REASON TO WRITE:

applying critical thinking
to academic writing

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contents

SECTION I

critical question

context

definition

CHAPTER TWO
reason to write

1   what is critical thinking, anyway?

"When we think well, we feel good. Understanding is a kind of ecstasy."
-Carl Sagan

Academic writing, across most disciplines, is a clear record of a writer's reasoning from a question to an answer. Reasoning involves using analysis to draw logical conclusions. As Hans Guth explains:

> A writer appeals to the reader's willingness to think a matter through on the merits of that logic. This systematic writing is the mode of most academic writing, from an economist's analysis of the causes of inflation, to a philosopher's examination of logical proofs for the existence of God. (18)

In reasoning from a question to answer, and using analysis to draw logical conclusions, what role does critical thinking play? And what is critical thinking, anyway?

People often speak of critical thinking as thinking *outside of the box*. Critical thinking appears to be both logical and imaginative, which are states of mind that tend to be viewed as incompatible. Aren't people basically artists or accountants? Such oppositions are reductive, and inaccurate. We are not computers. An essential part of the way that we think effectively is both logical and imaginative. Critical thinking does involve a kind of experimental willingness to imagine other possibilities, but that does not make it illogical.

To illustrate, riddles are exercises in critical thinking, because they do not appear, on the surface, to have a logical answer. They are almost always in the form of a question. A simple one that many schoolchildren know would be:

What can run, but never walks, has a mouth, but never talks, has a head, but never weeps, has a bed, but never sleeps?

At first, it doesn't seem possible to offer a logical answer to this question. There are many animals that have mouths, but that don't talk, but something that runs is usually also able to walk. And, whether it walks or runs, it usually requires legs, which means it probably sleeps. The more that one speculates on such an answer, the more that one tends to suspect that it is not this *kind* of answer, at all.

A riddle is a form with a set of conventions that fulfill certain expectations. It is placed in the same general category as jokes or puns. However, riddles also have an element of challenge or gaming. One tends to anticipate that being given the answer to a riddle would provide a brief sense of foolishness at having missed the obvious.

In fact, riddles are actually worded in a way that encourages people to miss the obvious. Their difficulty relies upon the fact that most people will make certain basic assumptions when seeking an answer to a question. The only way to answer a riddle is to identify what one has taken for granted in regard to the question. This means examining what one thinks one already knows. In other words, for as long as one allows the question to continue to structure one's thinking, one remains in the box, and has difficulty imagining other possible answers.

In the case of this particular riddle, people tend to take it for granted that anything that can run, and has a mouth, head, and bed, must be some sort of animal. However, one actually has no reasonable basis for making this assumption. We routinely described a variety of things in these same ways. We speak of the head of a trail, a run of luck, a bed of roses, or the mouth to a cave. Once one recognizes that this is the assumption that is actively constraining possible answers, the answer becomes obvious.

A River

This is a logical answer to this question. It is just not an obvious answer. People tend to think in predictable ways, often relying upon predetermined assumptions that can be inaccurate or untrue. The ability to identify the elements that tend to structure our thought processes is a part of the role of critical thinking.

Many assumptions are relatively easy to identify. People function and interact, in everyday life, based upon these assumptions. Take the request: "Tomorrow, when you go to the store, please pick up some milk." Most people who received such a request would probably interpret it based upon a set of commonly shared understandings that would begin with such things as:

> There will be a tomorrow
> You will be alive
> The store will be open
> The store will have milk
> "Pick up some milk" does not mean to look for it on the ground
> You will purchase milk for money
> You will bring the milk back, and not drink it along the way

However, when addressing an academic question, as when trying to solve a riddle, one has to remain aware of what one is taking for granted, and how assumptions structure one's thinking.

Assumptions often prevent us from imagining other possibilities. *As Carl Sagan explains:*

> The scientific cast of mind examines the world critically as if many alternative worlds might exist, as if other things might be here which [sic] are not. Then we are forced to ask why what we see is present and not something else. Why are the Sun and the Moon and the planets spheres? [....] Why not irregular, jumbly shapes? Why so symmetrical, worlds? (17)

Critical thinking is a strategy designed to help one to pay attention to the way that one thinks in relationship to a specific question, idea, or issue. The many ways that we reason through things can be both logical, and also generative. At the same time, one is always vulnerable to what is called *cognitive bias*.

One example of cognitive bias would be something called *anchoring*. Anchoring is our tendency to focus on one quality, when making a decision, to the exclusion of others that may be just as important. This cognitive bias would be operating, for instance, if one were to choose a desk for one's room based upon the number of drawers, but forget to measure to see if the desk would fit through a doorway.

Another cognitive bias would be a *planning fallacy*, which is particularly common. It involves a tendency to underestimate how long it will take to complete a given task.

Or, one can engage in *selective perception*, in which one misinterprets information because one tends to perceive it according to one's expectations. This is the bias that, for example, can make witness testimony unreliable.

When people talk about critical thinking as thinking *outside the box*, this analogy implies that one should try to imagine possibilities outside of the structure of the way in which something has been typically understood. In this sense, the box represents the limitations and possibilities of the way in which we commonly think through problems, questions, and issues.

Yet how can one think outside of the structure of one's thinking? One must have some kind of a structure, and one must establish logical patterns to make sense of something. One cannot simply cast *the box* aside. Rather, one could say:

Critical Thinking is not about thinking…	*Critical Thinking* is about thinking…
?	**?**
…outside of The Box	…about The Box, itself
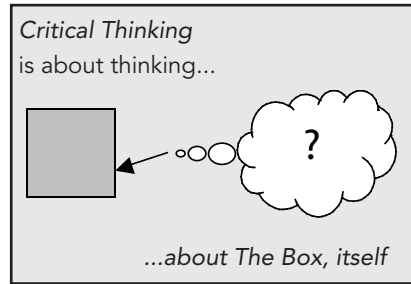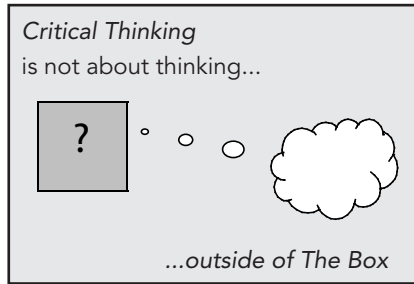
Or, as Richard Paul and Linda Elder define it, critical thinking is "that mode of thinking—about any subject, content, or problem—in which the thinker […] takes charge of the structures inherent in thinking, and imposes intellectual standards upon them" (4).

Critical thinking encourages one to pay attention to those things that influence how one already understand such things as other people, objects, experiences, issues, the world, institutions, language, and oneself. These are just some of the many things that help to form the box that tends to influence our thinking.

2   getting unfamiliar with critical thinking

Answers to questions often only come after one bypasses the filters one has in place that offer easy answers. When one is able to do so, this creates what is called an *effect of defamiliarization*.

In his writing, philosopher Jacques Derrida engaged in critical analysis of something with which most people would be quite familiar: a gift. He was speaking, in this case, of the kind of gift that one would give or receive on, say, a birthday. If one were to begin with the obvious, one would probably say that there are basic things that might be said about a gift.

   A gift is an object or service transferred from one person to another
   A gift is made without expectation of payment or compensation
   A gift is often meant to convey emotional attachment

In other words, most people, if asked to make basic obvious statements about a gift, would resort to describing the familiar way in which we understand the purpose of gifts, and why we give them. Gifts appear simply to be something one gives to another, for free, most of the time because one has feelings for that other person. That is the familiar understanding. To defamiliarize this understanding, here is a hypothetical situation:

definition

An *effect of defamiliarization*, from art and literary theory, refers to a moment of sudden insight created by the denaturalization of a common experience or typical way of understanding something

You give a gift to your friend. Without a response, your friend takes the gift and immediately turns around and walks away.

While one cannot make completely accurate statements about how or why others would respond to a given situation, it would be reasonable to say that, in general, the reaction might be relatively predictable. One would anticipate that most people would feel, at the very least, hurt, if not angry, at such a response to a gift.

That is because one knows, if one slows down, that people actually do expect something in return for a gift. People tend to expect some kind of expression of gratitude. This implies that gifts are not, in fact, something that one gives away for free, but rather something for which one expects something, in return. Of course, saying "thank you" also has to do with being polite. It is not as if one expects actual compensation for goods or services that one gifts to another. So, here is another hypothetical situation:

You move into a house. Your new neighbor notices you are moving furniture in a small car, and offers his truck for you to borrow. The following weekend, he says his truck is in the shop, and that he needs to do some errands. Your car is available, but you simply smile and walk back into the house.

What would be the reasonable reaction to such a situation? If a gift is given without expectation of return, then you would not feel guilty in failing to offer your car for his use, and your neighbor would not feel resentment that you did not do so.

Yet the more likely reaction would be one of guilt, on the one hand, and resentment, on the other. This would imply that, while one presumes nobody is going to kneecap anyone, one has failed to honor a gift debt.

