The Argumentative "Logic" of Humor

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ABSTRACT

The logic of humor has been acknowledged as an essential dimension of every joke. However, what is the logic of jokes, exactly? The modern theories of humor maintain that jokes are characterized by their own logic, dubbed "pseudo," "playful," or "local," which has been the object of frequent criticisms. This article intends to address the limitations of the current perspectives on the logic of jokes by proposing a rhetorical approach to humorous texts. Building on the traditional development of Aristotle's almost neglected view of jokes as surprising enthymemes, the former are analyzed as rhetorical arguments. Like enthymemes, jokes are characterized by natural inferences that can be represented as topics, and quasi-formalized in argumentation theory as argumentation schemes. Like rhetorical arguments, jokes express a reason in support of different types of conclusions and proceed from distinct kinds of reasoning and semantic relations.

KEYWORDS: humor, rhetoric, argumentation schemes, enthymeme, pragmatics

INTRODUCTION

Logical mechanisms play a fundamental role in humor, especially in the "essentialist theories" (Attardo 2010, 49; Larkin-Galinanes 2017). In the Semantic Script Theory of Humor (Raskin 1985, 99), the humorous effect of a text is regarded as resulting from the opposition between two different scripts that are compatible with it. The detection of an incompatibility—between a state of affairs judged at the same time actual and inexistent, or normal and unexpected, or possible and impossible—is posited as a condition of a humorous text. This "logic" of humor was developed in detail in the General Theory of Verbal Humor (Attardo and Raskin 1991), in which the

simple notion of opposition was analyzed considering the mechanisms used for (partially) resolving or justifying the incongruity (Attardo and Raskin 1991, 307; Hempelmann and Attardo 2011; Attardo 2010, 97). Attardo and Raskin provided two generic "logical" categories, namely syntagmatic and inferential mechanisms, under which fall different types of reasoning, such as analogical comparisons through juxtapositions, inferring consequences, and "faulty reasoning" (Attardo, Hempelmann, and Maio 2002).

The logical approach to jokes came recently under attack (Davies 2011). According to the critics, this theory has two crucial limitations. First, the categories are heterogeneous and incomplete (Oring 2019), as under the same label are placed syntactic structures (juxtapositions) that have nothing to do with reasoning (Davies 2011) and types of argument (faulty reasoning), without any criteria for justifying the exhaustivity of the classification. Second, logical mechanisms do not seem to be able to explain pragmatic phenomena such as bad jokes, or the relationship between cultural background and humor (Davies 2004; Brône and Feyaerts 2004). From the GTVH perspective, the mechanism underlying a bad joke is the same for the speaker and the audience; however, it results in fact in two different appraisals.

This article addresses the problem of the "pseudo" (Ritchie 2014), "playful" (Attardo 2010, 148), or "local" (Ziv 1984, 77; 90) logic of jokes analyzing the rhetorical developments of Aristotle's almost neglected view of jokes as surprising enthymemes. The relationship between rhetorical syllogisms and jokes has been hinted at in the literature, but only by way of considering specific and isolated dimensions (Sherwood 2013). Most of the works focus on the pragmatic aspect of humorous enthymemes and include the analysis of their (Viana 2013) interlocutor's need to provide the missing premise (Meyer 2000, 316; Waisanen 2015), the suitability to the audience and the circumstances, and the surprise effect resulting from perspective shifting (Monro 1963, 225), or the inconsistency generated by an unplausible major premise (Palmer 1987, 42–50). The logical core of the rhetorical syllogism, namely the rules of inference called topics or *loci*, has been addressed only as one of the possible conversational strategies for inventing specific types of jokes (Holcomb 2001, chap. 2).

Building on the Aristotelian and classical approach to jokes, we maintain that jokes can be analyzed considering the logical and pragmatic mechanism that characterizes rhetorical arguments (Sorensen 1988; Braet 1999; Hitchcock 1998). Aristotle described enthymemes as defined by three factors: (1) they are incompletely stated—i.e., they are arguments

having less premises than a deductive syllogism (*Rhetoric*, 1357a 13–17); (2) they are formed by propositions that are generally accepted—and not necessarily true (*Rhetoric*, 1357a 30–32); and finally (3) they defend conclusions concerning human actions, including policies, actions, or value judgments (see Walton 1990b). Just like enthymemes, jokes will be presented as arguments pursuing different goals and characterized by different types of rules of inference (which can be represented as argumentation schemes; see Macagno and Walton 2015) and an implicit dimension. The playful enthymeme will be shown to be pragmatically different from the serious one, as its tacit premise displays a communicative paradox: it is taken for granted as generally acceptable but is in fact *un*likely. Unlike fallacies, however, the paradox of playful enthymemes is resolved not by evaluating and criticizing the reasoning but rather by changing the context determining what is acceptable. In this sense, jokes are "dialogue-shifting" enthymemes.

JOKES AND ENTHYMEMES IN ARISTOTLE

In Aristotle's *Rhetoric*, the mechanism underlying jokes is regarded as similar to the one characterizing metaphors. Both metaphors and jokes generate a surprise: "the hearer expected something different, his acquisition of the new idea impresses him all the more. His mind seems to say, 'Yes, to be sure; I never thought of that'" (Aristotle, *Rhetoric*, 1412a 19–22). The surprise effect depends on three structural components. The first is a precondition: the joke can be funny only if the interlocutors accept what the speaker has taken for granted. Aristotle uses the verb ὑπολαμβάνω to refer to what the speaker assumes (or rather "presumes") to be previously held (Piazza 2012) and what has been already accepted. These presumptions are the basis of the enthymeme and rational persuasion, as the speaker needs to understand what the audience has already accepted in order for his or her discourse to be persuasive (*Rhetoric*, 1395b 5–11; 1370a 19–27). Humor is based on the same mechanism (Sherwood 2013), as the speaker needs to imagine what the audience holds as acceptable (*Rhetoric*, 1412a 32–1412b 2):

> Jokes made by altering the letters of a word consist in meaning, not just what you say, but something that gives a twist to the word used; e.g. the remark of Theodorus about Nicon the harpist, *thrattei se* (you Thracian slavey), where he pretends to mean *thrattei se* (you harp-player), and surprises us when we find

he means something else. So you enjoy the point when you see it, though the remark will fall flat unless you are aware (ὑπολαμβάνει) that Nicon is a Thracian.

