

RICHARD PAUL AND LINDA ELDER



EIGHTH  
EDITION

THE MINIATURE GUIDE TO  
CRITICAL  
THINKING

*Concepts and Tools*



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## Why Critical Thinking?

### The Problem:

Everyone thinks; it is our nature to do so. But much of our thinking, left to itself, is biased, distorted, partial, uninformed, or downright prejudiced. Yet the quality of our life and that of what we produce, make, or build depends precisely on the quality of our thought. Shoddy thinking is costly, both in money and in quality of life. Excellence in thought, however, must be systematically cultivated.

### A Definition:

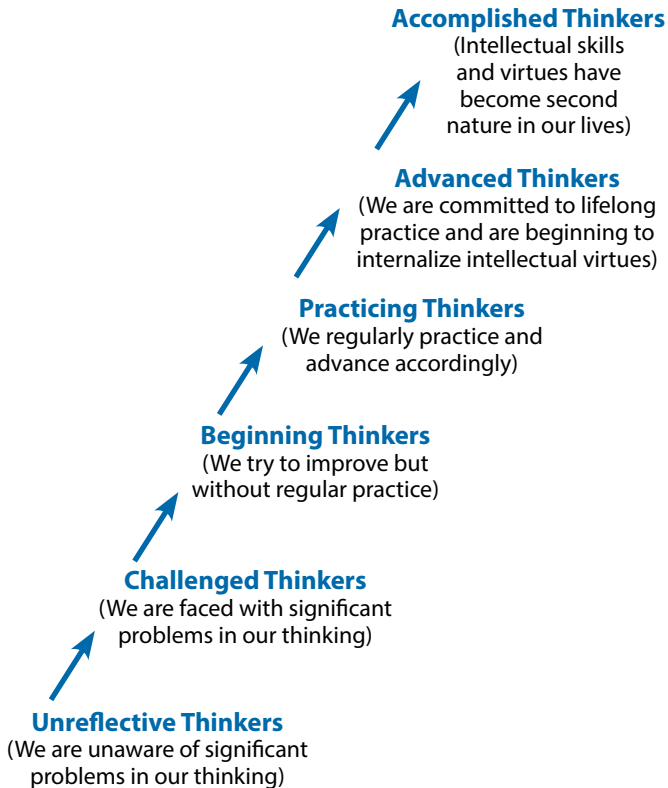
Critical thinking is the art of analyzing and evaluating thought processes with a view to improving them. Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It requires rigorous standards of excellence and mindful command of their use. It entails effective communication and problem solving abilities, as well as a commitment to overcoming our native egocentrism and sociocentrism. It advances the character and ethical sensitivities of the dedicated person through the explicit cultivation of intellectual virtues.

### The Result:

A well-cultivated critical thinker:

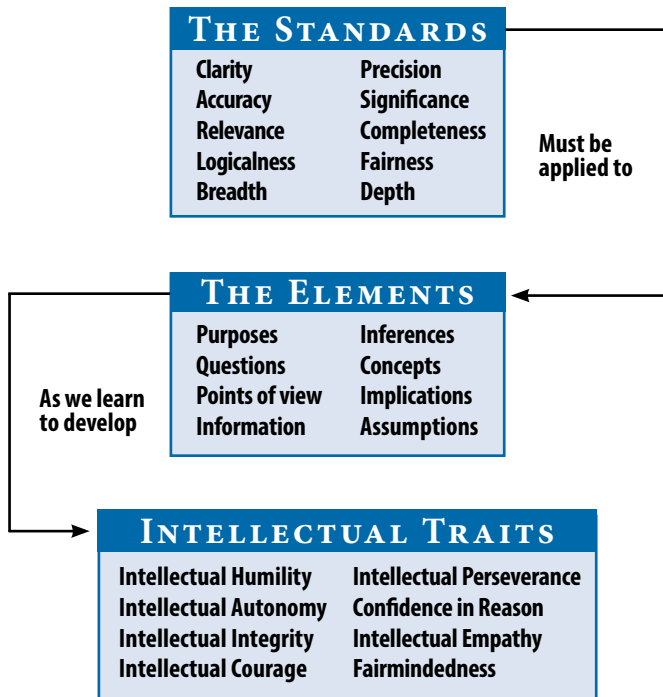
- raises vital questions and problems, formulating them clearly and precisely;
- gathers and assesses relevant information, using abstract ideas to interpret it effectively;
- comes to well-reasoned conclusions and solutions, testing them against relevant criteria and standards;
- thinks openmindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences;
- communicates effectively with others in figuring out solutions to complex problems; and
- is scrupulously careful not to misrepresent or distort information in developing an argument or position, and sees through false information and fake news.