This forces one to shift one's perception and note that one does not only expect others to say "thank you" when one gives a gift, but also that one often expresses gratitude in the language of debt, as in "I owe you." Here is another situation:

It is graduation, and two students who have spent some time together outside of class meet at the ceremony. Student 1 gives student 2 a concert t-shirt from a band they both enjoy. Student 2 gives Student 1 a new sports car.

Even if Student 2 were wealthy enough to give new cars away, at random, the gift creates a radically unequal debt, one that Student 1 would probably find difficult to repay. People foolish enough to gift cars to casual acquaintances would probably find that, in a shallow relationship, the recipient may be perfectly willing to drive away in her or his new car, and never look back.

However, it would also be reasonable to say that such a gift would still be perceived as radically inappropriate. It might signal an emotional investment that is unreturned, or even indicate a mental imbalance on the part of the one who gifts.

If a relationship is not a deep relationship (as between close friends, spouses, or family members), people can be suspicious of extravagant gifts, and even outright refuse them, for fear of incurring gift-debt they cannot repay. This may arise from fear that they would be asked to repay that debt in a way that they would otherwise not willingly choose.

In a deep relationship between equals, such as a close friendship, routine unequal gifting can sometimes create an interpersonal crisis, especially if it is not agreed upon, beforehand. If one person in the relationship is capable of giving gifts of significantly greater monetary value than the other, it can be a problem if he or she routinely does so.

Whether deep or shallow, spontaneous or for a reason (e.g.: a birthday), this implies that one not only expects gratitude, and not only acquires or incurs gift-debt, but that the act of giving and receiving gifts is often designed to be precisely balanced in regard to the monetary value of the gift, itself. Here is another situation:

Anna has very recently made a very good friend, and enjoys her company. There is a holiday coming up that she and her friend both celebrate, and that traditionally involves gifts. Anna must decide whether or not to get her new friend a gift.

In this situation, Anna is actually in a real dilemma. If she gives her new friend a gift, and her new friend does not give her a gift, she could be embarrassed, having overstated the depth of the new friendship. If she does not give a gift, and her friend offers one, she could be embarrassed, and embarrass her new friend, having understated the potential depth of the friendship. So, like many people, she will be just anxious enough to purchase a small gift—*small*, here, not meaning in size, but in monetary value—and put it away, to present at the appropriate time, or not…just in case.

Yet according to the familiar understanding of a gift, none of these situations really makes sense. Isn't it reasonable to assume that one is free to gift whatever one wants, of whatever value, without others feelings resentment if they are unable to give something of the same value in exchange? Is one not free to accept a gift, and not owe its value, in return?

These hypothetical situations do not support such assumptions. When words such as value, debt and exchange enter into one's language in relationship to a gift, it is reasonable to conclude that a gift actually participates in an economy. This, in turn, raises another question. If there is actually an

economy to a gift, what's the difference between a gift, and approaching a vendor at the local market to exchange one's $1.50 for a candy bar?

This question creates an effect of defamiliarization. One is not usually used to thinking of gifts in such a way. Yet gifts do function in this way in many cultures, including in the United States. Cultural anthropologists call this behavior *altruistic reciprocity*. Gifting has rules. It serves a larger social purpose. One is not free to gift willy-nilly, as one pleases. The unspoken and often unexamined rules that govern the giving or receiving of a gift is a part of finely balanced social practices.

When one reads anthropological texts that discuss the practices of other cultures, one may get the impression that those who engage in these kind of social practices are fully consciously of doing so, possibly even in a calculated manner. Knowing that one does so, often unconsciously, in one's own culture, is different. This helps one to recognize that the description of social practices from outside of a society often radically differs from what it feels like to participate in social practices, from the inside.

The altruistic reciprocity of gift exchange differs from market exchange not because the goods or services are different, but because of what they stand for. In gifting, the market value of goods or services tends to stand in for a different value: a degree of emotional attachment. One gifts because one cares, and one receives gifts because one is cared for. In the exchange, one is reassured concerning the mutuality of the amount of caring by the equal value of the goods or services exchanged, which are actually secondary to the message they represent.

In making something as simple as a gift unfamiliar, one can learn things about oneself, and about one's culture. One can learn that the value of an object can indicate the depth of an emotion. One can learn that how cultures are described differs from the often unconscious and emotionally charged participation in cultural practices.

This does not mean there are not more questions that could be posed, such as:

Is there such a thing as a free gift?

Can one escape this economy of a gift?

What if one gave anonymously, or for charity? Does the satisfaction one receives, from doing so, count as compensation?

Would one escape this economy if one could immediately forget that one had given a gift, and if one could ensure the recipient would also immediately forget? Would there be a point to giving, at all, even if one were able to do so?

Why do people often pretend to "forgive" a debt when responding to gratitude, as if there were no economy? Isn't that what happens when one responds to an expression of gratitude with: "It's nothing," or "Forget about it"?

3   critical thinking and academic writing

"I write to discover what I think."

-Joan Didion

Critical thinking and writing operate in a specific kind of relationship. While it may sound strange, critical thinking functions not to answer a question, but, in part, to remain aware of how the way that one is asking that question can influence the way in which one is able answer it.

Critical thinking is important because the question we ask, and how we ask it, play an important role in the answer at which we arrive.

Imagine a plant on a hillside. A great deal of knowledge could be produced by studying this plant, and by asking different questions.

- One could examine the plant's cellular structure
- One could establish the plant's place in a given taxonomy
- One could determine how the plant reproduces
- One could study the plant's significance to local people
- One could find out whether the plant is edible or poisonous
- One could discover the plant's potential medicinal value
- One could track the history of the plant's migration
- One could gather information about the plant's life cycle
- One could conduct research on the plant in mythology
- One could relate the plant to the local ecology of the region, and how it interacts with surrounding flora and fauna

Each of these would be a question that would be posed in a certain way. For each way in which one could ask a different question of that plant, one would arrive at a different answer. If one proceeds carefully, each answer would be accurate, yet no two answers would be the same. This is how we generate knowledge. We ask questions, but we ask questions within the context of a certain way of generating knowledge.

Even if we put all the possible questions and answers together, we still wouldn't know everything there is to know about the plant. That is because the plant is what is called *existent*.

definition

Existent refers to the state of being of a thing, beyond the knowledge that people produce about that thing, or even people's experience of it.

In the end, it does not matter how many ways we measure the plant, or to how many other kinds of things it is compared, or in how many different contexts it is placed. The plant simply is what it is. All things in the world are existent. It might be a difficult notion to wrap one's head around, but being and knowledge are simply not the same things.

That does not mean that knowledge is relative, or that we can't say something important, useful, and accurate about the plant. We can produce knowledge about this plant. We can be correct, or incorrect, in the knowledge that we produce, and say something true, or untrue. It is simply that the answers we receive are partially dependent upon the questions that we ask.

The questions that one asks might be determined by the discipline in which one is thinking and writing. Disciplines are a part of what is called *discourses.* For example, one can speak of *scientific* discourse, or *literary* discourse, or *historical* discourse. A discourse describes the structures that govern how truth can be determined within a given means of producing knowledge. Each way of producing knowledge has specific rules one must follow in order to establish what is true.

For example, contemporary scientific discourse offers four specialized terms that describe the rules that determine what is known, and how to evaluate the truth of a given answer to a question that is posed within that discourse. They are: a fact, a law, a hypothesis, and a theory.

FACT
- An action or phenomenon that is observed.
  (A scientist observes a rock falling downward)

LAW
- The description of an action or phenomenon that is observable, and that always repeats under the same conditions.
  (A scientist discovers that, under the exact same conditions, rocks repeatedly fall downward)

HYPOTHESIS
- An initial proposed explanation for an observed action or phenomena that is verifiable, but has not yet been confirmed or proved.
  (A scientist suggests that the speed at which objects fall downward, under specific conditions, is relative to the object. However, this has not yet been confirmed, through experiment.)

THEORY
- A scientifically proved and accepted explanation for an action or phenomenon.
  (A scientist determines that the explanation for rocks falling downward, under specific conditions, is the Theory of Gravity)

In this way, in everyday conversation, someone might say, "I have a theory." That person would probably mean that he or she has an educated guess, but doesn't yet know if the guess is true or not. However, someone practicing science would say that this person actually has a *hypothesis*. A scientist would not speak of the hypothesis of gravity, because gravity has been proved.

Or, in everyday conversation, someone might say "Gravity is a fact." That person would probably mean that he or she is reasonably sure that gravity is true. However, someone practicing science would say that this person is describing a theory. A scientist would not speak of the fact of gravity, because gravity is *not* a thing. Once one observes the fact that a rock falls downward, one can observe that rocks fall because of a law, which allows one to anticipate that a force will act upon rocks in predictable ways, under specific conditions. That law is explained by the *theory* of gravity.