The second component is the *unlikelihood* of the surprising fact. Enthymemes are grounded on what is *presumed* to usually occur for a specific audience—which is radically distinct from the audience-independent concept of statistical probability (Tindale 1999, 112). In the rhetorical tradition, εἰκός (likelihood) is described as what "is accustomed generally to take place, or which depends upon the opinion of men, or which contains some resemblance to these properties, whether it be false or true" (Cicero, *De Inventione* I, 46). For example, it is not statistical probability but the common perception of the audience (Walker 1994) that makes the generalization "If he is an avaricious man, he neglects his oath" (*De Inventione* I, 29:30) likely, and thus presumable by the speaker in an enthymeme of the kind, "Do not trust his word; he is avaricious."

Aristotle, however, identified a particular type of enthymeme that is grounded on the conflict between likelihood and acceptability, and generates surprise. These enthymemes rely on what is unlikely—contrary to what is presumed to be verisimilar—but at the same time acceptable (*Rhetoric*, 1400a5–1400a14):

> Another refers to things which are supposed to happen and yet seem incredible. We may argue that people could not have believed them, if they had not been true or nearly true. And that they are the more likely to be true because they are incredible; for the things which men believe (ὑπολαμβάνει) are either facts or probabilities: if, therefore, a thing that *is* believed is improbable and incredible, it must be true, since it is certainly not believed because it is at all probable or credible.

For example, a speaker can defend the view that a law is needed for changing a law based on the evident but unlikely generalization that pressed olives need olive oil. Similarly, it is possible to argue that businessmen should be trusted more than politicians to run a country, as businessmen, more than politicians, need a prosperous country so that they can earn more money out of it. These enthymemes rely on premises in conflict with *eikos*, but not with other sources of knowledge—such as direct experience, logical reasoning, and popular opinion. This discrepancy increases their acceptability, as they seem to express evident and neglected or unknown truths.

These surprising enthymemes bring to light a fundamental relationship between rhetorical reasoning and humor. Aristotle maintained that the same mechanism of surprise (the acceptable unlikelihood) that characterizes this special type of enthymeme underlies humor: "the speaker says something unexpected, the soundness of which is thereupon recognized" (Aristotle, *Rhetoric*, 1412b 7–8). Jokes and humor are tools for unveiling a truth or an acceptable generalization that is not likely—and thus not commonplace. An unlikely event or behavior, or an unlikely interpretation serve the same goal of showing a different perspective.

In addition to the common acceptance (and knowledge) of the propositions "assumed," or rather taken for granted, and the discovery of an acceptable and unlikely generalization, a third condition characterizes the Aristotelian mechanism of humor, namely simultaneity. On Aristotle's view, the simultaneous satisfaction of the requirements of being a (perceived, acknowledged) truth without being commonplace—indeed in conflict with it—is necessary for humor. A truth that is commonplace is not funny; an unlikely view that is false is simply perceived as false. Instead, the simultaneity of this twofold nature of the view makes the utterance(s) humorous, such as in "Death is most fit before you do Deeds that would make death fit for you" (Aristotle, *Rhetoric*, 1412b 19). Humor needs to be lively to be successful—the same quality of an effective metaphor. It needs to be short, possibly antithetical, possibly representing an activity. Humor thus shares the same necessary conditions of a surprising enthymeme and the same sufficient condition of a successful metaphor.

LIKELIHOOD, SUITABILITY, AND UNLIKELY POSSIBILITY

An enthymematic approach to jokes is grounded in the concept of unlikely truths, or rather unlikely states of affairs, events, generalizations, or interpretations presented as true. Jokes are not ordinary enthymemes—otherwise they would not be surprising or funny. And they are not sophistical arguments either—otherwise they would be simply perceived as suggesting or expressing unacceptable or weak conclusions. The "exceptional" nature of the jokes lie in the defeasible nature of rhetorical (argumentative) generalizations: the discovery of an unlikely generalization, which is not verisimilar (in the given setting and circumstances) but presented as true, becomes the source of further inferences that emphasize the humorous effect.

The enthymematic approach to jokes rests on a principle—the possibility of an unlikelihood—that can explain some limits of the incongruity

theory, which is presently the dominant theory of humor. According to Morreall (1982, 244–45), laughter derives from the order of our world, which gives rise to certain patterns among things, properties, and events. When we experience something that violates these expectations of regularity and order, a humorous effect can arise (Koestler 1964, 42–46). This view was further specified by Raskin, who developed the concept of "incongruity" in terms of scripts—stable organizations of events (Schank and Abelson 1975). A joke is regarded as the result of two conditions: (1) the text is compatible (fully or in part) with two different scripts, and (2) such scripts are opposite (Raskin 1985, 99). The opposition (incompatibility) of such scripts can result from different sources (Raskin 1985, 108), including a real versus unreal situation, or a normal, plausible state of affairs versus an abnormal or unplausible one. Incongruity theory—regardless of its formulation—is based on an "objective" feature of the text: the states of affairs referred to or described are "(un)real," "(un)actual," "(ab)normal," or "(im)possible." However, a story can be perceived as funny in a given context, by a given audience and if told by a specific speaker, but if these circumstances change, it can be taken as manipulatory, offensive, or simply weird (Cundall 2007, 207). Moreover, incongruity alone cannot account for the difference between fallacies and jokes, both defined by unaccepted premises.

