

# Introducing Susan Stebbing as a Forerunner of Informal Logic

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**Abstract:** Susan Stebbing (1885–1943), Great Britain’s first female professor of philosophy, was an educator, a logician, and a pioneer of public philosophy with a fondness for argumentation and evidential reasoning. Stebbing, whose revival has only recently begun, proposed an original theory of critical thinking and informal logic in the 1930s, which has not yet been taken account of in the history of the field. My paper aims to recognise Stebbing as a forerunner of informal logic during the period of 1930 to 1960. What makes Stebbing an exemplar in the field is her work on critical thinking, detecting logical fallacies, and evaluating arguments.

**Résumé:** Susan Stebbing (1885–1943), première femme professeure de philosophie en Grande-Bretagne, était une pédagogue, une logicienne et une pionnière de la philosophie publique, passionnée par l'argumentation et le raisonnement fondé sur les preuves. Stebbing, dont la mémoire n'a été que récemment redécouverte, a proposé dans les années 1930 une théorie originale de la pensée critique et de la logique non formelle, jusqu'ici négligée dans l'histoire de la philosophie. Cet article vise à reconnaître en Stebbing une figure précurseur de la logique non formelle entre 1930 et 1960. Son travail sur la pensée critique, la détection des sophismes et l'évaluation des arguments fait d'elle une figure emblématique de la philosophie.

**Keywords:** critical thinking, informal logic, Susan Stebbing

## 1. Introduction

Susan Stebbing (1885–1943), United Kingdom’s first female philosophy professor, published two books on critical thinking titled *Logic in practice* (1934) and *Thinking to some purpose* (1939). Her approach to critical thinking involves using directed and reflective thought, engaging one’s entire personality, and employing a method

of asking intelligent questions and providing answers. Although her initial works focused on formal logic, her later works addressed critical thinking. The research goal of this paper is to situate Stebbing's critical thinking books as forerunners of informal logic for the period of 1930–1960 by establishing that Susan Stebbing has her own theory of critical thinking and informal logic, but her theory has been overlooked, unlike the theories of figures such as Copi (1953), Kahane (1971), and, slightly later, Govier (1987/2018) and Bailin (1992) as discussed by Groarke (2021). Therefore, I will make the case that her works ought to be studied by historians of informal logic.

Stebbing's work on formal logic is evident in her 1930 text, *A modern introduction to logic*, where she discusses Aristotelian syllogisms, modern symbolic logic, the theory of classes, inference, implication, and validity. The study of formal logic examines the form of an argument composed of logical constants and variables (Walton 1998). If the argument fits the relevant logical form and the form is valid, then the argument is valid. In contrast, some informal logic evaluates the reasoning of an argument and how an argument is used within the context of a conversation, including the consideration of the arguer's opinion within the conversation context (Walton 1998; Groarke 2007; Blair 2015, p. 27; Walton 1990, pp. 418–419; Johnson 1999, p. 272). The three criteria for a good argument include acceptability, relevance, and sufficiency. Acceptability refers to the adequacy of an argument's grounds, and which type of adequacy will depend on the type of argument and the circumstances in which the argument appraisal occurs; relevance refers to the relevancy of the premises in the argument itself; and sufficiency refers to the mixed judgement about both the logical adequacy of the argument units making up the case and the dialectical adequacy of the case (Blair 2004, pp. 146–147; Groarke 2021). Therefore, informal logic is more pragmatic than formal logic, requiring more judgement to interpret a given discourse.

According to Groarke (2021), the origins of informal logic as an academic field can be traced back to the 1950s. The history of informal logic highlights the key figures and ideas through the years, as mentioned by Walton and Brinton (1997/2016, p. 1) in their text, *Historical foundations of informal logic*. I will argue that Stebbing

is a forerunner of informal logic but did not influence the informal logic movement. Subsequently, this study will outline her role in critical thinking and other aspects that belong to informal logic. The features of her thought that I argue prefigure informal logic include identifying fallacies, standardising arguments in natural language, and testing arguments. Stebbing does not directly use the term ‘informal logic’ in her text, but I will argue that her work is recognisable as such. This paper establishes that Susan Stebbing practised something that was prescient of what we now call ‘informal logic,’ although she was mostly unknown to its canonical founders, and she deserves recognition in the history of informal logic.

## 2. Stebbing’s omission in the history of informal logic

### 2.1 Stebbing’s neglect by philosophers in general

Some philosophers have analysed Stebbing’s application of critical thinking in formal logic, while others argue that she uses informal logic without offering sufficient explanation of ‘why’ and ‘how’ she practises it. The following examples highlight this issue:

There are no doubt many who might be mentioned as writing in the spirit of what later came to be called informal logic. Among those who published before the Second World War, we think of John Dewey for his *How We Think* (1933) and *Logic, The Theory of Inquiry* (1938), Robert Thouless for his *Straight and Crooked Thinking* (1930), L. Susan Stebbing for her *Thinking to Some Purpose* (1939) (Johnson and Blair 1997/2016, p. 163).

Nevertheless, the argument that Stebbing makes is strong in terms of its import: picking out informal fallacies committed by others should help us pick them out when we commit them ourselves (Duran 2019, p. 50).

A pioneer in this tradition is Susan Stebbing, who wrote what can be seen as the first textbook in analytic philosophy, and then went on to write a number of books aimed at a general audience addressing every day and public discourse from a philosophical/logical perspective (see entry on [Susan Stebbing](#)) (Dutilh Novaes 2021).

Feeling that she must do more, Stebbing turned her mind to the intersection of politics and what we would now call informal logic, or critical thinking (Janssen-Lauret 2022a, p. 53).

Each of the claims above clearly illustrates their limitations. Johnson, Blair, and Janssen-Lauret reference Stebbing's practice of informal logic but fail to provide specific examples from her texts that demonstrate this practice. Duran only mentions Stebbing's use of informal logic, saying that she is "picking out informal fallacies," but does not provide any specific evidence of her mentioning such fallacies (Duran, 2019, p. 50)

## *2.2 Stebbing's theories being unknown by informal logicians*

Informal logic involves employing logic in lectures and private conversations to raise the standards of reasoning in public education. According to Groarke (2021), informal logic was promoted by the formation of the "critical thinking movement" in public schools and universities, which was widely thought to have begun in the 1970s, although the roots date back to the 1950s:

A key catalyst that promoted the development of informal logic was the "Critical Thinking" Movement within education (well described in Siegel 1988, Ennis 2011, and Blair 2021) (Groarke 2021).

However, Stebbing explicitly sought to promote "habits of critical thinking" (Stebbing 1939, p. 68). Therefore, I will argue that her work acted as a precursor to several key aspects of informal logic and she can be considered a forerunner. Only male American figures such as Siegel, Ennis, and Blair have been quoted here by Groarke despite the existence of other female members.

In this manner, Groarke (2021) regards the texts of American philosophers such as Copi (1953) and Kahane (1971) as instigators of the rise of informal logic. Copi (1953, pp. 50–64) aided in the study of fallacies in informal logic. Kahane (1971, p. viii) aimed to promote informal logic by providing real-life instances of arguments, such as fallacious news reporting using mass media. Other influential female members of informal logic mentioned by Groarke (2021) include Canadian philosophers such as Govier (1992, p. 22), who discussed the importance of both arguing and evaluating

statements as practicing informal logic and Bailin, (1992, p. 92) who examined the nature of the arguments in informal logic. Stebbing is mentioned only in passing (1988, pp. 34, 38; 1989, pp. 141, 144, 151; 1992, p. 307; 1987/2018, pp. 93, 120), but Govier and Bailin wrote nearly forty years after Stebbing. It seems that the historical account of informal logic omits the 1930s and 1940s. The first use of the term ‘informal logic’ for public education was credited to Whatley in 1826 and the first formal use of the term ‘informal logic’ was credited to Gilbert Ryle in 1954, and then both Copi (1953) and Kahane (1971) are credited by Groarke in 2021 for the rise of informal logic, while Stebbing’s vital role as a forerunner in this field is not sufficiently acknowledged. A possible reason for this gap could be that her texts were not widely accessible in North America in the period around and immediately after the Second World War. Hence, one of the aims of this paper is to fill the lacunae in the literature.