Such distinction among terms can be important, because if one doesn't understand how language is being used within a given discourse, one cannot determine what is being said. For example, established truths in science include:

> Theory of Gravity
> Germ Theory
> Theory of General Relativity
> Theory of Evolution
> Theory of Plate Tectonics

In scientific discourse, a theory has already been proved as the explanation for laws, which are observations of repeating actions or phenomena. Although all established knowledge is subject to further clarification based upon new information, these particular explanations have been verified as true and valid under the rules of scientific method that govern this discourse. Scientific discourse is used in many different academic disciplines, but in each of those disciplines, it follows the same basic rules.

There are other discourses that follow different rules. The difference in those rules, among discourses, means that one does not just ask questions—one asks questions in a particular way. In doing so, one generates particular kinds of answers. The initial assumption that governs what can be said, in truth, within a given discourse, is what is called an *axiom*. For example, it is axiomatic to the discourse of physics that forces act upon matter in determinable ways.

In contrast, in mathematics, it is axiomatic that numbers (e.g.: "2") are sign-symbols that represent real or theoretical objects that can be grouped or divided. This is not a scientific fact, because the observer decides which objects will be grouped. However, the objects are not, themselves, numbers.

One can group grains of sand, or one can group beaches. One can divide one tree from several trees, or one forest from several forests.

Because the possibility of grouping or dividing is axiomatic, a person practicing mathematics can make the more general statement that $1 + 1 = 2$, or $2 - 1 = 1$. One doesn't have to specify a particular object in the world for that mathematical statement to remain true. Any one real or theoretical object, added to another real or theoretical object, will, grouped, always be equal to two real or theoretical objects. The nature of the object doesn't really matter, in relationship to the general truth of the statement.

This axiom is an idea, not a scientific fact. One does not find the number "2" floating around in the world. Numbers are not existent. Numbers describe the world. They are not in the world. As such, while science and mathematics are often used together, mathematics is a discourse that is fundamentally different from scientific discourse.

These axioms govern discourses, and determine what can be said, and whether or not what one says is true or false. It is axiomatic to the discourse of psychology that disorder is manifested through observable behavior that represents a deviation from a norm. Behavior that represents enough deviation from a norm requires observation of an individual's behavior to establish the nature of the disorder and to measure that level of deviation under established diagnostic criteria.

It is axiomatic to the discourse of literary studies that, while one can say something true or false of fictional works, fictional statements, themselves, are neither true nor false. This is why, in literary discourse, one would not rush out to declare that Jonathan Swift's *Gulliver's Travels* is a bunch of lies. Nor would say that *Gulliver's Travels* is a true account of events, and set out on an expedition to locate Lilliput.

When one thinks through something in the mode of a particular discourse, one does so with foundational assumptions already in place. These structure our thinking within a given discourse. Critical thinking provides a way to understand how these rules affect what we choose as significant or important when we ask or answer a question. All skilled academic thinkers and writers pay close attention to critical thinking. People are not quality thinkers just because they find answers. They are quality thinkers because they remain mindful of the way in which they are asking questions.

Critical thinking is an ongoing, self-corrective habit-of-mind that helps academic writers to understand the rules of discourses, how thinking is structured, the elements that influence the way that we think, how those influences can bias our thinking, how to guard against those biases, and the strengths and limitations of the language we use to express ourselves.

In relationship to writing, critical thinkers raise vital questions, formulate them in language that is precise and clear, identify any assumptions made in asking the question, adjust when encountering valid points that contradict expectations, and remain rigorously honest. Writers who engage in critical writing do that, on paper, for a reader, in any given discipline.

Critical thinking is about the very act of inquiry. It's about being curious about everyday things, because it is about refusing to take anything for granted. It's about regulating one's thought processes. Critical thinking is, in a way, about evaluating one's answers by cultivating a kind of open-ended curiosity about the nature of questions.

4   curiosity and questions

"Curiosity has its own reason for existence. The important thing is not to stop questioning."

-Albert Einstein

For a moment, imagine that academic writing is like a popular Hollywood film. In the beginning, the film establishes a situation that is basically stable. Life is just going along, as it tends to do. Then, something changes. Conflict is introduced. Someone has a fight, an airplane has mechanical difficulties, or a villain plots the end of civilization as we know it. This conflict leads to a feeling of tension in the audience, which triggers the desire for resolution of that conflict. That's the basic arc of mainstream popular Hollywood film.

The capacity to identify with and take pleasure from fictional situations and characters has to do with imagination, but it also requires empathy. Empathy is the ability to imagine oneself in the position of another, and to feel emotionally invested. It's an important part of being human.

If one couldn't empathize, one not only routinely wouldn't care about characters. One probably wouldn't care much about real people, either. The desire to see this conflict resolved is called *Narrative Drive*.

> **definition**
>
> When conflict is introduced into a story, the resulting desire, on the part of the audience, to see resolution of that conflict, is called *narrative drive*.

Narrative drive is the emotion we experience when our empathy is engaged through a process of story production, which involves putting someone or something (a person, a character, a country, a football player, an animal, a tree, an animated toaster—we're pretty versatile) into conflict, and then briefly withholding the resolution of that conflict.

That's what gets us to the theater, to the sports arena, and to the newscast.

So, too, in academic writing, all knowledge begins in a basically stable state. In textbooks, in journals, in lecture halls, and in classrooms, we teach, learn, and practice what we know. Then, something changes. A question is posed, or something doesn't seem right, or doesn't make sense, or perplexes us. As a result, conflict arises. This conflict leads to tension, which leads to the desire for resolution of the conflict. We have a name for the drive to resolve the conflict that questions produce.

It's called curiosity.

We can only begin the process of thinking that will result in academic writing when this conflict is introduced. People who write academically tend to value curiosity. Curiosity is an emotion that stimulates intellectual activity. In other words, when curiosity is engaged, people often find thinking pleasurable.

This is why an academic writer is not necessarily motivated by beginning with a statement to defend. Without something in question, there is no curiosity. Without curiosity, there is no drive toward resolution. Everything has been answered, already. Rigorous academic writing begins with a question about which to get curious.

Ideally, an observation of something that remains unresolved would lead to a question, for a writer. The nice thing about questions is that they are rarely the end product of thinking or writing. A question usually implies that one is going to begin the process of finding an answer. Finding an answer requires analysis. Analysis involves breaking down a question or issue into its constituent parts, finding patterns within the details, and drawing valid conclusions from those patterns. That's how people reason, and it is also the best way in which a writer can produce a thesis, or answer, to the initial question.

5   the (provisional) case against the prompt

"I would rather have a writing instrument [that was] bent and dull, and know I had to put it on the grindstone, and hammer it into shape, and know I had something to write about, than to have it bright and shining and nothing to say."

-Ernest Hemingway

Sometimes, instruction that is offered in textbooks, or classrooms, or test situations, will attempt to stimulate curiosity in students by providing what are called writing prompts. Writing prompts are almost always in the form of a question, usually related to a source of some kind, such as a reading or

classroom materials. Their purpose is often to see if a student can approximate an anticipated answer.

Asking questions is an important part of learning, and examples of good questions do serve a purpose. In learning specialized knowledge, getting a sense of what kinds of questions would be asked can be essential, because they reveal the foundational areas of inquiry in a given discipline.

However, learning to ask questions is also a skill that can be acquired, and is vital to critical thinking. If one cannot eventually learn how to ask questions within a given discipline, one can only rehearse the memorization and repetition of answers at which others have arrived.

Writing prompts can sometimes get in the way of that learning, in the following ways:

- In a classroom situation, answering a prompt often triggers conditioned behavior in a student that results in a relationship to writing that is more like: "What answer does this instructor want?" or "What have I been told is so?" than "What can be said, in truth, about this question?"

- Composing a critical question is itself a process that teaches critical thinking.

- Composing a critical question is far more likely to activate curiosity, for a writer, because it is a result of the writer's observation of something that doesn't make sense, yet. Therefore, an independent question is more likely to help the writer to perceive the resulting answer as something over which he or she has control.

It is understandable that instructors would tend to want to guide students to the questions upon which they will write. Instructors usually want to be helpful, and it is often a good idea to provide a model of questions that will yield quality analyses. At the same time, education is, in part, learning how to question effectively. This is how critical thinking can be generalized across contexts. Learning to question effectively means getting a solid foundation in recognizing how one thinks. In doing so, one does not merely memorize facts. One learns to learn.

A part of learning through generating questions is developing the ability to recognize what gets in the way of sound thinking. Cognitive biases can affect not only the conclusions that people produce, but also the way that one forms questions. Questions formed with cognitive bias will typically result in answers that reproduce that bias.

For example, the type of questions that would probably result in flawed conclusions would include, but not be limited to, those that exhibit:

A. Binary Thinking
Questions posed in a yes/no, this-or-that structure, often (although not always) resulting in the oversimplification of complex issues.