Enthymemes express defeasible reasons—namely subject to default in case contrary evidence is provided—that are situationally dependent (Bitzer 1992). They are the outcome of strategic invention, not discovery from objective states of affairs: their acceptability, and the possibility of taking some premises for granted, depends on the audience (Kinneavy and Eskin 2000, 433; Sullivan 1992, 318). For this reason, they need to be suitable to the context in which they are invented (Kinneavy 2002) and be grounded on what is presumed to usually occur *for someone*, that is, on what is likely to be true *for a specific audience* (Viano 1955, 280–85). In this sense, they are speech acts—communicative events that cannot be analyzed independently of the context in which they are uttered (English 1994, 7).

The detection of the unlikelihood in jokes is not simply the discovery of a fault. Rather, it is the discovery of an acceptable, possible, or hardly rebuttable default to a generalization that an audience accepts or is presumed to accept—and the acceptance of a new common ground set out by and through the nonserious interaction (Waisanen 2015; Mulkay 1988; Bakhtin 1984). This twofold dimension of acceptability (of the generalization and the unlikely default thereto) can be illustrated by the following sexist joke used by the former Italian prime minister Berlusconi (a politician well known in Italy for his machismo and sexual scandals, normally

accepted or even praised by his supporters; Jenkins 2011), in a speech in Naples (adapted from Perrino 2015, 142):

Example 1

I traveled in a normal airplane [i.e., not a government one], I had to go outside Italy, I get in the plane and there is a very beautiful girl . . . you should have seen her a very beautiful blonde girl who was intensely reading a book; the seat was vacant next to her, I cat-apulted myself into it [laughter from audience] and I tried to start a conversation—no luck at all: she was reading. So, at a certain point I even said loudly, "Miss, but you read with an extraordinary intensity, what is the book about?"
She looked at me and she said to me sweetly, "It talks about love."
"Ah. And what did the book teach you that's so important given your extraordinary attention?"
"It taught me two fundamental things: that the most virile lovers are the Arabs lovers [light laughter from audience] and that the most sentimentally strong and romantic ones are Neapolitan."
At that point I gave her my hand [i.e., to introduce himself] and I told her: "Miss, let me introduce myself: Mohammed Esposito." [loud laughter from audience]

From a "logical" perspective, this joke is grounded in a very complex infer-ential structure, in several "tacit" premises and warrants (Hitchcock 1998) that the speaker takes for granted (van Eemeren and Grootendorst 1982):

Pr.1. Berlusconi is not Mohammed Esposito
Pr.2. Mohammed is a common Arab name
Pr.3. Esposito is a common Neapolitan family name
Pr.4. Berlusconi's pronunciation and complexion are typical of a Northern Italian's
Pr.5. Arab Neapolitans are not common in Italy
Pr.6. Women (only) love and look for virility and romanticism
Pr.7. Women rely on stereotypical signs to judge their male interlocutors

These propositions are necessary for grasping the enthymematic struc-ture of the joke. The argumentative conclusion (pursued by the "character" Berlusconi) is that Berlusconi is desirable as a lover (he is the best possible

lover) for the young lady. To reach this conclusion, two different enthymematic steps are needed. First, a reasoning leading from some features (in this case the cultural belonging) to a value judgment (to be desirable as a lover) (Westberg 2002) through the two generalizations Pr.6 and Pr.7, which in argumentation theory is commonly represented as an argument from values (Bench-Capon 2003; Walton, Reed, and Macagno 2008, 321). Second, an argument from sign (or more specifically an enthymeme based on unnecessary signs; see Aristotle, *Rhetoric*, 1357b 19–23) is used by Berlusconi, which guarantees through the implicit generalizations Pr.2 and Pr.3 the passage from the name and surname to the cultural origin of the speaker (Walton, Reed, and Macagno 2008, 171; Walton 2004).

This joke illustrates also the other rhetorical dimension of jokes, namely their appropriateness to the audience. Berlusconi's joke works fine before an audience that accepts some normally controversial premises (Pr.6 and Pr.7) and successfully creates an artificial emphatic understanding between the politician and his (potential) voters—at the expense of women (Kotthoff 2006). However, this effect depends on the type of audience (Italian right-wing supporters not finding contradictions between their identity of "observant Catholic" and open acceptance of sexism and even sexual offences) in other contexts (a different public) the joke could sound offensive—and the reasoning underlying it merely fallacious as grounded in hasty generalizations (see Olbrechts-Tyteca 1974).

The kairotic nature of the enthymematic mechanism of jokes can be illustrated by considering two distinct jokes, with different conditions of success. The former was told by Ronald Reagan, who often made fun of his own age and reputation for laziness (Zoglin 2020):

Example 2

"I have left orders to be awakened at any time in case of national emergency," he once quipped, "even if I'm in a Cabinet meeting."

Reagan uses an argument from sign: his reported order is intended to be a reason for reaching a positive conclusion on his character (the fact that a politician gives up sleeping for the good of their country is generally perceived as a sign of a serious and committed person). The concessive connector triggers as *a fortiori* argument, placing on the highest level of the scale of "depth of sleep/impossibility of disturbing or intruding into someone's privacy" the content of the concessive clause (Horn 1969). Thus, the likely

conclusion is that Reagan is available to renounce his most intimate privacy. However, Reagan himself provides irrefutable testimonial evidence of an unlikely scale of sleep depth (or degrees of privacy): cabinet meetings are presupposed to be at the same time important, boring, and necessarily conductive to sleep—which is unlikely to be accepted, at least in a serious setting of a political speech. This different vision of the world leads to a judgment different from the one that a president or an ordinary politician is likely to desire. The unlikely hierarchy of privacy is a reason to conclude that the president does not care much about cabinet meetings, and his political activities in general. The humorous effect stems from the fact that the unlikelihood cannot be ignored or excluded—indeed it needs to be accepted (he testifies it) but cannot be wholly believed. For the audience, the dilemma can be solved by shifting the political speech to a different, nonserious type of dialogue defined by this unlikely behavior. However, if the joke were told by a different individual, known to care very little for his presidential duties, the claim would have been taken as an admission.

