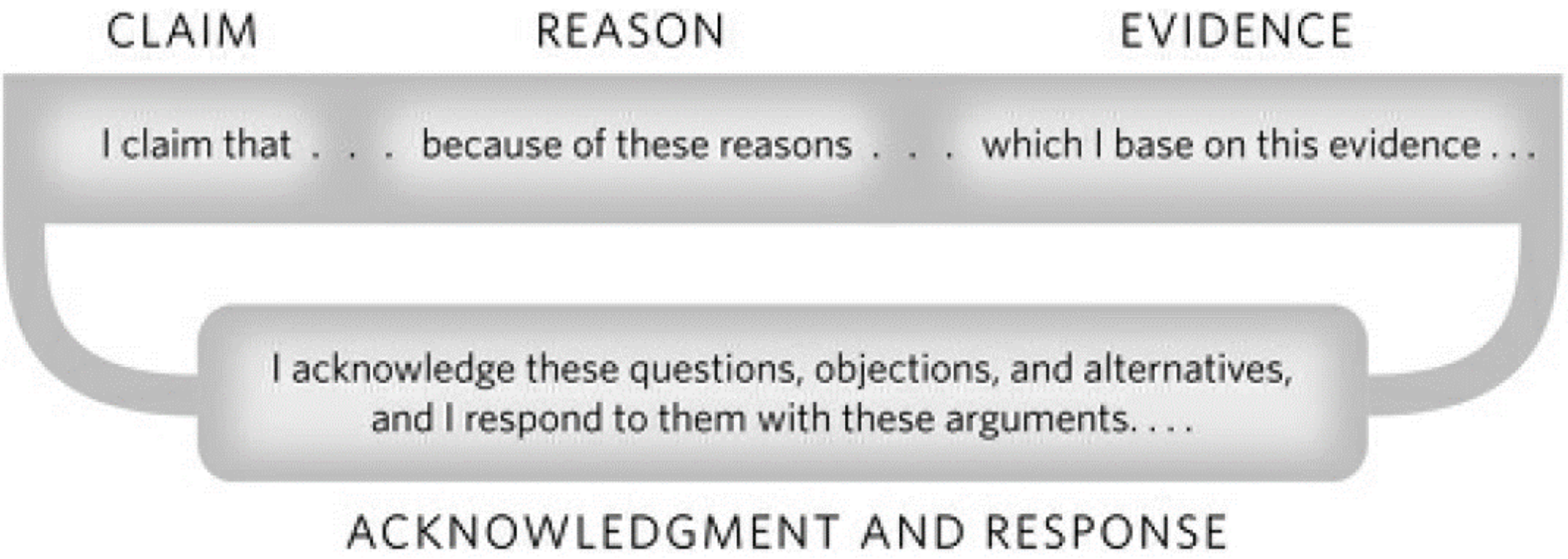
7.2 Supporting Your Claim

- **Support Claims with Reason(s)**
  - Elementary schools should make teaching foreign languages a priority (**claim**) because we acquire languages best and most easily when we are young (**reason**).
- **Base Reasons on Evidence (data)**

