**Movements of Thought, Consistency and Logic**

**One Way of Introducing Logic (Guttenplan)**

*Movements of Thought*

Logic is often described as being some form of thinking about thinking. That is, in a sense, correct, but it is necessary to explain what specific features of thought are the concern of logic. To do that, it is helpful to consider the idea of *a movement of thought*. Guttenplan (1997: 1) gives the following three examples of movements of thought:

*Example 1*

Smith finds that her car won’t start. She remembers that when Jones’s car failed to start, it was because the distributor was wet. She also recalls reading that distributor problems are common in the sort of car she has. She is aware of how damp it is today. She concludes, therefore, that a wet distributor is the cause of the trouble.

*Example 2*

Brown is sitting at his desk gazing out of the window. He notices that the buds are just beginning to open on the trees. This reminds him of the unusually warm weather which was experienced last year at this time. That thought prompts the further thought that he must have his central heating boiler seen to as soon as possible.

*Example 3*

Green is planning his summer holiday. He knows that he can go by aeroplane or car. If he goes by aeroplane, he will get there faster, but will be unable to take much luggage. If he goes by car, he can take much more. He recognises that the success of his holiday depends on his having the right sort of clothing for the unpredictable weather. He could not take the needed clothing on the aeroplane. He concludes that if the holiday is to be successful, he will have to go by car.

Movements of thought such as these contain a series of individual thoughts. Logic can be regarded as being concerned with certain kinds of movement through a series of individual thoughts. However, not every movement of thought is the concern of logic. To clarify which kinds of movement of thought are the subject matter of logic, and which are not, requires more detailed discussion of the three examples of movements of thought outlined above.

One way to highlight the relevant differences between the three examples is to give to inventories of thoughts in each example. INVENTORY¹ contains all the thoughts *before* the final thought, whereas INVENTORY² contains all the thoughts in the series, including the final thought. The inventories for the three examples are therefore as follows:

*Example 1*

Smith finds that her car won’t start. She remembers that when Jones’s car failed to start, it was because the distributor was wet. She also recalls reading that distributor problems are common in the sort of car she has. She is aware of how damp it is today. She concludes, therefore, that a wet distributor is the cause of the trouble.

INVENTORY¹

1. My car doesn’t start.
2. When Jones’s car didn’t start, the trouble was wet distributor.
3. Cars like mine have this is a common problem.
4. It is very damp today.

INVENTORY²

1. My car doesn’t start.
2. When Jones’s car didn’t start, the trouble was wet distributor.
3. Cars like mine have this is a common problem.
4. It is very damp today.
5. The fault of my car is a wet distributor.

*Example 2*

Brown is sitting at his desk gazing out of the window. He notices that the buds are just beginning to open on the trees. This reminds him of the unusually warm weather which was experienced last year at this time. That thought prompts the further thought that he must have his central heating boiler seen to as soon as possible.

INVENTORY¹

1. The buds are just beginning to open on the trees.
2. It was unusually warm this time last year.

INVENTORY²

1. The buds are just beginning to open on the trees.
2. It was unusually warm this time last year.
3. The central heating boiler must be seen to.

*Example 3*

Green is planning his summer holiday. He knows that he can go by aeroplane or car. If he goes by aeroplane, he will get there faster, but will be unable to take much luggage. If he goes by car, he can take much more. He recognises that the success of his holiday depends on his having the right sort of clothing for the unpredictable weather. He could not take the needed clothing on the aeroplane. He concludes that if the holiday is to be successful, he will have to go by car.

INVENTORY¹

1. I can go on holiday by aeroplane or car.
2. If I go on holiday by aeroplane, then I shall get there faster, but cannot take much luggage.
3. If I go by car, I can take more luggage.
4. A successful holiday requires that I take the right clothing.
5. I couldn’t take the right clothing on the eve the plane.

INVENTORY²

1. I can go on holiday by aeroplane or car.
2. If I go on holiday by aeroplane, then I shall get there faster, but cannot take much luggage.
3. If I go by car, I can take more luggage.
4. A successful holiday requires that I take the right clothing.
5. I couldn’t take the right clothing on the eve the plane.
6. If my holiday is to be a success, I must go by car.