Example 3 shows a distinct effect. Here, former president Trump tries to advance a proposal that his advisers described as a joke (a sarcastic one)—even though it was not quite taken as such (Zoglin 2020):

Example 3

"When you do testing to that extent, you're going to find more people, you're going to find more cases," Trump said. "So I said to my people, 'Slow the testing down, please.'"

Trump's reasoning is an instance of the argument from practical reasoning (Walton, Reed, and Macagno 2008, 94–95), in which the speaker argues from a goal and the available means to achieve it in favor of the acceptability of a given course of action (Grennan 1997, 163–65; Walton 1990a). It can be represented as follows:

PREMISE 1:	Agent A has a goal G.	We need to reduce the number of COVID cases.
PREMISE 2:	Carrying out this action B is the best means to realize G.	As the testing frequency increases the number of cases found, reducing the testing will reduce the cases found.
CONCLUSION:	Therefore, A should bring about action B.	The best way to reduce COVID cases is to stop testing.

This rhetorical argument was in fact taken as a serious proposal—indeed not funny at all, but rather a clear instance of the fallacy *ad consequentiam* (Walton 1999). In the context of the pandemic, and considering Trump's approach to the health crisis, the tacit premise 2 cannot be taken as an unlikely reasoning acceptable in a nonserious setting (like in example 2), but as an already made decision based on extremely weak reasoning.

TYPES OF ENTHYMEMATIC JOKES—ARGUMENTS

In the rhetorical tradition jokes were considered as an essential component of persuasion. Both Cicero and Quintilian (Viljamaa 1994) devoted careful and detailed descriptions of topics of humor, trying to classify, even if tentatively, some of the most important sources a speaker can take into account when inventing humorous stories, claims, or replies. Cicero drew a crucial distinction between two categories of jokes based on their source: the jokes whose humor resides in facts are distinguished from the ones that rely on linguistic resources only (Cicero, *De Oratore*, II, LXI, 248). This general division is then specified by classifying the jokes based on the different macro-commonplaces of humor. Among them, he distinguished verbal jokes from actions, and jokes aimed at attacking others (through ridicule), ourselves (through absurdity and irony), or neither (by "cheating expectations"). Quintilian built on Cicero's classification but stressed the essential relationship between rhetorical invention and the invention of jokes. According to Quintilian, jokes and arguments are derived from the same sources, namely the same *loci* or topics (*Institutio Oratoria*, VI, III, 65–66):

> All forms of argument afford equal opportunity for jests. . . . Similar material for jests is supplied by genus, species, property, difference, conjugates, adjuncts, antecedents, consequents, contraries, causes, effects, and comparisons of things greater, equal, or less as it is also by all forms of trope.

In this quote, Quintilian draws an analogy between the function of the classical *topoi* and the so-called figures of speech, including hyperbole, irony, metaphor, allegory, and emphasis. In the first case, he acknowledged that the same sources (*loci*) of rhetorical arguments can be used for developing

jokes. However, in the rhetorical tradition *loci* were also considered the sources of the possible rules of inference (*maxima propositiones*) that can support a conclusion given a specific premise. The *loci* are the places in which to find the relationship (the *habitudo*) between the logic-semantic properties of the concepts expressed in the premises and the conclusion. In dialectics, these relations correspond to the predicables, namely genus, accident, definition, and property, while in rhetoric they include also signs, analogies, causes, correlations, and so on (Abaelardus, *Dialectica*, 264). In this sense, the *loci* were both the sources of jokes and the inferences that constituted the joke and allowed its comprehension. The second type of sources of jokes, the tropes, can be regarded as relying on a similar enthymematic process—this time involved in retrieving the best interpretation of the humorous text (see section 5 below) by "solving the riddle" expressed by the text (Koestler 1964, 84). This interpretative enthymematic process can be grounded on the reconstruction of the reasoning process underlying the figure of speech (Macagno 2012), such as the locus from whole to part in case of emphasis (Koestler 1964, 77), or comparison (analogy) in case of metaphor or allegory.

Quintilian develops a system for inventing and analyzing jokes by equating their structure to enthymemes. By identifying the type of argument, and the categories of "warrants" or rules of inference on which they are based, it is possible to classify jokes according to their argumentative logic. A first category is grounded on analogical inferences. A clear illustration is example 4 (Quintilianus, *Institutio Oratoria*, VI, III, 60)

Example 4: Analogy

Vatinius when he was prosecuted by Calvus. Vatinius was wiping his forehead with a white handkerchief, and his accuser called attention to the unseemliness of the act. Whereupon Vatinius replied, "Though I am on my trial, I go on eating white bread all the same."

This funny reply is based on the fact that people put on trial wore normally mourning (dark) clothes, and not white ones. Vatinius developed an analogy, bringing to light the unlikelihood of the underlying principle that "to be on trial causes/should lead to avoiding all white things." This

reasoning can be analyzed considering the scheme of argument underlying it (Macagno, Walton, and Tindale 2017):

Premise 1:	Generally, case C1 is similar to case C2 as falling under the same abstract functional generic property.	Using a white handkerchief on trial is similar to eating white bread when on trial, as both behaviors involve white things in the same circumstance.
Premise 2:	Proposition *A* is true (false) in case C1.	It is unlikely that eating white bread when on trial can be considered as unseemly.
Conclusion:	Proposition *A* is true (false) in case C2.	It is unlikely that using a white handkerchief on trial can be considered as unseemly.

Analogies can proceed also from a negative inferential rule, such as in example 5 (Quintilianus, *Institutio Oratoria*, VI, III, 63):

Example 5: Counter-analogy

Thus a Roman knight was once drinking at the games, and Augustus sent him the following message, "If I want to dine, I go home." To which the other replied, "Yes, but you are not afraid of losing your seat."