## Stages of Critical Thinking Development



## Critical Thinkers Routinely Apply Intellectual Standards to the Elements of Reasoning

Those who adhere to relevant intellectual standards when reasoning through issues in the essential parts of human life develop intellectual virtues increasingly over time.



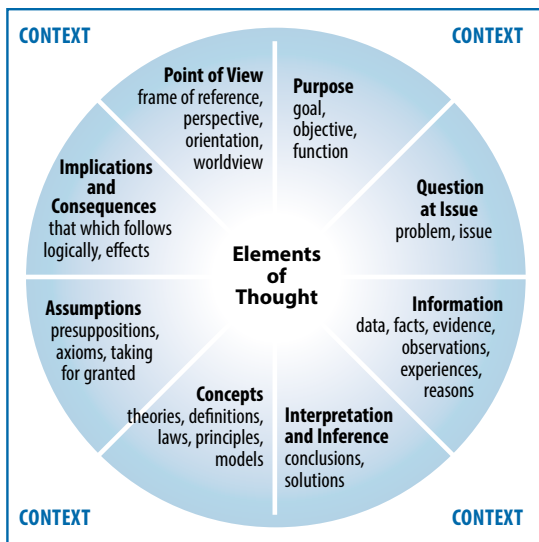
# The Elements of Thought

## Eight Elements Define All Reasoning

**Eight basic structures are present in all thinking:** Whenever we think, we think for a purpose within a point of view based on assumptions that lead to implications and consequences. We use concepts, ideas, and theories to interpret data, facts, and experiences in order to answer questions, solve problems, and resolve issues.

Thinking, then:

- generates purposes
- raises questions
- uses information
- utilizes concepts
- makes inferences
- makes assumptions
- generates implications
- embodies a point of view



Critical thinkers use the elements of reasoning with sensitivity to universal intellectual criteria, or standards, such as clarity, precision, accuracy, relevance, significance, depth, breadth, logicalness, sufficiency, and fairness.

# Universal Intellectual Standards

## And Questions That Can Be Used to Apply Them

To be effective thinkers, we must go beyond taking thinking apart. We also must apply standards to the elements of reasoning to assess our thinking and ensure its quality. Routine, consistent, and deliberate application of intellectual standards to reasoning, over time, leads to the cultivation of intellectual virtues. To be learned, these standards must be taught explicitly. The ultimate goal is for these standards to become infused in your thinking, forming part of your inner voice and guiding you to reason better.

### Clarity

Clarity is a gateway standard. If a statement is unclear, we cannot determine whether it is accurate or relevant. In fact, we cannot tell anything about it because we don't yet know what it is saying. For example, the question "What can be done about the education system in America?" is unclear. In order to adequately address the question, we would need to have a clearer understanding of what the person asking the question is considering the "problem" to be. A clearer question might be "What can educators do to ensure that students learn the skills and abilities which help them function successfully on the job and in their daily decision-making?"

### Accuracy

A statement can be clear but not accurate, as in "Most dogs weigh more than 300 pounds."

### Precision

A statement can be both clear and accurate but not precise, as in "Jack is overweight." (We don't know how overweight Jack is, one pound or 500 pounds.)

### Relevance

A statement can be clear, accurate, and precise but not relevant to the question at issue. For example, students often think that the amount of effort they put into a course should be used in raising their grade in a course. Often, however, "effort" does not measure the quality of student learning, and when that is so, effort is irrelevant to their appropriate grade.

## **Depth**

A statement can be clear, accurate, precise, and relevant, but superficial (that is, it lacks depth). For example, the slogan “Just Say No”, which was used for a number of years to discourage children and teens from using drugs, is clear, accurate, precise, and relevant. Nevertheless, those who use this approach treat a highly complex issue—the pervasive problem of drug use among young people—superficially. It fails to deal with the complexities of the issue.

