In view of Aristotle's remarks about requiring different kinds of proof in different subjects, the critical reader must make judgments about the quality of proof offered for a position. The four realms of knowledge, in decreasing order of certitude, include mathematics, empirical science, rhetoric (values, ethics, politics), and myth, or literature: each has its characteristic subject matter and methodology. Six questions for the realm of rhetoric include (1) Which assertions require evidence? (2) What kind of evidence is offered? (3) What is the character of the implied author? (4) What is the character of the implied audience? (5) What is the author's tone? and (6) How are the various parts of the essay related to one another? This list covers essential elements of logical, ethical, and emotional appeal, and can be applied to any essay within the domain of rhetoric. (DF)
In a famous passage toward the beginning of the *Nichomachean Ethics*, Aristotle says that "it is the mark of an educated person to look for precision in each class of things just so far as the nature of the subject admits; it is evidently equally foolish to accept probable reasoning from a mathematician and to demand from a rhetorician scientific proofs" (Book 1, Chapter 3). Like many of Aristotle's more famous statements this one is less obvious than it seems. Implicit in it are assumptions about the nature of truth and certitude which, taken along with other Aristotelian concepts, can be used as a foundation for a system of critical reading—and inversely, for a system of invention.

If critical reading means making judgments about the quality of proof offered for a position, the reader's first task is to determine what sort of proof might be offered. If the subject is mathematical or scientific, Aristotle says, the proof should be absolute; if the subject is not one that can be reduced to science or mathematics, then the proof can be only "probable"—and to expect more would be to reveal oneself as uneducated.

In this context I would like to make the following points:

1. that there are four realms of knowledge, each with a different degree of certitude;
2. that arranged in a decreasing order of certitude, these realms are mathematics, empirical science, rhetoric, and myth, which is the stuff literature is made of;
3. that the relatively high degree of certitude in science and mathematics is achieved at the cost of limited and reductive methodologies;

4. that in each of these realms, a different but analogous set of questions for critical reading should apply.

I will then propose six questions for critical reading that students can apply to anything within the realm of rhetoric.

Implicit in Aristotle’s distinction between science and rhetoric is the notion that there are two kinds of categorical statements: those for which we can claim certitude, and those for which we can claim mere probability. But these two kinds of knowledge can be further subdivided: pure mathematics and pure logic are the most certain of all systems of knowledge because they are closed systems, secure in definitions, symbols, and rules that are unambiguous in meaning and unvarying in application. Empirical science, however, is a shade less certain than mathematics, precisely because it is empirical, and therefore contaminated with realities that do not always behave as predictably as mathematical equations. The assertions of empirical science—like, "the coking of coal produces hydrogen sulfide"—are always based upon a leap of faith, often not a very daring leap, but a leap nonetheless. There is always a real possibility that the coking of coal will produce something else along with or instead of hydrogen sulfide under some yet undreamt of conditions.

Even less certain than empirical science is rhetoric, not because rhetoric is inferior as a methodology, but because the stuff of rhetoric—speculations about values, ethics, politics, and the future of history—is more subtle than data the physical sciences are equipped to handle.
And least certain of all, because it can be as subtle as reality itself, is the realm of myth, or poesy, or literature.

As a general rule, the greater the certitude, the more reductive the methodology. Mathematics and symbolic logic are absolutely certain because they are uncontaminated by reality; but they are also absolutely useless until we apply them to human affairs, in which their precision is inevitably compromised. The empirical sciences, with their positivistic epistemologies and inductive methods, can achieve marvels in medicine and engineering, but they can deal only with those realms of human experience that can be entirely reduced to observed behavior and quantitative analysis.

As it turns out, the most important statements in our lives—statements of value, of justice, of esthetics, political judgments, speculations about the future—belong to a less tractable realm, the realm of the merely probably where positivism and induction can be only handmaidens to the more comprehensive methodology of rhetoric, but not a substitute for it.

For Aristotle, methodology of rhetoric was not just the art of speechmaking, but the art of dealing with questions too elusive for science and mathematics: Should the nation go to war? Who is the rightful owner of land taken by force centuries ago? Which of Sophocles’s plays is the greatest? When does an unborn child become human? What is the difference between drug use and drug abuse? What will be the effects of a no-growth economy?

These are all rhetorical questions—not rhetorical in the sense that the asker knows the unspoken answer, but rhetorical in the sense that the educated person does not expect them to be answered with the certitude of mathematics or science. These are questions that can be answered only with greater or lesser degrees of probability.
It may be the characteristic error of the twentieth century to consider probability as the weak sister of science and mathematics, and to demand the wrong kind of certitude in matters that will not yield it. We as humanists may have been too easily cowed by our colleagues across campus who argue that nothing is real unless its behaviors are manifest and quantifiable, and who urge us poetic types to view the world as systematically as they view it. What they seem not to understand is that their answers are relatively certain only because their questions are relatively simple.

