Exercise F

Evaluate the following arguments. Draw an arrow diagram first.

1. *A ship has gone down in the ocean and half the passengers have been killed. Your best friend Angela was on board but you do not know if she was one of the survivors. At once, you utter a prayer to God that she survived.

"Your prayer is pointless. For your prayer is superfluous if Angela survived. And if she did not survive, then God can hardly answer your prayer since, despite all His powers, he cannot do the impossible, and it is impossible to alter the past."

		God, despite all powers, cannot impossible	His do the	It is imp to alter t	oossible the past	Your prayer to God is that Angela survived
Your prayer to God is that Angela survived <i>Not clear if valid</i>		Go alt	Valid God cannot alter the past			If Angela did not survive, then your prayer is asking God to alter the past
If Angela survived, your prayer is superfluous	If your pra superfluor your prayo pointless	ayer is us, then er is	If Ang then G your p	gela did n God canno prayer	<i>Valid</i> ot survive, ot answer	If God cannot answer your prayer, then your prayer is pointless
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If Angela survived, then Either Angela d your prayer is pointless Angela d		Either Angela sur Angela did not su	gela survived or 1 not survive		If Angela did not survive, then your prayer is pointless	
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Your prayer is pointless

Deductive argument. There seems to be a few weak points in the argument. One, that God works IN time. Surely God, being almighty, could be out of time such that your prayer, retrospective as it may seem to you, is NOT retrospective to Him. If so, then whether Angela survives or not could be due to your prayer. Two, is it really impossible to alter the past? Three, can God being all-powerful be unable to do the impossible?

Dilemma is a valid form of argument that goes something like this: Either p or q If p then r If q then r Therefore r

2. Whatever consists mostly of empty space isn't solid. But the chair I sit on consists mostly of empty space since it consists of billions of atoms, each of which consists mostly of empty space. This last is true since each atom consists of a tiny central core

An atom consists of a tiny central core surrounded by tiny electrons situated at a relatively large distance from the core surrounded by tiny electrons situated at a relatively large distance from the core. It follows that the chair I sit on isn't solid. How on earth does it support my weight?



The chair I sit on isn't solid

The premise, "Whatever consists mostly of empty space isn't solid", is false. To prove this, raise a counter-example. A simple one would be a hollow box. It consists mostly of empty space but is solid. Counter-examples are a great way to prove that an argument is unsound by showing that a particular premise is false.

3. Either that bomb is going to kill me or it is not. If it is going to kill me, then any precautions I take will be ineffective. But if it is not going to kill me, then any precautions I take will be superfluous. So any precautions I take against that bomb are either ineffective or superfluous. So there is no point going into that bomb shelter.

If that bomb is going to kill me, then any precautions I take against that bomb will be ineffective	Either the bom to kill me or it	b is going is not	If that bomb is not going to kill me, then any precautions I take against that bomb will be superfluous.	
I	Valid, dilemma			
Any precautions I take again will be either ineffective or	inst that bomb superfluous	hat bomb erfluous If any precautions I take against the be either ineffective or superfluous no point going into the bomb shelte		
		17.1:1		

Valid, modus ponens

The argument is fallacious because it could be the case that the bomb did not kill me because I went into the bomb sheltert this individuely was be popular argument during the time of the World Wars.

4. President Sarkozy is a man of no political integrity, willing to do whatever needs to be done in order to triumph at the elections. Just look at his recent actions. Less than three weeks before the first round of the presidential election, one of the biggest crackdowns on suspected radical Islamists in recent French memory happened. The timing and the presence of the television crew are as much linked to electioneering as to anti-terrorist crime prevention. In likening the Toulouse killings to France's 9/11, Sarkozy is obviously using the opportunity to style himself as the only trustworthy protector of the nation in the face of the serious threat. The danger, it now seems, is Islamist fundamentalism and terrorism, when just a month ago, it was impending financial meltdown!

MC1: Sarkozy is a man of no political integrity.

P1: Less than three weeks before the first round of the presidential election, one of the biggest crackdowns on suspected radical Islamists in recent French memory happened and was timely covered by television crew.

P2: The presence and timing of the television crew coverage of the anti-terrorist crackdown are unusual features of a wide-scale police crackdown and can only be explained by a tip-off by a high-ranking government official who knew about the operation (implicit) (questionable, false cause). P3: The tip-off was given by Sarkozy, a presidential candidate at the upcoming presidential elections (implicit) (questionable).

SC1: Sarkozy was responsible for media presence at one of the biggest crackdowns on suspected radical Islamists in recent French memory (P1-P3) (possibly unsound)

P4: Sarkozy likened the Toulouse killings to France's 9/11 and has changed his views of what is dangerous to France – from impending financial meltdown just a month ago to Islamist fundamentalism and terrorism.

