A Pragmatic Account of Rephrase in Argumentation: Linguistic and Cognitive Evidence

Marcin Koszowy
Katarzyna Budzynska
Laboratory of The New Ethos
Warsaw University of Technology
Plac Politechniki 1
00–661 Warsaw, Poland
marcin.koszowy@pw.edu.pl

Steve Oswald
Dept. of English
University of Fribourg
Av. de l'Europe 20
CH–1700 Fribourg, Switzerland
steve.oswald@unifr.ch

Barbara Konat
Dept. of Logic and Cognitive Science
Adam Mickiewicz University
ul. A. Szamarzewskiego 89/AB
60–568 Poznań, Poland
bkonat@amu.edu.pl

Pascal Gygax
Dept. of Psychology
University of Fribourg
Rue P.–A.–de–Faucigny 2
CH–1700 Fribourg, Switzerland
pascal.gygax@unif

Abstract: In the spirit of the pragmatic account of quotation and reporting offered by Macagno and Walton (2017), we outline a systematic pragmatic account of rephrasing. For this purpose, we combine two interrelated methods of inquiry into the variety of uses of rephrase as a persuasive device: (i) the annotation of rephrase types to identify locutionary and illocutionary aspects of rephrase, (ii) the crowd–sourced examination of rephrase types to investigate their perlocutionary effects. As it draws on Waltonian insights and on empirical and experimental research on the (mis)use of rephrase, our approach allows us to ground a novel theoretically–informed and data–driven pragmatic account of rephrase.

Résumé: Dans l'esprit de l'explic-ation pragmatique des citations et des reportages proposés par Macagno et Walton (2017), nous esquissons une explication pragmatique et systématique de la reformulation. À cette fin, nous combinons deux méthodes d'en-quête interdépen-dantes sur la variété des utilisations de la reformulation en tant que moyen de persuasion: (i) l'annotation des types de reformulation pour identifier les aspects locutoires et illocutoires de la reformula-tion, (ii) l'examen participatif des types de reformulation pour étudier leurs effets perlocutoires. Comme elle s'appuie sur des idées de Walton et sur des recherches empiriques et expérimentales sur la (mauvaise) utilisation de la reformulation, notre approche nous permet de fonder un nouveau compte rendu pragmatique théoriquement informé et axé sur les données de la reformulation.

Keywords: pragmatics of rephrase, rephrase types, linguistic evidence, corpus study, cognitive evidence, crowd–source experiments

1. Introduction

On August 13, 2019, upon announcing his new restrictive immigration regulations, Ken Cuccinelli, acting director of US Citizenship and Immigration Services, was asked on National Public Radio whether he agreed that "Emma Lazarus' words, etched on the Statue of Liberty 'Give me your tired, your poor' are also part of the American *ethos*." Cuccinelli replied: "They certainly are: give me your tired and your poor who can stand on their own two feet and who will not become a public charge." This is an (arguably problematic) instance of rephrase, in which the speaker presents a contribution as compatible with an original statement, while altering its content for rhetorical gain.

This paper presents an integrated framework for the study of speech act–theoretic features of rephrase. To this end, we combine a corpus linguistic approach to the collection of evidence for the uses of rephrase in natural communication and survey methodologies, which we rely on to gather evidence for the rhetorical effects of rephrase. The project is aimed at building a comprehensive theory that accounts for locutionary, illocutionary and perlocutionary features of various rephrase types, structures, and strategies (*cf.* Austin 1962 for the speech act–theoretic tripartition between locution, illocution and perlocution). This work builds on the one hand on Macagno and Walton's pragmatics of quotation and reporting (presented in their book devoted to interpreting straw man argumentation, Macagno and Walton 2017) and on the recent body of work on the straw man fallacy (e.g., Lewiński and Oswald 2013; Oswald and Lewiński 2014; Konat *et al*. 2016; Visser *et al*. 2018; Schumann *et al*. 2019, 2020) on the other hand. Indeed, because the straw man is a fallacy of misrepresentation which presents an original statement in a modified way, it can be considered to be a fallacious instance of rephrase that speakers might resort to as a refutational move in discourse. We take it, thus, that insights into the study of the straw man fallacy can supply valuable building blocks for an account of its superordinate category, namely *rephrase*.

The concept of rephrase can be said to intuitively denote the dynamic phenomenon in discourse through which a speaker reformulates what has been previously said, while *simultaneously*

altering its content for rhetorical gain. Example (1) below comes from the analysis of a corpus constituted from an October 2017 BBC TV programme dedicated to the fiftieth anniversary of the British Abortion Act. The journalist, Anne Robinson, discusses abortion with nine people with conflicting views and asks them whether they think the current law is still relevant in 2017. In this particular excerpt, Diane Munday, a long–time advocate for the decriminalisation of abortion, discusses why the 1861 Act (which, among other things, criminalises abortion) should be repealed:

> (1–a) DIANE MUNDAY: *You get rid of the 1861 Act that somebody who procures an abortion outside the terms of the Act faces imprisonment for life.*
> (1–b) DIANE MUNDAY: *There are women in this country who have been imprisoned.*
> (1–c) DIANE MUNDAY: **This is <u>Victorian</u>.**
> (1–d) DIANE MUNDAY: **it's <u>draconian</u>.**[1]

In Munday's argumentation, (1–d) rephrases (1–c), which is it-self a premise used to qualify the statement that women in the UK have been imprisoned for aborting (1–b), thereby positioning the speaker against the 1861 Act (1–a). Thus, the utterance (1–d) is not presented as a premise itself, yet it belongs to the argumenta-tive structure, as it is a rephrase of the premise (1–c): Munday specifically rephrases "Victorian" into "draconian." If we take (1–d) to increase the emotional load of (1–c) through a form of inten-sification of pathos (see, e.g., Villata *et al.* 2018 for the effective-ness of pathos strategies), this move can be seen as an attempt to increase the chances that the audience will be persuaded.

In argumentative settings, a rephrase relationship is said to hold between two non–overlapping constituents of argumentation if both constituents occupy the same position in the argument struc-ture and fulfil the same argumentative function (Konat *et al.* 2016). Speakers may rephrase either their own words (self–

---

[1] The text in bold denotes propositions which are connected through the re-phrase relation (i.e., what has been rephrased, and how it was rephrased), while the underlined text points to key linguistic material which has been modified.

rephrase) or those of others (other–rephrase) for a wide range of rhetorically significant reasons (Visser *et al.* 2018), which are not restricted solely to aiming at increasing the emotional load of the message (pathos). Through rephrase, speakers may also clarify or emphasise the content of the message, help the audience memorise or comprehend it, manoeuvre within safer deniability options, display argumentative density and oratory skills, establish their own ethos along the dimensions of knowledgeability or eloquence, etc. This makes rephrase different from paraphrase (*cf.* Hirst 2003), which focuses on syntactic and semantic properties of similar text spans, rather than on their pragmatic and rhetorical features.

We claim that despite its crucial role in communication, there is insufficient work on the nature, varieties, uses, functions and effects of rephrase in argumentative contexts. Existing research on rephrase strategies is indeed scarce, and no full account of its (mis)uses in public argumentative discourse is available in the language sciences and the philosophy of language. To capture the complexity of the phenomenon, we thus propose to explore its locutionary, illocutionary and perlocutionary dimensions along the following lines.

To fill the gap existing in terms of a locutionary and illocutionary account of rephrase, we propose an account which is, on the one hand, theoretically informed by Walton's pragmatics of argument—and more specifically by his repertoire of straw man persuasive strategies (Macagno and Walton 2017)—and, on the other hand, driven by the empirical study of datasets containing uses of rephrase in natural communication. We see Macagno and Walton's broad catalogue of (mis)quotation and (mis)reporting varieties in the straw man technique as an ideal platform to start inquiring into different varieties and uses of rephrase.