Another reason for this issue is what Connell and Janssen-Lauret call “the feedback loop of exclusion”: those who received the most attention at the time they wrote are considered to be the most important logicians, and their contemporaries’ opinions (often privileged men) are given credit. By contrast, those who were dismissed continued to be mentioned only in passing (Connell and Janssen-Lauret 2022, p. 201).

Furthermore, Kahane is solely credited by Groarke as the populariser of informal logic as a logic of daily argumentation and is credited with educating readers with introductory logic through the use of everyday examples:

*In Logic and Contemporary Rhetoric: The Use of Reason in Everyday Life* (1971), Kahane more fully embraced instances of real life arguing, discussing a wide range of examples in newspapers, the mass media, advertisements, books, and political campaigns (Groarke 2021).

However, Stebbing did exactly this in the 1930s and should be credited as a forerunner in informal logic. During the societal unrest of the Second World War, she used practical everyday examples from her own experience to educate diverse audiences through mediums such as newspaper articles, advertisements in newspapers and magazines, and political speeches. She had been using this method as

early as the 1930s to educate the public about fallacies, obstacles to clear reasoning, and propaganda. This is shown by Majone (1977, p. 2), who acknowledges Stebbing's 1939 text as discussing fallacies of everyday thinking. Such an instance of her discussing a fallacy can be demonstrated below:

Whatever may be your opinion with regard to what is called 'the German Colonial Problem,' you may not find any difficulty in seeing that its discussion has involved a good deal of special pleading. To the German demand that their colonies should be returned to them, since colonies are an economic necessity under present world conditions, many Englishmen have replied that colonies are a liability rather than an asset, so that Germany would be better off without them. Naturally, the Germans will reply: 'Why, then, do you refuse to get rid of this liability by returning the colonies to us?'... If, however, the Germans were told that the British wish to keep their colonies and to prevent the return of the German colonies, not on the ground of economic utility, but on the ground of their strategic value, then the reply would be free from fallacy (Stebbing 1939, p. 39).

Stebbing introduced newer sub-types of fallacies, such as no true Scotsman and the definist fallacy. These will be discussed in section 5.

Moreover, Kahane is falsely credited as the first author to use everyday examples to demonstrate everyday argumentation (Johnson and Blair 1980, p. 15). Real-life situations were incorporated in Stebbing's writing as early as the 1930s, including content drawn from political speeches, advertising catchphrases, magazine articles, and newspaper editorials. Stebbing (1939) used these instances to expose fallacies, to underscore the importance of avoiding baseless assumptions and laziness in evaluating evidence (p. 68), and to caution readers against the insidious effects of newspaper propaganda in a dictatorial industry that could impair their critical thinking skills (pp. 66–67). Useful examples are quoted from her *Thinking to some purpose*:

Sir Robert Horne, speaking at the Criterion Restaurant, on October 29th of that year, was reported by the *Manchester Guardian* as having said: The people voted with pride in their breasts for the dignity of their country. They were affronted by the ignominy put upon

them by the cowardice and poltroonery of the men who held office in the last Government. Their opponents made a vast mistake when they thought they could seduce the soul of the business people by sordid appeals to them as if they were mercenaries (Horne quoted in Stebbing 1939, p. 48).

Stebbing identifies empty rhetoric in the above statement stating:

I am hopeful enough to believe that, now that seven years have elapsed since these speeches were made, you will detect in these extracts various instances of bad language. In saying that the language is bad, I am suggesting that these politicians were not deliberately misleading their audiences: they were themselves misled by their habit of using language charged with emotional significance (Stebbing 1939, pp. 48–49).

Her example of Sir Robert provides an indication of his thoughts on the previous government that was elected. The language indicates an 'appeal to emotion' since there is insufficient evidence to support the claim that the previous government exploited business people inappropriately to secure votes. In this instance, proof needs to be provided that the business people were exploited.

Also, Stebbing is concerned about using words for effect without paying attention to whether they are meaningful:

By way of example, consider the silliness of the following extract from the *Observer*: 'The Queen's powder-blue dress and tilted wide-brimmed hat made the garden-party seem more real'... It is indeed not a little disquieting that some readers do not find it 'odd' that the beautiful clothes worn by the Queen should be judged to make the party 'more real.' This debasement of the English language is evidence, I believe, of slipshod thinking (Stebbing 1939, p. 66).

The word 'debasement' suggests that the quoted sentence is senseless.

Additionally, the set of advertisements quoted by Stebbing illustrates common examples of how the audience can be misled, as they do not provide the necessary evidence from health experts or customer testimonials to support the claims about the products being advertised:

Notice how often you see advertisements containing such captions as the following:

‘This is the brand that is used by men of action, men who DO things.’

‘*This soap is different.*’

These captions, often accompanied by pictures, are designed, not only to arrest your attention, but also to appeal to your desire to do as others do or to obtain something which, it is suggested, would be good for you (Stebbing 1939, p. 61).

Stebbing’s method of using real-life situations was unusual in her era and is still relevant today. One such example involves a man who is stranded near a steep cliff overhanging the ocean when the tide is rising, and he employs practical thinking to locate an alternate route (Stebbing 1930, p. 1). In another example, a woman examines her pre-existing belief that she shouldn’t wear a blue dress to the beach because the shade of blue dye in the dress will always fade in the sea air. This belief would be acceptable if the connection between the blue dye and the sea air was analysed and a reason was found that explains why, under certain circumstances, the blue dye in the dress becomes chemically unstable and fades when interacting with the strong sea air (Stebbing 1930, p. 8)

Furthermore, Stebbing was ahead of her time in highlighting the ‘social’ aspect of her reasoners by considering social factors such as gender, race, class, and nationality in a modern context (Janssen-Lauret 2022a, p. 54).

### **3. Relation of Stebbing’s work to critical thinking**

#### *3.1 Critical thinking texts: Fulfilling the educational purpose of informal logic*

Groarke (2021) states that a key aim of informal logic is to provide education on reasoning and argumentation for practical purposes beyond academia. Stebbing contributed to this goal by offering accessible books that educate not only academics but also a wider, non-specialist audience on critical argumentation for everyday reasoning. I argue that Stebbing’s critical thinking practice is apparent,

as demonstrated below in her key texts, *Logic in practice* (1934) and *Thinking to some purpose* (1939).

Her book *Thinking to some purpose* (1939) provided a first-aid manual for everyday thinking, reasoning, and argumentation. Across this written work, she shares insights into critical thinking through real-world examples that have immediate relevance to topics including nationality, politics, wartime, religion, education, culture, beliefs, and superstition. It aimed to educate the general public on thinking critically about moral and political issues relevant to the rise of fascism, socialism, and pacifism during the world war. Moreover, Stebbing recognised the importance of tackling the crucial problem of citizens needing to be conscious of the perils of faulty reasoning:

I am convinced of the urgent need for a democratic people to think clearly...Our failures in thinking are in part due to faults which we could to some extent overcome were we to see clearly how these faults arise. It is the aim of this book to make a small effort in this direction (Stebbing 1939, p. 5).

On the other hand, I do seek to convince the reader that it is of great practical importance that we ordinary men and women should think clearly, that there are many obstacles to thinking clearly, and that some of these obstacles can be overcome provided that we wish to overcome them and are willing to make an effort to do so (Stebbing 1939, p. 26).

But a knowledge of what these hindrances are and of the difference between thinking logically and thinking illogically may at least serve to put us on our guard... Here I wish to emphasize two considerations: first, that a knowledge of the conditions of a logically sound argument does help us to think clearly *provided that we wish so to think*; secondly, that not all sound arguments are syllogistic (Stebbing 1939, p. 10).

I argue that Stebbing's emphasis on thinking clearly informs her audience about the origins of thinking errors and how to overcome them through effective thinking. Clear thinking constitutes an element of critical thinking and, therefore, becomes a key element of informal logic as the knowledge of the conditions (contents of an argument) needs to be thought out clearly before being expressed.