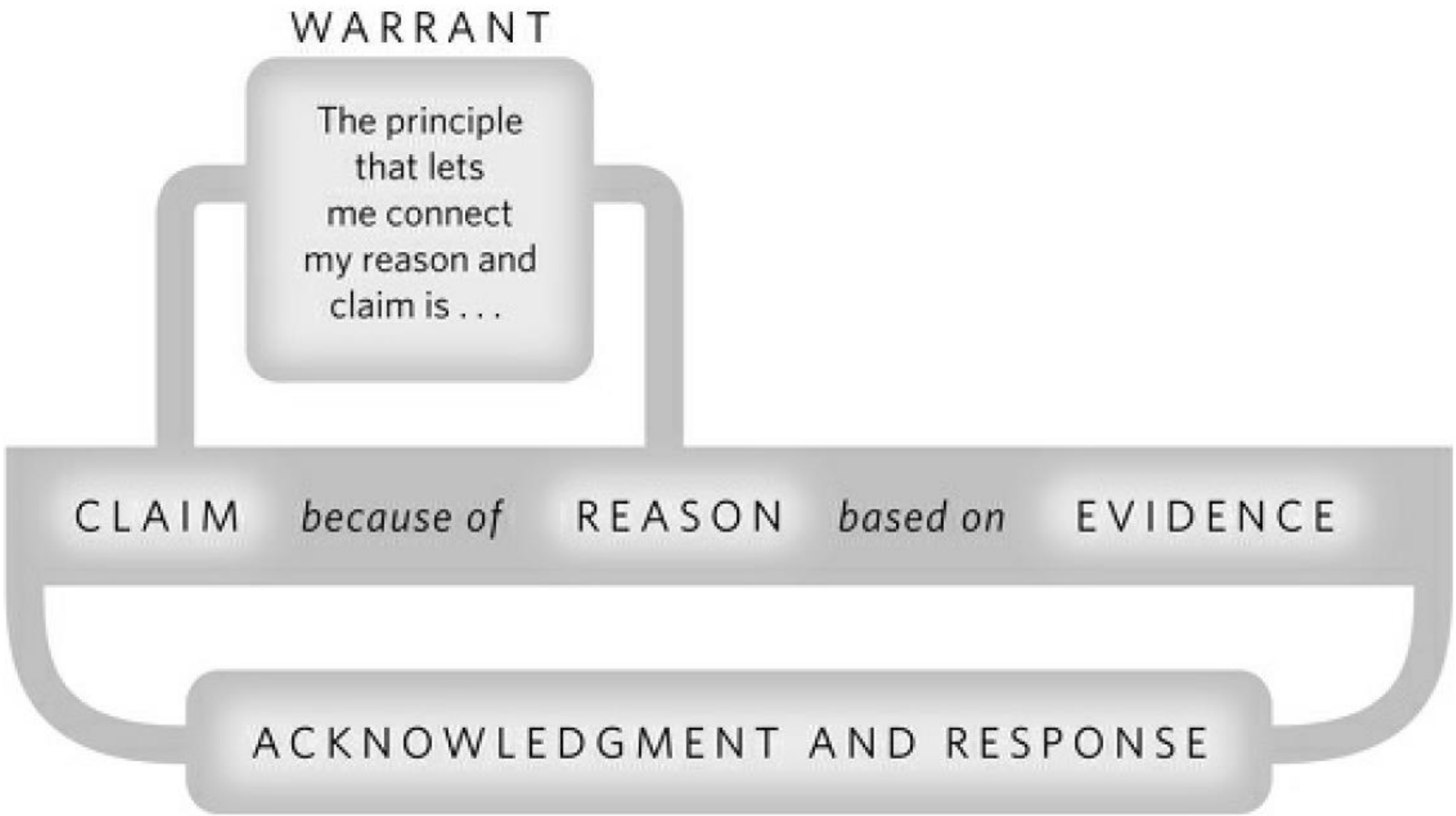
Elementary schools should make teaching foreign languages a priority*claim 1* because we acquire languages best and most easily when we are young.*reason 1 supporting claim 1/claim 2* In fact, those who begin second languages as adults rarely attain the level of fluency of those who learn them as children.*reason 2 supporting reason 1/claim 3* In a study of over one hundred second-language learners, Jones (2013) identified an inverse correlation between second-language proficiency and . . . (see table 1).*evidence supporting reason 2*

Example with chained reasons and supporting evidence

7.3 Acknowledging and Responding to Anticipated Questions and Objections



7.4 Connecting Claims and Reasons with Warrants



Warrant Example

When an area has fewer hard freezes, it can expect higher medical costs to cope with diseases carried by subtropical insects that do not survive freezes._warrant_ Europe and North America must thus expect higher health care costs_main claim_ because climate change is moving the line of extended hard freezes steadily north._reason_ In the last one hundred years, the line of hard freezes lasting more than two weeks has moved north at the rate of roughly . . ._evidence_

Recommendation

When you acknowledge other views and explain your principles of reasoning in warrants, you give readers good reason to work with you in developing and testing new ideas.

