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THE *Craft* OF *Research*

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Contents

This strategy is effective when members of the group differ about what is important, but those differences complement rather than contradict one another.

For example, in a group working on stories of the Alamo, one person might be interested in the clash of cultures, another in political consequences, and a third in the role of narrative in popular culture. The members might work from the same sources but identify different issues as important to their own perspectives. But then, after sharing what they have found, the members of the group take turns working on versions of a whole draft. The first writer creates a rough and incomplete draft, but with enough structure for others to see the shape of the argument and to expand and rearrange. Each member in turn then takes over the draft, adding and developing ideas that seem most important. The group agrees that the person working on the draft at that moment "owns" it and can make whatever changes that person wishes, so long as the changes reflect the group's understanding of the whole.

The risk is that the final product will seem to work at cross-purposes, following a zigzag path from one incompatible interest to another. A group that works by turns has to agree on the final goal and the shape of the whole, and each member has to respect and accept the perspectives of the others.

Your group may find that it can use different strategies at different stages. For example, in early planning, you may want to work side-by-side, at least until you form a general sense of your problem. For data-gathering, you may find it most efficient to divide and conquer. And for the final stages of revision, you may want to take turns. In writing this book, we mixed strategies. Early on, we worked side-by-side until we had an outline. We then worked on separate chapters and returned to work side-by-side when our progress stalled and we felt that we had to revise our plan (which happened at least three times). Most often, though, we divided the work by each drafting individual chapters. Once we had a whole draft, we worked by turns, with the result that many of these chapters resemble very little the chapter that one or the other of us originally drafted.

Working in groups is hard work, and sometimes hard on the ego, but it can also be highly rewarding.

CHAPTER THREE

From Topics to Questions

In this chapter, we discuss how to use your interests to find a topic, narrow it to a manageable scope, and then generate questions that will focus your research. If you are an advanced student and already have a dozen topics that you would like to pursue, you might skip to Chapter 4. If, however, you are starting your first project, you will find this chapter useful.

3.1 Interests, Topics, Questions, and Problems

IF YOU ARE FREE to pursue any research topic that interests you, that freedom may be frustrating—so many choices, so little time. Finding a topic, though, is only the first step, so do not assume that once you have a topic, you need only search for information and report what you find. Beyond a topic, you have to find a reason (other than completing your assignment) for devoting weeks or months to pursuing it and then for asking readers to spend time reading about it.

Researchers do more than just dig up information and report it. They *use that information to answer a question that their topic inspired them to ask.* At first, the question may intrigue the researcher alone: how good was Abe Lincoln at math? Why do cats rub their faces against us? Is there such a thing as innate perfect pitch? That's how most significant research begins—with an intellectual itch that only one person feels the need to scratch. But at some point, a researcher has to decide whether the question and its answer might be *significant,* at first to the researcher alone, but eventually to others—to a teacher, to colleagues, to an entire community of researchers.

At that point, the researcher must view his task differently: he must aim not just at answering a question, but at posing and solving a *problem* that he thinks *others* should also recognize as worth solving. That word "problem," though, has a meaning so special in the world of research that it is the topic of the whole next chapter. It raises issues that few beginning researchers are ready to resolve entirely, and that can vex even an advanced researcher. So do not

feel dismayed if at first you cannot find in your topic a problem that others might think worth solving. But you will never even approach that point unless you strive to find in your topic a question that at least *you* think worth asking.

In this chapter, we focus on the steps leading to the formulation of a research question. How do you transform an interest into a topic for research? How do you find questions that can guide your research? Then how do you decide whether those questions and answers are worth pursuing, at first just to you, but then to your readers? The process looks like this:

1. Find an interest in a broad subject area.
2. Narrow the interest to a plausible topic.
3. Question that topic from several points of view.
4. Define a rationale for your project.

In the next chapter we address the more vexing matter of turning your questions into a research *problem*.

3.2 From an Interest to a Topic

Experienced researchers have more than enough *interests* to pursue. An interest is just a general area of inquiry that we like to explore. The three of us have our current favorites: society and language, textual coherence and cognition, ethics and research. But while beginning researchers also have interests, they sometimes find it difficult to locate among them a *topic* appropriate for academic research. A topic is an interest specific enough to support research that one might plausibly report on in a book or article that helps others to advance their thinking and understanding: the linguistic signals of social change in Elizabethan England, the role of mental scenarios in the reader's creation of coherence, the degree to which current research is motivated by under-the-counter payments.