Our approach to rephrase also allows us to merge locutionary, illocutionary and perlocutionary preoccupations through the combination of two methodologies. Corpus studies robustly yield statistical data about the most common functions and types of rephrase in dialogues, while survey research methods used to gather evidence from experimental designs make it possible to observe the persuasive effect of rephrasing a given propositional

content (in comparison with effects of "no–rephrasing" and arguing). We combine these two approaches in a novel way, by treating the output of the corpus study of basic rephrase types (such as generalisation and specification) as justified linguistic input for the design of questionnaires that are aimed to provide us with cognitive evidence of the perlocutionary effects of rephrase—specifically, in the study presented here, persuasiveness. The rationale of this proposal is the following: given the presence of rephrase in discourse (as established through corpus analysis, see Section 3.1 and 4.1), it makes sense to try to explain its uses by looking at its potential perlocutionary effects. In other words, the assumption would be that speakers use it because they expect to get rhetorical gain from it. In this study, and in order to illustrate the interdisciplinary nature of our proposal, we accordingly decided to take actual instances of rephrase and test their persuasiveness (see Section 4.2).

The paper proceeds as follows: we first discuss foundational work on the straw man fallacy and initial work on linguistic and cognitive approaches to rephrase (Section 2). Then, we show that rephrase is frequently used in argumentative contexts (Section 3.1) and that it is not reducible to another widely studied phenomenon of paraphrase, as rephrase exploits pragmatic and rhetoric similarity rather than syntactic or semantic closeness (Section 3.2). Finally, we identify linguistic evidence that two patterns of rephrase, namely generalisation and specification, are frequently employed by speakers in three different genres of natural communication (Section 4.1), and provide cognitive evidence that these patterns are not only frequently used, but that they are also rhetorically effective, i.e., that they are more persuasive than utterances which are devoid of rephrase (Section 4.2).

2. The pragmatics of straw man as a navigation map to the systematic study of rephrase

In this section we discuss earlier work conducted on the straw man fallacy which has paved the way for the proposal presented in this paper. In Section 2.1 we expose some useful aspects of the study of straw man discussed by Macagno and Walton (2017). Section 2.2. outlines two pragmatic perspectives on straw man that have

been so far studied independently of each other, but which we deem complementary: a linguistic and a cognitive one. We discuss these two approaches to make the core of our project explicit, which consists in combining them within one unified framework.

2.1. Foundations from Walton

One of the recent, and not yet sufficiently unexplored, strands amongst the plethora of Douglas Walton's ideas, is the pragmatic theory of argument that encompasses detailed studies of linguistic features and contextual environments in which arguments are performed. Walton's general pragmatic take has been made explicit in the title of his 2008 textbook, *Informal Logic. A Pragmatic Approach* (Walton 2008) in which "the need for a practical approach to the study of arguments" (p. xii) along with the urge to study "pragmatic structures of discourse analysis" (p. xiii) were emphasised. More specifically, for Walton, it is the focus on a dialogue environment in which arguments are performed that makes the theory "pragmatic:"

> Some of the most important types of contexts of argumentation will be profiles of sequences of question–answer dialogue on disputed objects. Thus generally the theory of informal logic must be based on the concept of question–reply dialogue as a form of interaction between two participants, each representing one side of an argument, on a disputed question (Walton 2008, p. xii).

One of the most robust exemplifications of this pragmatic approach in Walton's writings is the monographic study of straw man, co–authored with Fabrizio Macagno, titled *Interpreting straw man argumentation. The pragmatics of citation and reporting* (Macagno and Walton 2017). Because the straw man is an argumentative technique that is potentially subject to numerous manipulations, the authors define one of their main goals as "to provide instruments from pragmatics and argumentation theory that can be used for assessing whether a quotation is correct and whether the original speaker has been correctly interpreted" (Macagno and Walton 2017, p. xiv). Our main motivation for the study of re-

phrase is similar: as rephrase is also subject to numerous manipulations, there is a need for disentangling its legitimate and illicit uses (see also Boogaart et al.'s recent study (2020) of commitment denial, which targets cases of misrepresentation, to which instances of other–rephrase arguably also belong). Given that rephrase does not solely consist of reporting a speaker's words, our further goal is to extend the category of misuses of rephrase, so that it captures not only instances where a speaker reports what another speaker said, but also instances of proper and improper uses of rephrasing one's own words.

As a result, both of these approaches focus on political discourse as a fertile playground to track criteria related to the quality of reporting and rephrase. Political discourse is often adversarial and conducive to a variety of verbal disputes. Macagno and Walton argue, for instance, that "the lack of serious criteria for distinguishing when a party's position or commitments are correctly interpreted and presented, and when they are distorted and manipulated" (2017, p. xiii) was in part responsible for voters' disinterest in the 2016 US presidential debates. In line with this observation, we select political debates as one of our corpus resources and then aim to broaden this research perspective in two substantial ways. First, apart from a corpus study of rephrase in selected debates from the US 2016 presidential elections, we also investigate it in the BBC Radio 4 *Moral Maze* program and in the BBC One *Question Time* program. By extending our corpus in this way, we gather material allowing us to increase the prospects of better capturing the variety of uses of rephrase in various discourse genres. Second, with our corpus methodology we broaden our research perspective by collecting statistical data about frequencies of rephrase in argumentation and the patterns of rephrases used in natural contexts.

2.2. Linguistic and cognitive aspects of the straw man fallacy

Previous studies have successfully applied linguistic methods (Section 2.2.1) and cognitive methods (Section 2.2.2) to explore the straw man fallacy. These lay the foundations for a new methodological paradigm in argumentation studies allowing us to in-

vestigate the phenomenon of rephrase from the point of view of locutionary and illocutionary aspects of the use of rephrase as well as from the point of view of its perlocutionary effects.

2.2.1. Linguistic aspects

Extant work on the linguistic aspects of the straw man fallacy consists of two parts: the foundational study of rephrase, and the interpretation of straw man argumentation as a misuse of rephrase.

In their work, Konat *et al*. (2016) have laid the methodological foundations for the linguistic study of rephrase in argument structure which can then be applied in technologies of argument mining and argument analytics. The first corpus of rephrases, which analysed data from the genre of citizen dialogue, was used to develop a formal model of the rephrase relation and to describe linguistic characteristics of its different categories. In particular, the authors claim that three premises, which rephrase each other in an argument structure, should be considered neither as three separate premises nor as one premise. Instead, they should all be connected to the conclusion via inference relations and, at the same time, they should be connected to one another via rephrase relations. As a result, they are represented as three premises which partially contribute original information, but which partially overlap at the same time. Furthermore, Konat *et al*. argue that a model of rephrase, which accounts solely for the formal properties of propositional relations involved in rephrase, does not do full justice to the complexity and expressivity of this phenomenon. Various discourse categories and communicative intentions have been identified in the corpus, such as confirming, summarising, clarifying and so on, which clearly demonstrates that the study of rephrase needs to account for its dialogical and pragmatic aspects.

