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Identify the Flaw in the Argument Drill

Each of the following problems contains an error of reasoning. Based on the discussion in Chapter 13 of the Logical Reasoning Bible, identify the error of reasoning. Refer back to the text in the Logical Reasoning Bible as needed. Answers on page 48.

1. “After several periods of record sales increases, the Janacek Group relocated their offices to the new Industrial Pointe complex and chose one of the most expensive office suites in the city. Despite the significant financial investment required, Janacek executives defended the move by noting the benefits to Janacek’s image that would come with a location in a complex which, they concluded, must house all of the city’s most expensive office space.

2. “Offshore oil drilling has long been a risky endeavor, but oil companies and related industries argue strenuously that no further restrictions should be placed on such drilling due to our country’s need for energy resources, and the possible serious consequences if such energy reserves are not located and explored now. Of course, the vast sums of money the oil companies stand to make from such drilling automatically make their arguments suspect.”

3. “Supporters of the theory of global warming claim that carbon emissions are causing our environment to slowly warm, which will eventually produce catastrophic results. However, this past winter was one of the coldest on record. Therefore, the claim that global warming is accelerating is false.”
Identify the Flaw in the Argument Drill

4. “When temperatures drop just below freezing, the plant pathogen Pseudomonas syringae produces certain proteins that force ice to form on the surface of a plant. The damage caused by the freezing process releases plant nutrients that are then available to the Pseudomonas syringae bacteria. Although this fruit grove contains Pseudomonas syringae bacteria, temperatures have not dropped below freezing at any point during the last 30 days, so there should be no concern over Pseudomonas syringae related frost damage during that period.”

5. “Will executor: The maker of this will left a number of antiques as gifts to her descendents. I recently attempted to have each antique evaluated for value by a local university professor who is an international expert in the valuation and authentication of antiques. This month, however, she will be too busy to examine all of the pieces. Therefore, I must take all of the antiques to the local appraising firm for valuation.”

6. “Last year, within the sales division of the company, the salespeople with highest average number of miles driven each week had the highest sales figures. Thus, we should immediately implement a policy requiring all salespeople to begin driving more miles each week.”
Identify the Flaw in the Argument Drill—page 20

1. Error of Composition

An error of composition occurs when a person attributes a characteristic of part of the group or entity to the group or entity as a whole or to each member of the group. In this instance, the Janacek executives make the mistake of thinking that because their office suite is among the most expensive in the city, that the office building must contain all of the city’s most expensive office space.

2. Source Argument

Although the oil companies apparently make an argument in favor of continued drilling based on the energy needs of the country, the author calls their position suspect because the oil companies stand to make a considerable sum of money from drilling. This is a form of Source Argument, where the author imputes a motive or action to the source as opposed to addressing factual reasons for rejecting the proposal.

3. Error in the Use of Evidence

Some evidence against a position is taken to prove that the position is false or invalid. Note that this argument does not contain a causal error although causal language is used. There is no causal error because the author simply describes a position involving causal reasoning held by another group (the supporters of the global warming theory); the author does not draw a causal conclusion in this argument.

4. Error of Conditional Reasoning—Mistaken Negation

In the first sentence, the argument establishes a conditional relationship between below freezing temperatures and Pseudomonas syringae frost damage:

Temperatures below freezing $\rightarrow$ Pseudomonas syringae cause plant damage

The last sentence indicates that the sufficient condition about temperatures has not been met during the last 30 days, and then concludes that the necessary condition about bacteria damage also has not been met. This error is a Mistaken Negation, which arises when the lack of occurrence of a sufficient condition is used to conclude that a necessary condition will not occur.

5. False Dilemma

The will executor indicates that one option for the appraisal of the antiques—a local university expert—is unavailable, and on that basis concludes that the antiques must be taken to a local appraisal firm. Thus, by eliminating one choice and then concluding that another choice must be made, the argument assumes there are only two choices. This error is known as a False Dilemma because other options for appraisal may exist.
Question #22: Assumption, CE. The correct answer choice is (C)

This stimulus presents the relationship between the rate of societal change and the degree to which young people value the advice of their elders. If societal change is slow, there is greater respect for the advice of elders, and, conversely, if societal change is more rapid, young people see less value in the advice of their elders. Based on these premises, the author jumps to the conclusion that the rate of societal change is reflected in the amount of deference (i.e. respect) which younger members of society show to older members.

Although it is somewhat subtle, we might note the leap from valuing the advice of elders, to showing deference to elders:

Premises: Slow societal change \[\rightarrow\] greater value placed on elders’ advice
Rapid societal change \[\rightarrow\] lesser value placed on elders’ advice

Conclusion: Rate of societal change is reflected in the deference shown to elders.

The stimulus is followed by an assumption question stem. Since there is a clear leap from greater value to greater deference, the correct answer choice will provide the Supporter Assumption which links these elements (the choice which links greater perceived value with greater deference).

Answer choice (A): This stimulus is not about whether or not society’s young members can determine the rate of societal change, but rather whether the amount of respect that the youth have for their elders provides an accurate gauge of the societal rate of change. Since this choice fails to provide the Supporter Assumption required for the author’s argument to be properly drawn, this answer choice is incorrect.