## **Breadth**

A line of reasoning may be clear, accurate, precise, relevant, and deep but lack breadth (as in an argument from either conservative or liberal standpoints that gets deeply into an issue but only recognizes the insights of one side of the question).

## **Logic**

When we think, we bring a variety of thoughts together into some order. When the combination of thoughts are mutually supporting and make sense in combination, the thinking is “logical.” When the combination is not mutually supporting, is contradictory in some sense, or does not “make sense,” the combination is “not logical.”

## **Fairness**

We naturally think from our own perspective, from a point of view that tends to privilege our position. Fairness implies the treating of all relevant viewpoints alike without reference to one’s own feelings or interests. Because we tend to be biased in favor of our own viewpoint, it is important to keep the standard of fairness at the forefront of our thinking. This is especially important when the situation may call on us to see things we don’t want to see or give something up that we want to hold onto.

## Some Essential Intellectual Standards for All Human Thought

### Clarity

Could you elaborate further?  
Could you give me an example?  
Could you illustrate what you mean?

### Accuracy

How could we check on that?  
How could we find out if that is true?  
How could we verify or test that?

### Precision

Could you be more specific?  
Could you give me more details?  
Could you be more exact?

### Relevance

How does that relate to the problem?  
How does that bear on the question?  
How does that help us with the issue?

### Depth

What factors make this a difficult problem?  
What are some of the complexities of this question?  
What are some of the difficulties we need to deal with?

### Breadth

Do we need to look at this from another perspective?  
Do we need to consider another point of view?  
Do we need to look at this in other ways?

### Logic

Does all this make sense together?  
Does your first paragraph fit in with your last?  
Does what you say follow from the evidence?

### Significance

Is this the most important problem to consider?  
Is this the central idea to focus on?  
Which of these facts are most important?

### Fairness

Do I have any vested interest in this issue?  
Am I sympathetically representing the viewpoints of others?  
Have we fully and fairly considered all the important information relevant to the issue?

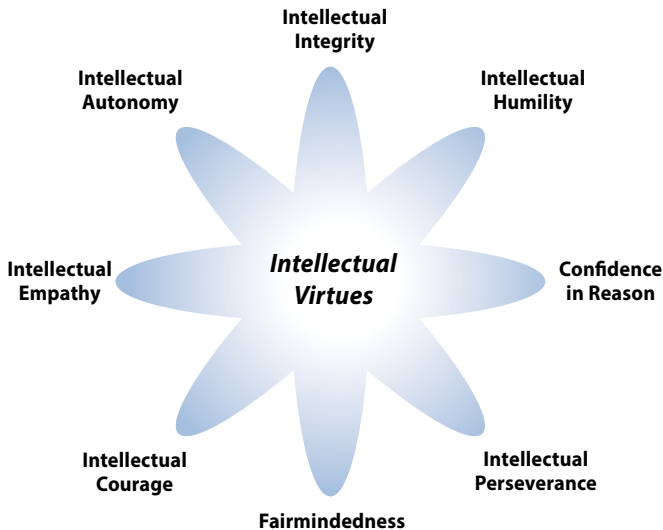
### Sufficiency

Do we have sufficient information to answer the question?  
Are we unfairly leaving out information we would rather not consider in order to get more for our group while ignoring or downplaying the rights and needs of others?



## Intellectual Virtues of the Fairminded Critical Thinker

Fairminded thinkers pursue their own needs, desires, and goals while also considering, to the same degree and in good faith, the rights and needs of others. Yet it is possible to learn to use one's skills of mind in a narrow, self-serving way—many highly skilled thinkers do just that. Those who wish to develop as ethical critical reasoners work to embody the following character traits:



## Essential Intellectual Traits

Fairminded critical reasoners cultivate not only intellectual abilities but also intellectual dispositions. These attributes are essential to excellence of thought. They determine with what insight and integrity you think. Here we briefly describe the intellectual virtues and provide related questions that foster their development. Only to the extent that you routinely and abidingly ask these questions of yourself are you able to develop these virtues.