This gap was addressed in (Visser *et al*. 2018) which uses Inference Anchoring Theory (IAT, Budzynska and Reed 2011) to investigate the straw man technique as a misuse of rephrase. The IAT framework allows for bringing locutionary and illocutionary aspects of communication to the surface. Based on empirical corpus analysis, it has been shown that the straw man technique applies a dialogical template which consists of three locutions: the first one contains a propositional content p; the second locution

contains a content *p'* which is linked to the content *p* via rephrase relation; and the last locution contains a content not–*p'* which is linked to the previous content *p'* via conflict relation. Moreover, the first and third locutions anchor an assertive illocutionary force such as asserting or assertive questioning, while the second locution may introduce the propositional content *p'* via assertion, but also via challenging illocutionary force *Why p'?*.

These studies are a point of departure for proposing a systematic and general account of rephrase supported by empirical data about frequencies of rephrase types in natural communication (see Section 4.1).

2.2.2. Cognitive aspects

In their joint work on the straw man fallacy, Lewiński and Oswald (Lewiński and Oswald 2013; Oswald and Lewiński 2014) have developed an integrated pragmatic framework which combines a *normative* dimension, offering criteria to identify instances of the straw man fallacy, and an *explanatory* dimension meant to account for its deceptiveness. One of the advantages of this proposal, next to extant accounts, lies in its ability to capture perlocutionary aspects of the straw man in a cognitive pragmatic framework. While the refutational function of the fallacy is suitably assessed through a dialectical framework (*cf.* Lewiński 2011; Walton and Macagno 2010; van Eemeren and Grootendorst 1992), research on its form, and more specifically on the linguistic and pragmatic aspects of misrepresentation, has attracted less attention in argumentation theory. In other words, cognitive and verbal mechanisms of successful commitment misattribution (Oswald 2016), which are responsible for the deceptiveness of straw man fallacies, have not been extensively investigated until very recently.

Through an empirical investigation of the persuasiveness of the straw man fallacy, Schumann, Zufferey and Oswald (2019, 2020) offer an experimental paradigm designed to test the effectiveness of different linguistic and cognitive parameters that can be exploited to make straw man fallacies less noticeable, and therefore more persuasive. The results of these experiments are compatible with the cognitive pragmatic framework laid out by Lewiński and Oswald (2019), as specific linguistic and pragmatic features are

shown to affect the persuasiveness of the misrepresentation involved in straw men fallacies. In particular, experimental results show that the nature and function of connectives used to fallaciously misattribute commitments to a speaker and the explicit/implicit nature of the resemblance between the straw man and the original statement that it attacks play an important role in the persuasiveness of this fallacy.

With these encouraging results on locutionary, illocutionary and perlocutionary aspects of the straw man fallacy and a theoretical framework to host them, the time seems right to try to extend this linguistic and empirical investigation to the phenomenon of rephrase, of which the straw man fallacy is one specific type. In what follows we lay down the grounds for this interdisciplinary project.

3. Rephrase in argumentation

In this section, we demonstrate that rephrase plays an important role in argumentative discourse and that it is frequently used by speakers in a range of genres of natural communication (Section 3.1). We then show that rephrase cannot be reduced to the phenomenon of paraphrase, even though they might seem to be closely related, since rephrase is used to fulfill pragmatic and rhetorical goals of communication rather than syntactic and semantic functions of language (Section 3.2).

3.1. Frequencies of rephrase in natural communication

The role of rephrase in argumentation has been recognised and acknowledged since ancient rhetoric, in particular within the study of rhetorical figures such as antimetabole and anaphora (*cf.* Fahnestock 1999). In antimetabole, the order of the terms in the first clause is reversed in the second. J. F. Kennedy's famous words, "Ask not what your country can do for you; ask what you can do for your country" and the motto A. Dumas attributed to his Three Musketeers, "One for all, all for one," are examples. As for anaphora, it consists in repeating a word or phrase at the beginning of neighboring clauses, such as in Dr. Martin Luther King Jr.'s

famous speech, in which the expression "I have a dream" is used sentence–initially eight times.

This important role of rephrase is still widely exploited by speakers in real–life practice. The excerpt below is taken from the 2016 presidential TV debate held at Hofstra University, and moderated by Lester Holt. In (2–b), Donald Trump rephrases the material in (2–a) from "presidential look" through "look" and "stamina" to "tremendous stamina." Notice that this maneuvering is targeting Clinton's ethos, questioning whether or not she has a suitable character to take on the responsibilities of president of the United States. Furthermore, while Trump initially presents Clinton's abilities as a matter of *fact* ("she doesn't have"), this content is subsequently presented as the object of a previous *utterance* ("I said") and, finally, as a matter of *belief* ("I don't believe").

(2–a) HOLT: *Mr. Trump, this year Secretary Clinton became the first woman nominated for president by a major party.* **Earlier this month, you said she doesn't have, quote, "a <u>presidential look</u>."** *[...] What did you mean by that?*
(2–b) TRUMP: **She doesn't have the <u>look</u>. <u>She doesn't have the stamina</u>. <u>I said</u> she doesn't have the stamina. And <u>I don't believe</u> she does have the stamina.** *To be president of this country,* **you need <u>tremendous stamina</u>**.
(2–c) HOLT: *The quote was, "I just don't think she has the presidential look."*
(2–d) CLINTON: *You know, he tried to switch from looks to stamina*.

Both Lester Holt and Hillary Clinton see through the attempt and reveal his disparaging strategy: while Holt, in (2–c), cites verbatim the full original quotation, Clinton, in (2–d), explicitly exposes Trump's frame–shifting regarding her ethos from appearance to strength. This example testifies to the sophisticated dynamics of rephrased arguments and suggests that the latter cannot be reduced to the functional categories of support and conflict, as this would allow us neither to express the nuances of Trump's rhetorical manoeuvring nor to explain the rationale behind Holt and Clinton's responses. In fact, those responses can be further

explained by employing the notion of ambiguity as proposed by Hamblin (1970, pp. 284–285) who holds that the issue of ambiguity is a dialectical problem that should best be dealt with as a procedural point called the "point of order" rather than as a substantial or a topical point (see also Macagno 2011, pp. 368–370). By using this framework, Clinton's response (2–d) can be viewed as raising the "point of order" of ambiguity by claiming that Trump took an unambiguous statement as potentially ambiguous, and attributing to it a meaning related to stamina, which is not the default meaning. This interpretation additionally shows a new path for future inquiry that might focus on employing Hamblin's take on ambiguity as one of the theoretical tools to explain the functions of dialogue moves of rephrasing.

In our corpus study (see e.g., Peldszus and Stede 2016; Musi and Rocci 2017; Visser et al. 2020 for other corpora of argumentation), we annotate rephrases using the framework of Inference Anchoring Theory, IAT (Budzynska and Reed 2011), which allows us to analyse them from a pragmatic and dialogical perspective of speech activities: IAT captures *locutionary acts* which have been performed during a dialogical exchange between speakers as well as *illocutionary forces* which speakers use to introduce specific propositional contents. Figure 1 shows an IAT diagram which represents the utterances (2–a) and (2–b) in the example above. On the right–hand side, the dialogical structures are annotated: *locutions*, which record speakers, who performed them, and the verbal material used by these speakers; and *transitions*, which bring to the surface a reply structure in the dialogue, showing which locutions are performed as a reply to which locutions.

On the left hand side of Figure 1, the contents of dialogical structures are diagrammed: *propositions*, introduced in the locutions, and *propositional relations* holding between these propositions, which in IAT can be of three types: inferences (when a premise supports a conclusion; also called supports or pro–arguments), conflicts (when two propositions cannot be both true; also called attacks or con–arguments), and rephrases (when two propositions occupy the same position in the argument structure and fulfil the same argumentative function).