*Logic in practice* (1934) is a text that encourages the reader to practice critical thinking by thinking lucidly and acting rationally. Stebbing expresses this purpose as follows:

The habit of asking certain questions is a help. If we ask what must also be the case if what we are saying is true, then we may notice that what we say admits of different interpretations (Stebbing 1934, p. 77).

It is useful to cultivate the habit of asking oneself whether a given statement is supported by the argument offered. If so, the premisses must be consistent with the conclusion, and must provide some *reason* for it (Stebbing 1934, p. 84).

In the first quote, Stebbing notes that the habit of asking questions enables one to become open-minded and to accept the possibility of different interpretations. In her second quote, Stebbing suggests that the habit of questioning is useful for determining whether a given statement is supported by the argument offered and whether there is a valid reason that leads to the conclusion. Hence, cultivating a habit of questioning has different uses that promote critical thinking.

### 3.2 On the usage of ‘informal logic’ and ‘critical thinking’

The terms ‘informal logic’ and ‘critical thinking’ are used differently by different authors in the informal logic literature. Finocchiaro (2005a, p. 94) states, “In terms of a slogan, we might say that informal logic is generalized or systematized critical thinking, and critical thinking is applied informal logic.” Johnson and Blair regard informal logic as a branch of logic “whose subject is the norms that apply to the cogency of argumentation, understanding argumentation as a social activity paradigmatically carried on in the medium of a natural language” and critical thinking as “a habit or style of thinking and reflection - one that, ideally, will be widely achieved” (2014, p. 48).

However, Govier (1987/2018, p. 371) states, “We may seek to show that a course on informal logic improves students’ abilities at critical thinking, more generally defined.” Moreover, her operational definition of critical thinking mentions that it is “a battery of skills involving deductive reasoning, inductive reasoning,

identification of fallacies, location of assumptions, spotting of poor definitions, finding of conclusions, and much else from the standard array of topics in informal logic courses” (1987/2018, p. 369). Therefore, I am siding with Govier that there seems to be no consensus on the usage of the terms ‘informal logic’ and ‘critical thinking’ (1987/2018, p. 371) and that informal logic is capable of generally improving critical thinking.

### *3.3 Stebbing’s theory of critical thinking: On necessary and sufficient conditions*

Stebbing’s critical thinking has a logical, social, epistemic, and, arguably, a virtue epistemological dimension (Connell and Janssen-Lauret, 2023, p. 245). She has four conditions for critical thinking, of which two conditions are necessary conditions: the first is that thinking should be directed and reflective, and the second condition is the need for ‘intellectual honesty’ (Stebbing 1939, pp. 28, 78, 119; 1934 p. 83), which includes “sufficient care” in reasoning (Stebbing 1939, pp. 35, 117). The third condition, thinking with the entire personality, is necessary but not sufficient, and the final condition, action-based thinking, is neither necessary nor sufficient but often present. Further details are provided below on the conditions that are necessary and sufficient for thinking to be considered critical thinking.

#### *(i) Thinking is critical only if it is directed and reflective*

Directed thinking involves focusing on addressing a specific question “steadily held in view” and being free from distractions and irrelevant thoughts (Stebbing 1939, p. 9; 1934, p. 1).

We have seen that reflective thinking originates in a problem to be solved and is throughout controlled by the conditions of the problem and is directed to its solution. Hence, reflective thinking has a natural end, the conclusion of the reflection. The various stages in this process are related to the conclusion as the grounds upon which it is based. These grounds may be called *premisses*” (Stebbing 1930, p. 9).

Stebbing also distinguishes between reflective thinking, where a person can rely “upon previous knowledge of facts” and idle reverie (1930, pp. 2, 9).

*(ii) Thinking is critical only if the reasoning is careful in reaching a conclusion and based on intellectual honesty*

As Stebbing says, critical thinkers “scrutinize their reasoning with sufficient care” (Stebbing 1939, p. 35) and their thought process includes “careful consideration of possible views” (1939, p. 68). In addition, when a sample of the whole population is used, “care” needs to be taken to ensure that the sample is properly representative (1939, p. 117), “great care is needed not to be misled by pictorial presentations of the comparison of figures” (Stebbing 1939, p. 116), and “a careful examination of these statements will show how confused thinking is revealed in the shifting meanings of the italicized phrases.” In this sense, thinking is only critical if careful reasoning is undertaken with intellectual honesty as a form of unbiased reasoning to reach a conclusion. I agree with Connell and Janssen-Lauret’s (2023, p. 245) reading of the ‘care’ qualities mentioned as constituting a part of virtue epistemology.

*(iii) A person’s entire personality guides their thinking process*

For thinking to be critical, it is necessary to think with the entire personality, but it is not sufficient because solely relying on our personality can lead us to think less critically.

The study of logic does not in itself suffice to enable us to reason correctly, still less to think clearly where our passionate beliefs are concerned. Thinking is an activity of the whole personality (Stebbing 1934, p. vii).

Thinking with the entire personality not only consists of logical thinking but also a collection of patterns encompassing self-awareness, attitudes, self-management (emotions), and social awareness. Any minor change in the above factors could vary the pattern of thinking. The inclusion of this contemporary thinking style in her critical thinking works indicates a departure from the traditional logic-based thinking approach. The following reveal Stebbing’s thoughts on the concept of thinking with the entire personality:

Our thinking involves our whole personality. *How* I think is conditioned by the kind of person I am, whosoever ‘I’ may stand for (Stebbing 1939, p. 16).

So far I have been mainly concerned to emphasize the danger of not questioning our beliefs, of being unwilling to drag our assumptions into the light, and of forgetting that *my* argument, in so far as it is mine, may suffer from the defects of my personality (Stebbing 1939, p. 33).

It is clear from the above instances that proper reasoning and thinking involve the entire persona and personality traits, which are dependent on beliefs. However, she cautions against using personality to reason badly and unquestioningly accept inaccurate, outdated beliefs or assumptions without evidence as doing so hinders proper thinking (Stebbing 1939, p. 33). Instead, she suggests one should adopt a “scientific mind” to evaluate the evidence prudently before reaching a conclusion (Stebbing 1930, p. 233).

Another instance where the personality can be misused is to manipulate others’ thinking, as demonstrated by Stebbing:

A man of Ramsay MacDonald’s type - emotional, handsome, gifted with an attractive voice - could hardly avoid putting his audience into a docilely receptive frame of mind - until the moment came when he had been utterly discredited before he stepped on to the platform (Stebbing 1939, p. 78).

The above scenario shows that a charismatic and skilled speaker should be cautious about leveraging their personality to persuade others without offering evidence to support their arguments.

Janssen-Lauret attributes the view that personalities are shaped in part by habits to Stebbing:

Perhaps influenced by her reading of Aristotle, Stebbing appears to have thought of personality traits as not fixed but shaped by habit. Habits may be individual or collective, instilled by someone’s work, newspaper reading, or engagement with their religious community or by their whole culture (2022a, pp. 55–56).

I agree with the above interpretation, as habits could be further subdivided into good and bad habits depending on societal and cultural factors, such as family background, beliefs, values, and customs. Good habits, such as using intelligent questions and answers, could improve the effectiveness of reasoning and help one think clearly. In contrast, bad habits, such as lack of knowledge and unquestioningly accepting arguments, can hinder thinking.

(iv) *Often thinking critically is taken by Stebbing to be action-based thinking (with a one-way time direction) that is considered neither necessary nor sufficient*

The question of one-one determination belongs to the retrospective attitude; it concerns knowledge, not action. Action takes place within a concrete situation having a one-way time direction *from* present *to* future. As an investigator the thinker is also an agent, situated within a one-way time direction. He observes an occurrence, e.g. the shooting of a man, or the dissolving of a lump of sugar in a liquid, which as a definite event does not recur (Stebbing 1930, p. 264).

Action-based thinking is utilised to undertake immediate action in situations in which the individual has specialist knowledge. Stebbing provides the example of a surgeon having the specialist knowledge necessary to cure an injured passenger in a train accident as opposed to an ordinary person who does not have the expert knowledge required to respond to the same situation (Stebbing 1939, pp. 16–17).