Answer choice (B): This choice provides a clever wrong answer. We need to link deference with how the young assess the value their elders’ advice. This choice instead links deference with how much actual value is provided by the elders. Because of this subtle but important distinction, this choice is incorrect.

Answer choice (C): This is the correct answer choice: it is the one which links the rogue elements as prephrased in our discussion above. If deference for elders and valuing of their advice vary together, then this allows the argument in the stimulus to be properly drawn:

Slow societal change \[\rightarrow\] greater value placed on elders’ advice \[\rightarrow\] greater deference
Rapid societal change \[\rightarrow\] lesser value placed on elders’ advice \[\rightarrow\] lesser deference

Between the premises presented in the stimulus, and the Supporter Assumption provided by this answer choice, the author’s argument (that degree of deference for elders provides an accurate gauge of the societal change rate) is properly drawn.

Answer choice (D): This is another clever incorrect answer choice. The argument is that a faster changing society leads the youth to assess elders’ advice as less relevant. This does not require the assumption provided here, which is that the experience of the elders is less relevant in a faster changing society.
Question #22: Parallel Flaw. The correct answer choice is (C)

The conditional statements here lead the author to a unique kind of mistaken conclusion. The first conditional statement: if a book is well publicized and the author is established, then a book tour will be successful:

\[
\text{well publicized book tour} \quad \text{and} \quad \text{well established author} \quad \rightarrow \quad \text{book tour successful}
\]

Next, we are told that Jul"ia is an established writer and her book tour was successful. Based on the diagram above, these two pieces of information do not lead to any logical conclusion. However, the author incorrectly concludes that Jul"ia’s book tour must have been well-publicized. The author appears to mistakenly think that if any two conditions are met, the third one is met as well.

The question that follows is, not surprisingly, a parallel flaw question, which means that the correct answer choice will reflect the same mistaken notion— that if one of two sufficient conditions is met, and the sole necessary condition is met, this must mean that the second sufficient was met as well.

Answer choice (A): This clever wrong answer choice might have been appealing at first, but here we have two necessary conditions and one sufficient:

This recipe will turn out only if it is followed exactly and high quality ingredients are used:

\[
\text{recipe will turn out} \quad \rightarrow \quad \text{followed exactly} \quad \text{and} \quad \text{high quality ingredients}
\]

All we need to know is that the recipe turned out in order to logically conclude that high quality ingredients were used. Since the conclusion here is valid, this choice cannot parallel the flaw. Answer choice (B): Although this choice does illustrate flawed logic, it is not precisely the same type. This answer choice presents something that looks almost like a standard mistaken reversal, but adds an additional error as well:

If a computer has the fastest microprocessor and the most memory available, it will meet Aletha’s needs this year:

\[
\text{fastest microprocessor available} \quad \text{and} \quad \text{most memory available} \quad \rightarrow \quad \text{meet Aletha’s needs this year}
\]

The computer Aletha used met her needs last year, so it must have had the fastest microprocessor and the most memory available last year:

\[
\text{met Aletha’s needs last year} \quad \rightarrow \quad \text{fastest microprocessor available} \quad \text{and} \quad \text{most memory available}
\]
A gain, this looks almost like a straightforward mistaken reversal, but this statement adds the additional error of basing a conclusion about last year on a conditional statement about this year.

**Answer choice (C): This is the correct answer choice.** As prephrased above, this choice provides a conditional statement with two sufficient conditions and one necessary, making the exact same mistake as that in the stimulus: If cacti are kept in shade and watered more than twice per week, they die:

\[
\begin{align*}
\text{kept in shade} & \quad \text{and} \quad \text{watered more than twice per week} \\
& \quad \rightarrow \\
& \quad \text{die}
\end{align*}
\]

Based on the fact that a particular cactus was kept in the shade and is now dead, this choice concludes that it must have been watered more than twice per week. Exactly like the flawed logic from the stimulus, this choice illogically presumes that meeting one of two necessary conditions, along with a sufficient condition, will assure that the second sufficient condition was met as well.

**Answer choice (D):** This incorrect choice might look good at first, because it deals with two sufficient conditions and one necessary condition. The problem is that it uses valid logic:

A house will suffer from dry rot and poor drainage only if it is built near a high water table:

\[
\begin{align*}
\text{dry rot} & \quad \text{and} \quad \text{poor drainage} \\
& \quad \rightarrow \\
& \quad \text{built near high water table}
\end{align*}
\]

This house has suffered from dry rot and poor drainage, so it must have been built near a high water table. This logic is valid as shown by the diagram above, so it cannot parallel the flawed logic from the stimulus.

**Answer choice (E):** Much like incorrect answer choice (D), this choice might have initial appeal because it presents two sufficient conditions and one necessary. The problem, as with answer choice (D), is that this answer reflects valid logic. In this choice, we are first told that if you wear a suit with double vents, and it has narrow lapels, then you will be fashionably dressed:

\[
\begin{align*}
\text{suit with double vents} & \quad \text{and} \quad \text{suit has narrow lapels} \\
& \quad \rightarrow \\
& \quad \text{fashionably dressed}
\end{align*}
\]

Thus it is valid to conclude that if Joseph was wearing a suit with double vents and narrow lapels that Joseph must have been fashionably dressed. Since this choice uses valid logic it cannot parallel the flawed logic found in the stimulus.