It should be fairly obvious that there is a clear difference in the relationship between INVENTORY¹ and INVENTORY² in example 2, when compare two examples 1 and 3. How might we best describe the difference in the relationship between INVENTORY¹ and INVENTORY² in the various examples? Someone might say that the difference is that the final thought in the case of example 1 and in the case of example 3 *follows* from the thoughts that precede it. However, while this is not incorrect, it is not perhaps as helpful as one might think because there is a sense in which we can say that Brown’s final thought in example 2 follows from his other thoughts because it was prompted by them.

Equally, someone might say that there is a logical relation between the various thoughts that Smith had in example 1, and that there is a similar kind of logical relation between the various thoughts that Green had in example 3. They might also observe that the thoughts Brown had in example 2 lack that logical relation. However, as our reason for considering the relationship between the various thoughts is to get clearer about the nature of logic, we cannot employ the concept of logic in giving our explanation of what logic is.

Perhaps a better way of explaining the difference in the relationship between INVENTORY¹ and INVENTORY² in the three examples is to say that Smith and Green could *defend* the movement of their thoughts in a way that Brown couldn’t. As Guttenplan (1997: 3) puts it:

‘Smith could say something like this: in so far as anyone has the thoughts in INVENTORY¹, and makes the transition to INVENTORY², then the move is *justified*. Such a defence would be wholly out of place for Brown. His thoughts were connected, but the connection was idiosyncratic to Brown. He can explain why INVENTORY² came after INVENTORY¹, but he couldn’t justify it, nor would we expect him to.’

It is important to recognise that the fact that Brown’s thoughts cannot be thought of as capable of justification in the way in which the thoughts of Smith and Green can, does not mean that the thoughts of Brown are in any sense defective. They are, however, connected in such a way that they are not suitable subject matter for logic.

The subject matter of logic, …, is precisely those movements of thought which are defensible in somewhat the way described in the cases of Smith and Green. *Logic studies the transitions in our states of mind which we are prepared to defend as justifiable*. Guttenplan (1997: 4-5)

While it is clear that there are differences between the movements of thought of Brown in example 2 and those of Smith and Green in examples 1 and 3 respectively, it is important to recognise that there is a difference between the movement of thought of Smith in example 1 and the movement of thought of Green in example 3. This difference becomes apparent when we consider the degree to which we might think that there was the possibility of the final thought in each case being false if the initial thoughts in INVENTORY¹ of each case were true.

If, in example 1, it turned out that the problem with Smith’s car was not a wet distributor, would we think that one or more of the thoughts in INVENTORY¹ was false? Surely the answer to that would be ‘No’. It is quite possible that all the thoughts Smith had in INVENTORY¹ could be true, and yet her conclusion (the additional thought in INVENTORY²) could be false.

The fact that Smith’s initial thoughts could all be true, yet her conclusion be false does not mean that there is anything wrong with the way she moved from her initial thoughts to her final thought. The movement of thought here is perfectly reasonable, but it is a feature of this type of movement of thought that while we think it justifiable and reasonable, we accept that the truth of the initial thoughts cannot be taken as any guarantee of the truth of the final thought (the conclusion). In other words, there can be movements of thought which are perfectly defensible, but which do not *necessarily* lead from true thoughts to other true thoughts.

This can be contrasted with example 3. In this case if Green’s final thought (‘If my holiday is to be a success, I must go by car’) proves to be false, then we would not say that all the thoughts in INVENTORY¹ were true. Instead, we would look to find which thought or thoughts in INVENTORY¹ proved to be false. This is because if all the thoughts in INVENTORY¹ were true, then that would have *guaranteed* that *of necessity* Green’s final thought *must* have been true.

The three examples, therefore, illustrate three types of movement of thought:

**Example 1**: a defensible movement of thought where the truth of the thoughts in INVENTORY¹ does not guarantee the truth of the concluding thought.

**Example 2**: an indefensible movement of thought, but one for which we would not seek justification or defence.

**Example 3**: defensible movement of thought where the truth of the thoughts in INVENTORY¹ guarantees the truth of the concluding thought.[[1]](#footnote-1)

**Another Way of Introducing Logic (Hodges)**

On Hodges’ view, logic *is* about consistency, but not all forms of consistency. If someone is fickle, say by supporting one football team one day and another team the next, then that is inconsistent, but it needn’t be illogical. Equally, if someone is two-faced, then they are inconsistent but not illogical. Hodges (1977: 13) identifies ‘*compatibility of beliefs*’ as the form of consistency that logic is concerned with. One way of putting this is to say that ‘a set of beliefs is called *consistent* if these beliefs could all be true together in some possible situation. The set of beliefs is called *inconsistent* if there is no possible situation in which all the beliefs are true’ (Hodges, 1977: 13).