#### **4. Relation of Stebbing’s work to informal logic: On the analysis of arguments**

In Stebbing’s text, there are forerunners of what is now called argument analysis; she suggests that “an argument in everyday life is often employed *simply* to resolve a state of doubt” (1930, p. 106). Johnson subdivides argument theory into theory of analysis and theory of appraisal (evaluation and criticism). This section focuses on the theory of analysis, which deals with questions concerning the nature, content, structure, and typology of argument (Johnson 2000/2009, p. 50). Finocchiaro (2005b, p. 40; 2005a, p. 92) emphasizes the significance of interpretation (understanding and reconstruction) of argument, which comes before evaluation and criticism. Govier (1987/2018, pp. 56–57, 123) asserts that argument evaluation should include determining whether there are any missing premises, determining whether arguments belong to the induction-deduction binary, and determining the nature of analogies (if analogies are present in the argument). The following sections

discuss Stebbing's involvement in the analysis of arguments, which resembles Govier's theory of argument analysis.

#### 4.1 Analysis of arguments: Hidden premises

According to Govier (ibid., p.123), missing premises could be alternatively labelled as 'implicit,' 'unstated,' and 'hidden.' Stebbing refers to a type of missing premise: the enthymeme. She states that an enthymeme is a "syllogism with one proposition omitted" and provides the following example:

*Whales are not fish because they are mammals.* Here the major premiss, *No fish are mammals*, is omitted. This is called an enthymeme of the first order.

What is important is that we should be able to recognize an enthymeme for what it is, namely, an argument with an unstated premiss ... We most often omit the major premiss, for we are apt to state that so-and-so has a certain characteristic *because* it is a *special case* without bothering to state the *rule* under which the case falls; but sometimes we state the rule and the result, taking for granted that we are dealing with a case which falls under the rule; less frequently, we state the rule and the case, leaving the result to be implicitly understood (Stebbing 1943, p.73)

Stebbing discusses missing premises, noting that the "omission of a connecting premiss may lead to a fallacy which would be detected if the argument were fully stated" (Stebbing 1943, p. 6, 73; 1930, p. 110). This omission can hinder the understanding of the argument, rendering the argument incomplete. The problem arises from what has been assumed or left unsaid.

Stebbing discusses another method where the premises are 'granted' rather than 'given,' which may create the impression that the major and the minor premises are missing, and sometimes a syllogism is formulated as an answer to a question: "Thus we might ask: 'Is the income tax a just tax?' Then we might reason as follows: 'Well, I suppose a just tax is one which is proportioned to the ability to pay. But that is the characteristic of the income tax'" (Stebbing 1930, p. 84). The question has been answered in the affirmative to support the conclusion: "income tax is a just tax." The answer represents the two premises that support the conclusion. Stebbing states

that the premises are not always ‘given’ as per the logical structure that includes the major premise and the minor premise; sometimes they are ‘granted’ (Stebbing 1930, p. 84).

Copi had a similar perspective on enthymemes thirty years later regarding the omission of a premise or premises leading to an incomplete argument (1953, p. 205). However, Stebbing noted something additional that Copi did not; She suggested that a syllogism sometimes omits the conclusion: “Sometimes the conclusion is omitted, as in: ‘No Scotchman can see a joke, and he is a Scotchman.’ This mode of speech is familiar under the form of innuendo” (Stebbing 1930, p. 83).

Moreover, unlike Govier, who considers missing premises a “problem” (1987/2018, p. 125, 138), Stebbing takes a more practical and balanced approach, providing positive reasons for the omission of a premise/the conclusion in ordinary arguments saying that the “missing premiss and conclusion are too obvious to need explicit stating” (1943, p. 74) or they are omitted “because they are self-evident or are regarded as accepted by everyone” (1943, p. 5). For example:

(1) ‘If that boy comes back, I’ll eat my head’ (*Oliver Twist*). The hearer supplies the premiss and conclusion required to complete the *tollendo tollens* argument (Stebbing 1930, p. 110; 1943, p. 74).

Although, she provides conditions under which it is acceptable to omit the premise/conclusion, she states that arguments with such omissions are not without danger, “for it may be that the validity of the argument depends upon an unstated, or implicit, premiss which would not be accepted had it been made explicit what the required premiss is” (Stebbing 1943, p. 6). To remedy the issue of missing premises, Stebbing focuses on an interpretive approach (as stated in Govier 1987/2018, p. 153), emphasizing what the arguer stated, and amending the stated reasons/conclusion.

#### 4.2 Analysis of arguments: Induction/deduction binary

Copi, Cohen, and Rodych state that a deductive argument,

is one whose conclusion is claimed to follow from its premises with absolute necessity. In sharp contrast, an inductive argument is one whose conclusion is claimed to follow from its premises only with

probability, this probability being a matter of degree and dependent on what else may be the case (2018, p. 26).

Although Govier discusses the inception of induction and deduction, it is not clear the exact reason as to why logic and mathematics are classified under “sources of deductive arguments” and empirical sciences are classified under “sources of inductive arguments” (1987/2018, p. 58). Stebbing pinpoints exactly why such a classification exists, attributing it to the different methods used by mathematicians and empirical scientists. Mathematics “employs a method of exact demonstration” and is a “formal science” (1930, p. 232). On the other hand, empirical sciences depend upon generalizations and conclusions are verified by observations (1930, p. 245).

Moreover, Stebbing argued that every scientific investigation must combine both inductive and deductive reasoning (1930, pp. 245, 341). She considers reasoning to be a form of investigation. Her method of ‘scientific investigation,’ ‘inquiry,’ or ‘reasoning’ involves reaching a conclusion by considering a set of isolated facts connected together (1930, pp. 231, 234, 235).

#### 4.3 Induction and analogy

Stebbing identifies a conflict in the usage of the term ‘analogy’ as some mention that “induction is *based upon* analogy” whilst others state that “analogy is a process of inference subsidiary to induction” (Stebbing 1930, p. 249). However, Stebbing takes a different stance on the relationship between induction and analogy, saying that induction and analogy refer to the ‘*number* of instances’ and the ‘*resemblance* of the instances’ (1930, p. 250). She provides an example to demonstrate the above:

*All observed crows are black* to the conclusion *Every crow is black* the inference is not based purely upon counting the instances, since these instances have been classed together on the account of their possessing certain properties which constitute the connotation of “crow”; they are *instances of crows*. Thus we do not start from a “mere accumulation of instances”, but from resemblance in certain respects. Every generalization must be based upon resemblance; hence, every generalization involves both analogy and enumeration (Stebbing 1930, p. 250).

Copi suggests that analogies are often used non-argumentatively, in addition to their frequent use in arguments (1953, p. 313). He further mentions that analogies are used for literary purposes, making use of them as metaphors and similes. His usage of the term (whether used argumentatively or non-argumentatively) refers to instances in which one or more entity is similar. However, he cautions that the use of analogies in descriptions and explanations should not be confused with their use in argument (ibid). Stebbing agrees with Copi that analogy, in the form of a metaphor or an illustration presented in argumentation as support for the conclusion, is illegitimate. Furthermore, she provides the exact reason that this usage is illegitimate: “because resemblance is not relevant to the conclusion” (1930, p. 251). Moreover, she provides the solution for such an issue such that “to determine what is relevant and what is not relevant is to employ the scientific method” (ibid).

#### *4.4 Methods of standardising arguments taken as a part of analysis*

Groarke’s (2021) methods for standardising arguments can be used in argument analysis, which involves untangling issues that obscure the content and structure of real-life arguments. Stebbing sought to analyse arguments and distinguished between the effects of *persuading* and *convincing* in arguments. She mentioned that holding a belief one has been led into by rhetoric alone or by the effect of personal charisma is persuasion but, “holding a belief as the outcome of a reasoned argument” is convincing (Stebbing 1939, p. 60).

Groarke’s (2021) methods for analysing arguments can be applied for demonstrating Stebbing’s involvement in analysing arguments:

1. Clarifying incomplete, ambiguous, and vague claims in arguments
2. Eliminating rhetorical claims in an argument that are used as a means of persuading others to accept a conclusion for which there is not adequate evidence

Stebbing (1934, p. 71) observes that biases are most prevalent in arguments in areas such as politics, economics, religion, education, and art. As subject matter becomes more complicated, confusion is

more likely to arise. Additionally, Stebbing (1934, p. 71) states that when a topic is emotionally charged, people tend to accept arguments without critically examining them in order to defend their own position. Such a case indicates a faulty reasoning practice leading to confirmation bias.