"Who is responsible for climate change: big business or the government?"

"Is democracy fair?"

B. Speaking for Others
Questions that require the writer to claim to know what other individuals are thinking or feeling, and for which the answer can only be: "It depends upon whom you ask."

"How do college students feel about drinking?"

"Why do some people believe in God?"

C. Generalizations
Questions that lump people into groups and that require the writer to claim that everyone in that group behaves or believes the same, or is having the same experience.

"Why are all men aggressive?"

"Why are married people unhappy?"

D. Opinion
Questions to which the answers can only be based upon subjective impressions or value judgments.

"Why should we ban all pornography?"

"Should children be allowed to watch television?"

E. Projecting into the Future
Questions that, to answer, require the writer to predict what has not yet happened, subject to variables the writer cannot determine.

"In what ways will future generations be affected by technology?"

"Who will be the next president?"

F. Lack of specificity
Questions that can only be answered by broad statements, and that do not include analysis of concrete details.

"What is love?"

"What is the meaning of life?"

G. Book Reporting
Questions that are answered by the writing of others

"What caused World War II?"

"When did women get the right to vote in the United States?"

As an exercise, circle the kind of bias that you judge the following questions produce, from the previous list. There may be more than one answer. Choose the best one. There is an answer key at the end of this section.

1. Why do we get angry?   A B C D E F G
2. When should people get married?   A B C D E F G
3. Who invented the light bulb?   A B C D E F G
4. What will the economy be like in fifty years?   A B C D E F G
5. Why do kids hate school?   A B C D E F G
6. What is art?   A B C D E F G
7. Is poverty based on circumstances or actions?   A B C D E F G

Learning about these biases not only clarifies important things to avoid in academic inquiry, but also offers the opportunity to understand what causes biases, and to recognize them in future writing and thinking.

(Answer Key)   1-B   2-D   3-G   4-E   5-C   6-F   7-A

6   writing is risky business

"A writer is a person for whom writing is more difficult than it is for other people."

-Thomas Mann

The university is a part of the academy, which refers to all places of higher learning. However, the academy is also something else. It is an ongoing conversation concerning all of the knowledge that has been produced, or is being produced, in any field or discipline within the university. It is both what we have come to know, up to this point, and what we are in the process of coming to know.

That conversation does happen in classrooms, in laboratories, in instructor offices, and in faculty meetings. However, the primary place that this conversation happens is in writing. A physicist writes. An economist writes. A psychologist writes. A biologist writes. A historian writes. This writing continues, and the conversation continues. With few exceptions, the primary activity within the academy is writing.

Sometimes scholarship results in the production of knowledge that can be applied to the world. Such knowledge can provide such things as cures for diseases, new ways of harnessing energy, or more sophisticated computer technologies. However, before those things are produced, the ideas that make them possible are written and shared with others in their fields.

Writing, produced by inquiry, is the result of most activities within the academy. That's why, in the academy, the real product of university activities is referred to as intellectual property. That property is claimed, and held, through academic publication.

Within a given university, a student comes to learn what others have already written. Yet it is also a part of a student's role to learn to participate in this conversation through his or her own academic inquiry, and produce writing based upon that inquiry.

To do so, the first step is to find a reason to write, which means finding a question about which to get curious. We can call such a question a *critical question*. A guide to producing a critical question would offer students a strategy for producing a question free of cognitive bias. In this way, a critical question is not a set of rules, but a tool for learning how to question well.

That doesn't mean it's easy.

A lot of writing involves risk. First of all, in no other area, except perhaps in speaking, does one reveal more of oneself, to others, than when one commits words to paper. People judge us based upon our writing—not just in classrooms, but also in other places in which we write. We invest in our writing, because when we write, we invite others into our worldview. Academic writing is especially risky, because one is actually graded or evaluated on one's efforts.

Academic writing is also risky because it begins in a state of curiosity, and curiosity means one doesn't know something. Curiosity is a kind of alert uncertainty that remains open to possibilities. This state of uncertainty can be disconcerting.

This is reflected in a sample written student response to the assignment of coming up with a critical question:

> Imagine sitting nervously in your first ever college writing class, fresh out of high school, and foreign to university level teaching. Your professor begins to talk about your first ever homework assignment, one that will be due at the beginning of the next class. As she first presents the assignment it seems as though it will be a simple task that should take no longer than ten or fifteen minutes, but as she goes into greater detail, suddenly a challenge arises. The task

is to come up with a critical question, which is defined by certain criteria. Suddenly the ten or fifteen minutes that you planned on spending to come up with this question seems like an endless search for the perfect question, one that will yield intellectual thought, and a good grade, as well.[1]

This reaction is understandable. It is bad enough not to "know the answer," but it is even more unsettling not to "know the question." In much of our understanding of what it is to be in a classroom, students who display this level of uncertainty are usually students who are doing poorly.

However, in academic writing, this initial state of uncertainty is necessary. Writing is a unique activity that requires investment, and investment involves putting something on the line, in order to get something back.

Academic inquiry begins in an unsettled state. One probably doesn't know the answer, yet. One may merely have an interesting question. Richard E. Miller calls this initial state of uncertainty one of *discontinuity*:

> Typically, a position—a thesis or argument—will remain fairly vague until we have done a great deal of preliminary writing [....] Discontinuities lead us to search for a shared horizon, and from this shared horizon our own questions come. Then, provided we are willing to push far enough, a coherent position begins to emerge, not all at once in a grand vision but cumulatively, with one insight building on the next. At some point, all these insights begin to cohere, [and] we recognize the directions of our thoughts, a direction that writing itself has revealed. We write and then we see where our writing has taken us. Only then are we in a position to convey our discoveries to others in a well-crafted presentation. (xvii)

In other words, there's no way to offer students a pre-mixed formula for thinking, and academic writing is a product of thinking, based upon inquiry. An instructor can only endeavor to provide the best map, the best tools, and the best guardrail for the tricky bits.

In being asked to generate a critical question, students often feel daunted, because they know that there is specialized knowledge out there, and people with higher degrees who are experts in their fields. For example, a writer would need specialized knowledge within a given field to ask the question:

How does the iconic quality of certain gestures in sign language impact upon Ferdinand de Saussure's rejection of the onomatopoeic quality of linguistic signs in his postulation of an arbitrary relationship between signifier and signified?

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[1] Matthew Townsend. UCSB. Used with permission.

No doubt about it—academic-types get interested in strange topics. However, the thing that divides students from student-scholars is not class standing (freshmen vs. senior, or undergraduate vs. graduate student), or even whether a writer has, or doesn't have, an advanced degree.

Rather, it is that students tend to assume that all the answers are already out there. In other words, they assume that the conversation is over, and they're just showing up to listen to a record of that conversation. Student-scholars tend to know that the conversation is always unfinished. As such, any question can lead to a new way of looking at something, and therefore can produce new knowledge.

Specialized knowledge gives a writer an edge, because the writer knows the terminology, and can move confidently through the writing that has been done in that field, by other thinkers.

However, nobody can write critically merely based upon the accumulation of specialized knowledge, because he or she would merely be repeating known information. A person with specialized knowledge, but without curiosity, or the ability to make critical leaps between types of information, cannot create new knowledge. He or she is merely a walking encyclopedia. We have computers and libraries for that kind of storage.

A person who is curious, but who may not yet have a significant amount of specialized knowledge, has all the makings of a critical writer.

A writer does not have to have a Mathematics Ph.D. to wonder about the paradox of the concept of zero.

A writer does not have to have a Sociolinguistics Ph.D. to wonder how and why the common usage of the word "ghetto" has moved from a noun to an adjective.

A writer does not have to have a Ph.D. in Political Science or Geography to wonder about how topography affects politics in the Middle East.

A writer does not have to have a Ph.D. in Media Studies to wonder how and why television animation has moved from children's entertainment to adult social satire.

A writer does not have to have a Ph.D. in Anthropology to wonder how social networking sites have changed how we think about identity within groups.

In the earlier sample writing in which a student reflected anxiety in producing his own academic inquiry, his critical question eventually became: "Why is producing a critical question so difficult?" At the end of the course, he concluded his response in the following way:

When the time came for me to present my critical question, I received laughs for questioning the actual assignment in itself. I, myself, did not see the question as being a very good one until I began writing the actual paper.

However, I was able to understand for myself a question that at first did not make sense to me. Through analyzing the idea of critical thinking and critical questions, I was able to attain this skill for myself, and gain a better understanding of why it can be difficult for people to do.

By no means is thinking critically easy, and it is, from my own experience, one of the hardest things I have ever had to do. It involves a long thought process that not only challenges an individual to see the other side of an argument, but to question assumptions and beliefs. Critical thinking is not just an approach to finding answers to difficult questions, but also a method of retaining one's individuality.

This response demonstrates the way in which this student analyzed his question not only in relationship to how we define learning, but the way in which it expanded his own understanding of his role in the university—not only as a student, but also as a participant.