In the middle of the diagram, *illocutionary connections* are analysed. These link dialogical structures to propositional structures. Such connections are modelled after the concept of illocutionary forces, elaborated in speech act theory (*cf.* Searle and Vanderveken 1985). Intuitively, they express the communicative intentions the speaker associates with a given propositional content, i.e., the speaker can assert *p*, suggest *p*, request *p*, order *p*, promise *p*, congratulate that *p* and so on. The key claim of IAT is that not only propositions, but also propositional relations are linked with (anchored in) dialogical structures via illocutionary connections: the inference relation between the first proposition and the last proposition is analysed as being introduced with the illocution of arguing. In the current version of the IAT annotation scheme, the rephrase relation is always anchored via restating the illocutionary connection, as a more–fine grained categorisation of illocutionary acts, involving rephrases, is still required.

Notice that the first top locution and the fifth locution have a nested representation, as they contain reported speech. In the first case, Holt reports what Trump has said, thus in the diagram the propositional content of Holt's locution is what Trump has said (the node in the middle of the first row from the top). Yet, what Trump has said is a locution itself, therefore its content is further unpacked as a node on the left: "Clinton doesn't have a presidential look." The same holds for the fifth locution—the only difference is that this is self–referential reported speech (Trump reports on what Trump has said). The last propositional content on the left–hand side of this row, i.e., "Clinton doesn't have the stamina," has been uttered in the previous dialogical move, thus the middle locution, i.e., "Donald Trump: Clinton doesn't have the stamina," takes as a content the node above it. This means that this move constitutes a pure repetition rather than a rephrase.
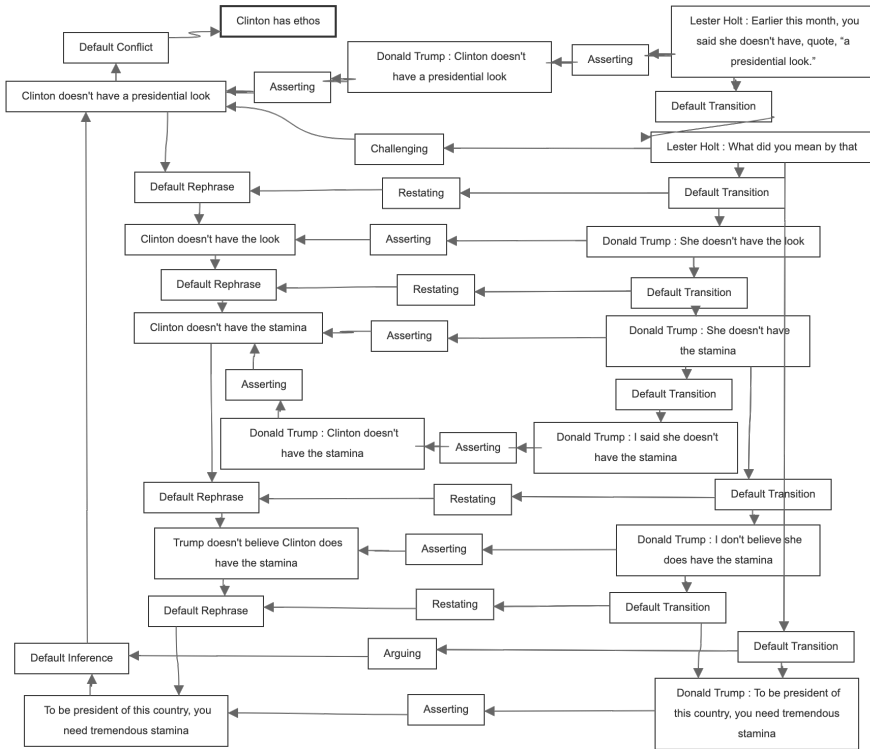
Figure 1. IAT diagram representing argumentation structures in Example 2 from a pragmatic perspective.

Finally, IAT allows for annotating *ethotic structures* which unpack the maneuvering that targets Clinton's ethos as described above: the analysis in Figure 1 indicates that the proposition "Clinton doesn't have a presidential look" aims at attacking Clinton's character captured by the node "Clinton has ethos." In other words, by reporting what Trump said about Clinton, Holt implies that Trump has been attacking Clinton's ethos. Trump's defence strategy is to try to move away from "presidential look" to a safer or less controversial phrase "tremendous stamina" by performing four rephrases and a repetition in order to use the final proposition "to be president of this country, you need tremendous stamina" as a premise which supports that "Clinton doesn't have a presidential look."

Table 1 contains the preliminary findings from our corpora annotated according to the IAT framework presented above. The

empirical analysis confirms that rephrases are frequently used in argumentative and persuasive contexts. The study demonstrates that for almost 7k elementary discourse units (EDUs)[2] and over 4k propositional relations between EDUs across different genres, rephrase is far from being a marginal phenomenon: even though rephrase is on average 2.7 times less dense than inferences, i.e., 23% vs. 62%, respectively, it is 1.5 times more frequent than another broadly studied type of argument, i.e., conflict, i.e., 23% vs. 15%. In some specific types of discourse, this proportion can be even more extreme: for example, in our corpus of a popular BBC One TV program, *Question Time*, rephrases constitute 36% of propositional relations, while con–arguments only 8% (i.e., rephrase is 4.5 times more frequent than conflict). The more fine–grained analysis of types of rephrases used in natural communication is presented in Section 4.1 with Table 2 containing statistics for three selected corpora from the list in Table 1 (i.e., for Moral Maze 2019, US2016 Presidential TV debates and Question Time BBC One).

Other empirical work confirms the tendency observed in our data. In Da San Martino *et al*. (2019), 18 techniques of propaganda were manually annotated in a corpus of news articles consisting of almost 7.5k sentences. One of the techniques called in this paper "repetitions," which are in fact what we call rephrases, was the third most commonly used rhetorical device in their data, constituting 10% of the corpus. Interestingly, their study shows that the technique of straw man was the least frequently used with just 0.2% occurrences.

Other empirical work confirms the tendency observed in our data. In Da San Martino *et al*. (2019), 18 techniques of propaganda were manually annotated in a corpus of news articles consisting of almost 7.5k sentences. One of the techniques called in this paper "repetitions," which are in fact what we call rephrases, was the third most commonly used rhetorical device in their data, constituting 10% of the corpus. Interestingly, their study shows that the

---

[2] EDUs are propositions which can be connected through one of three propositional relations considered in this study: support relation, conflict relation or rephrase relation.

technique of straw man was the least frequently used with just 0.2% occurrences.

Corpus	Date	Size (EDUs)	Propositional relations		
			Inference	Conflict	Rephrase
Moral Maze	2019	882	254 (82%)	30 (10%)	25 (8%)
US2016 Presidential TV debates	2017	1,473	505 (72%)	79 (11%)	121 (17%)
BBC TV program on abortion	2017	683	274 (58%)	106 (22%)	95 (20%)
Dispute mediation	2016	2,311	947 (61%)	279 (18%)	326 (21%)
Fracking debates in Germany	2019	1,071	343 (50%)	103 (15%)	236 (35%)
Question Time BBC One	2020	589	204 (56%)	29 (8%)	132 (36%)
TOTAL		**6,989**	**2,527 (62%)**	**626 (15%)**	**935 (23%)**
			4,088		

Table 1: Our corpora ordered from the lowest to the highest density of rephrase relation.

While both pro– and con–arguments attract a lot of attention in the literature, rephrases remain still underexplored in argumentation theory, despite evidence that they are frequently used in natural contexts. In the next section, we show that new theoretical foundations are required to build a model of rephrase, as this communicative structure is not reducible to any other phenomena which have been previously studied. In particular, we argue that

paraphrase, which might resemble rephrase, fulfils different goals than those of rephrase.