#### 4.4.1 *Clarifying incomplete, ambiguous, vague, and repetitive claims in arguments*

Groarke (2021) states that in the process of analysis, informal logic aims to untangle issues that obscure the structure and content of real-life arguments. Moreover, he states that arguments in ordinary discourse are frequently vague, ambiguous, or in other ways unclear. Stebbing distinguishes between vagueness and ambiguity. According to her, “a word, or phrase is vague when it is so used that we could not tell in a given situation whether or not the word was applicable” (1934, p. 69). And “a word is used ambiguously when the same word is used to indicate different referends without the speakers realizing that there is a difference in what is referred to” (1934, p. 70).

Stebbing provides the following example of the language in an argument being ambiguous enough to prevent analysis:

A final example may be given of confused thinking resulting in a failure to recognize that language is being used both ambiguously and with an improper degree of vagueness. A writer in *The Spectator* (December 30th, 1932) said: ‘I do not believe in the possibility of eliminating the desire to fight from humankind because an organism without fight is dead or moribund. Life consists of tensions: there must be a balance of opposite polarities to make a personality, a nation, a world, or a cosmic system such as God planned’ (Anonymous quoted in Stebbing 1934, p. 73).

The above argument relates to the fallacy of equivocation “when the conclusion of an argument depends on the fact that a word or phrase is used, either explicitly or implicitly, in two different senses in the argument. Such arguments are either invalid or have a false premise” (Hurley 2012, p. 164). The meaning of the word ‘fight’ should refer to being at war, which is the sense required for the conclusion, and it needs to refer to struggle involving the exchange of physical blows or the use of weapons. However, the second meaning of the

word ‘fight’ refers to a person putting up a fight for justice. Stebbing’s (1934, p. 73) exceptionality is that she analyses arguments by deep diving into the reason why the writer deviated in their conclusion, as noted below:

The word ‘fight’ is familiar, and the writer has failed to notice that the reference has shifted in the conclusion ... But in the sense in which ‘fighting’ means ‘being at war’ - which is the sense required for the conclusion - it does not follow from the fact asserted in the premiss that human beings must continue to desire to fight in order to maintain their personality ... Certainly his conclusion may be true, but his argument fails to support it (Stebbing 1934, pp. 73–74).

Stebbing’s advice is to ensure that there is no shift in the meaning of reference in the course of an argument. Hence, it is crucial to make sure that each instance of the key term (in the above example it is fight) retains the same meaning from the premises to the conclusion. A review needs to be carried out to confirm that the words convey the intended meaning without ambiguity.

Moreover, Stebbing aims to analyse arguments by not basing the conclusion upon incomplete data. An example can be found from Stebbing’s text where the conclusion states that 90 out of every 100 bus drivers have gastritis sometime between the ages of thirty and forty (Stebbing 1939, p. 107). Although Stebbing does not explicitly mention the fallacy, it relates to the presence of a base-rate fallacy. Base-rate fallacy occurs when statistical information is ignored in favour of relying on the causal information at hand (Bar-Hillel 1980, p. 211). Stebbing warns that a conclusion based on a special connection between driving a bus and having gastritis cannot be justified without evidence (Stebbing 1939, p. 107). Statistical information on the link between gastritis and occupations, such as lorry driving, will help determine whether the same health issues would occur if the persons in question had not worked as bus drivers. Additionally, data from individuals in other professions, such as teachers, solicitors, and lawyers, should be taken into consideration. A third parallel should be drawn between unemployed individuals and gastritis.

*4.4.2 Getting rid of rhetorical claims in an argument used as a means of persuading others to accept a conclusion without adequate evidence*

Rhetorical statements and questions have the potential to confuse readers and lead them to accept inaccurate information. According to Stebbing, “rhetoric is a means of persuasion” (Stebbing 1930, p. 468). She advises separating the rhetorical claims in an argument because “the aim of the orator is to induce belief” and not to provide arguments for a conclusion; their aim is to persuade others “to accept a conclusion for which there is no adequate evidence” (Stebbing 1930, p. 468). She accuses government officials of substituting rational arguments with rhetorical persuasion (Stebbing 1939, p. 9). Stebbing suggests that the public should be aware of rhetorical questions, which are questions asked to make a point rather than to actually get an answer. She called this type of question a “stylistic trick” (Stebbing 1939, p. 19).

Stebbing provides the following example of rhetoric removed from an argument, which could have resulted in a fallacy (if the rhetoric had not been removed):

Thus we might meet such an argument as the following: ‘If these Conservative Ministers are not Fascists, then tell me what they are. They openly deride the League of Nations and so do the Fascists. If that doesn’t prove that the whole lot of them are Fascists, I don’t know what’s what.’ The last sentence would seem to be true, for this argument, cleared of its rhetorical devices and emotional language, reduces to the form:

These Conservative Ministers deride the League of Nations.

Fascists deride the League of Nations;

therefore, These Conservative Ministers are Fascists.

Stated in this form the fallacy is openly revealed (Stebbing 1939, p. 104).

A closer examination of the original argument (before being put into standard argument form) above indicates that flawed reasoning may be demonstrated in the use of the word “these” in the first two sentences, as compared to the phrase “a whole lot of them” in the

concluding sentence, which carries rhetorical weight. The wording, “the whole lot of them” could imply that the entire population of conservative ministers are fascists, rather than suggesting that only some of them are. This has been resolved in the standard argument form since the rhetoric has been removed by replacing “the whole lot of them” with “these Conservative ministers.”

The second example involves rhetoric taking over the argument. Stebbing acknowledges that rhetoric is not always harmful and should be used cautiously as a persuasive tool.

There must undoubtedly be some difficulty over the question of tariffs. Liberals would approach the problem with a Free Trade bias but with an open mind to examine and decide whether there were measures of dealing with the problem apart from tariffs.

Conservatives would start with an open mind but with a favour for tariffs. They would start with an open mind to examine alternative methods, and the Cabinet as a whole would sit down with perfect honesty and sincerity to come to a decision on that matter. (Baldwin quoted in Stebbing 1939, p. 49).

In this situation, despite being accused of having a ‘free trade bias,’ the liberals would choose not to impose tariffs. On the other hand, conservatives would advocate for implementing tariffs, while liberals would oppose this strategy. The concern is that certain words carry strong emotional connotations: ‘bias’ has a negative connotation, while ‘favour’ and ‘open mind’ have positive connotations, which can cause prejudice in the minds of the audience. Therefore, Stebbing advises carefully examining the chain of reasoning to identify any hidden rhetoric.

Stebbing aims to educate the reader by presenting deceptive arguments in numerous mediums in our everyday language use. In summary, rhetorical tactics are intended to persuade rather than convince the reader. These include political speeches, advertisements that encourage consumers to purchase products they do not wish to purchase (Stebbing 1939, p. 61; 1930, p. 468) and newspaper editorials that encourage the reader to switch from one headline to the next and be satisfied with insufficient information contained in newspaper write-ups (Stebbing 1939, p. 68).

Alternatively, Kahane (1992, p. 6) suggests that the rhetoric used in modern informal logic is primarily expository or explanatory and

argumentative rhetoric. In the first category, the facts are accepted only from the author's point of view and not based on reason. Whereas, in the second type, arguments purport to justify only some of the assertions. Stebbing investigates both forms of rhetoric in her text as shown below:

Expository Rhetoric –

A patent medicine is offered as an infallible cure for a common chest complaint...A woman writes that she had despaired of ever being well, but now she is 'a different woman.' Eminent medical men and well-known public persons (unspecified) are said to have praised the treatment. The reader is assured: '*Health is your right*' (Stebbing 1939, pp. 60–61).

In this example, although the advertisement mentions renowned medical professionals, it fails to provide any information regarding their names, so this evidence is entirely in the hands of the corporation advertising these medical items, leaving the reader at a disadvantage.