The purpose of this text is, in part, for writers to rehearse how to work from a question, through an analysis, to an answer, on paper, for a reader. This involves providing writers with generalized skills that are applicable in both the public and private sector, in all academic fields of specialization, as well as in professional life.

The more one looks at the world critically, the more one will notice. The more one notices, the more one will question what one sees. The more one questions what one sees, the better one will become at producing answers about the world, and join in the conversation that furthers knowledge of it.

In other words, if you can do it here, you can do it there.

7   review

The information to be taken from this chapter is that academic writing is based upon inquiry, which is drawn from curiosity. In different disciplines and discourses, the questions that we ask help, in part, to determine the answers that we receive. Critical thinking is about learning to inquire effectively, keeping what one is taking for granted in mind, regulating against cognitive bias, and paying attention to the relationship between questions and answers. Critical thinking can be learned, and applied across other writing contexts.

8 critical question assignment

Format

Typed
No length requirement

Instructions

   I. Formulate a Critical Question according to the guidelines listed below.
  II. Provide a checklist comparing your question to each of the guidelines.
III. Rewrite your question until it fulfills ALL of the guidelines.

Guidelines

1. The question is not one that can be answered by "yes" or "no."
2. The question does not have the word "should," nor is it phrased as a "should" question.
3. The question does not require you to speak for others. A good way to test this is to see whether or not the only reasonable answer to your question is: "It depends upon whom you ask."
4. Answering the question does not require you to generalize a group of people, as in "Young people want to be famous."
5. The question should be as specific as possible. A less specific question would be: "What is the appeal of advertising?" A more specific question would be: "Why do commercials so often shows cars driving on deserted mountain roads?"
6. The question does not require you to imagine future events.
7. The question is not a question that someone else has already answered in the same way, or that requires extensive secondary sources, or an advanced degree, or resources to which you do not have access (e.g.: a laboratory) to answer.
8. The question may be one about which you have some ideas, but it is not a question to which you already have the answer.

Sample Student Questions

- How is fashion a medium of communication?
- How have two political parties in the United States generated "packaged" values?
- What is the tension between truth, falsehood, and art, in photography?
- How do public spaces structure human experience?
- What determines the details that are left out of a given historical account?
- What kind of identity stakes are involved in online gaming?
- What are the consequences of the new positioning of the university as a transition between high school and work?
- How has the web changed the possibilities for accessing, owning, and exchanging information?
- What are the similarities and differences among health, fitness, and ideals of beauty in the United States?
- What is the stereotypical image of the Californian, and how is it unique from other states in the U.S.?
- How did the culture wars change the popular image of Christianity in the United States?
- In what ways has the image of the vampire in popular culture become romantic, moving from horror film into the teen-pic genre?
- How much of human perceptual experience is attention-based, and how much is spent in a state of distraction?
- How does the history of Hip-Hop determine its current form, especially in relationship to spoken direct address to the audience?
- What persuasive appeals have been used within the anti-drug campaign in the U.S.?
- How do theme parks structure experience, and what message does that experience provide?
- When a celebrity's life is given the status of real news, what does this say about a kind of national gossip?
- In what way is there a double standard for male and female promiscuity?
- How does the image of American individuality conflict with action directed toward the common good?
- How are new forms of popular or political expression used to sell products in the U.S.?
- In relationship to sports, in what is a fan investing?
- How do styles of music generate social groupings and self-identity?
- What do contemporary predictions of the end of the world, from Y2K to 2012, say about public concerns in the United States?
- What appeals do recruitment posters make in the U.S., for different branches of the military?
- To what degree is our identity shaped by the roles that we play?
- What effect did the shift from illustration to photography have on scientific documents?

- What is behind the perception of the opposition between logic and faith, and what role might faith play in logic, and logic in faith?
- In what ways is "multiculturalism" a general description of culture in the United States, and in what ways might it be a description of individual experience within that culture?
- Why do our love stories in popular film often end at the altar?
- In what way are toys often gendered, and what does this say about the training of children in regard to gender roles?
- What are some of the unspoken rules behind racial slurs?
- What are the differences among art, history, and natural museums?

saying what we mean/ meaning what we say

1   writing has words in it

"I don't know what you mean by 'glory,'" Alice said.

Humpty Dumpty smiled contemptuously. "Of course you don't—'til I tell you. I meant 'there's a nice knock-down argument for you!'"

"But 'glory' doesn't mean 'a nice knock-down argument,'" Alice objected.

"When I use a word," Humpty Dumpty said, in rather a scornful tone, "it means just what I choose it to mean—neither more nor less."

"The question is," said Alice, "whether you can make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master—that's all."

<div align="right">

-Lewis Carroll

Through the Looking Glass, and What Alice Found There

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When one writes, one uses language. Language is powerful. People are persuaded by language. Religious texts, political speeches, and philosophical treatises have compelled people to all sorts of actions. We live by laws, contracts, and constitutions. Despite our protestations that only sticks and stones have the ability to do so, use of profanity or racial/gender slurs can offend or hurt people. How one uses language can often reflect one's regional origin, one's class, and one's level of education. People judge others based upon the way that that they speak and write. Even a person's name can provide huge amounts of information to others about a person. Yet, as so many people have pointed out, these are just words.

This chapter concentrates on reasons why there are never such things as *just* words. The issues covered in this chapter, in relationship to writing, are some of the most challenging to understand. They concern how language structures one's thinking, with the understanding that how one is thinking structures one's writing. This requires one to step back, let go of assumptions, and closely examine what one thinks one knows about language and its usage. Quality critical writing is heavily dependent upon precision in language.

2   words aren't in the world

To begin, one could make the observation that an Oak, Spruce, and Bonsai all refer to a type of thing. None of them are alike. In fact, no two of these things are alike, even if they are of the same type. No two Oaks are exactly alike. Yet despite these differences, all of these things are called, in English, *trees*. How can one word refer to so many things in the world that are so different?

When one says or writes the word *tree*, one often assumes that one is referring to those leafy green tall things out there in the world. However, the study of language tells us that when one uses the word tree, one is actually referring to

what is called a *concept*. A concept is a kind of categorical cluster of qualities to which things in the world fit, or do not fit. The word tree does not refer to a thing in the world. The word tree refers to a concept of *tree-ness*.

tree-ness (...living, but not an animal, a kind of plant, often grows high off of ground, often has a long trunk and lateral branches...)
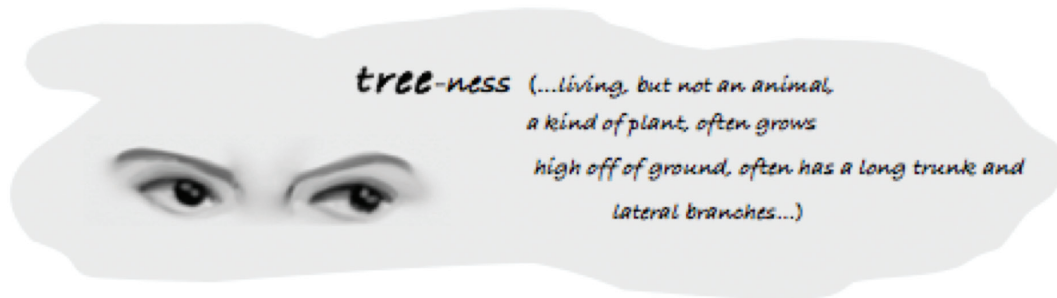
A concept is the way in which we cluster certain qualities that fit a category. These concepts order our perception of the world, and are organized into types and subtypes. For example, tree-ness is a subtype of plant-ness.

Language is flexible because it is not made of the stuff of the world. It is composed of patterns and categories. For as long as we have a concept of tree-ness, then we can accept that the leafy thing (over there) is both completely unique (no tree is like any other), and also, at the same time, simply a tree, just like all the others.

This allows us to refer to this concept of tree-ness even when there are none of those leafy, green, tall things around. The capacity, in language, to refer to something that is not present at a given time or place, or even that does not exist in the world (e.g.: a unicorn or a square circle) is called linguistic *displacement*.

In fact, language is so flexible, that people can stretch the qualities that structure a concept into figurative language and speak of something like a *family tree*—which is, most definitely, not a plant.

3   metaphor: words are *slithy toves*

"Everything is vague to a degree you do not realize until you have tried to make it precise."

-Bertrand Russell

Much of language usage is what one would call *figurative*. Figurative language is not literal, and therefore does not follow the exact dictionary definition of a word. An example would be a metaphor. A metaphor is a

situation in language in which one word is described in terms of another word. Often, one uses a concrete concept (e.g.: "rose") to describe an abstract concept (*e.g.*: "love").

In metaphor, one makes a comparison.

Metaphor:	A = B
Metaphor:	Love (A) is a Rose (B)

In fact, this statement makes absolutely no sense. Love is not a rose. Love is an emotion. A rose is a plant. Any dictionary will make that clear.