3.2. Semantic similarity in rephrase

The account of the rephrase structure proposed in (Konat *et al.* 2016) focuses on its functional aspect: rephrases should occupy the same position in the argument structure and fulfil the same argumentative function. This initial account puts no conditions on semantic similarity between rephrases, and we follow this path, given our analysis confirming that the semantics of rephrase does vary depending on the speaker's intentions and rhetorical goals.

We propose to look at the semantics of rephrase from the computational point of view, as we intend our model to be ready for implementation in AI argument technologies. In the field of argument mining, semantic similarity measures proved to be effective in recognizing premise–conclusion relations: in general, premise–conclusion pairs tend to be more similar than non–related statements pairs (Lawrence and Reed 2015). We import this approach to rephrase pairs using distributional semantics vector models for similarity measures. Distributional semantics models used here represent a usage–based approach and are constructed automatically on large corpora, representing semantic similarity as the chance of two words being used in the same textual context (Boleda 2020).

In Example (1), "Victorian" in (1–c) is rephrased into "draconian" in (1–d)[3]. From the semantic perspective, the similarity measure between "Victorian" and "draconian" is very low (0.097) to the extent that it is close to non–related words (for comparison, the similarity measure between "Victorian" and "banana" is 0.17). The actual synonym, i.e., the word closest in meaning to "Victorian," is "Edwardian" (0.68). This means that substituting the word "Victorian" with "Edwardian" would yield an acceptable para-

---

[3] We used the "en_vectors_web_lg" model distributed with the Spacy framework (https://spacy.io/usage/vectors–similarity) to test the similarity between the word that was rephrased and the rephrasing word. The model is trained on the Web corpus, returns values from 0 to 1 representing the cosine similarity between word vectors.

phrase, as it retains the closest meaning. However, substituting the linguistic material of (1–d) (i.e., "draconian") by (3–d) below would result in cancelling the persuasive force of the argument. That is, the emotional load or pathos, instead of increasing, would in fact decrease: the function and meaning of (3–d) in the context of this argument would thus be difficult to understand.

> (3–a) DIANE MUNDAY: *You get rid of the 1861 Act that somebody who procures an abortion outside the terms of the Act faces imprisonment for life*.
> (3–b) *There are women in this country who have been imprisoned*.
> (3–c) *This is Victorian*.
> (3–d) **It's Edwardian**.

Going back to Example (2), "stamina" in (2–b) was used to rephrase "look" from (2–a), which was then called upon by Clinton in (2–d) as illegitimate frame–shifting from appearance to strength. Here again, the similarity measure between "look" and "stamina" is fairly small (0.099), while the ten closest synonyms for "stamina" are "endurance" (the highest measure of 0.72) followed by "vigor," "strength," "willpower," "vitality," "fortitude," "agility," "libido," "alertness," "dexterity," which are all far away from the domain of physical appearance. For the word "look," the model reveals that the closest synonym is "pretty" (0.67). As the utterance "Clinton is not pretty enough to be president" is obviously not acceptable in the public discourse, the speaker disregards semantic similarity and shifts towards "stamina" in order to achieve his rhetorical effect.

The lack of close semantic similarities sets rephrase apart from paraphrase (*cf*. Bhagat and Hovy 2013 for a characterisation of paraphrase). We conclude that rephrase is not a primarily semantic phenomenon, therefore we shift our attention to a pragmatic and rhetorical account of rephrase in argumentation, and in particular – to its locutionary, illocutionary and perlocutionary (persuasive) aspects.

4. Rephrase schemes

In what follows, we introduce our corpus study of rephrase types (Section 4.1), which in turn we use to gather input data for the experimental study of the persuasiveness of rephrase (Section 4.2).

4.1. Frequencies of schemes of rephrases

Our motivation for studying the frequency of rephrase schemes resonates with a widespread approach in argumentation studies, aimed at distinguishing typical patterns of reasoning (e.g., Walton, Reed and Macagno 2008). Our goal is to develop a methodological account which may allow argumentation theorists to capture a rich variety of rephrase strategies within a coherent framework (in the vein of e.g., Walton and Macagno 2015). To this end, three corpora with different profiles were selected: a corpus "Moral Maze 2019" with a low frequency of rephrase (8%); a corpus "US 2016 TV Presidential Debate" containing a moderate number of occurrences of rephrase (17%); and a corpus "BBC Question Time 2020" with the highest density of rephrase as shown in Table 1 (36%). Moreover, all three datasets are from distinctive genres: the first consists of two 2019 episodes of the BBC Radio 4 *Moral Maze* programme in which participants discuss moral aspects of current political and social events; the second corpus contains three TV debates from the presidential campaign in the US in 2016; the last corpus consists of four episodes of the BBC One TV *Question Time* programme in which guests from politics and the media answer questions from members of the public (all corpora available at https://corpora.aifdb.org/).

In these corpora, all three types of propositional relations (namely, support, conflict and rephrase) were already annotated (their occurrences are summarised in Table 1). For this study, two analysts further re–annotated rephrase relations into one of three types: the scheme of generalisation, the scheme of specification and other types of schemes (see Table 2 for occurrences of these schemes in each corpus).[4] The selection of these two schemes was

---

[4] Generalisation and specification are relationships that semantically operate in opposite directions. For example, while generalisation may consist in moving from species to genus, specification will consist in moving from genus to

motivated by the observation, in previous studies, that speakers often used rephrase to generalise or specify opinions or facts.[5] The results of the reannotation confirm the initial notice and reveal that the total frequency of these two schemes across all three corpora is 86% (with the dominance of specification over generalisation, 63% vs. 23%, respectively). For inter annotator agreement, a third analyst annotated a sample of 10% of our dataset, obtaining Cohen's Kappa of 0.62 (substantial agreement).

species. Several semantic scales, such as scales of quantification, axiological scales, partitive (i.e., whole–part) scales can be exploited in rephrase, in order to generalise (in one direction on the scale) or to specify (in the opposite direction on the scale).

[5] For example in the *Question Time* program on COVID–19, the proposition "Certainly you are desperate to get out of the house" was rephrased with the generalisation scheme to "You will not be alone in that," while the proposition "Now the reading and research I have been doing about South Korea is they not only use track and trace but also as well use some other data that's freely available" was rephrased with the specification scheme to "They use CCTV system and also as well from credit card spending and spending like that."

Corpus	Size (EDUs)	Rephrase–GS		Rephrase–Other	Total
		Generalisation	**Specification**		
Moral Maze 2019	882	20 (80%)		5 (20%)	**25**
		7 (28%)	13 (52%)		
US 2016 TV Presidential Debate	1,473	29 (85%)		5 (15%)	**34**
		7 (21%)	22 (64%)		
BBC Question Time 2020	585	89 (88%)		13 (12%)	**102**
		22 (22%)	67 (66%)		
Total	**2,940**	**138 (86%)**		**23 (14%)**	**161**
		36 (23%)	**102 (63%)**		

Table 2: Our corpora ordered from the lowest to the highest density of rephrase schemes of generalisation and specification.

The high density of these two schemes in our corpora calls upon the need to elaborate a more fine–grained typology of subtypes of generalisation and specification, yet, for this particular study, these schemes' overall high frequency clearly demonstrates that they play an important role in real–life argumentative practices. In the next section, we investigate whether the frequent use of these types of rephrase is in fact justified by their actual persuasive effects. In other words, we experimentally manipulate different

argumentative strategies and evaluate the extent to which rephrase acts as a persuasive catalyst, at least compared to statements where no particular strategy is used.