Another type of analogical inference is the *a fortiori* argument (Walton, Macagno, and Sartor 2021), in which a predicate (a value judgment in example 6) is attributed to the target based on the comparison with an illustration of one of its extreme instances (Quintilianus, *Institutio Oratoria*, VI, III, 64):

Example 6: A Fortiori

"You are more lustful than a eunuch," where we are surprised by the appearance of a word which is the very opposite of what we should have expected.

The eunuch is presented as the extreme of lustfulness—which the interlocutor apparently exceeds, resulting in an apparent qualification of "terribly lustful." However, since it is common knowledge that a eunuch cannot be lustful, the enthymeme presents an unlikely *a fortiori*, which can be resolved

by considering a different world organization in which this generalization is acceptable.

The similarities between compared states of affairs is also the basis of another type of rhetorical argument, the example, described by Aristotle as the rhetorical counterpart of induction (*Rhetoric*, 1357a14–16). An example is a relationship between two statements, which are "of the same order, but one is more familiar than the other" (1357b30–34). The similarity between individual cases can become a source of humor when it is unlikely in a serious context, or when it is undermined by a further case not falling in the same category as the others, such as in the following joke by Ionesco (Chametzky et al. 2001, 318):

Example 7: Reasoning from Example

God is dead. Marx is dead. And I don't feel so well myself.

In this inductive joke, the first two statements express states of affairs sharing a common generic feature (Macagno, Walton, and Tindale 2017)—the death of an entity extremely important for mankind—which is implicitly generalized in the principle that all the reference points of mankind are dead. The last sentence is thus interpreted as falling under the same category as the previous ones, thus (a) presupposing the classification of the speaker as a reference point for mankind and (b) implying his possible death. Classification (a) is the source of surprise, as it takes for granted a premise that cannot be presumptively shared in a serious context (a dialogue expressing worries about the lack of certainties). Even though this classification is not presumable to be accepted by an ordinary audience, its very utterance provides evidence for holding that it is true for one person—and results in a different worldview that constitutes a surprising and playful dialogical context (Perelman and Olbrechts-Tyteca 1969, 129) that the interlocutors can engage in.

The aforementioned types of arguments are grounded on implicit classifications resulting from ad hoc generic categories. When the categories are already linguistically coded, the source of the joke is the definition. An illustration is example 8 (Quintilianus, *Institutio Oratoria*, VI, III, 65):

Example 8: Definition

Augustus for example employed *definition* when he said of two pantomime-dancers who were engaged in a contest, turn and turn

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about, as to who could make the most exquisite gestures, that one
was a *saltatorem* (dancer) and the other merely the *interpellatorem*.

The joke results from the meaning of *interpellator*, which was the narrating
voice in a pantomime (usually the chorus). Thus, if a dancer is classified as
the narrating voice, he cannot be a dancer at all by definition.

Definitional inferences can be used and combined with other types
of argument. A clear example is the use of humor in an *ad hominem*
attack—namely the (often fallacious) use of personal criticisms to reject the
interlocutor's argument (Walton 1998). In example 9, the implicit con-
clusion results from the definition of "praiseworthy man" (Quintilianus,
Institutio Oratoria, VI, III, 84):

Example 9: Classification and Ad Hominem

The unexpected element may be employed by the attacking party,
as in the example cited by Cicero, "What does this man lack save
wealth and—virtue?"

Here, the speaker denies the two conditions normally considered as neces-
sary for considering a man as reputable or honorable—and thus praisewor-
thy. By denying the classification criteria, the speaker denies that the man
is praiseworthy, and thus suggests the contrary.

The use of definition (and the division of the genus in contrary spe-
cies) underlies jokes based on "contraposition," namely the qualification of
one contrary (as good, the case, etc.) to show that an incompatible quality
applies to the other. This type of reasoning by opposition is the source of
example 10 (Quintilianus, *Institutio Oratoria*, VI, III, 66):

Example 10: Contraposition

Galba on the other hand made use of *partition* when he replied to
a friend who asked him for a cloak, "It is not raining and you don't
need it; if it does rain, I shall wear it myself."

In a serious (deliberative) context, this type of argument would be a clear
instance of the fallacy of false dilemma (Walton 1995). However, the unac-
ceptable dichotomy between the possible actions can be regarded as sur-
prisingly acceptable in a different, nonserious context (a rapport-building

one) in which the speaker cannot be presumed to manipulate the friend (Walton 2010a).

Cause-effect relations can be the source of different types of jokes, which can proceed from (defeasibly) deductive axioms, or from inductive or abductive reasoning (Macagno and Walton 2015). Example 11 illustrates the first type of playful enthymeme (Quintilianus, *Institutio Oratoria*, VI, III, 64):

> **Example 11: Cause-Effect**
>
> Galba, when a friend asked him for the loan of a cloak, said, "I cannot lend it you, as I am going to stay at home," the point being that the rain was pouring through the roof of his garret at the time.

The cloak is normally used for a specific final cause—protecting from the rain. Thus, the speaker's reason for withholding it appears as highly unlikely and calls for a different type of explanation (the house does not work as an efficient cause for protecting against the rain). The causal relationship can be emphasized by means of figures of speech, such as hyperbole, such as in the joke made about the family of the Lentuli: since the children were always smaller than their parents, the race would "perish by propagation" (Quintilianus, *Institutio Oratoria*, VI, III, 67). Here, the observation leads to an exaggerated causal relation drawn by induction, from which the conclusion is derived.

Causal relations also underlie arguments from sign, normally referred to nowadays as abductive arguments or arguments from best explanation. An illustration is example 12, in which an explanation is provided for an event that actually suits a completely different fact (Quintilianus, *Institutio Oratoria*, VI, III, 61):

> **Example 12: Best Explanation**
>
> And Pedo said of a heavy-armed gladiator who was pursuing another armed with a net and failed to strike him, "He wants to catch him alive."

The unlikelihood of the explanation results from the fact that in gladiator games the purpose was to kill the opponent. The discovery of a (final) cause-effect relation (*causarum relatio*) unlikely accepted in the given dialogical circumstances is acknowledged as a powerful source of laughter

(Perelman and Olbrechts-Tyteca, 485), as it shifts a serious context (the explanation of a mortal fight in this case) to an alternative and playful one, aimed at developing a personal relation between the interlocutors.