However, one usually understands that what one is really saying is that love, like a rose, is beautiful, transient, can hurt, etc. One could blame this on that darned literature stuff, like poetry. Literature always seems to want to mix words that don't belong together. However, it's not that simple. Think about the following statement:

Whenever I <u>make it home</u>, my brother <u>goes on</u> about how I really <u>got my act together</u> this last year, but my sister <u>never stops talking</u> about <u>ancient history</u>.

This seems pretty straightforward. However, all the words and phrases that are underlined are figurative. They are composed of metaphors and analogies, and are not intended to be taken literally. How does one <u>make it home</u>, beyond actually constructing a building, and what's the difference between <u>home</u> and <u>it</u>? How can someone <u>go on</u> regarding a topic—ice skates? Is the speaker in a stage play, so that he or she has to <u>act</u>, and what has he or she <u>gotten together</u>, in doing so? If the speaker's sister <u>never stops talking</u>, how does she sleep? And what does the Neolithic Period have to do with anything?

As strange as it may sound, if one compares language usage to the real world, most statements actually don't make that much literal sense. Imagine something as simple as what we mean, in English, when we say the word *back*.

- The word *back* may refer to a physical area of anything with two different sides, such as rug, or an animal's body, including the human body. It may refer to the back of an object with more than two sides, but only in relationship to another object (e.g.: the back of a plant is the part next to a window) or in relationship to oneself (the side away from which one is facing). The back of a store may refer to the section opposite to the entrance of the store, inside of that store. Or, it could refer to an area outside of the store, facing an exterior wall that mirrors, in reverse, the exterior of the entrance wall.

- The back of things with two distinctly different sides is assigned according to its function. The back of a plate is the side not-for-eating, regardless of the position of a person in relationship to the plate. The back of most books that are written in English is the side that, when stationary, is to the left of the binding. The back of a piece of paper is the-side-not-printed-upon, or not primary in content, relative to the paper. Or, it can also refer to the side that is not currently visible, relative to a person who is looking at it. If that person is holding it upright, the back of the paper will remain the back of the paper even to someone facing that person, because it remains relative to the person who possesses the paper at any given time.

- Back may refer to a spatial area that has been previously traversed, or a previous time period, whether a moment, or centuries. It may refer to a variety of concepts of return as determined by a given context: to go back home, to go back to an earlier conversation, to go back to school.

- In combination with various prepositional pairings, the word back takes on a formidable array of potential meanings, as in back from, or back around. The combination back up could mean to return up into the air (back up in the plane), but is more commonly used strictly in relationship to the spatial concept of horizontality (back up a car). It is also used metaphorically, as in: "Hey, I didn't catch that. Back up a minute." While we're at it, what is one trying to catch? A ball? A cold? A wink?

- Finally, since many people do accept the general premise that the planet is a spherical spinning in space, it makes no sense to refer to going down south and up north. Nor does it make sense, in the United States, that one would tend to refer to going "back east," but going "back west" would sound strange. And still, in the United States, one refers to going back east, and out west, but only in reference to the coastal areas of the United States, and not, say, ten miles.

Examined closely, language has little to do with what is real. It does not refer to things in the world as much as ideas that describe our relationship to those things. Language refers to concepts, which describes a common worldview shared by all who speak a given language.

We are able to make sense of such ridiculous statements because language is primarily figurative, and not literal. Speakers within a given language rely on a shared understanding to communicate meaning, instead of the literal definition one would tend to find in a dictionary.

For example, let's say that someone were to pose the question: "Were you born in a barn?" One would not respond with an answer such as, "No, I was born in a hospital" unless one was profoundly oblivious to the shared meaning of such a phrase in the English language. In fact, in the English

language, this is not usually a question, at all. Rather, it is a statement/ request, often meaning something like: "You are being impolite. Close the door." Terry Eagleton gives the following example:

> Imagine that far into the future, all that is left are the ruins of our current civilization. Even the simplest of signs might be confusing. How would someone from that time, for example, interpret a sign that said: "Dogs Must be Carried on Elevators." Does this mean that, if one has a dog, the dog must be carried while on the elevator? Or, does it mean that, in order to get on the elevator, one must be carrying a dog? (6)

The associations that make language figurative in a given language change, over time, and vary deeply, according to context. For example, the word *love*, as we understand it, in the English language, has a particular meaning in this history, in places such as the United States. That meaning would be dependent upon when and how and where one uses it. It would also depend upon who one is, and to whom one uses it, when communicating. Given these variables, the word could refer to such things as the emotion one might have, among others, for: a parent, a friend, a child, a partner or spouse, a hometown, a country, objects, a pet, states of mind—and, of course, chocolate.

Figurative language is so common that it is nearly impossible to avoid it. Constructing a single paragraph would be a challenge. At the same time, our reliance upon figurative language, such as metaphorical associations, indicates that language a blunt tool—it always leaves things out. Love may be associated with the beauty of a rose, but one does not usually mean that love is long-stemmed or may have aphids.

In writing, one lacks one's full arsenal of contextual clues to allow one's audience to understand statements that are not to be taken literally. As such, writing is more subject to mishaps in conveying one's meaning. To compensate for the possibility of such mishaps—to say what one means, in writing— one must meticulously define the exact meaning of any ambiguous words or phrases, for a reader. Or, in other words, if one wants to get an edge on writing, one has got to sharpen one's meaning to a more precise point.

4   language and associates

Does it trouble you that…
    They call what a doctor does "practice"?
    People who invest your money are called "brokers"?
    You board an airplane from something called a "terminal"?
    The time when traffic is slowest is called "rush hour"?

-anon

In general, people rely upon the dictionary to provide the definition of individual words, outside of context. The problem is that the dictionary does not offer a very accurate model for how language is actually used. The dictionary gives the impression that language is merely made up of a bunch of unrelated words organized in an alphabetical list, that refer to things in the world, with no relationship to one another except sharing the first couple of letters.

In fact, all language is what could be described as associational. Each word is linked to words to which it is alike, to words in which it is in opposition, and to words to which it is in some other kind of relationship. Those associations are often not logical as much as categorical, or even based simply on how the word sounds. This is why one could pick practically any word and begin to create an associational "web" of related words.

Let's take random example, such as the word *boat*. Another example would do just as well. In a dictionary, boat would probably be listed following a word such as *boastful*, to which it has little relationship except that they both begin with the same two letters.

In a dictionary, the word boat, in general, would probably be defined as a noun and a verb. Its definition would read something like *a man-made means of transportation that travels on the water, and that is propelled by sails, or an engine, or oars*. To help, the dictionary might offer a synonym, which has a similar definition, such as the word *ship*.

If one accepts the way that the dictionary describes language by structuring the relationship among words, then one can imagine that the word boat refers to those objects in the world that fit that description, and leave it at that. However, its associational relationships, in language usage, are much more complex.

Following is a diagram that begins to chart some of those relationships, as we use the word in language:
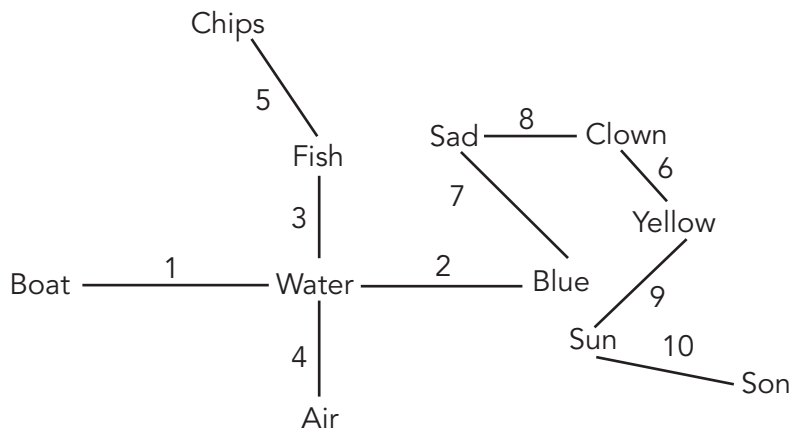
1. Boat/Water
2. Water/Blue
3. Water/Fish
4. Water/Air
5. Fish/Chips
6. Blue/Yellow
7. Blue/Sad
8. Sad/Clown
9. Yellow/Sun
10. Sun/Son

Each word in the diagram could generate new associations, and add to its complexity. However, in this simple diagram, one can see that each number represents a certain kind of associational relationship. One could even begin to catalogue them. They are not random accidents. They are a part of the way we think when we use language. We think in concepts, and those concepts are structured according to categories, likeness, opposites, and types and subtypes. The following, for example, is a short list of some of the reasons why we tend to associate certain words with others.