### Intellectual Humility

vs

### Intellectual Arrogance

Having a consciousness of the limits of one's knowledge, including a sensitivity to circumstances in which one's native egocentrism is likely to function self-deceptively, as well as a sensitivity to bias, prejudice, and the limitations of one's viewpoint. Intellectual humility depends on recognizing that one should not claim more than one actually knows. It does not imply spinelessness or submissiveness. It implies the lack of intellectual pretentiousness, boastfulness, or conceit, combined with insight into the logical foundations, or lack of such foundations, of one's beliefs.

- What do I really know (about myself, about the situation, about another person, about my nation, about what is going on in the world)?
- To what extent do my prejudices or biases influence my thinking?
- To what extent have I been indoctrinated into beliefs that may be false?
- How do the beliefs I have uncritically accepted keep me from seeing things as they are?

### Intellectual Courage

vs

### Intellectual Cowardice

Having a consciousness of the need to face and fairly address ideas, beliefs, or viewpoints toward which we have strong negative emotions and to which we have not given a serious hearing. This courage is connected with the recognition that ideas we consider dangerous or absurd are sometimes rationally justified (in whole or in part) and that conclusions and beliefs inculcated in us are sometimes false or misleading. To determine for ourselves which is which, we must not passively and uncritically accept what we have "learned." Intellectual courage comes into play here, because inevitably we will come to see some truth in some ideas considered dangerous and absurd, and distortion or falsity in some ideas strongly held in our social group. We need courage to be true to our own thinking in such circumstances. The penalties for nonconformity can be severe.

- To what extent have I analyzed the beliefs I hold?
- To what extent have I questioned my beliefs, many of which I learned in childhood?
- To what extent have I demonstrated a willingness to give up my beliefs when sufficient evidence is presented against them?
- To what extent am I willing to stand up against the majority, even though people might ridicule me?

**Intellectual Empathy** vs **Intellectual Narrow-mindedness**

Having a consciousness of the need to imaginatively put oneself in the place of others in order to genuinely understand them, which requires the consciousness of our egocentric tendency to identify truth with our immediate perceptions of long-standing thought or belief. This trait correlates with the ability to reconstruct accurately the viewpoints and reasoning of others and to reason from premises, assumptions, and ideas other than our own. This trait also correlates with the willingness to remember occasions when we were wrong in the past despite an intense conviction that we were right, and with the ability to imagine our being similarly deceived in the case at hand.

**Intellectual Autonomy** vs **Intellectual Conformity**

Having rational control of one's beliefs, values, and inferences. The ideal of critical thinking is to learn to think for oneself, to gain command over one's thought processes. It entails a commitment to analyzing and evaluating beliefs on the basis of reason and evidence, to question when it is rational to question, to believe when it is rational to believe, and to conform when it is rational to conform.

- To what extent am I a conformist?
- To what extent do I uncritically accept what I am told by my government, the media, or my peers?
- Do I think through issues on my own, or do I merely accept the views of others?
- Having thought through an issue from a rational perspective, am I willing to stand alone despite the irrational criticisms of others?

**Intellectual Integrity** vs **Intellectual Hypocrisy**

Recognition of the need to be true to one's own thinking; to be consistent in the intellectual standards one applies; to hold one's self to the same rigorous standards of evidence and proof to which one holds one's antagonists; to practice what one advocates for others; and to honestly admit discrepancies and inconsistencies in one's own thought and action.

- Do I behave in accordance with what I say I believe, or do I tend to say one thing and do another?
- To what extent do I expect the same of myself as I expect of others?
- To what extent are there contradictions or inconsistencies in my life?
- To what extent do I strive to recognize and eliminate self-deception in my life?

**Intellectual Perseverance** vs **Intellectual Laziness**

Having a consciousness of the need to use intellectual insights and truths in spite of difficulties, obstacles, and frustrations; firm adherence to rational principles despite the irrational opposition of others; a sense of the need to struggle with confusion and unsettled questions over an extended period of time to achieve deeper understanding or insight.

- Am I willing to work my way through complexities in an issue, or do I tend to give up when I experience difficulty?
- Can I think of a difficult intellectual problem in which I have demonstrated patience and determination in working through the difficulties?
- Do I have strategies for dealing with complex problems?
- Do I expect learning to be easy, or do I recognize the importance of engaging in challenging intellectual work?