4.2. Perlocutionary effects: persuasiveness of rephrase

Based on the results of the corpus study reported in the previous section, we outlined an experimental design meant to test the persuasiveness of rephrase, to which we now turn.

4.2.1. An experimental approach

While the corpus component of this study is chiefly concerned with *locutionary* and *illocutionary* aspects of the speech act of rephrase, its experimental component addresses the *perlocutionary* aspects of this speech act.[6] As such, it is meant to provide evidence for the persuasive role of rephrase when used in discourse. Given its frequency in our corpora, we sought to investigate whether rephrase has intrinsic perlocutionary effects in terms of persuasion.[7]

In order to establish whether there is such an effect, our experimental design featured three conditions:

1. rephrase condition: items which contained corpus collected instances of rephrase (segment 1 + segment 2, where segment 2 is the rephrase).
2. no–rephrase condition: items which did not contain rephrase (segment 1 + segment 2, where segment 2 was an informationally–neutral segment).
3. inference condition: items which contained another argumentative device, in this case argument from

---

[6] Let us highlight that in his William James Lectures, Austin's very first example of perlocutionary act is that of persuasion (Austin 1962, p. 101).
[7] All items have a minimal context, which is supplied by the item's headline (see Table 3 below). This was meant to give participants a sense of what each item is about and to improve, without running the risk of introducing too much information—and thus the risk of generating unforeseen confounds. Despite the variety of topics represented in our items, our consistent results seem to indicate that participants did not experience any particular difficulties in evaluating the plausibility of the information shared.

positive or negative consequences (segment 1 + segment 2, where segment 2 is the argument from consequences).

The *rephrase* and *no–rephrase* conditions were needed to establish whether the presence of rephrase has an effect compared to its absence, and we added the *inference* condition to make sure that any effect observed in the *rephrase* condition cannot be attributed to the participants' sensitivity to the mere presence of an argumentative strategy, whatever that may be. Indeed, the *inference* condition allows us to rule out the explanation that any effect observed in condition 1 is caused by the presence of an argumentative device, but not by rephrase specifically. We selected the category of argument from (positive and negative) consequences because it was the most frequent inference type out of the 5 categories (argument from expert opinion, argument from popular opinion, argument from correlation to cause, argument from consequences, other) that were coded in the corpus study.

4.2.2. Hypotheses

We expected *rephrase* to be more persuasive than *no–rephrase* because we expected *rephrase* to be perceived as an argumentative strategy. In turn, we did expect *inference* to be more persuasive than *rephrase*, because the argumentative nature of arguments from consequences is more salient than the argumentative nature of rephrase, which many times is likely to pass for 'mere' paraphrase.

4.2.3. Participants

Participants were 69 native English speakers, all recruited on the Prolific© participant database. (mean age: 32.73; range 18–71; 45 female, 24 male and 0 non–binary). Participants were paid £3.13 for taking the survey. All participants gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki and with the ethical guidelines of the Department of Psychology from the University of Fribourg.

4.2.4. Material and procedure

All rephrase items were drawn from naturally occurring examples collected in the corpora summarised in Table 2 above.[8] Every item was structured in the same way: segment 1 + segment 2. In all conditions, segment 1 was kept constant and all experimental manipulations were exclusively performed on segment 2. A set of 32 instances of rephrase was extracted from the corpora, giving us all items of *rephrase* (see Appendix for the full set of materials, and see Table 3 below for an example). Then, we created 32 instances of segment 2 to complement the 32 instances of segment 1 for each of the remaining two conditions: we thus created 32 neutral instances of segment 2 for *no–rephrase* and 32 instances of argument from consequences for *inference*. This gave us a total of 96 items.

For our *rephrase* condition, we selected 16 instances of *specification* and 16 instances of *generalisation*, to avoid participants getting used to only one type of rephrase. For the same purpose, we also created an equal number of arguments from positive and negative consequences (16/16) for our *inference* condition. For our *no–rephrase* condition, we simply ensured that segment 2 neither was argumentative, nor added any new information to segment 1. All items were checked to make sure that they had similar lengths across conditions to avoid introducing an unwanted confound in our items. All items were randomly presented to the participants.

Participants were told that they would be presented with 96 statements taken from debates on contemporary issues. Each statement that they saw was then introduced by a *debate issue* setting the context of the statement. The debate issue was always presented as a headline (i.e., at the top of the page, in bold). For each statement, participants had to evaluate its persuasiveness on a slider scale from "not at all persuasive" to "very persuasive."[9] To

---

[8] For the full list of items see https://bit.ly/3eKVT74.

[9] There is a risk that participants' lay understanding of the term 'persuasive' might not have captured what we intended to measure and, instead, that it captured something like 'clarity', as pointed out by an anonymous reviewer. We have reason to believe that is not the case for two reasons. First, our results indicate that rephrased items pattern more with the items in the *inference*

give their answer and set the pointer (which was absent at first to avoid any anchoring effect), the participants had to click on the slider bar, and could then move the pointer as they wished.

Headline	Statement about a debater's conversational behaviour in a debate	
	Segment 1	Segment 2
Rephrase	It's disgraceful to behave in such a way.	This country also thinks it's disgraceful.
No–rephrase	It's disgraceful to behave in such a way.	This is how I would describe this behaviour.
Inference	It's disgraceful to behave in such a way.	This will have an impact on people's support.

Table 3. Sample item

4.2.5. Results

In order to include both participants and items as random factors in all analyses and to avoid any fixed effect fallacies by separating by–participant and by–item analyses (Clark 1973; Brysbaert 2007), data were analysed by fitting linear mixed–effects models using the R software (R Development Core Team, 2010, version 3.1.2). Models were tested using the *lmer()* function of the lmer4 package of R, and model comparisons were assessed using the *anova()* function, which calculates the Chi–square value of the log–likelihood in order to evaluate the difference between models, following Baayen's (2008) procedure. Models were compared using a forward–testing approach, from the simplest model (random model) to more complex ones, as advocated by Field (2014).

---

condition, which was more obviously argumentative—and not with the items in the *no–rephrase* condition. Second, the 2nd segment of the items in the *no–rephrase* condition was designed to clarify the scope of segment 1: that is, they did not supply an additional argument, but they qualified segment 1 through a clarification of the latter. Because persuasiveness scores were higher for the *rephrase* condition and lower for the *no–rephrase* condition (which thus included 'clearer' items) we therefore assumed that participants did not confuse it with clarity.

We added random slopes to the model and evaluated their contribution to the models by using log likelihood tests (as recommended by Barr, Levy, Scheepers and Tily 2013).

Our initial model—the null model—encompassed random intercepts for both Participants and Items. When adding Segment 2, our random model did improve, $\Delta\chi2 = 155.17$, $\Delta df = 2$, $p < .001$. The model did not converge when further adding Segment 2 as a random slope per participant (even with *bobyqa* optimizer). The final model therefore included Segment 2 as fixed factor, Item and Participant as random intercepts, and Segment 2 as random slope per Item.

The final model (see Table 4 and Figure 2) showed that all conditions were different, with items featuring *inference* in Segment 2 being perceived as more persuasive than items featuring *rephrase* in Segment 2, the latter being more persuasive than items featuring an informationally neutral Segment 2 (*no–rephrase*).