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8.1 Determining the Kind of Claim You Should Make

8.2 Evaluating Your Claim

8.3 Qualifying Claims to Enhance Your Credibility

8.1 Determining the Kind of Claim You Should Make

- Two types:
  - **Conceptual** Claims
  - **Practical** Claims

Conceptual Claims

Claim of	Example	Needed Support
Fact or existence	Average global temperatures have risen to unprecedented levels within the past decade.	Evidence that the situation is as claimed
Definition and classification	Birds, not reptiles, are the direct descendants of dinosaurs.	Reasoning about similarities and differences
Cause and consequence	Exposure to asbestos is a leading contributor to lung cancer.	Set of facts to show that one leads to another
Evaluation or appraisal	Shakespeare's greatest comedy is *As You Like It*.	Criteria of judgment

Practical Claims

- A practical claim is one that **argues for** (**or against**) some **action** or **policy**.
- It is usually **built from a chain of conceptual claims**: one that demonstrates that **a problem exists**, another that shows what **causes** the problem, and still another that explains how **doing what** you propose will **fix it**.
- You need also **to explain** the following:
  1. Why your solution is **feasible**; how it can be implemented with reasonable time and effort.
  2. Why it will **cost less** to implement than the cost of the problem.
  3. Why it **will not create a bigger problem** than the one it solves.
  4. Why it is **cheaper** or **faster** than **alternative solutions**.

8.2 Evaluating Your Claim

- **Good claims** must be:
  1. **Specific**

TV inflates estimates of crime rates.	Graphic reports of violence on local TV news lead regular viewers to overestimate by as much as 150 percent both the rate of crime in their neighborhood and the personal danger to themselves and their families.

  2. **Significant** and **contestable** (non-intuitive, requires convincing)

     If readers accept a claim, how many other beliefs must they change?

8.3 Qualifying Claims to Enhance Your Credibility

- **Acknowledge Limiting Conditions**
  - *We conclude that the epicenter of the earthquake was fifty miles southwest of Tokyo, **assuming the instrumentation was accurately calibrated**.*
- Use Hedges to Limit Certainty
  - *We **wish to suggest** a [note: not state the] structure for the salt of deoxyribose nucleic acid (D.N.A.). . . . A structure for nucleic acid has already been proposed by Pauling and Corey. . . . **In our opinion**, this structure is unsatisfactory for two reasons: (1) **We believe** that the material which gives the X-ray diagrams is the salt, not the free acid. . . . (2) **Some** of the van der Waals distances **appear** to be too small. (J. D. Watson and F. H. C. Crick, "Molecular Structure of Nucleic Acids")*