Argumentative Rhetoric –

The political audience is not dishonest in itself, nor does it desire or approve dishonesty or misrepresentation in others, but it is an audience only imperfectly prepared to follow a close argument, and the speaker wishes to make a favourable impression, to secure support for a policy (Baldwin quoted in Stebbing 1939, p. 77).

Stebbing's reaction to the above is that the blame should not be completely with the audience since the politician's aim is to influence the audience's opinions, which is not stated but implied. As a result, the political audience should be sufficiently intelligent to navigate political rhetoric by staying updated on the latest political disclosures.

## **5. Relation of Stebbing's work to informal logic: Detecting fallacies as a part of analysis of arguments**

Gilbert and Copi define 'fallacy' as follows:

We therefore define a fallacy as a form of argument that *seems* to be correct but which proves, upon examination, not to be so (Copi 1953, p. 50).

It may be described as a mistake, or as an argument that looks good and is not, or as a sophistical trap laid out by an unscrupulous arguer, and, indeed, it may be any one of these (Gilbert 1997, p. 22).

Copi's definition falls short because an argument may be incorrect (contain falsity) without being fallacious. Regarding definitions, Stebbing states that "to define an expression ... we must use *two* expressions, the defining expression and the expression to be defined ... must be asserted to be equivalent ... since the expressions are equivalent it is permissible to substitute one for the other on any occasion of use" (1930, p. 423). Since Copi offers an attempted definition, it should cover all cases. 'Fallacy' and 'argument' that *seems* to be correct but that proves, upon examination, not to be so, should then be intersubstitutable everywhere, but that is not the case here, so the definition fails. Furthermore, Gilbert's definition is flawed due to the vagueness and poor reasoning in the phrase "looks good and is not." Both Copi and Gilbert seem to craft their definitions of fallacies in line with Aristotle's conception of fallacy in *Sophistical Refutations* (Aristotle 1995) in which he states, "sophistic refutations, i.e. what appear to be refutations but are really fallacies instead ... that some reasonings are genuine, while others seem to be so but are not, is evident." In contrast, Stebbing provides a more precise definition of the term 'fallacy' by emphasising the rules of logic, which differentiates her from both Copi and Gilbert:

To commit a fallacy is to break one of the rules of logic which are regulative of sound reasoning. An argument in which one (or more) of these rules is broken is said to be *fallacious* (Stebbing 1943, p. 161).

A fallacy is a violation of a logical principle; 'to fall into a fallacy' is to slip into 'an unsound form of argument,' that is, to make a mistake *in reasoning* not in what is *reasoned* about (Stebbing 1939, p. 119).

Stebbing's first definition provides the real reason that a fallacy is created, which is that the arguer has broken a logical rule of reasoning rather than having simply accepted at face value that the form of the argument seems to be correct. Johnson (1987, p. 243; 1995, p. 115) echoes this sentiment with regards to the definition of a fallacy as a bad argument. Stebbing's second definition informs us that

in a fallacy, the mistake in reasoning is focused more on the method of reasoning and less on what is reasoned about, thus shifting the focus from how the argument seems to be to the method of an argument. This definition rules out the problem case of an argument that uses rules of reasoning correctly but could reasonably be called ‘incorrect’ because its premises are false.

Further, Stebbing demonstrates her practice of informal logic by delving deeper into fallacies to find the issue within each fallacy and its solution by exploring the underlying reasons for people’s long-term susceptibility to them:

We come to suppose that a fallacy is a trick and, thus, as involving deliberate dishonesty. Thinking along these lines, we are apt to assume that where there is no dispute, and so no disputant, there is no danger of fallacies, so that honesty of intention will suffice to keep our reasoning sound. This is a profound mistake. You and I, engaged in solitary meditation, have great need to be on our guard against drawing a conclusion that does not follow from our premisses (Stebbing 1939, p. 119).

According to Stebbing, if a fallacy is to be overcome, one must be alert regarding their knowledge of the premises and the conclusion and whether a connection is present between them.

In her work that I argue prefigures modern informal logic, Stebbing emphasised the significance of detecting fallacies by exposing unsound forms of reasoning in arguments. Stebbing explored numerous informal fallacies, including irrelevant question, irrelevant conclusion, false dilemma, special pleading, circular definition, and begging the question, with the last-mentioned one being subdivided into sub-types. I argue that Stebbing originally discovered the fallacies, no true Scotsman and definist, in her texts in 1934 and 1939 (March) while their discovery has been incorrectly attributed to men such as Antony Flew and William Frankena. It should be noted that Stebbing does not use the exact terms ‘no true Scotsman’ and ‘definist’ when discussing these fallacies.

However, an example of the no true Scotsman fallacy can be found in *Logic in practice* (1934), and I argue that Stebbing should be credited with the discovery in 1934, which demonstrates that she was a practitioner of an early form of informal logic. The no true Scotsman is “a fallacy of presumption: the arguer committing the

fallacy presumes to be the authority on determining what it takes to be a member of a certain group” (Manninen, 2019, p. 374). However, this fallacy has been attributed to Antony Flew in 1975 (p. 47), who wrote about it forty-one years after Stebbing did. Stebbing wrote:

For example, we make a sweeping generalization about, say, musicians and Wagner’s operas, to the effect that ‘No musicians nowadays admire Wagner’. When challenged, the speaker may reply, ‘Well, no *true* musician does’. Pressed to make definite the distinction between ‘a true musician’ and just a ‘musician’, he might fall back ... In so doing, he would beg the question (Stebbing 1934, p. 76).

I contend that Stebbing’s text also contains an example of the ‘definist fallacy,’ which consists of “defining one concept in terms of another concept that is not synonymous” (Cotton 2019, p. 255). Further, this fallacy occurs when “confusing or identifying two properties, of defining one property by another, or of substituting one property for another” (Frankena 1939, p. 471). William Frankena is often credited with identifying the definist fallacy when he wrote about it in October 1939. However, Stebbing published an example of what we now call the ‘definist fallacy’ earlier in her book *Thinking to some purpose* in March 1939. Her demonstration of the definist fallacy a few months earlier focused on the argument that if “murder” is a crime, and “suicide” is considered “self-murder,” then suicide is a crime. However, according to Stebbing, this argument constitutes a fallacy because of its use of the same term ‘murder’ for both suicide and murder:

I will take as a possible example the belief that suicide is a crime. This may be defended upon the ground that murder is a crime and that ‘suicide’ means ‘self-murder.’ If this were accepted as its meaning, then it would follow from the definition that suicide is a crime, provided that it be admitted (as I am here supposing to be the case) that *murder* is a crime. It is true that the *Shorter Oxford English Dictionary* gives ‘self-murder’ as a meaning of ‘suicide.’ Let us grant (as the White Knight in *Alice Through the Looking-Glass* might say) that that is what *suicide* has been called.

The point remains that so to *call* it is to beg the question, since murder is essentially killing *someone else* whereas suicide is killing *one's own self*. If it be argued (as I conceive that it might fairly be) that I have myself begged the question by contending that 'murder is essentially killing someone else,' then I should reply that we have here a danger of confusing two essentially different actions by deferring to them both by means of the same word (Stebbing 1939, pp. 130–131).

Stebbing suggests a resolution in the form of questioning whether the same word can be used to refer to two different actions. She says that although suicide could be considered a crime in its own right, it does not mean that suicide could be classified as self-murder because murder is the unlawful killing of another human being, whereas suicide is ending one's own life.

As Stebbing's book was published in March 1939, it is more appropriate to attribute the definist fallacy to Stebbing. Frankena published his version only in October 1939. The following is evidence that Stebbing's book was published in March:

Miscellaneous

Thinking to Some Purpose. By Prof. L. Susan Stebbing. 6d. Penguin Books.

Another new "Pelican" Book

(The Birmingham Post 28<sup>th</sup> March 1939).

Just Arrived!

New Pelican Titles

A44 Thinking to Some Purpose - Susan Stebbing

(The Fife Herald and Journal 29<sup>th</sup> March 1939).