The genius of Aristotle's rhetoric is that it does not disparage mathematics and sciences; rather it includes them in a more comprehensive art. The mathematicians have their certitude and their characteristic forms of proof, which are deduction and a priori definition; the rhetorician will use mathematical proof when the subject matter is amenable. The scientists have their near certitude, and their characteristic forms of proof, which are induction and quantification; the rhetorician will use inductive proof when the subject matter can be sampled and counted. But the rhetorician has a characteristic certitude (probability) and characteristic forms of proof—the example (which is rhetorical induction) and the enthymeme (which is rhetorical deduction).

I would like to emphasize at this point that the enthymeme, as I see it, is not a categorical syllogism with a suppressed premise—though some enthymemes may take that form. It is a mode of thought analogous to the syllogism. Just as the syllogism is an airtight pattern of thought that is absolutely reliable in the realm of pure logic, the enthymeme is a probabilistic pattern of thought that works, when it works at all,
in those situations that science and logic cannot grasp. This point is worth a footnote, and so I recommend Lane Cooper's discussion of the enthymeme in his introduction to *The Rhetoric of Aristotle* (Englewood Cliffs: Prentice-Hall, 1932, 1960), pp. xxvi-xxviii, and the explanation of Aristotle himself, pp. 10-16.

Because each of the four realms of knowledge—mathematics, science, rhetoric, and myth—has its characteristic subject matter and its characteristic methodology, a comprehensive system of critical reading will have to provide a set of questions appropriate for each realm. Here, however, I would like to propose a set of six questions specifically for the realm of rhetoric. They can be used as heuristic devices in two ways: first, as a way of finding something to say by way of a critical analysis of an essay at hand; and second, as a way discovering strategies for writing an original essay about a rhetorical issue.

I will treat the questions in three pairs. The first pair is this:

1. Which assertions require evidence?
2. What kind of evidence is offered?

The first question asks the students to distinguish between assertions that should be tested and those that shouldn't—in other words, between assertions that are central to the writer's thesis and assertions that are merely incidental, perhaps irrelevant. Of course, only those assertions that are central to the thesis require evidence, and then only if the assertions are not self-evident, or thoroughly consistent with the reader's experience, or matters of common knowledge.

The second question asks the students to distinguish between assertions that are susceptible to mathematical or empirical proof and assertions that aren't. This is the significance of the quotation I
If the subject is mathematical or scientific, demand mathematical or empirical data; if the subject is too elusive for science, look for probability. In truly rhetorical situations, non-scientific evidence is required, including example, enthymeme, and the classical topoi.

Exchanging evidence is, of course, examining the "logos" or rational appeal.

The second pair of questions deals with ethical appeal:

3. What is the character of the implied author?
4. What is the character of the implied audience?

These two questions set the student to discovering not only the "personality" of the author, but the author's values and standards of evidence as they are implied in the essay. Except in an ironical essay, like "A Modest Proposal," we can assume that the implied audience is an audience that shares the values and standards of evidence of the implied author. When a particular reader does not share those values or standards, the essay is in danger of failing to be persuasive for that reader. Using these questions, then, students can learn not to decide whether the appeal is a good one, but to determine what sort of audience would find it good and what sort of audience would reject it. In this way, students can learn to see the extent to which they themselves accept or reject an argument on the basis of values and assumptions that they may or may not share with the author.

The third pair of questions is this:

5. What is the author's tone?
6. How are the various parts of the essay related to one another?

In brief, these questions deal with emotional appeal and with arrangement—with the writer's ability to manipulate the emotions of the reader with charged or neutral language, and with the writer's ability
to parcel out information in the sequence that is most advantageous to the writer's point of view.

These six questions are not magical or immutable, but they do have a number of characteristics that I think are essential for any system of critical reading designed for undergraduate students: the number of questions is brief; they cover essential elements of logical, ethical, and emotional appeal; and they can be applied to any essay within the domain of rhetoric. This last feature may be an important departure from the tradition of prompting students with ad hoc questions for each essay in a reader, instead of teaching them how to ask good questions for essays and articles outside of anthologies. I am tempted to add a seventh question: What did the author leave out that should have been included? But I get worried when lists of questions become too long since they usually become useless at the same time.

I would like to end nearly where I began. Implicit in Aristotle's comment about kinds of proof is the reason that rhetorical analysis is at least as important to us as scientific or mathematical analysis: This insight is, I think, an antidote to the worship of science that pervades our culture and beguiles even educated people so that they demand proofs that Aristotle said no educated person should demand. When we call ourselves rhetoricians in a scientific age, therefore, we should do so without apology. What we are equipped to do—and what we are prepared to teach our students to do—is to grapple with those questions that are too elusive for scientists and mathematicians, questions that nevertheless must be answered because we need to build civilizations and economies and personal lives on those answers.
One final point. As the realms of knowledge decrease in certitude, they also increase in inclusiveness. Science uses mathematics as a handmaiden, and rhetoric can use both science and mathematics as handmaidens, provided the rhetorician never asks more of them than they can perform. Obviously, then, the most inclusive realm of all is "myth" or "literature," which, though the least certain of the realms, is also the least reductive and the most inclusive, for in myth we make sense of all the other realms of knowledge and experience, exploiting all the other methodologies without being confined to any one. But that, perhaps, should be the subject of another paper.