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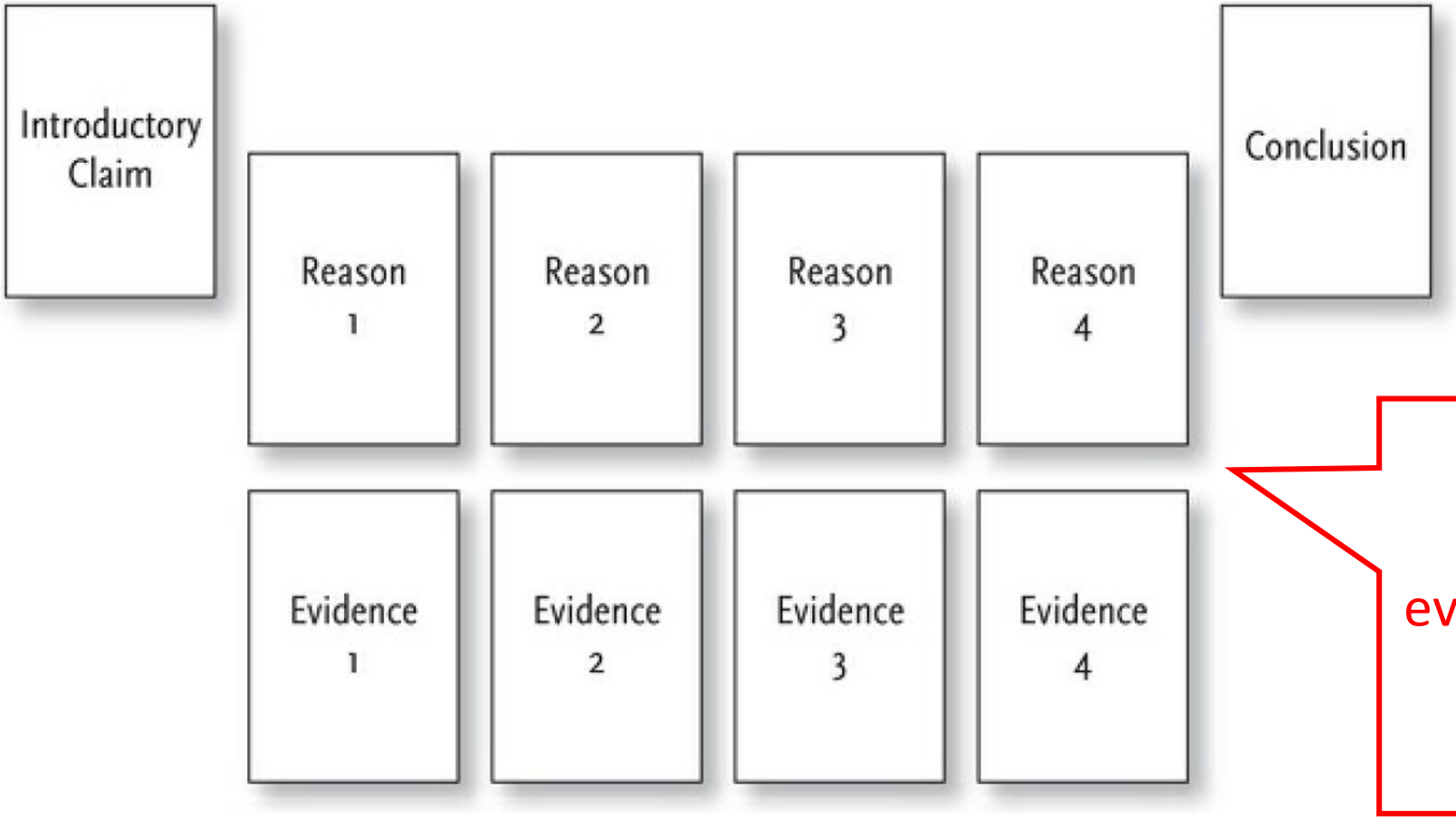
9.1 Using Reasons to Plan Your Argument

9.2 Distinguishing Evidence from Reasons

9.3 Distinguishing Evidence from Reports of It

9.4 Evaluating Your Evidence

9.1 Using Reasons to Plan Your Argument



Order your reasons and evidences logically using a storyboard.

9.2 Distinguishing Evidence from Reasons

- To count as **evidence**, a statement must report something that **readers agree not to question**, at least for the purposes of the argument.
- But **if they do question it**, what you think is hard factual evidence is for them only a **reason**, and you have not yet reached that bedrock of evidence on which your argument must rest.
- If you can imagine readers plausibly asking *How do you know that? What facts make it true?*, you have not yet reached what readers want—a **bedrock** of uncontested evidence.

Example

American higher education must curb escalating tuition costs,*claim* because the price of college is becoming an impediment to realizing the American dream.*reason* **Today a majority of students leave college with a crushing debt burden**.*evidence*

Give numbers!

In 2013, nearly 70 percent of students borrowed money for college with loans averaging $30,000, a debt that prevents many from buying a home, beginning a family, or pursuing a higher degree.*evidence*

9.3 Distinguishing Evidence from Reports of It

- **You don't share** with your readers the **evidence itself**, but a **report of it**.

> Emotions play a larger role in rationality than many think.*claim* In fact, without the emotional centers of the brain, we could not make rational decisions.*reason 1 supporting claim* Persons whose brains have suffered physical damage to their emotional centers cannot make the simplest decisions.*reason 2 supporting reason 1* For example, consider the case of Mr. Y, who . . .*report of evidence*

9.3 Distinguishing Evidence from Reports of It

- We **depend on reports** of evidences.
- Or **report our evidences** to serve our arguments.
- Evidences **can be manipulated** when reported.
- So **readers expect**:
  - **Full details** for your evidences
  - or **complete citations** for evidences from your sources.
- In **Computer Engineering research**, readers expect enough **detail to recreate your experiments**.