If you are free to explore any topic within reason, we can offer only a cliché: start with what interests you most deeply. Nothing will contribute to the quality of your work more than your sense of its worth and your commitment to it. Start by listing four or five areas that you'd like to learn more about, then pick one with the best potential for yielding a topic that is specific and that might lead to good sources of data. If you are in an advanced course, you are likely to be limited to matters of interest to those in your field of study, but you can always find more by looking in a recent

textbook, talking to another student, or consulting your teacher. You might even try to identify an interest that will provide a topic for work in another course, either now or in the future.

If you are still stuck, here is a way to search for topics that might pan out: If this is your first research project in a writing course, find in the reading room of your library a general bibliographical resource such as the *Reader's Guide to Periodical Literature* or the *Bibliographic Index* (we will discuss these resources in more detail in Chapter 5 and in the Quick Tip after it). If you are an advanced student, locate a specialized index in your particular field, such as *Philosopher's Index, Psychological Index, Women's Studies Abstracts.* Now skim its headings until you find one that catches your interest. That heading will provide not only a possible topic, but also a list of sources on it.

If you are writing your first research paper in a particular field and have not yet settled on a topic, you might head over to the library to find out where its resources are particularly rich. If you pick your topic first and then after considerable searching discover that the sources are thin, you will have to start over. By identifying areas with promising resources, you learn the strengths and weaknesses of your library and can plan this and future projects more thoughtfully. (If you are really stuck, look at the Quick Tip at the end of this chapter for more suggestions.)

3.3 From a Broad Topic to a Narrow One

At this point, you risk picking a topic so broad that it could be a subheading in an encyclopedia article: "Space flight, history of"; "Shakespeare, Problem Plays"; "Natural kinds, doctrine of." A topic is probably too broad if you can state it in fewer than four or five words. If you find yourself struggling with that kind of topic, narrow it:

Free will and historical inevitability in Tolstoy's *War and Peace*	→	The conflict of free will and historical inevitability in Tolstoy's description of three battles in *War and Peace*
The history of commerical aviation	→	The contribution of the military to the development of the DC-3 in the early years of commercial aviation

We narrowed these topics by adding modifying words and phrases. In particular, we added four nouns of a special kind: *conflict, description, contribution,* and *development*. Those nouns are special because they are each related to a verb: *conflict, describe, contribute,* and *develop*. At some point, you will have to move from a phrase that names a topic—"free will and historical inevitability in Tolstoy," "history of commercial aviation"—to a sentence that states a potential *claim*. If you narrow your topic by using nouns derived from verbs, you will be one step closer to a claim that could be challenging enough to interest your readers. Compare these:

Free will and historical inevitability in Tolstoy's *War and Peace*	→	There is both free will and historical inevitability in Tolstoy's *War and Peace.*
The ***conflict*** of free will and historical inevitability in Tolstoy's ***description*** of three battles in *War and Peace.*	→	Tolstoy ***describes*** three battles in a way that makes free will ***conflict*** with historical inevitability.
The history of commercial aviation.	→	Commercial aviation has a history.
The ***contribution*** of the military in the ***development*** of the DC-3 in the early years of commercial aviation.	→	The military ***contributed*** to the way the DC-3 ***developed*** in the early years of commercial aviation.

These may not be particularly interesting claims yet. But since you will build your final project out of a series of claims, you should, from the beginning, take every opportunity to work toward the kinds of claims you will eventually need.

The advantage of a specific topic is that you more easily recognize gaps, inconsistencies, and puzzles that you can question. That will help you turn your *topic* into a research *question*. (If you follow our later suggestion to begin with an index or abstract, your topic will already be restricted by its headings.)

Caution: you narrow your topic too severely when you cannot easily find sources.

The history of commercial aviation
↓
Military support for development of the DC-3 in the early years of U.S. commercial aviation
↓

The decision to lengthen the wing tips on the DC-3 prototype as a result of the military desire to use the DC-3 as a cargo carrier

3.4 From a Narrowed Topic to Questions

Once the beginning researcher hits on a topic that feels *both* interesting and promising, perhaps something like "the political origins and development of legends about the Battle of the Alamo," she typically begins searching out sources and collecting information, in this case versions of the story in books and films, Mexican and American, nineteenth century and twentieth. She might then write a paper that summarizes the stories, points out differences and similarities, contrasts them with what modern historians think really happened, and concludes,

> Thus there are interesting differences and similarities between . . .