1. boat/water
   Most boats travels on water, and not air or land.
2. water/blue
   Water is often represented as blue, although, unadulterated, or in the absence of certain light-effects, it is a clear liquid.
3. water/fish
   Fish live in water, and not on land or air
4. water/air
   The four elements are fire, air, water, and earth.
5. fish/chips
   "Fish and chips" is a common food pairing in some English-speaking countries.
6. blue/yellow
   Blue and yellow are colors.
7. blue/sad
   Blue is often a description for sad.
8. sad/clown
   A clown face is often painted with a sad expression.
9. yellow/sun
   The sun is often perceived and represented as yellow, although light, of which the sun is a source, is actually a spectrum of colors.
10. sun/son
   Sun and son sound the same, when spoken, although they have different spellings when written, and refer to different concepts.

The associative diagram that is drawn, here, shows why boat is associated with water, and water associated with blue, and blue is associated with sad, and sad associated with clown. However, it's harder to see the associational relationship between boat and clown.

That's because the relationship between and among words depends upon the associational proximity of the concepts to which they refer. That proximity has to do with a lot of variables that one must learn in a given language, which is a part of one's culture. One may associate white with marriage and celebration, whereas, in another culture, white may be associated with mourning and grief.

So what does all of this have to do with writing? Everything.

If one were to say: "It is natural for people to fear snakes," one could mean:

It is understandable for people to fear snakes.
It is common for people to fear snakes.

That is because, in a figurative sense, *natural* and *understandable* and *common* are associated words.

Yet despite what one might have meant, that is not what one has said. In the literal definition of the word natural, these associations are not evident. Natural can have a lot of meanings, in usage. However, the word natural is defined, in the literal sense, as *referring to the physical world, including biological beings and phenomena*. Therefore, in the literal sense, if one were to say "It is natural for people to fear snakes," one has actually made the statement that people are *biologically predisposed* to fear snakes.

In academic writing, one endeavors to construct true statements. This is not a true statement. It is not natural to fear snakes. There are plenty of people who find snakes quite delightful creatures, and who study them, and have them as pets. This may seem like a simple issue. What's the big deal? The big deal is that a failure on the part of the writer to define such a word can create a significant gap between what the writer means and what the writer says.

To illustrate, here is the word *natural* used in a series of statements:

1. It is <u>natural</u> for poor people to commit crime.
2. Men and women can't be friends. It's not <u>natural.</u>
3. Religious people are more <u>naturally</u> moral than atheists.

Since the word natural is not defined in these statements, it immediately offers a range of associated meanings.

Thus, the writer may have *meant*:

1. Poor people might <u>have more incentive</u> to steal food than wealthy people, because poor people may be hungry.
2. Men and women may be perceived as having difficulty maintaining a platonic relationship because <u>cultural norms</u> in the United States tend to treat close friendships between unrelated men and women of similar age as secretly indicative of sexual desire.
3. People who have religious faith may be <u>more inclined</u> to follow a pre-existing code of ethics defined by that belief system.

However, taken literally, what the writer has actually *said* is:

1. People who do not have wealth were born with the <u>innate biological impulse</u> to commit crime.
2. Men and women are <u>biologically incapable</u> of forming friendships with one another.
3. People become religious because they are born with a <u>biological predisposition</u> toward a sense of morality that is missing in those who do not become religious.

Critical thinking, in relationship to writing, relies first and foremost on getting control of the meaning of what one says. In writing, there is no innocent use of language. All words are guilty by association.

In other words, the failure to carefully define what one means, in writing, is very common, but it is not *natural*, and is very much so avoidable.

Get the picture? Good–as Scott McCLoud says, "I'd like a copy."

5   guard rails for the tricky bits

Defining one's language helps one to avoid a series of common mishaps, of which the following are some examples:

- Emotional Language
- *Adjectivitis*, or Wine-Bottle Language
- Glidge, or Glittering Generalities

Emotional Language

The first issue to address is *emotional language*. Emotional language is an issue of tone in academic writing. "The death penalty is barbaric" is not a statement that is going to result in writing that sounds objective. The topic about which

one is writing is not what is at issue. The issue is the language that one is using. As an extreme example, neither of these statements sounds particularly objective:

"Those no-good garbage-sorting atheistic latté-guzzling intellectual tree-hugging environmentalists are ruining the country."

"Those no-good intolerant anti-civil-rights pro-business religious zealots are ruining the country."

Any word or phrase that indicates an emotional bias or value judgment will immediately signal to a reader that a writer does not have control over his or her language, and therefore does not have the ability to be fair and honest.

It is not that academic writers do not deal with issues that are often attended by strong emotion, or deal with questions of justice or ethics. However, academic writing does this by striking a tone of consistent and logical neutrality.

For example, one could write about the fact that, at a certain point in history, "indigenous people were denied the right to own land." If this statement were true within the context of one's writing, then one has been fair and objective. However, to write, "*It is unfair* that indigenous people were denied the right to own land," would be an emotional statement. While it may be important and true that this situation was unfair, it is not the place of an academic writer to tell a reader what to feel. If the reader does not infer the injustice of the act, from the objective statements provided, then the reader will not view it that way just because the writer says so. No reader wants to be told what to do or think. One does not persuade by simply declaring one's position. Persuasion is the result of writing that a given reader finds reasonable and accurate.

Adjectivitis, or Wine-Bottle Language

The second issue has to do with descriptive language, such as adjectives. Adjectives are some of the worst offenders when it comes to being unclear about what one means. This is especially true of abstract descriptive words or phrases. Using vague description can be called *Wine-Bottle Language*, because it sounds great, but means nothing, as in: "A generous bouquet, yielding its darker hints to the soothing tones of a sweet afterglow." All this really means is "really good, in a general way."

If one wishes to convey a specific description, one must use concrete adjectives. If one wishes to convey that a room is comfortable, one must describe concrete elements that cause that effect.

Abstract: A <u>cozy</u> room with a <u>welcoming</u> ambience designed to make people feel relaxed.

Concrete: A <u>small</u> room with <u>low</u> lighting and <u>dark blue</u> walls with <u>three oversized velvet</u> armchairs placed in front of a <u>large, glowing</u> fireplace.

Glidge, or Glittering Generalities

Most of the time, writers who fail to define what they mean are simply confused, or not paying attention. However, there is a certain way in which language can be used to deliberately obscure the relationship between what one means and what one says.

There is a term for the use of deliberately evasive words or phrases for the purpose of disguising one's meaning. This term is the same in academic writing as it is in the real world. It's called *lying*. George Orwell points out a few examples from the following list in his essay "Politics and the English Language":

What is said: Elimination of Unreliable Elements.
What it means: Shooting people who oppose your political viewpoint.

What is said: Collateral Damage.
What it means: Bombing the school when you were aiming for the airbase.

What is said: Final Solution.
What it means: Genocide.

What is said: Transfer of Populations.
What it means: Removing people from their homes, against their will.

In other words, definition can be serious business, and can have real consequences that affect real people.

Some glittering generalities are merely common phrases that enter one's keyboard, through one's fingers, without being filtered, first, through one's thought processes. Sometimes a writer does not even really know what he or she means until he or she is forced to define a word.

Until certain words or phrases are defined, they do not convey a specific meaning. Instead, they communicate, in general, a positive or negative connotation. *Freedom* sounds good. *Oppression* sounds bad. *Democracy* sounds good. *Fascism* sounds bad. However, unless one defines such terms, one might as well use the words *good* or *bad*, instead. Without definition, the associative quality of words will

simply act on their own to control the meaning conveyed. Why? For the same reason, evidently, that people climb mountains—because they can.

Defining words goes the issue of being honest and careful in one's writing, but it also addresses the overall tendency to generalize. Generalization helps one to group things in comfortable ways. It reflects how people think alike in a given culture, if one shares a common language.

To clarify, it helps to think of language as offering what could be called a cultural *default*.

For example, let's say one grew up in the United States, and were asked to instantly visualize an image of a police officer. One would be more likely to visualize a person who is male, white, approximately twenty-five to thirty-five years old, in uniform, and who may or may not be wearing a pair of those opaque aviator sunglasses. Ask a child over the age of five in the United States to draw a picture of a police officer, and one would most likely, in the majority of cases, receive a rendering of a similar image. This is information that people in social systems receive very early.

If one were to instantly visualize *professor*, one would be more likely to visualize a white male, while the word *schoolteacher* would be more likely to evoke the image of a white female. Different defaults would apply to words like *chef* or *prostitute*.

A variation of this same default generates stereotypes (e.g.: "Women are romantic," or "Asians are smart").

It's not that everyone in the United States is sexist or racist. It does not mean that there are not both female and male prostitutes. There are many different people who might be a police officer, or a waitperson at a diner, or a drug-dealer, or a judge, or an immigrant. It is simply that there is no getting away from the default. One is not really able to avoid it, because it is a part of the way in which culture creates associations, and association structures language, and language structures thinking. We simply draw the default from that part of our socialization that reinforces stereotypes and cultural norms, and to which we are repeatedly exposed. It is not inevitable, however, that we should mistake the default for real people. It is also may be important to keep in mind that real people have to deal with the default.