9.4 Evaluating Your Evidence

- Readers are skeptical, so your **evidences must be**:
  - **Accurate**
  - At **right level of detail** (precision)
  - **Sufficient**
  - **Representative** (properly generalizable)
  - **Authoritative** (methods, literature citations, constructs, etc.)

Example

Child: I need new sneakers.*claim* Look. These are too small.*evidence*

Parent: Your feet haven't grown that much in a month, and they don't seem to hurt you much

Child: But they're too grungy for school.*reason* Look at this dirt and these raggedy laces.*evidence*

Parent: The dirt will wash off and the laces can be replaced. That's not enough to buy new sneakers

Child: They hurt.*reason* Look at how I limp.*evidence*

Parent: You were walking fine a minute ago

Child: Everybody thinks I should get new sneakers.*reason* Harry said so.*evidence*

Parent: Harry's opinion doesn't matter in this house

Example

Child: I need new sneakers.*claim* Look. These are too small.*evidence*

Parent: Your feet haven't grown that much in a month, and they don't seem to hurt you much [*i.e., your evidence could be relevant, but I reject it because it is not accurate and because even if it were accurate, "too small" is not sufficiently precise*].

Child: But they're too grungy for school.*reason* Look at this dirt and these raggedy laces.*evidence*

Parent: The dirt will wash off and the laces can be replaced. That's not enough to buy new sneakers [*i.e., you may be factually correct, but dirt and raggedy laces alone are not sufficient evidence that they are unfit for school*].

Child: They hurt.*reason* Look at how I limp.*evidence*

Parent: You were walking fine a minute ago [*i.e., your evidence is not representative*].

Child: Everybody thinks I should get new sneakers.*reason* Harry said so.*evidence*

Parent: Harry's opinion doesn't matter in this house [*i.e., Harry may have said that, but his opinions are not authoritative*].

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10.1 Questioning Your Argument as Your Readers Will

10.2 Imagining Alternatives to Your Argument

10.3 Deciding What to Acknowledge

10.4 Framing Your Responses as Subordinate Arguments

10.5 The Vocabulary of Acknowledgment and Response

10.1 Questioning Your Argument as Your Readers Will

- **Share the core of your argument with** a friend, mentor, or colleague to identify questions, objections, and alternatives.
- **View your argument** through **the eyes** of someone who has a **stake in a different outcome**.
- Example questions:
  - Why do you think there's a problem at all?
  - Have you properly defined the problem?
  - Have you stated your claim too strongly?
  - Why is your solution better than others?
  - Is your evidence accurate, precise, …?

10.2 Imagining Alternatives to Your Argument

- You will seem **more credible** if you show not just the strengths and limitations of your own argument, but also that you have thought about the **alternatives** to it.
- **Imagine your alternatives**.
- **Look in your sources**. Look for disagreements with your work and among your sources.
- **Look in your sources for evidences** used to handle the alternatives.

10.3 Deciding What to Acknowledge

- **Acknowledging too many** questions, alternatives, and objections will **distract** your readers.
- **Acknowledging too few** and you seem indifferent to or even **ignorant** of your readers' views.
- To **narrow your list**, consider these priorities:
  - Plausible charges of **weaknesses** that you can rebut
  - Alternative lines of argument important in your field
  - Alternative conclusions that readers want to be true
  - Alternative evidence that readers know
  - Important counterexamples that you have to address

10.3 Deciding What to Acknowledge

- **Acknowledging Flaws in Your Argument**
  1. If you discover a flaw in your argument that you **cannot fix** or explain away, try to **redefine your problem** or rebuild your argument to avoid it.
  2. But if you cannot, **acknowledge** the issue and **respond** that:
     - The rest of **your argument balances the flaw**.
     - While the flaw is serious, **more research** will show a way around it.
     - While the flaw makes it impossible to accept your claim fully, **your argument offers important insights**.

10.3 Deciding What to Acknowledge

- **Acknowledging Questions You Can't Answer**
  - **It is OK to leave some open questions**.
  - **Stimulating research** is often that which **provides** not answers to questions we already know, but **new sets of questions** we haven't yet thought to ask.