	SEGMENT 2		
	B	CI	p
Fixed parts			
(intercept)	48.12	43.03 – 53.21	**<0.001**
No–rephrase	−5.08	−7.39 – −2.77	**<0.001**
Inference	3.12	0.35 – 5.89	**0.035**
Random parts			
$\sigma 2$	467.28		
$\tau 00$ ID	144.9		
$\tau 00$ ITEM	141.69		
$\tau 11$ ITEM.CONDITION No–rephrase	30.94		
$\tau 11$ ITEM.CONDITION Inference	50.28		
$\rho 01$ ITEM.CONDITIONo–rephrase	−0.7		
$\rho 01$ ITEM.CONDITIONInference	−0.48		
ICC	0.35		
N ITEM	32		
N $_{\text{ID}}$	69		
Observations	6624		
Marginal R^2 / Conditional R^2	0.016 / 0.363		

Table 4. The final model with Segment 2 as fixed factor, Item and Participant as random intercepts, and Segment 2 as random slope per Item. Arguments from rephrase condition as reference.
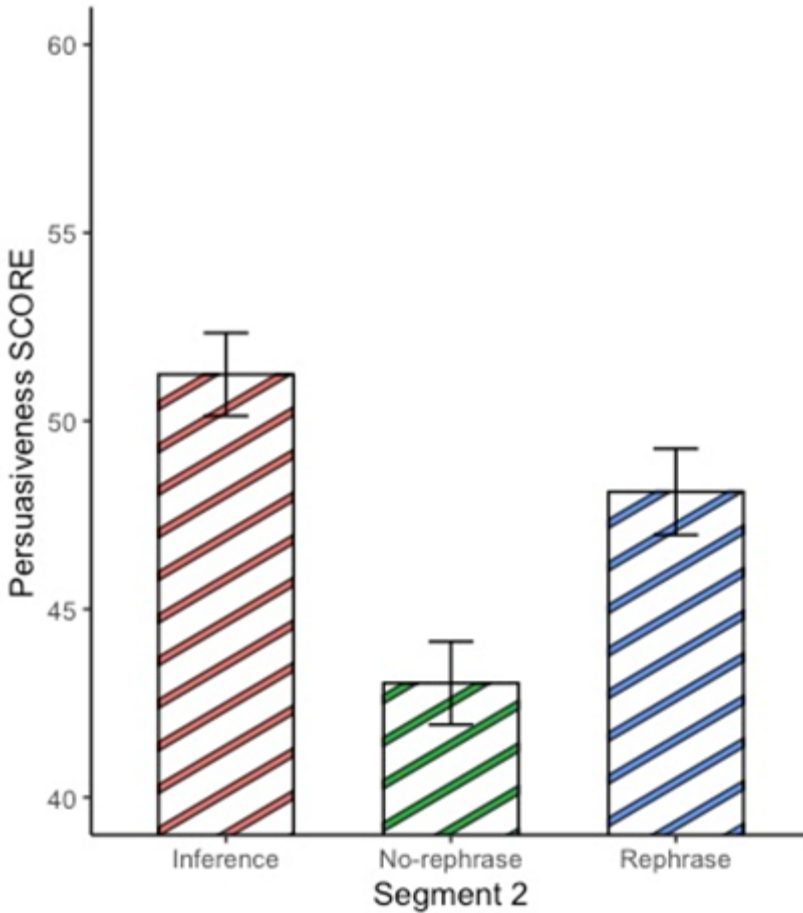
Figure 2. Mean perceived persuasiveness in the three different Segment 2. Error bars represent 95% confidence intervals.

4.2.6. Discussion

Our results confirm our hypotheses and indicate that participants do indeed identify an argumentative dimension in rephrase, since they rate rephrased items as more persuasive than non–rephrased items. This in turns allows us to supply empirical evidence for the perlocutionary effect of rephrase in argumentative settings.

Looking more closely at the results and at the differences between conditions, the first striking observation is that rephrasing a segment is significantly more persuasive than not rephrasing it. This secures our predictions and opens up the way for future work (see Section 5). Now, when it comes to the lower persuasiveness score of rephrase, as compared to inference (here argument from consequences), it can be explained in different ways: a first option would be to assume that the nature of rephrase, which in the "argumentatively untrained" eye of participants might resemble mere paraphrase, makes it less obviously argumentative. In other terms, an argument from (positive or negative) consequences makes more manifest the argumentative function of segments 1 and 2 in the items, which in turn could boost the persuasive effect: participants are more aware that they are exposed to two separate arguments in the *inference* than in the *rephrase* condition, thereby making the former perceived as argumentatively more dense than the latter. Another (related) explanation would be to consider that participants do identify the argumentative function of rephrase, but that they do not take it to supply evidence that is completely unrelated to and/or separate from the content of segment 1. Under this hypothesis, participants take segments 1 and 2 in the *rephrase* condition to be informationally related, yet perhaps better elaborated than in the *no–rephrase* condition, but perhaps still weaker than the segments contained in the *inference* condition simply in terms of the amount of separate pieces of evidence offered in the combination of segment 1 and 2.

5. Conclusion and future work

In this paper we have shown how the pragmatics of quotation and reporting, as developed by Macagno and Walton, may provide a highly valuable set of directions towards developing the pragmatic theory of rephrase in argumentation. We collected linguistic evidence (corpora of rephrased arguments) and cognitive evidence (experiments on the persuasive effects of rephrases) which demonstrated that two rephrase types, namely generalisation and specification, are frequently used by speakers in natural contexts and that this preference for rephrase schemes is not random, as it is justi-

fied by their rhetorical effectiveness (i.e., their propensity to positively impact the persuasiveness of the message). While the method for the study of rephrase outlined in Section 4 (devoted to language features of rephrase schemes as well as their persuasive effects) has produced a preliminary study of uses of rephrase in a narrow pragmatic context, our future work will be to study various dialogical strategies resting on the use of rephrase, in line with the Waltonian pragmatic approach to dialogical interactions.

A possible line of investigation should focus on the vaguely defined notion of rhetorical effectiveness. A given argument may be rhetorically effective in different ways; while, ultimately, effectiveness should contribute to persuasion, the path to persuasion may involve different processes. Thus, an argument may be rhetorically effective by being convincing, but also by forcing an opponent to engage in defensive tactics, by managing to make the discussion derail onto another topic, by allowing the speaker to plausibly deny a problematic content, by silencing an opponent, etc. In particular, it stands to reason that the effect of rephrase, in terms of its contribution to speaker meaning, can be instrumental to rhetorical effectiveness, either by clarifying a given utterance, or by misrepresenting it in a treacherous way. More work on the (mis)uses of rephrase, as a strategy that directly impacts the representation of speaker meaning, should at the same time allow us to explore Walton's account of different types of ambiguity (Walton, 1996), and to elaborate our model of rephrase as an argumentative communicative resource.

One future line of inquiry devoted to linguistic evidence is to consider other language features, as distinguished by Macagno and Walton, as cues for identifying specific uses of rephrase. For example, our corpus study has shown that some instances of rephrase are used to move from logos to ethos: in *Moral Maze* 2019, Michael Portillo rephrases his general attack "Now I did not find that very convincing" to shift towards the criticism of his opponent's character "I found that rather unconvincing and I suspected him of being unimaginative." As a basis for this study, we plan to take the Waltonian typology of ways of attacking with the use of straw man such as quotes for direct attack, undermining a wittnesses' credibility, gentle threats etc. (Macagno and Walton 2017,

Section 1.3). Another parameter that we think needs to be integrated is the dialectical type of rephrase, i.e., whether we are dealing with self–rephrase or other–rephrase, as each of these two types might not only be expressed through different structures and strategies, but also be conducive to different perlocutionary effects with different implications in terms of dialectical moves.