*Example 1.1*

‘It would be wrong to censor violent programmes on television, because people’s behaviour isn’t really affected by what they see on the screen. All the same it would be a good idea to have more programmes showing the good sides of our national way of life, because it would straighten out some of the people who are always knocking our country.’

Example 1.1 (from Hodges, 1977: 13-14) contains inconsistent beliefs. If it really is the case that people’s behaviour isn’t affected by what they see on the screen, then it can’t be true that more programmes showing the good side of our national way of life would influence the behaviour of people criticise the country. So there isn’t a situation in which all the beliefs in example 1.1 could be true.

Inconsistency of beliefs should not be confused with unreasonableness, stupidity, and some forms of self-deception.

*Example 1.2*

‘During the last five years I have been involved in three major accidents and several minor ones, while driving my car. After two of the major accidents, courts held me responsible. But basically I’m a thoroughly safe driver; I’ve simply had a run of bad luck.’

Example 1.2 (from Hodges, 1977: 14) is an example of unreasonableness and self-deception, but the beliefs here are not inconsistent because there is a possible set of circumstances in which all those beliefs could be true. The fact that that set of circumstances is unlikely does not make the set of beliefs inconsistent.

A set of beliefs can be consistent in themselves, yet be inconsistent with the known facts.

*Example 1.3*

‘The surface of the earth is flat (apart from mountains, oceans and other relatively small bumps and dips). When people think they have sailed round the earth, all they have really done is set out from one place and finish up in another place exactly like the one they started from, but several thousand miles away.’

This set of beliefs (from Hodges, 1977: 14) is inconsistent with the known facts (we know that *this earth* is not like the one described), but a flat earth like that described in example 1.3 is possible. What is impossible is a flat earth that has the properties that we know the real earth has. So the beliefs in example 1.3 are consistent in themselves, but they are inconsistent with the known facts.

Individual beliefs can also be regarded as consistent or inconsistent. A consistent belief is one for which there is a *possible* situation in which it *could* be true. And inconsistent belief is a contradiction. In other words, it is self-contradictory because one part of the belief is inconsistent with another part of the belief. For example:

*Example 1.4*

‘I have invented an amazing new sedative which makes people faster and more excited.’

Again, Hodges (1977: 15) invokes the idea of a possible situation in assessing the consistency of this belief. He points out that ‘[t]here is no possible situation in which a thing that made people faster and more excited could also be a sedative’.

Someone might wonder whether consistency of beliefs is something that we should strive for, or wonder whether it has some virtue. Hodges (1977: 15) argues that this is perhaps not the best way to think of the matter. His point is that we can’t truly believe two inconsistent things at the same time. He illustrates this by setting an exercise. We all know that human beings have two legs, now spend at least a minute trying to convince yourself that they have five legs. He concludes that:

It seems we are obliged to believe only what we think is consistent, without having any real choice in the matter. In this way we are all logicians, simply because we are human. When we study logic, we are teaching ourselves to do deliberately, by rule, something we have been doing semi-consciously, by hunch, ever since the age of four.

**References**

Guttenplan, S. (1997) *The Languages of Logic*, second edition, Oxford: Blackwell.

Hodges, W. (1977) *Logic*, Harmondsworth: Penguin.

**Further Reading**

Gensler, H. J. (2002) *Introduction to Logic*, London: Routledge.

Hurley, P. J. (2003) *A Concise Introduction to Logic*, eighth edition, Belmont, CA: Wadsworth/Thomson Learning.

Priest, G. (2000) *Logic: A Very Short Introduction*, Oxford: Oxford University Press.

1. Guttenplan (1997: 6) points out that while the three examples given here are all instances of the expansion of an inventory in the move to the final inventory, it should not be assumed that all are thinking consists in adding additional thoughts to those that we have already had. Sometimes we eliminate previous thoughts during the course of a movement of thought. In such cases we may have accepted the thoughts that are eliminated initially, but subsequently come to see the need to reject them. [↑](#footnote-ref-1)