The contrast between an explanation and its appropriateness to the specific dialogical setting is the source of the following jokes (Quintilianus, *Institutio Oratoria*, VI, III, 61).

Example 13: Best Explanation (Cause-Effect)

[Vatinium] was lame and, wishing to make it seem that his health was improved, said that he could now walk as much as two miles. "Yes," said Cicero, "for the days are longer." Again Augustus, when the inhabitants of Tarraco reported that a palm had sprung up on the altar dedicated to him, replied, "That shows how often you kindle fire upon it."

In both cases, the interlocutor presents a phenomenon as a sign of a specific (pleasant or positive) circumstance, which is contradicted by an explanation with opposite polarity. The unlikelihood in this case is purely dialogical: the "best" explanation can be factually reasonable, but dialogically unsuited to interactions aimed at confirming specific type relationships with the inter-locutors (respectively characterized by compassion and worshipping) and governed by ordinary rules of politeness. The shift to a different dialogue aimed at setting out a same-level relation between speakers generates the comic effect.

Arguments can have as conclusions not only the acceptability of a prop-osition, but also the possibility of performing a certain move or advancing a specific argument in the given context of dialogue (Walton 1998). They are normally referred to as "meta-dialogical" (Krabbe 2003) and include as a prototypical case the *ad hominem* arguments (Macagno 2013). Quintilian pointed out the importance of the circumstances in which jokes are uttered—which include the rules governing the conversation (Quintilianus, *Institutio Oratoria*, VI, III, 13)—and stressed their function of regulating what is (or should allowed) or not in the interaction. Example 14 illustrates this phe-nomenon (Quintilianus, *Institutio Oratoria*, VI, III, 74):

Example 14: Rules of the Dialogue

A witty travesty of defence was once produced by a Roman knight who was charged by Augustus with having squandered his patri-mony. "I thought it was my own," he answered.

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The negation of the obvious antecedent of the legal rule of ownership (if someone owns something they can spend it) is an implicit *ad hominem* attack on the interlocutor's behavior, as the latter is claimed not to be in position to criticize a behavior that is legal. The unreasonable explanation of the criticism is thus an argumentative strategy for leading the interlocutor to accept the unreasonableness of his own critical remark.

The *tu quoque* argument (Walton 1998, 234–37) is a subtype of *ad hominem*, which concerns only the specific dialogical rule that an offender cannot be the judge. It consists in rejecting the opponent's criticism by pointing out that she has committed the same or more serious actions. The unlikelihood that the opponent is a much greater offender than the speaker can generate a humorous response, such as in example 15 (Cicero, *De Oratore*, II, LXV, 263).

Example 15: Tu Quoque

"Galba, when will you go outside your own dining room?" "As soon as ever you come away from other people's bedrooms" was the reply.

The right to recommend a course of action is attacked by showing how unlikely the opponent is to be a judge of another's behavior.

A different type of metadialogical argument is based on the interlocutors' commitments: if they are committed to a proposition A, they are also committed to the propositions B, C, and so on related thereto. The strength of this argument lies in the relationship between the commitments, whose likelihood can become the source of a joke. An example is the following (Cicero, *De Oratore*, II, LXX, 285):

Example 16: Argument from Commitment

Serious damage had been done to the case of a certain Piso by a witness named Silus, who had said that he had heard something against him; "It may be the case, Silus," said Crassus, "that the person whose remark you say you heard was speaking in anger." Silus nodded assent. "It is also possible that you misunderstood him." To this also Silus nodded very emphatic assent, so putting himself into Crassus's hands. "It is also possible," he continued, "that what you say you heard, you never really heard at all."

Crassus used a kind of slippery slope argument (Walton 1992): if the witness accepts A (the person was speaking in anger), then he should also accept

its consequence B (he can have misunderstood what he meant). However, this commitment leads to a further and unlikely one. In a serious context, this consequence would be fallacious. However, the inappropriateness of this move to the serious context of legal deliberation results in a shift to a different, playful, and rapport-building scenario, in which the unlikely conclusion and inference are indeed perceived as acceptable.

(META)LINGUISTIC JOKES

Enthymemes can also explain jokes based on the surprising interpretation of utterances—this is typically called "metalinguistic." The metalinguistic sources of humor can be analyzed as enthymemes, or rather as micro-arguments that represent the inferential mechanisms involved in the interpretation of an utterance at the locutionary, illocutionary, or perlocutionary level (Austin 1962; Hancher 1980; Macagno and Walton; for a more fine-grained approach, see Yus 2013).

The author of a joke provides the audience with an utterance that can be interpreted in two ways. The first interpretation can be reached automatically (or defaultively) (Jaszczolt 2005), resulting in a meaning commonly attributed to this type of utterance in most context (Koestler 1964, 44–45). However, it is rebutted by contextual evidence (Dascal and Wróblewski 1988), which calls for a different meaning—an unexpected, non–prima facie interpretation more appropriate to the specific context, as it can account for more contextual factors (Macagno and Walton 2013; Walton, Macagno, and Sartor 2021; see also Yus 2013). This interpretative conflict is not only between two meanings, but more importantly between two reasoning processes—the first based on interpretive heuristics, and the second on a conscious type of reasoning, commonly represented as a variant of the argument from best explanation (Atlas and Levinson 1981).

This interpretative puzzle unveils two different backgrounds or "frames of reference." In pragmatics, human communication is commonly analyzed as guided by conversational meta-presumptions (Atlas 2005, 91; Grice 1975), basically expressed by the principle that the interlocutors are presumed to cooperate in reducing their interpretative efforts. This principle can be expressed by the maxim that hearers should take what they hear to be *consistent with the presumptions of the common ground* in a given context, and speakers should consider such presumptions when they produce an utterance. In this type of joke, the hearer discovers that for the speaker some propositions normally perceived as unlikely are highly noncontroversial—at

the point that she relies on them to convey the meaning that she presumes to be the most accessible.