In a first-year writing course, such a paper might earn a passing grade. It shows that the student can focus on a topic, find data on it, assemble those data, and present them coherently—no small achievement for a first research project. But for anyone who wants her research to *matter,* such an achievement would fall short of the mark.

While the writer may have learned something from the exercise of searching out and reporting on the Alamo stories, she offers only *information*. She asked no *question* that she or her readers might think worth asking, and so she can offer no *answer* significant enough to change how she or her readers should think about those stories or their development.

Once you have a topic to research, you should find in it questions to answer. Questions are crucial, because the starting point of good research is always what *you do not know or understand but feel you must*. Start by barraging your topic with question after question, first with the obvious standing questions of your field:

> *Do the legends about the Battle of the Alamo accurately reflect our best historical accounts? Do the historical accounts differ?*

Ask the standard *who, what, when,* and *where* questions. Record your questions, but don't stop for their answers.

You can organize your questions from these four perspectives:

1. What are the parts of your topic and what larger whole is it a part of?
2. What is its history and what larger history is it a part of?
3. What kinds of categories can you find in it, and to what larger categories of things does it belong?
4. What good is it? What can you use it for?

(Don't worry about getting the right questions in the right categories; the categories serve only to stimulate the questions.)

3.4.1 Identify Its Parts and Wholes

- Question your topic in a way that analyzes it into its component parts and evaluates the working relationships among them:

  What are the parts of stories about the Battle of the Alamo? How do they relate to one another? Who were the participants in the stories? How do the participants relate to the place, the place to the battle, the battle to the participants, the participants to one another?

- Question your topic in a way that identifies it as a working component in a larger system:

  What use have politicians made of the story? What role does it have in Mexican history? What role does it have in our history? Who told the stories? Who listened? How does the nationality of the teller affect the story?

3.4.2 Trace Its History and Changes

- Question your topic in a way that treats it as a dynamic entity that changes through time, as something with its own history:

  How did the battle develop? How have the stories developed? How have different stories developed differently? How have audiences changed? How have the storytellers changed? How have motives to tell the story changed? Who first told the stories? Who told them later? Who were the earliest readers and listeners? Who later?

- Question your topic in a way that identifies it as an episode in a larger history:

  What caused the battle, the stories? What did the battle and the stories then cause? How do the stories fit into a historical sequence? What else was happening when the stories appeared? When they changed? What forces caused the story to change?

3.4.3 Identify Its Categories and Characteristics

- Question your topic in a way that defines its range of variation, how instances of it are like and different from one another:

  What is the most typical story? How do other stories differ from it? Which one is most different? How do the written and oral stories differ from the movie versions? How are Mexican stories different from ours?

- Question your topic in a way that locates it in a larger category of things like it:

  What other stories in our history are like the story of the Battle of the Alamo? What other stories are very different? What other societies have the same kinds of stories?

3.4.4 Determine Its Value

- Question your topic in regard to the value of its uses:

  What good are the stories? What use has been made of them? Have they helped people? harmed them?

- Question your topic in regard to the relative value of its parts and features:

  Are some stories better than others? What version is the best one? the worst one? Which parts are most accurate? Which least?

3.4.5 Review and Rearrange Your Answers

When you run out of questions, group them in different ways. In the Alamo example some questions relate to the development of the stories; others address their quality as fact or fiction; others highlight differences between versions (nineteenth- and twentieth-century, Mexican and American, written and movie); other questions address political issues, and so on. Such lists can provide scores of research topics. If they are freewheeling enough, they can have the exhilarating effect of opening up worlds of research.

The next step requires more careful judgment. First, identify

questions that need more than a one- or two-word answer. Questions that begin with *who, what, when,* or *where* are important, but they ask only about matters of fact. Emphasize instead questions that begin with *how* and *why*. Then decide which questions stop you for a moment, challenge you, spark some special interest. At this point, of course, you can't be sure of anything. Your answers may turn out to be less surprising than you hoped, but your task now is only to formulate a few questions whose answers *might* be both plausible and interesting.