We also intend to further collect cognitive evidence from our experiments with the goal of better understanding the specific argumentative nature and role of rephrase compared to classically studied argument schemes. For instance, an important dimension that we have not explored in this preliminary investigation has to do with the nature of rephrase itself, which, as evidenced by our corpus studies, can be realised through different strategies. Our experimental designs indeed are suited to investigate whether specification or generalisation, for instance, behave similarly in terms of their perlocutionary effects—this in principle could be investigated to establish a comparative typology of the persuasiveness of all rephrase types that are identified through corpus methodologies. Finally, a fruitful direction of investigation, more akin to addressing classical issues in argumentation theory and rhetoric, will consist in studying different types of perlocutionary effects of rephrase (see e.g., Debowska–Kozlowska 2014 for an attempt to specify non–standard types of the effects of persuasion). While this study targeted persuasiveness, an effect here linked to *logos*, we are preparing further designs meant to test the effectiveness of the *ethotic* and *pathotic* dimensions of rephrase.

We anticipate that (*i*) our model of rephrase (and its misuses) will yield new rephrase corpora building guidelines ready for implementation in AI argument technologies such as argument mining (*cf*. Stede and Schneider 2018; Lawrence and Reed 2019) and argument analytics (Lawrence *et al*. 2016), and (*ii*) that (mis)uses of rephrase will be shown to be rhetorically effective by virtue of their various cognitive advantages. In this paper, we have laid the foundation for a method that may help bridging apparently remote research perspectives into one coherent theoretical account. We believe that the further development of this method will allow us to pave the way for the systematic study of pragmatic components of rephrase as a still underestimated persuasive device.

Acknowledgements

References

Austin, J. L. 1962. *How to do things with words*. Oxford: Clarendon.

Bhagat, R., and E. Hovy. 2013. What is a paraphrase?. *Computational Linguistics* 39(3): 463–472.

Boleda, G. 2020. Distributional semantics and linguistic theory. *Annu. Rev. Linguist*. 6(1): 213–34.

Boogaart R. J. U., H. Jansen and M. van Leeuwen. 2020. "Those are your words, not mine!" Defence strategies for denying speaker commitment. *Argumentation* 35(1): 209–235.

Budzynska, K. and C. Reed. 2011. Whence inference? *Technical report,* University of Dundee.

Da San Martino, G., S. Yu, A. Barróon–Cedeno, R. Petrov and P. Nakov. 2019. Fine–grained analysis of propaganda in news articles. In *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing*, *Hong Kong, China, November 3–7, 2019*, 5636–5646. Association for Computational Linguistics.

Debowska–Kozlowska, K. 2014. Processing topics from the Beneficial Cognitive Model in partially and over–successful persuasion dialogues. *Argumentation* 28 (3): 325–339.

Hamblin, C.L. 1970. *Fallacies*. London: Methuen.

Hirst, G. 2003. Paraphrasing paraphrased. In *ACL International Workshop on Paraphrasing: Paraphrase Acquisition and Applications (IWP 2003)*. Sapporo.

Fahnestock, J. 1999. *Rhetorical figures in science*, Oxford University Press.

Konat, B., K. Budzynska and P. Saint–Dizier. 2016. Rephrase in argument structure, eds. P. Saint Dizier and M. Stede, *Foundations of the Language of Argumentation. COMMA 2016 Workshop. University of Potsdam, September 13, 2016*, 32–39. Potsdam: University of Potsdam.

Lawrence, J., R. Duthie, K. Budzynska and C. Reed. 2016. Argument analytics, eds. P. Baroni, T. F. Gordon, T. Scheffler and M. Stede, *Computational Models of Argument. Proceedings of COMMA 2016*, *Frontiers in Artificial Intelligence and Applications* 287: 371–378. Berlin: IOS Press.

Lawrence, J. and C. Reed, C. 2015. Combining argument mining techniques, ed. C. Cardie, *Proceedings of the 2nd Workshop on Argumentation Mining*, 127–136. Denver: ACL.

Lawrence, J. and C. Reed. 2019. Argument mining: A survey. *Computational Linguistics* 45(4): 765–818.

Lewiński, M. and S. Oswald. 2013. When and how do we deal with straw men? A normative and cognitive pragmatic account. *Journal of Pragmatics* 59(B): 164–177.

Macagno, F. 2011. The presumptions of meaning: Hamblin and equivocation. *Informal Logic* 31(4): 368–394.

Macagno, F. and D. Walton. 2017. *Interpreting straw man argumentation: The pragmatics of quotation and reporting*. Cham: Springer.

Musi E. and A. Rocci. 2017. Evidently epistential adverbs are argumentative indicators: A corpus–based study, *Argument and Computation* 8(2):175–192.

Oswald, S. 2016. Commitment attribution and the reconstruction of arguments, eds. Fabio Paglieri, Laura Bonelli and Silvia Felletti, *The psychology of argument: Cognitive approaches to argumentation and persuasion*: 17–32. London: College Publications.

Oswald, S. and M. Lewiński. 2014. Pragmatics, cognitive heuristics and the straw man fallacy, eds. Thierry Herman and Steve Oswald. *Rhétorique et cognition: Perspectives théoriques et stratégies persuasives / Rhetoric & Cognition: theoretical perspectives and persuasive strategies*: 313–343. Bern: Peter Lang.

Peldszus, A. and M. Stede. 2016. An annotated corpus of argumentative microtexts. eds D. Mohammed, M. Lewinski. *Argumentation and Reasoned Action – Proc. of the 1st European Conference on Argumentation, Lisbon 2015*. College Publications.

Schumann, J., S. Zufferey and S. Oswald. 2019. What makes a straw man acceptable? Three experiments assessing linguistic factors. *Journal of Pragmatics*, 141(1): 1–15.

Schumann, J., S. Zufferey and S. Oswald. 2020. The Linguistic Formulation of Fallacies Matters: The Case of Causal Connectives. *Argumentation* 35(3): 361–388.

Searle, J. R. and D. Vanderveken. 1985. *Foundations of illocutionary logic*. Cambridge University Press.

Stede M. and J. Schneider. 2018. *Argumentation Mining*. Morgan and Claypool Publishers.

Tindale, C.W. 2007. *Fallacies and argument appraisal.* Cambridge: Cambridge University Press.

Villata, S., S. Benlamine, E. Cabrio, C. Frasson and F. Gandon. 2018. Assessing Persuasion in Argumentation through Emotions and Mental States. *Proceedings of the Thirty–First International Florida Artificial Intelligence Research Society Conference* FLAIRS 2018, 134–139.

Visser, J., M. Koszowy, B. Konat, K. Budzynska and C. Reed. 2018. Straw–man as misuse of rephrase, eds. Steve Oswald and Didier Maillat, *Argumentation and Inference. Proceedings of the 2nd European Conference on Argumentation, Fribourg 2017* (2): 941–962. London: College Publications.

Visser, J. and J. Lawerence, C. Reed, J. Wagemans and D. Walton. 2020. Annotating Argument Schemes. *Argumentation*, 35(1): 101–139.

Walton, D. 1996. *Fallacies arising from ambiguity*. Dordrecht: Springer.

Walton, D. 2008. *Informal Logic: A pragmatic approach*. Cambridge: Cambridge University Press.

Walton, D. 2011. Defeasible reasoning and informal fallacies. *Synthese*, 179(3): 377–407.

Walton, D. and F. Macagno. 2010. Wrenching from context: The manipulation of commitments. *Argumentation* 24(3): 283–317.

Walton, D. and F. Macagno. 2015. A classification system for argumentation schemes. *Argument & Computation* 6(3): 219–245.

Walton, D., C. Reed and F. Macagno 2008. *Argumentation schemes*. Cambridge: Cambridge University Press.