In the classical rhetoric we can find different types of surprising interpretative enthymemes, which stem from different linguistic dimensions, that is, what is said (the locutionary act), and what is meant, which can be described considering the type of speech act performed (the illocutionary act), and the effects intended to be produced on the hearer (the perlocutionary effect), including the further inferences that can be drawn from an utterance.

Quintilian (*Institutio Oratoria*, VI, III, 87) underscored that one of the most common sources of humor is the interpretation of "what is said" in a way that is different from the meaning understood by the hearer (*dicta aliter intellegendi*) (Libera 2014). The "dissimulation" consists in pretending not to understand the meaning of another's words, feigning a misunderstanding resulting from different aspects of meaning. The speaker can enrich (Sperber and Wilson 1995, 177–82; Recanati 1980) the meaning of an utterance in a way that is not coherent with the context in which it is uttered, such as in example 17 (Quintilianus, *Institutio Oratoria*, VI, III, 87):

Example 17: Locutionary Level—Grammatical Ambiguity

"Tell me, Marcus Tullius, what have you to say about Sextus Annalis?" To which he replied by beginning to recite the Sixth book of the Annals of Ennius.

The proper name is interpreted as having a reference different from its default interpretation: in this case, the interlocutor assigned pragmatically a reference to "Sextus Annalis" different from what is contextually appropriate and conventional (Macagno 2022; Yus 2013). This type of source of jokes includes other types of semantic specification—such as metaphors, or polysemic or ambiguous words.

A different type of misattribution of communicative intentions results from the contrast between a prototypical manifestation of a speech act and its literal interpretation. The grammatical form (sentence type) is often associated with the corresponding illocutionary force (an interrogative sentence is the prototypical way of expressing a request; imperatives are normally expressions of orders) (Strawson 1964). However, also other indirect associations can become prototypical: for example, questions can be used to gently express requests (Searle 1975; Recanati 1980). Example 18 (Cicero,

De Oratore, II, 64) plays on the "direct" (and not presumptive) versus the "indirect" (and prototypical) association between sentence type and speech act (Hancher 1980):

> **Example 18: Illocutionary Level. Different Prototypical Speech Act**
>
> "To the best of your judgment (in Latin: *ex tui animi sententia*, used as a solemn and formulaic oath), are you married?"
> "Surely not to the best of my judgment."

Here, the interlocutor takes a formula for expressing statements under oath (which we can compare to our sworn statements of the kind "I hereby state, to the best of my knowledge . . ."), namely as a kind of performative, as a literal request for information that he largely ignores in his reply.

The surprising enthymematic reconstruction of the illocutionary force can rest on the retrieval of inferences that are possible, even though weaker, namely unintended by the speaker as uncommon, and thus based on premises that are not presumably shared by the hearer (Sperber and Wilson 1995, 199–200). In example 19, the hearer specifies the content of the illocutionary act of complaining by attributing to the speaker an unlikely intention (Quintilianus, *Institutio Oratoria*, VI, III, 90):

> **Example 19: Unintended Inferences**
>
> Juba misrepresented another man's opinion, when he replied to one who complained of being bespattered by his horse, "What, do you think I am a Centaur?"

Clearly, the most likely interpretation of the complaint is that the rider is responsible for his property's actions—and thus for his failure to control the horse. However, Juba draws a different inference, namely that the speaker is complaining about Juba's behavior (the man is complaining about Juba's horse's actions; therefore, he thinks that Juba performed these actions). This misattribution of intentions, commonly referred to as straw man (Macagno and Walton 2017), is thus an unlikely reconstruction of the speakers' meaning—in this case by retrieving an unintended specification of the speech act.

Another strategy consists in attributing to an utterance a perlocutionary effect different from the one intended by the interlocutor. In example

20 (Quintilianus, *Institutio Oratoria*, VI, III, 87), this interpretative riddle is developed by relying on a non-prototypical topic-focus articulation (Atlas 1991; Gundel and Fretheim 2004):

Example 20: Perlocutionary/Locutionary Level—Topic-Focus

But there are also other ways of distorting the meaning; we may for instance give a serious statement a comparatively trivial sense, like the man who, when asked what he thought of a man who had been caught in the act of adultery, replied that he had been too slow in his movements.

In an ordinary context, the question is normally taken as a request of a value judgment on the man due to his act against morality (that happened to be discovered). However, the interlocutor attributes to the speaker a different intention, namely commenting on his being caught (in an act that happened to be adultery) (Koestler 1964, 77). Here, the syntactic articulation is used at a pragmatic level for attributing to the question a perlocutionary effect different from the defaultive one. The hearer, instead of addressing (in his uptake) the speaker's intention to elicit contempt toward the conduct of the adulterer, interprets the speech act as aimed at producing a different reaction (such as pity or contempt for his clumsiness) (for a comparable type of humorous effect, see Quintilianus, *Institutio Oratoria*, VI, IV, 50).

The last source of (meta)linguistic jokes consists in showing the infelicity of the act (Hancher 1980). An extremely effective strategy consists in bringing to light the unreasonableness of the presumptions on which it is based, rejecting the presupposition(s) (and thus the presumed common ground) on which an utterance is grounded, such as in example 21 (Quintilianus, *Institutio Oratoria*, VI, III, 73):

Example 21: Rejection of Presuppositions

Cicero [used this type of humor] when he refuted the extravagant lies of Vibius Curius about his age: "Well, then," he remarked, "in the days when you and I used to practise declamation together, you were not even born."

The interlocutor replies by apparently accepting the claim but in fact showing its unreasonableness—without accepting the presuppositions or by showing them as false, the utterance is absurd. While absurdity is in

itself surprising, unexpected, and unlikely, the continuation of the discourse together with a rebuttal of its presuppositions generates the same effect as a surprising enthymeme, namely the discovery that an alternative worldview is possible—defined by impossible events held as true (Hancher 1980).