Unconscious generalization not only creates stereotypes, but also creates a lack of precision in one's thinking. In avoiding such generalization, the test is always to ask oneself if a statement is really true.

Here are two test statements:

"Americans love football"
    Is this true?
    No.
    Some Americans hate football, some love it, and some are indifferent.

"In the United States, football is a popular sport."
    Is this true?
    Yes.
    A requisite portion of the citizenry shows an interest in playing, watching, discussing, betting upon, and/or emotionally investing in the game.

Sometimes generalizing creates a tendency to take one's own experiences in the world, and use it to describe everyone's experiences. Academic writing, for publication, circulates in a larger context than that which composes the experiences of a singe individual or subpopulation, such as college students in the United States. Here is another test statement:

"Almost everyone uses the Internet."
    Is this true?

To answer, consider the following:

writing tip

Brackets, [which open and close like this], are different than parentheses, (which open and close like this). Brackets indicate the interruption of a writer's voice into a quotation from an external source. In other words, it is not a part of the original quotation.

In this example, the brackets indicate this writer's misgivings concerning the way in which the terms of this list remain undefined.

If The Whole World Were a Village with 100 People

- 60 would be "Asians"
  [Presumably, those people residing on the Eastern side of the Caucasus—a mountain range—on the continent of Eurasia]
- 12 would be "Europeans"
  [Presumably, those people residing on the Western side of the Caucuses—a mountain range—on the continent of Eurasia, including islands, often referred to as "Caucasians."]
- 15 would be from America
  [Presumably, those residing on the land mass that composes the Americas]
- Of those 15:
  9 would be from Latin America and Caribbean
  5 would be from North America, including the U.S./Canada
  1 would be from Islands surrounding the Americas
- 13 would be from Africa
- 51 would be men
- 48 would be women

- 18 would be "white"
  [Whatever that means]
- 82 would be "non-white"
  [Whatever that means]
- 33 would be Christian
  [Presumably, this would include all Christian denominations]
- 67 would be "non-Christian"
  [Presumably, this would include Muslims, Buddhists, Jews, Pyrrhomists, Hindus, etc., as well as Atheists and Agnostics, etc.]
- 90 would be malnourished
- 1 would be dying of starvation
- 1 would be dying of HIV
- 80 would live in substandard housing
- 67 would be unable to read
- 7 WOULD HAVE ACCESS TO THE INTERNET
- 89 would be heterosexual
- 11 would be gay
- 1 would have a college education.[1]

Let's say that one accepts the statistical validity of the statement that an average of seven out of one hundred people has access to the Internet.

At this point, one can return to the test statement:

"Almost everyone uses the Internet."
    Is this true?
    No.
    According to these statistics, approximately 93% of people do not even have access to the Internet.

What a writer might mean in writing such a statement is that "Almost everyone *I know* has access to the Internet." However, that is not what the writer has said. In academic writing, statements must be explicit (the truth is out in the open) as opposed to being implicit (the meaning is indirect). In another kind of writing, it is possible that one can get away with generalities. In academic writing, one has an obligation to be very specific in regard to the meaning of the language one is using. Refusal to define words impedes critical thinking, because it paints people and situations in broad,

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[1] I have read numerous versions of this breakdown that offer a variety of conclusions, but they all fall into basically the same range. I have averaged them across sources, beginning with the original "State of the Village Report" from the Donella Meadows Archive at The Sustainability Institute, Vermont, as well as various online and print sources that contest and revise the numbers. Statistically, the original study is based upon an unrepresentative sampling of 1,000 people. However, the interest that it generated, and the subsequent duplication and reduplication of the study in various forums, means that it likely represents a very general state of things, and is statistically valid. The problem becomes the question of how these data were collected, what the terms actually mean, as well as the issue of reduction: Who is being left out? Is there no person in the world who identifies as bisexual? Doesn't anybody live in Australia?

sloppy strokes. Generalizations can cause one to miss the obvious, because untrue premises lead to false conclusions.

Let's say one were to write the statement:
"The clothing a person wears reflects his or her personality."

If one does not define the word *personality*, what has one said? Is the reader to infer, from this, that an individual's personality changes when he or she steps into pajamas?

definition

To *stipulate* is to control the conditions of something, or to have authority over the rules that govern it. Therefore, to stipulate a definition is to take control over the meaning that it conveys, among the many associations that it may carry.

When one defines a word within one's writing, one describes what that word means within the context of one's writing. One does not have to be stiff about it. One can do so in a casual manner, as in: "The clothing a person wears reflects his or her personality, to the degree that personality is a reflection of a person's taste or preference." This is called *stipulating* one's definition.

One does not just express oneself in language. One thinks in language. The more one takes care to make one's language precise, the more precise one's thinking becomes.

7 ways to define assignment

Format

Typed, in Appropriate Format
Length: Over 1 page

Instructions

   I. Type the question, as it is now.

  II. Delimitation.
       1. Can I, or do I want to, answer for all time?
       2. Can I, or do I want to, answer for all places?
       3. Can I, or do I want to, answer for all people?
       4. Can I, or do I want to, answer for all instances?

 III. Retype the full question with delimitation.

  IV. Identify any words or phrases that are essential to the question,
      and that may have an unclear meaning without definition. Treat all
      phrases as one definition. For example, define the phrase "fashion
      sense," instead of "fashion" and "sense" as separate words.

   V. Define those word or phrases according to each of the following
      means of definition. Do not use a dictionary.
      Exemplar:
          • To define by example
            (Justice is conviction of the guilty.)
      Analogical:
          • To define by analogy
            (Justice is a balancing of the scales.)
      Synonymous:
          • To define by similar words
            (Justice is revenge.)
      Negative:
          • To define by difference to similar words
            (Justice is NOT revenge, because justice is not personal.)
      Stipulative:
          • To define by what one means, in the specific context of one's
            own writing.
            (For the purpose of this writing, justice is establishing a
            person's motive in committing an illegal act, and determining
            the legal consequences.)

      V: Rewrite your question with all stipulative definitions in place.

Sample Ways to Define Assignment

I. Type the question, as it is now.
Why is the main plot of Disney films about a romance between young adults, when children are its main audience?

II. Delimitation.
1. Can I, or do I want to, answer for all time?
No. Animated full-length Disney feature films release between 1930-1990.
2. Can I, or do I want to, answer for all places?
No. Only in the United states.
3. Can I, or do I want to, answer for all people?
No. People in the United States.
4. Can I, or do I want to, answer for all instances?
No. Most, but not all, Disney films from this period are about romance.

III. Retype with delimitation.
Why is the main plot in most, but not all, full-length Disney animated films, made between 1930 and 1990, in the United States, about romance between young adults, when the main audience is children?

IV. Identify any words or phrases that are essential to the question, and that may have an unclear meaning without definition
- Romance
- Plot
- Children
- Young Adults

V. Define those word or phrases according to different means of definition.
Exemplar: To define by example.
- Romance:
Shakespeare's play Romeo and Juliet is a romance.
- Plot:
The story of a hero conquering a villain is a plot.
- Children:
Children are students in elementary school.
- Young Adults:
College students are often young adults.

Analogical: To define by analogy.
- Romance:
Romance is two people becoming one.

- Plot:
  Plot is what is sandwiched between the opening scene and the ending credits.
- Children:
  Children are blank pages.
- Young Adults:
  Young adults are those who are waiting for life to happen.

Synonymous: To define by similar words.
- Romance:
  Romance is love.
- Plot:
  Plot is story.
- Children:
  Children are babies.
- Young Adults:
  Young adults are older teens.

Negative: To define by difference to similar words.
- Romance:
  Romance is not love, because love can refer to feelings between friends.
- Plot:
  A plot is not a story, because a plot is not only what is told, but also the way in which a story is told.
- Children:
  Children are not babies, because childhood extends past the age of two.
- Young Adults:
  Young adults are not older teens, because teens are not legally liable for their actions

Stipulative: To define by what one means in the context of one's own writing.
- Romance:
  The idealization of the heterosexual pairing between unrelated young adults, represented as resulting in marriage.
- Plot:
  The chain of events involving the introduction, and subsequent resolution, of the main conflict in a romance, and ending in marriage.
- Children:
  A human, or representation of such, roughly between the ages of newborn to ten years of age.
- Young Adults:
  A human, or representation of such, approximately sixteen years of age in Disney films.

V: Rewrite the question, again, adding the stipulative definition.
    Why is the main issue to be resolved, in most, but not all, full-length
    Disney animated films, made between 1930 and 1990, in the United
    States, about the idealization of a heterosexual pairing between
    unrelated young adults approximately 16 years old, and resulting in
    marriage, when the main audience is made up of children between the
    ages of newborn to approximately ten years old?

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