## Confidence in Reason

vs

## Distrust of Reason and Evidence

Confidence that, in the long run, one's own higher interests and those of humankind at large will be best served by giving the freest play to reason and by encouraging people to come to their own conclusions by developing their own rational faculties; faith that, with proper encouragement and cultivation, people can learn to think for themselves, to form rational viewpoints, draw reasonable conclusions, think coherently and logically, persuade each other by reason, and become reasonable persons, despite the deep-seated obstacles in the native character of the human mind and in society as we know it.

- Am I willing to change my position when the evidence leads to a more reasonable position?
- Do I adhere to principles of sound reasoning when persuading others of my position, or do I distort matters to support my position?
- Do I deem it more important to "win" an argument or to see the issue from the most reasonable perspective?
- Do I encourage others to come to their own conclusions, or do I try to force my views on them?

## Fairmindedness

vs

## Intellectual Unfairness

Having a consciousness of the need to treat all viewpoints alike, without reference to one's own feelings or vested interests, or the feelings or vested interests of one's friends, community, or nation; implies adherence to intellectual standards without reference to one's own advantage or the advantage of one's group.

- To what extent do self-interests or biases tend to cloud my judgment?
- How do I tend to treat relevant viewpoints? Do I tend to favor some over others? If so, why?
- To what extent do I appropriately weigh the strengths and weaknesses of all significant relevant perspectives when reasoning through an issue?
- What personal interests do we have at stake here and how can we ensure that we don't favor our own interests over the common good?

## Criteria for Evaluating Reasoning

- 1) **Purpose:** What is the purpose of the reasoner? Is the purpose clearly stated or clearly implied? Is it justifiable?
- 2) **Question:** Is the question at issue well stated? Is it clear and unbiased? Does the expression of the question do justice to the complexity of the matter at issue? Are the question and purpose directly relevant to each other?
- 3) **Information:** Does the writer cite relevant evidence, experiences, and/or information essential to the issue? Is the information accurate? Does the writer address the complexities of the issue? Does the writer distort any information or use false information to serve a given interest?
- 4) **Concepts:** Does the writer clarify key concepts when necessary? Are the concepts used justifiably? Is the writer aware of the concepts that s/he is using in reasoning through the issue?
- 5) **Assumptions:** Does the writer show a sensitivity to what s/he is taking for granted or assuming (insofar as those assumptions might reasonably be questioned)? Does the writer use questionable assumptions without addressing problems that might be inherent in those assumptions?
- 6) **Inferences:** Does the writer develop a logical line of reasoning, detailing how s/he arrived at the main conclusions?
- 7) **Point of View:** Does the writer show sensitivity to alternative relevant points of view or lines of reasoning? Does s/he consider and respond to objections framed from other relevant points of view?
- 8) **Implications:** Does the writer show a sensitivity to the implications and consequences of the position s/he is taking?

## Analyzing and Assessing Research

Many research projects are ill defined and focus on a topic rather than an issue or set of issues to be reasoned through. To keep reasoning at the heart of any research you are doing or evaluating, use the following guidelines. They are based in the elements of reasoning and intellectual standards.

### 1) All research has a fundamental PURPOSE and goal.

- Research purposes and goals should be clearly stated.
- Related purposes should be explicitly distinguished.
- All segments of the research should be relevant to the purpose.
- All research purposes should be realistic and significant.

### 2) All research addresses a fundamental QUESTION, problem, or issue.

- The fundamental question at issue should be clearly and precisely stated.
- Related questions should be articulated and distinguished.
- All segments of the research should be relevant to the central question.
- All research questions should be realistic and significant.
- All research questions should define clearly stated intellectual tasks that, once fulfilled, will settle the questions.

### 3) All research identifies data, INFORMATION, and evidence relevant to its fundamental question and purpose.

- All information used should be clear, accurate, and relevant to the fundamental question at issue.
- Information gathered must be sufficient to settle the question at issue.
- Information contrary to the main conclusions of the research should be explained.

**4) All research contains INFERENCES or interpretations by which conclusions are drawn.**

- All conclusions should be clear, accurate, and relevant to the key question at issue.
- Conclusions drawn should not go beyond what the data imply.
- Conclusions should be consistent and reconcile discrepancies in the data.
- Conclusions should explain how the key questions at issue have been settled.

**5) All research is conducted from some POINT OF VIEW or frame of reference.**

- All points of view in the research should be identified.
- Objections from competing points of view should be identified and fairly addressed.