Metalinguistic jokes can be analyzed as forms of nonpresumptive interpretations leading to the discovery of an interpretative possibility, based on a different perspective on what is commonly acceptable. This possibility, however, is not merely rejected as fallacious: rather, it defines a new dialogical context. Sometimes the mere possibility of an alternative interpretative hypothesis can be the source of surprise (example 17), emphasized by the discovery that the speaker is organizing his referential accessibility in a different way (for him, a text is more accessible than the individual the discussion is about). The discovery of a different "bestness" reveals a different worldview, which can be accounted for as a distinct dialogical intention. The author of a metalinguistic joke presents an unusual and more importantly a contextually inappropriate view on what "normality" is (example 20), what "causality" and "responsibility" are (example 19), or the degrees of prototypicality (example 18). The speaker thus displays a different perception of reality, which can be explained as a failed attempt to deceive the audience, or a mental problem (example 21). The nonpresumptive interpretation is thus an instrument for revealing a different organization of the shared view of the reality that can be explained and accepted by the interlocutor by shifting to alternative, nonserious, and playful dialogical settings.

CONCLUSION

The nature and types of the "logical mechanisms" underlying humor constitute a problem for humor research. On the one hand, the starting point of several theories (Ziv 1984; Attardo, Hempelmann, and Maio 2002; Attardo 2010; Ritchie 2014) is that humorous logic is a specific feature of jokes—sometimes compatible with logical axioms or flaunts thereof. On the other hand, research on the pragmatics of humor has pointed out how the inferential nature of jokes is explainable through the same mechanisms of ordinary conversation (Yus 2008, 2012, 2013). However, this approach has mostly focused on the triggers of inferences, the availability of the information necessary for the inferential conclusion, and the "mental representations" (or cultural background) needed for the interpretation of a humorous utterance. The logical mechanisms underlying how a conclusion has been drawn are not considered. The claim of this article is that the

logical mechanisms of humor are not different from the ones characterizing everyday arguments, namely enthymemes. We showed how jokes can be analyzed as different kinds of enthymemes, whose surprising conclusion is reached through patterns of reasoning grounded on premises that are unlikely yet acknowledged as true or acceptable. Clearly, this argumentative account captures only a specific aspect of the humorous effect, namely its conditions.

This approach provides four theoretical advantages. First, it sets out an instrument for analyzing, classifying, and describing jokes based on the reasoning that they involve. The logic of jokes is the same logic underlying the dialectical and rhetorical syllogism in the dialectical and rhetorical tradition, which can be quasi-formalized using the contemporary theories of argument classifications combining types of reasoning with semantic relations (Macagno and Walton 2015; Walton, Reed, and Macagno 2008). Second, it accounts for the pragmatic dimension that characterizes humorous texts (Brône and Feyaerts 2004). Arguments—and thus jokes—are communicative events (van Eemeren and Grootendorst 1984), namely reasons in support of a doubtful conclusion based on what the interlocutor regards as acceptable in a specific dialogical context (English 1994, 5–6; Palmer 2003, 105).

The third advantage lies in the distinction between the logical and the cognitive (or psychological) level, which allows explaining the pragmatic paradox of jokes. Enthymemes are based on what is commonly accepted because of what is known to be true or *likely*, but jokes rest on *unlikely* generalizations, which are, however, presented and regarded as generally acceptable. What makes an unlikely generalization generally acceptable? And more importantly, what makes a joke different from a fallacy, a deceit, or a mystery story (Gilbert and Mulkay 1984, chap. 8)? This paradox can be solved by considering the relationship between an argument and the conversational activity that defines its goal (Walton 2010b). Walton showed how traditional fallacies are in fact arguments inappropriate to the given dialogical context—a fallacy is thus simply an argument acceptable in some types of activity while weaker or unreasonable in others. Thus, the problem of acceptability and unlikelihood in jokes hides a much deeper question: Acceptable by whom and in what context? Likely for whom and in what circumstances?

In this argumentative perspective, jokes can be explained in terms of dialogical shifts to nonserious dialogues (a kind of rapport building, developing Walton's typology—see Cohen 1999; Norrick 1994, 2003), characterized by generalizations that are not verisimilar, nor similar to the "truth" that

defines the serious contexts (Mulkay 1988; Bakhtin 1984). Rather, jokes are dialogical events that carry with them and signal their own dialogical context—in which unlikely premises are not only plausible, but also acceptable (Mulkay and Howe 1994; Sacks 1978, 257). Jokes suggest a shift—or transaction (see Cundall 2007)—of the "frame of reference" (Koestler 1964, 34). An interaction presumed to be a serious decision-making (such as example 14 or example 18), an inquiry (example 16), or a rapport building defined by a specific relationship between the interlocutors (such as example 13, example 19, and example 21) is shifted by the unlikely premise to a playful or nonserious dialogue (Waisanen 2015; Norrick 1994), defined by distinct rules. While in fallacies we assess the suitability of a premise to the dialogical context, in jokes it is the context (the common ground) to adjust to the unlikely premise (Palmer 2003, 153). Jokes shift meta-pragmatically the dialogical context (Kotthoff 2006, 7), and with it the relationship between the interlocutors and the standards of what can be considered as likely.

Finally, the enthymematic account of jokes can explain the success or failure of humorous texts. The surprising or pragmatically paradoxical ones are grounded on tacit premises that are unlikely; however, this unlikelihood can fail to shift the context of its evaluation and be considered as wrong or offensive. A clear illustration is example 1, in which the humorous effect depends on the acceptance of tacit premises that nowadays—and in other contexts—would sound misogynistic and disparaging. This "common ground" presumed by the speaker would shift the dialogue not to a playful, rapport-building dialogue, but to an eristic one, with a very different effect. Similarly, the impossibility of or difficulty in retrieving the tacit premises can result in the failure to draw the intended conclusion, and outline the dialogue the speaker intends to play in.

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