When you've done all this, you have taken your first big step toward a project that goes beyond just collecting data. You have identified something that you don't know but want to, and what you want to know drives the earliest stages of your research. You are ready to gather data, a process we'll describe in Chapter 5. But even though you can now begin gathering data, the process of focusing your project is not yet complete.

3.5 From a Question to Its Significance

Even if you are an experienced researcher, you may not be able to take this next step until you are well into your project, perhaps even close to its end. And if you are a beginning researcher, you may feel this step is especially frustrating. Once you have a question, you have to ask and try to answer the further question, *So what?*

> *So what if I don't know or understand how snow geese know where to go in the winter, why the* Titanic *was designed so badly, how fifteenth-century violin players tuned their instruments, why Texans tell one story about the Alamo, Mexicans another? So what?*

This question vexes all researchers, beginners and experienced alike, because to answer it, you have to know how significant your research might be not just to yourself but to others. Instead of asking that question straight out, though, you can get closer to its answer if you move toward it in steps.

3.5.1 Step 1: Name Your Topic

In the earliest stages of a research project, when you have only a topic and maybe the first glimmerings of a few good questions, try to describe your work in a sentence something like this:

> I am learning about/working on/studying _____.

Fill in the blank with a few noun phrases. Be sure to include one or two of those nouns that you can translate into a verb or adjective:

> I am studying *repair processes* for cooling systems.
>
> I am working on the *motivation* of President Roosevelt's early speeches.

3.5.2 Step 2: Suggest a Question

As early as you can, try to describe your work more exactly by adding to that sentence an indirect question that specifies something about your topic that you do not know or fully understand, but want to:

> I am studying X *because I want to find out* who/ what/ when/ where/ whether/ why/ how _____.

You now have to fill in the new blank with a subject and a verb:

> I am studying repair processes for cooling systems, *because I am trying to find out how* expert repairers analyze failures.
>
> I am working on the motivation of Roosevelt's early speeches, *because I want to find out whether* presidents since the '30s have used those speeches to announce new policy.

When you can add that kind of *because-I-want-to-find-out-how/why* clause, you have defined both your topic and your reason for pursuing it. If you are doing one of your first papers and you get this far, congratulate yourself, because you have defined your project in a way that goes beyond the random collection of information.

3.5.3 Step 3: Motivate the Question

There is, though, one more step. It's a hard one, but if you can take it, you transform your project from one that interests you to one that makes a bid to interest others, a project with a rationale explaining why it is important to ask your question at all. To do that, you must add an element that explains why you are asking your question and what you intend to get out of its answer.

In Step 3, you add a second indirect question, this one introduced with *in order to understand how, why,* or *whether:*

1. I am studying repair processes for cooling systems,
2. because I want to find out how expert repairers analyze failures,
3. *in order to understand how* to design a computerized system that could diagnose and prevent failures.

1. I am working on the motivation of Roosevelt's early speeches,
2. because I want to discover whether presidents since the '30s used those speeches to announce new policy,
3. *in order to understand how* generating public support for national policy has changed in the age of television.

Assembled, the three steps look like this:

1. *Name your topic:*

   I am studying _____,

2. *Imply your question:*

   because I want to find out who/how/why _____,

3. *State the rationale for the question and the project:*

   in order to understand how/why what _____.

Rarely can a researcher flesh out this pattern fully before she begins gathering information. In fact, most can't complete it until they're nearly finished. Too many, unfortunately, publish their results without having thought through these steps at all.

Even though at the beginning of your project you won't be able to state these steps fully, it is a good idea to test your progress every so often by seeing how close you can come. Better: Have someone else—roommate, relative, or friend—*force* you to flesh out this progression. Your evolving description will help you keep track of where you are and keep you focused on where you may still have to go.

It may be that in your first try at research you will not find a question whose answer has much significance to anyone but yourself. But do that much and you will delight your teacher. As you move through your project, though, do what you can to fill out the pattern; try to find a reason for asking your question, a way to make its answer seem *significant* to you, maybe even to others.

Remember, your eventual object is to explain,

- what you are writing about—your topic.
- what you don't know about it—your question.
- why you want to know about it—your rationale.

When you can achieve these three objectives, you will have articulated a motive for your project that goes beyond just meeting a requirement. You will know that you have an *advanced* research project when what follows the *in order to understand* is important not just to you but to your readers as well.

It is when we begin to consider our readers that we must change the terms of our project from posing and answering a question to posing and solving a problem, the subject of our next chapter.