10.4 Framing Your Responses as Subordinate Arguments

- A **minimal response** gives a reason to limit or reject what you have acknowledged.

> Some have argued that food can be addictive, *acknowledgment of objection* but we are concerned here only with substances for which addiction is the norm. *reason why objection is irrelevant*

- If readers don't recognize the basis of your reason, **explain** its basis using additional reasons and evidence.

10.5 The Vocabulary of Acknowledgment and Response

- **Check the reference book** to find out how to acknowledge and respond to objections and alternatives.
- Decide **how much credence** to give it: from just mentioning an objection and dismissing it to addressing it at length.

[**Despite/Regardless of/Notwithstanding**] Congress's claims that it wants to cut taxes,*acknowledgment* the latest budget proposals suggest that . . .*response*

Smith's evidence is important,*acknowledgment* **but we must look at all the available evidence.***response*

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11.1 Warrants in Everyday Reasoning

11.2 Warrants in Academic Arguments

11.3 Understanding the Logic of Warrants

11.4 Testing Warrants

11.5 Knowing When to State a Warrant

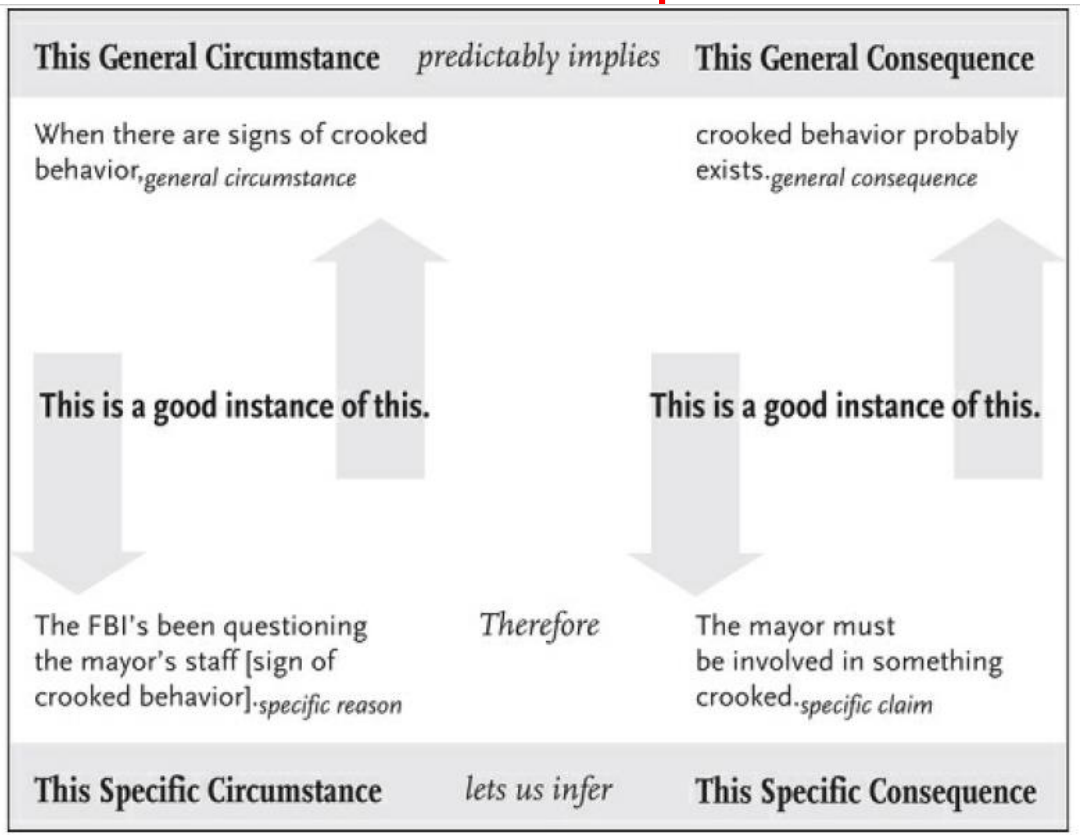
11.6 Using Warrants to Test Your Argument

11.1 Warrants in Everyday Reasoning

I hear the FBI has been questioning the mayor's staff.*reason* He must be involved in something crooked.*claim*

- We often use **proverbs** to support our reasoning.