**6) All research is based on ASSUMPTIONS.**

- Clearly identify and assess major assumptions in the research.
- Explain how the assumptions shape the research point of view.

**7) All research is expressed through, and shaped by, CONCEPTS and ideas.**

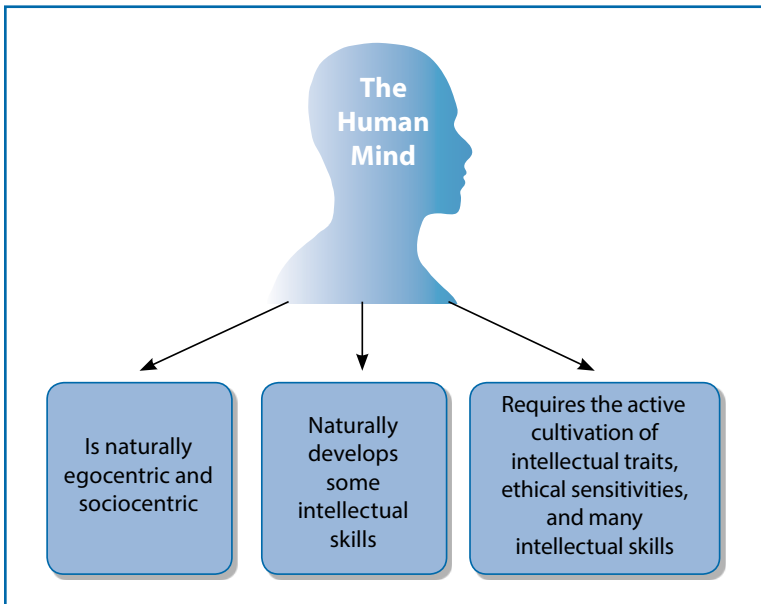
- Assess for clarity the key concepts in the research.
- Assess the significance of the key concepts in the research.

**8) All research leads somewhere (i.e., has IMPLICATIONS and consequences).**

- Trace the implications and consequences that follow from the research.
- Search for negative as well as positive implications.
- Consider all significant implications and consequences.

## The Human Mind Is Frequently Irrational While Having the Capacity for Rational Thought

All humans are innately egocentric and sociocentric. Humans also have (largely undeveloped) rational capacities. Humans begin life as primarily egocentric creatures. Over time, infantile egocentric self-centered thinking merges with sociocentric group-centered thinking. All humans regularly engage in both forms of irrational thought. The extent to which any of us is egocentric or sociocentric is a matter of degree and can change significantly in various situations or contexts. While egocentric and sociocentric propensities are naturally occurring phenomena, rational capacities must be largely developed. It is through the development of rational capacities that we combat irrational tendencies and cultivate critical societies.





## Envisioning Critical Societies

The critical habit of thought, if usual in society, will pervade all its mores, because it is a way of taking up the problems of life. Men educated in it cannot be stampeded by stump orators. . . . They are slow to believe. They can hold things as possible or probable in all degrees, without certainty and without pain. They can wait for evidence and weigh evidence, uninfluenced by the emphasis or confidence with which assertions are made on one side or the other. They can resist appeals to their dearest prejudices and all kinds of cajolery. Education in the critical faculty is the only education of which it can be truly said that it makes good citizens.

William Graham Sumner, 1906

Humans have the capacity to be rational and fair, but this capacity must be cultivated. It will be significantly developed only if critical societies emerge. Critical societies will develop only to the extent that:

- Critical thinking is viewed as essential to living a reasonable and fairminded life.
- Critical thinking is routinely taught and consistently fostered.
- The problematics of thinking are an abiding concern.
- Closed-mindedness is systemically discouraged; open-mindedness is systematically encouraged.
- Intellectual integrity, intellectual humility, intellectual empathy, confidence in reason, and intellectual courage are social values.
- Egocentric and sociocentric thinking are recognized as a bane in social life.
- Children are routinely taught that the rights and needs of others are equal to their own.
- A multicultural worldview is fostered.
- People are encouraged to think for themselves and discouraged from uncritically accepting the thinking or behavior of others.
- People routinely study and diminish irrational thought.
- People internalize universal intellectual standards.

**If we want critical societies, we must create them.**