P5: If P4, then Sarkozy is obviously using the opportunity to style himself as the only trustworthy protector of the nation in the face of the serious threat (questionable, false cause). SC2: Sarkozy is obviously using the opportunity to style himself as the only trustworthy protector of the nation in the face of the serious threat. (P4, P5)

P6: If SC1 and SC2, then his recent actions show Sarkozy to be willing to do whatever needs to be done in order to triumph at the elections (implicit) (questionable). SC3: His recent actions show Sarkozy to be willing to do whatever needs to be done in order to triumph at the elections (SC1-2, P6)

P7: If SC3, then Sarkozy is a man of no political integrity (implicit) (questionable, hasty generalization).

MC1: Sarkozy is a man of no political integrity (SC3, P7) (valid, unsound)

Analysis

P2: While P2 sounds very plausible, it is not necessarily true. The presence and timing of TV coverage of an anti-terrorist crackdown could be entirely coincidental, or be explained by the fact that given the many terrorist attacks that happened prior to this crackdown, the TV crew were already on the lookout for such a crackdown and therefore responded very swiftly to cover the action when it happened. This can be considered to be a case of false cause. This then renders the first part of the argument valid but unsound.

P3: This is potentially problematic because if there was indeed a tip-off, it may not have come from Sarkozy. It is possible to reason that one of his allies or at least someone who wanted him to succeed tipped off the media in order to boost Sarkozy's ratings without linking the action directly to him (sounds like a scene from the movies!). While this de-links the tactic to Sarkozy, it can still be considered an electioneering tactic nonetheless (P5).

P5: This is another case of false cause. Just because P4 might be true doesn't mean that he is necessarily using the opportunity to style himself as the only trustworthy protector of the nation in the face of the serious threat. For all we know, this could simply be a coincidence – that it is truly coincidental that this fundamentalist and terrorist threat has only reared its ugly head in France in recent times and it just so happened to be just before the first round of the presidential elections; there's no necessary reason that this cannot be the case. Of course, with politics being what it is, we *could* apply the principle of charity and argue that P5 might probably be true.

P6: Even if Sarkozy is using the opportunity to style himself as the only trustworthy protector of the nation in the face of the serious threat (SC2) AND he was responsible for the media presence (SC1), this doesn't necessarily mean that he is willing to do *whatever needs to be done* in order to triumph at the elections. While it is (probably) true that politicians are not known for their integrity, this doesn't mean that many will do whatever needs to be done in order to win for whatever needs to be done means just that – whatever – and this can mean something as 'harmless' as the presence of a TV crew at a crackdown to murder. Just because Sarkozy might be an opportunist with regard to the recent crackdown doesn't mean that he is willing to murder to win. P6 is thus thrown into doubt.

P7: This is a case of hasty generalization and is at best an inductive move. How can we judge whether a man has political integrity from merely his recent actions? Unless we mean by political integrity to mean that he will never compromise his values (which is totally unrealistic in today's world), then it is not clear how P7 can be held to be true.

5. The progressive proposal to build a large beach resort in the national park in Bali should be endorsed unreservedly. Fidelity, the largest bank in the country, and the one likely to make the biggest loans to the various merchants who will set up store there, has conducted a business survey report and concluded that this business venture is a viable one; they also point to the recent success of a beach resort in Melbourne. The main stakeholders, the local merchants, are also very supportive of this venture. The only opposition comes from narrow-minded, do-gooder environmentalists who care more about trees than they do about people. At a time when unemployment is on the rise and economic crises abound, all tree-huggers care about is just that: tree-hugging. The fate of the typical man on the street does not concern them, they whose moral values are 'superior' to ours. All they care about is their own moral sensibilities and woe to those who dare to talk about the fate of the average Joe to them.

MC: The progressive proposal to build a large beach resort in the state park in Bali should be endorsed unreservedly.

P1: Fidelity ... has conducted a business survey report and concluded that this business venture is a viable one

P2: [Fidelity] also point to the recent success of a beach resort in Melbourne.

P3: The main stakeholders, the local merchants, are also very supportive of this venture.

SC1: We should endorse the proposal (P1-P3) (weak; false appeals to authority and analogy)

P4: The only opposition comes from environmentalists (assume true)

P5: The fate of the typical man on the street does not concern environmentalists (strawman) P6: They only care about trees and tree-hugging and woe to those who dare to talk about the fate of the average Joe to them. (ad hominem)

SC2: The only opposition comes from environmentalists whose moral sensibilities only consist in caring about trees (P4-6) (valid but unsound)

P7: If SC2, then the only opposition comes from narrow-minded, do-gooder environmentalists who care more about trees than they do about people (implicit) SC3: The only opposition comes from narrow-minded, do-gooder environmentalists who care more

SC3: The only opposition comes from narrow-minded, do-gooder environmentalists who care more about trees than they do about people (C2, P7)

P8: If these environmentalists are narrow-minded, do-gooder environmentalists who care more about trees than they do about people, then we should not heed their opposition to the proposal (implicit) SC4: we should not heed the environmentalists' opposition to the proposal, which is the only opposition to the proposal (SC3, P8) (implicit)