In attributing the definist fallacy to Stebbing, I am taking a stance on an existing debate about the role of the date of publication and the date of conception in attributing ideas (Williamson 2013, p. 31; Janssen-Lauret 2022b, p. 355; Connell and Janssen-Lauret 2023, p. 241). An anonymous referee suggested that Frankena should be credited with the discovery of this fallacy due to a potentially earlier date of conception, but I want to side with Williamson, who states, "It is usual to reckon priority in science by date of publication"

(Williamson 2013, p. 31). Williamson, too, was writing about a female figure, attributing the first quantified modal logic to Ruth Barcan who published it first. Williamson argues that it should not be attributed to Rudolf Carnap because although he conceived of a quantified modal logic first, he published his version later. In exactly the same way, Stebbing should be credited with the discovery of the definist fallacy, not Frankena, given that Stebbing's text on it was published first.

In general, another example of identifying fallacies is illustrated through the "anthropomorphic fallacy" (Stebbing 1937, p. 15), which involves mistakenly attributing human qualities to non-human entities, such as plants, animals, or inanimate objects. To exemplify this, Stebbing referenced a comment made by Sir James Jeans, who attributed the enormity of the universe to the proportion of a human being within it:

The immensity of the Universe becomes a matter of satisfaction rather than awe; we are citizens of no mean city (Jeans 1930, p. 153).

Stebbing regards what Jeans states as contradictory:

Thus Jeans concludes that 'the vastness and emptiness of the universe' is only apparent; yet 'the immensity of the Universe' is a source of satisfaction to its citizens (Stebbing 1937, pp. 14–15)

She proposes the contradiction could be resolved as follows:

Possibly the obvious contradiction in the above statements is to be avoided by the change from a small to a capital U (Stebbing 1937, p. 15).

Stebbing considers it misleadingly anthropomorphic to describe the universe as a city and human beings as its citizens. It should be noted that Sir James (1933, p. 34) committed the same fallacy in his book *The new background of science* when he compares nature to a female human being (Jeans 1933, p. 67).

Stebbing (1937, p. 15) pointed out an additional example of the anthropomorphic fallacy in Sir Arthur Eddington's work in which he compared nature to a person, leading to confusion about nature being perceived as capable of making mistakes. The anthropomorphic fallacy Sir Arthur committed is clearly visible in the following passage:

Looking back over the geological record it would seem that Nature made nearly every possible mistake before she reached her greatest achievement Man – or perhaps some would say her worst mistake of all (Eddington quoted in Stebbing 1937, pp. 15–16).

Stebbing advises her readers to avoid emotional references in order to maintain a scientific mindset. In this mindset, it is important to avoid attributing intentional properties typical of humanity to nature, which does not have intentions. Even though man is a part of nature, humans and nature should be considered separate entities.

By analysing the above instances, I contend that Stebbing engages in informal logic by demonstrating that informal fallacies are indicative of weak arguments. Her identification of the two fallacies and the guidance she offers on each one directly contributes to the field of informal logic on fallacies, particularly in the detection of fallacies and the practice of reasoning well to prevent bad arguments.

## **6. Relation of Stebbing's work to informal logic: On argument evaluation**

In addition to discussing fallacies, this research has identified another aspect of informal logic present in Stebbing's work: argument evaluation. Stebbing discusses testing arguments and hypotheses (Stebbing 1930, pp. 3–4, 235, 296; 1939, p. 39; 1943, p. 180), although she does not employ specific terminology with regards to argument interpretation and evaluation.

Johnson's two-fold theory of argument, which includes his theory of analysis (in section 4), has a theory of evaluation known as 'theory of appraisal.' This theory refers to the task of coming up with the standards and criteria and types of evaluation and/or criticism for arguments. It involves questions regarding reconstruction, interpretation, identification and location of potential problems, prioritization of the problems, and critique of the argument (Johnson 2000/2009, p. 61). In contrast, Govier does not provide restrictions in her theory of argument interpretation and evaluation, which she takes to be a form of art—an art requiring insight and judgement. She observes that this art can be cultivated by practice and enhanced by the teaching of rules of various kinds, but it cannot be

exhaustively characterized by articulated rules, formal or otherwise (Govier 1987/2018, p. 313). Stebbing's approach in relation to argument evaluation follows a similar line of thought in that she does not have a specific theory of evaluation but provides specific instances, which resemble Groarke's (2021) argument testing. Stebbing uses several tools to test arguments, including changing 'you' to 'I,' testing the truth of the generalisation, and argumentation schemes.

Groarke's (2021) theory of argument evaluation involves testing arguments using tools to determine argument strength. Two crucial components of this process include:

Whether the premises should be accepted (depending on the accuracy and reliability in terms of support for the conclusion of the argument).

Whether the conclusion follows from the premises (deductively or inductively or a combination of both).

Considering this viewpoint, a logically successful (cogent, strong, good) argument provides acceptable premises with valid or inductively strong reasons for accepting the conclusion.

### *6.1 Testing arguments by changing 'you' to 'I'*

Stebbing (1939, p. 35) illustrates argument testing by quoting a letter sent to *The Times* by Dr. Lyttelton, who claimed that poverty and extensive family size act as incentives to improve people's morality. In his letter, he expressed that poverty is beneficial for children as it helps them develop their characters, that is, the traits of unselfishness and discipline. The argument posits that limited resources and challenging circumstances encourage children to be considerate towards others.

One correspondent sought to put the case for a big family. He wished to insist that there were good reasons why people should desire to have a large number of children. He assumed that we ought to try to establish conditions which would make for the development of fine characters, i.e. unselfish and disciplined men and women. 'There are two conditions,' he said, 'about which there is

no reasonable doubt.’ These conditions are: (1) that a child who has four or five brothers and sisters will develop good qualities from living with them in the same house; (2) that the home should be poor. He argued that children living in a large family where there is very little money will have to fend for themselves, and they will thus be forced to think of other people and be considerate. Accordingly, he concluded, ‘they learn by ten years of age that there is more joy in service than in sweets; more interest in the welfare of others than in their own.’ (Stebbing 1939, pp. 35–36).

Dr. Lyttelton committed a fallacy by supporting a general principle that is not applied to his own case, that is, making a special plea in one’s own favour. In fact, he is assuming the conditions of a poor family. Stebbing counterargues his view:

Does he seriously believe – we should ask him – that it would have been a moral advantage to his own family had he been poor? If he assents, then he ought in consistency to wish that he had given up his income, worked hard for a low wage, and lived in a poor, overcrowded neighbourhood. If, on the contrary, he is unwilling to apply the principle to the case of his own family, then he has fallen into a serious logical confusion...a safeguard against this mistake is to change *you* into *I*. (Stebbing 1939, pp. 36–37).

In this instance, Stebbing advises her readers to test the argument by reversing the pronouns: changing ‘you’ to ‘I,’ or in the case of Dr. Lyttelton’s argument, ‘they’ to ‘we,’ and applying the conditions to themselves to verify how they would feel or act under those conditions. Testing an argument by reversing ‘you’ and ‘I’ or changing ‘you’ to ‘I’ involves a shift from second (you) or third (they) person to first person (I) where one should not accept a second or a third person recommendation unless the same recommendation could be prescribed for oneself. This test prevents against making assumptions about a person’s current position, as noted by Stebbing. The above instance of Dr. Lyttelton’s claim is related to the concept of social situatedness (Janssen-Lauret 2022a, p. 54), where reasoning is affected by social settings. In Dr. Lyttelton’s case, poverty affected the social situation as the affluent failed to comprehend it.

Stebbing (1939, p. 38) provides another example of changing ‘you’ to ‘I.’ The wealthy express dissatisfaction with the provision

of the ‘dole’ to the unemployed, deeming it an unfair means of survival without working. This kind of a reasoning error in an argument can be avoided by changing ‘you,’ or ‘they’ as the case may be (as in the Dr. Lyttelton letter), into ‘I’ as recommended by Stebbing:

We often make bad blunders because we forget that what is true of one of us is true also of the other in the same circumstances. A rule that seems quite sound when I apply it to you may seem to me to be very unsatisfactory when you ask me to apply it to myself (Stebbing 1939, p. 37).