There's smoke, there's fire.



11.2 Warrants in Academic Arguments

- **State your warrants** only if your readers will not be able to understand your reasoning without them, or if you anticipate that your reasoning will be challenged.
- Warrants are **difficult** because:
  - Academic warrants aren't **commonplaces** we all share.
  - Experienced researchers rarely state their warrants explicitly.
  - Academic warrants are often stated in ways that compress their circumstances and consequences, e.g., *Shared DNA is the measure of the relationship between species.*

11.3 Understanding the Logic of Warrants

The Russian Federation faces a falling standard of living,*claim* because its birthrate is only 13.2 per 1,000 and life expectancy for men is only about 63 years.*reason*

- If **someone objects** that the reason seems irrelevant to the claim, **justify** the connection **with a warrant** consisting of: (1) a general circumstance that lets us draw a conclusion about (2) a general consequence.

When a nation's labor force shrinks,*general circumstance* its economic future is grim.*general consequence*

11.4 Testing Warrants

- The reason of this example can be challenged for relevance.

Contrary to popular belief, gun ownership in America was probably not widespread in the first half of the nineteenth century and before,*claim* because guns were rarely mentioned in wills.*reason* A review of 4,465 wills filed in seven states from 1750 to 1850 shows that only 11 percent mention a long gun or handgun.*report of evidence*

Adding a Warrant

In the eighteenth and early nineteenth centuries, valuable objects were listed in wills, **so when someone failed to mention a valuable object in his will, he did not own one.***warrant* Since guns were valuable but were rarely mentioned in wills before 1850,*reason* gun ownership must not have been widespread.*claim*

11.4 Testing Warrants

Test your warrant using the following questions:

1. Is that warrant **reasonable**?

   Can readers accept that its consequence follows from its circumstance?

2. Is it sufficiently **limited**?

> In the eighteenth and early nineteenth centuries, **most** household objects **considered valuable by their owners** were **usually** listed in wills.

3. Is it **superior** to any competing warrants?

11.4 Testing Warrants

4. Is it **appropriate** to this field?

> When elderly home owners forget to pay real estate taxes, others can buy their houses for back taxes and evict them.

For law students, which warrant is appropriate?

a. *When a person is wronged, the law should correct it.*
b. *When one ignores legal obligations, even inadvertently, one must suffer the consequences.*

5. Is it able to **cover** the reason and claim?

11.5 Knowing When to State a Warrant

1. **Your readers are outside your field**.
2. You use a principle **new** or **controversial** in your field.
3. You make a claim that readers will **resist** because they just don't want it to be true.

We should accept that human actions are largely responsible for climate change,*claim* because virtually all climate scientists hold that view.*reason*

When an overwhelming majority of competent experts arrive at the same conclusion, we can probably trust it.*warrant* We should therefore accept that human actions are largely responsible for climate change,*claim* because virtually all climate scientists hold that view.*reason*

11.6 Using Warrants to Test Your Argument

- **All arguments rely on warrants**, even if they aren't stated explicitly.
- You can test the soundness of an argument by trying to imagine a warrant for it.
- Consider this argument:

> Children aged 12–16 today are significantly more violent than their counterparts from a generation ago.*reason* Brown (2013) has shown that . . .*evidence* Given these facts, it seems highly likely that violent video games are exerting a destructive influence on today's youth.*claim*

11.6 Using Warrants to Test Your Argument

- Adding a warrant:

When children are constantly exposed to images of sadistic violence, they are influenced for the worse._warrant_ Children aged 12–16 today are significantly more violent than their counterparts from a generation ago._reason_ Brown (2013) has shown that . . ._evidence_ Given these facts, it seems highly likely that violent video games are exerting a destructive influence on today's youth._claim_

Problem: The specific circumstance (rising violence among children aged 12–16) is not a valid instance of the warrant's general circumstance (children being exposed to images of sadistic violence).

Summary

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