P9: If SC1 and SC4, then we should endorse the proposal unreservedly (implicit) MC: The progressive proposal to build a large beach resort in the state park in Bali should be endorsed unreservedly (SC1, SC4, P9)

Comments:

Move from P1-3 to C1 should be questioned for it relies on several assumptions:

A1: Fidelity is a credible authority on whether it is viable to build a beach resort in Bali, a business survey is a credible tool to measure such viability and the analogy to the beach resort in Melbourne is a good one (implicit) (questionable) (false appeal to authority; false analogy)

A2: The main stakeholders are an unbiased and credible authority on the subject (implicit) (questionable) (false appeal to authority)

A3: Having the view of the bank involved in the project and the main stakeholders is enough to decide on whether the proposal should be endorsed (implicit) (questionable)

However:

- 1) Should we really trust Fidelity? After all, they are the ones who stand to benefit hugely if the proposal goes through since they are the main bankers involved in the project.
- It should be noted that a survey has been conducted by Fidelity. This could go some way to raising the credibility of Fidelity's view. However, a survey (and statistics) can be easily tweaked to suit whatever conclusion we want.
- 3) Ultimately, its view should really be taken with a pinch of salt given its deep involvement in the project. The same charge can be levied against the local merchants as they are the main stakeholders in the project and, together with Fidelity, stand to gain the most from the project.
- 4) Note too that this isn't a clear-cut case of "false" appeal to authority given that, at least in Fidelity's case, a bank IS, in general, a good authority for such a conclusion on the viability of the business proposal. However, it's the vested interests that Fidelity has that makes it a guestionable authority. So, not false, but guestionable.
- 5) Not clear that it is enough for us to endorse the proposal just because the bank and the local merchants are the main stakeholders and have endorsed the project. For us to accept such a premise, we have to accept the underlying assumption that the bank and the local merchants are the only main stakeholders. This however is obviously untrue. Why not consider the environmentalists? Or the residents who stay near the state park and have precisely chose to reside in that area since it was supposed to be quiet and beautiful? Will they accept having tourists near their homes who might then destroy their quiet haven?
- 6) False analogy: Just because a beach resort has proved successful in Melbourne doesn't mean that it will work in Bali. For one thing, there're already a lot of beach resorts in Bali and a new one would not be a guaranteed success since competition is strong. Melbourne, on the other hand, doesn't have quite as many, or rather, quite as many per square mile. Other possible dissimilarities that could have been raised: the particular location of the beach resort in Melbourne might have been far more advantageous, business-wise, than the proposed location for the one in Bali; it might be the case that Melbourne is an up-and-coming attraction where beach resorts are concerned whereas Bali is on the down

Note: *students don't actually have to have real-life knowledge of the situation. All they have to do is point out that there are possible dissimilarities between the 2 cases.

Ad hominem and Straw man (P5, 6)

- 1) Obviously untrue that environmentalists only care about the environment and trees at the expense of the average man on the street caricature and thus Straw Man fallacy.
- Calling them "narrow-minded, do-gooder" and "tree-huggers" is an example of calling your opponents names in order to discredit their argument without looking at the argument itself, i.e. ad hominem.

Due to all these problems, it is clear that the conclusion should not be accepted as the argument is not only invalid but unsound.

6. ***A teacher announces to her class that she will hold a "surprise" exam on exactly <u>one</u> of the five days (Monday to Friday) of the next school week. The exam will be a "surprise" (she explains) in the sense that the students will not know the day of the exam

Most of the students sigh and resign themselves to a weekend of studying. But one clever student argues instead that what the teacher says is <u>impossible</u>. "No such surprise exam can take place!", he exclaims, offering the following reasons:

"Clearly, the exam will not be held on Friday (the last day of the school week), because, if it *were* held on Friday, then we would know about this by the end of Thursday, seeing that no exam had yet been held, and only one day was left. But the teacher said that we would not know the day of the exam <u>until</u> that day itself. This shows that the exam will not take place on Friday.

But in that case, the exam will not be held on Thursday either! For if it were held on Thursday, then we would know about this by the end of Wednesday, seeing that no exam had yet been held and only two days (Thursday and Friday) were left, *but we have already ruled out Friday*! But the teacher said that we would not know the day of the exam <u>until</u> that day itself. This shows that the exam will not take place on Thursday either.

In the same way, it is easy to see that the exam cannot take place on Wednesday, Tuesday or even Monday. So no such surprise exam as the teacher announced can take place!"

This is the so-called "surprise exam paradox". There is something fishy going on in the student's argument but it is not clear where exactly his argument has gone wrong. The best way to go about this is to 'pull out' all his premises and intermediate conclusions to see the exact structure of his argument, but be careful, there are a lot of implicit premises! This, unfortunately, is not easy. So go for something simpler. Since the first step in the student's argument is to show that Friday is definitely <u>not</u> the day of the exam, draw an arrow diagram which establishes at least that much.

Don't worry if you can't get it. This is not easy. So don't lose sleep over it.