In the above scenario, as Stebbing states, it would be challenging to apply a situation to myself if I am not aware of any extenuating circumstance that may affect the outcome. Therefore, the strength of the argument would be weakened if the conditions are not understood (by changing ‘you’ into ‘I’), leading to an invalid inference. In this case, the exception contradicts the generalisation. As a result, one could reverse the positions and test for the divergence between ‘my interests’ and ‘your interests.’

### 6.2 Testing arguments using sufficient evidence

Stebbing illustrates another example of fallacy testing through the ‘begging the question’ fallacy, which is mentioned in the following quote using its Latin origin: *petitio principii*. Stebbing (1939, p. 148) quotes from a series of letters that appeared in the *Manchester Guardian*, identifying one of the main objections against fox-hunting as it being ‘an extremely cruel sport.’ One of the available options, Stebbing says, is to refute the objections against fox hunting or admit that the benefits outweigh the disadvantages. Regarding the first objection, Stebbing counter-argues that:

With regard to the first objection, it has frequently been maintained that ‘foxes enjoy the hunt.’ This amounts to a simple denial of the disputant’s contention that fox-hunting is cruel, so that unless evidence be offered in support of it, the reply is a *petitio principii*, i.e. it assumes the point in dispute ... One correspondent makes merry with the suggestion that the ‘antis’ must have had conversations with a fox in order to know what the feelings of a hunted fox are (Stebbing 1939, p. 149).

Stebbing advises eliminating conjectures by accepting a statement as true only if there is sufficient evidence to support the claim where it would not contradict our existing knowledge. In the fox-hunting case, it is not possible as humans are unable to determine whether the foxes enjoy the hunt. This case is related to two instances of social situatedness (Janssen-Lauret 2022a, p. 54): class and connection between humans and animals. Class situatedness is related to higher social classes' perceptions of exhilaration in hunting as a sport demonstrating egoistic nature, wealth, power, and a form of entertainment. In terms of animal and human social situatedness, a question could be posed as to whether the pain and vulnerability of the fox are being felt by the humans hunting them for sport.

### 6.3 Testing arguments by using a suggested test

Stebbing utilises a suggested test as a condition to assess the acceptability of premises. This method can be applied to compare the characteristics of an idea, a concept, or an object. Stebbing provides an example of using the answer of a suggested test to outline the characteristics of a ship (in this case, a cutter):

Let us imagine two people looking out to sea. A says, 'That's a cutter.' B replies, 'No; it is a sloop.' Here A's application of the class-name 'cutter' has been challenged ... Since we are not interested in the mythical dispute between A and B, but in the nature of A's reasoning, we may proceed to set out the steps of his reasoning at a length ... The steps may be set forth as follows:

*Alternatives:* It is a cutter or a sloop.

*Suggested test:* Has it a running bowsprit and a jib-stay?

*Argument:* No sloops have running bowsprits and jib-stays;

This ship has a running bowsprit and a jib-stay;

∴ This ship is not a sloop.

All cutters have running bowsprits and a jib-stay;

This ship has a running bowsprit and a jib-stay;

∴ This ship is perhaps a cutter.

But (it was agreed) it is either a cutter or a sloop;

And (it has been shown) it is not a sloop;

∴ This ship is a cutter (Stebbing 1934, pp. 20–21).

Further, Stebbing mentions that A would

. . . answer as follows: ‘It is a cutter, for not only is it single-masted, but it has a running bowsprit and no jib-stay.’ A has now presented his original statement as *the conclusion* of an inference; he has supported the statement by producing *reasons*. In thus reasoning A has made use of previous knowledge, involving generalizations, to suggest characteristics the possession of which affords a test of the correctness of the original statement (Stebbing 1934, p. 20).

The first part of the argument contains a deductive inference that the ship could be a cutter. Consequently, A uses the suggested test to answer the question (in this case, the answer is yes) to confirm that the characteristics of the ship are indeed that of a cutter. And the final part of the argument confirms the steps by which the suggested test resolved the question.

#### 6.4 Testing arguments using the truth of the generalisation

In some cases, an argument makes a generalisation that applies to all members of a class, and the question becomes whether the same characteristic can be applied across the group. To illustrate, Stebbing (1939, pp. 95–96) provides an example where Bertrand Russell, one of her fellow British analytic philosophers, makes a statement containing the phrases “well-dressed” and “average respectable women”:

Among average respectable women envy plays an extraordinarily large part. If you are sitting in the Underground and a well-dressed woman happens to walk along the car, watch the eyes of the other women. You will see that every one of them, with the possible exception of those who are even better dressed, will watch the woman with malevolent glances (Russell quoted in Stebbing 1939, pp. 95–96).

Stebbing counterargues Russell’s statement above as follows:

When I first read this statement, in 1930, I tried to test the truth of the generalization about the behaviour of women who see a well-dressed woman in the Underground cars. Unfortunately I was not able to detect any malevolent glances, possibly because I did not recognize the ‘well-dressed’ woman when she appeared . . . So far as my experience goes, this does not seem to me to be true, but possibly I am missing the significance of the qualification ‘*respectable women*’ (Stebbing 1939, p. 96).

I am not sure how the word ‘average’ is used in this context, but I assume that we may interpret the statement as asserting that in the case of *most* respectable women ‘envy plays an extraordinarily large part’ (Stebbing 1939, p. 96).

According to Stebbing, Russell’s reasoning contains two issues. First, the terms ‘well-dressed female’ and ‘respectable woman’ are vague and subjective, and they cannot even be tested. Stebbing (1939, p. 96) acknowledges that if the well-dressed female cannot be identified or if the other women do not express any malicious feelings, then the inference cannot always lead to a valid conclusion.

Second, using the term ‘average’ to describe a group of females is questionable. Stebbing interprets Russell’s use of ‘average’ as follows: “I am assuming, he means ‘most’; perhaps ‘half’ (or even less than half) would have been all that was justifiable” (1939, p. 96). Russell’s claim that every female is covetous is a sweeping generalisation. Furthermore, Stebbing (1939, p. 96) notes that Russell uses such language to attract attention.

## 7. Conclusion

Collectively this study supports the notion that informal logic is predominant in Stebbing’s key texts in terms of seeking sound arguments, identifying logical fallacies, thinking with the entire personality, and examining evidence in daily philosophical argumentation. In conclusion, Stebbing has her own theory of critical thinking and informal logic, which supports both the analysis and evaluation of arguments. Moreover, her use of real-life situational examples was novel at the time and remains relevant today. Dutilh Novaes (2021) fails to recognise Stebbing’s involvement in analysing real-life contexts. There is also some tension between her acknowledgment that Stebbing contributed to the analysis of ordinary argumentation as “a pioneer in this tradition” and her statement afterwards that Stebbing “did not become particularly influential for the development of argumentation theory.” Despite being little known by canonical early informal logicians and historians of informal logic, Stebbing’s works contained useful insight for argumentation in the UK and shaped the thought of some of the general public. This is demonstrated by an incident recorded in 1941. A teacher noted the

word ‘fallacy’ being used in an essay, and the student revealed that they encountered this word in Stebbing’s 1939 publication (Chapman 2013, p. 139). Her contribution in the 1930s was critical, evidenced by the breadth of the examples she drew to analyse arguments and the effective methods she employed to examine them. Therefore, I argue that Susan Stebbing should be considered a ‘fore-runner’ of informal logic for the period of 1930 to 1960, which marks her as being an early female practitioner of informal logic although she did not explicitly use the term ‘informal logic’ in her writings.

Limitations of this research include the need for a more in-depth study of Susan Stebbing’s critical thinking philosophy and her aspects of informal logic. Moreover, only selected works of Stebbing’s were included due to space limitations, preventing a deeper analysis of each component in her critical thinking philosophy. Suggestions for future research include an evaluation of critical thinking in relation to Susan Stebbing’s feminist concepts.

**Acknowledgements:** I would like to thank Frederique Janssen-Lauret, Teresa Kouri Kissel, Bin Liu, Lucija Duda, and the two anonymous reviewers for their careful reading of my manuscript and for their many insightful comments and suggestions, which motivated significant improvements.

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