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Where is the humor in verbal irony?

Abstract: Irony is often related to humor, both in spoken and written language. One possibility is that humor arises once people reconcile the incongruity between what speakers say and imply when using irony. Humor automatically emerges in these cases given the release of tension following a momentary sense of disparity. Our claim is that this proposal does not capture many of the dynamic complexities in real-world ironic discourse. We describe psychological research on irony understanding showing that ironic meanings are not always understood via a process of drawing conversational implicatures. Studies on people's spontaneous laughter when using irony suggest that the recognition of incongruity between what is said and implied is not necessary for eliciting humor. Laughter occurs at various places in conversation, and not necessarily at the end of speakers' utterances. People also laugh for reasons other than humor, such as to signal affiliation. Overall, finding the humor in irony is not the same as seen in simple jokes, and demands examination of a complex host of contextual factors not always considered in linguistic theories of humor.

Keywords: verbal irony, humor, psycholinguistics, laughter, encryption theory, incongruity

1 Introduction

Ironic language is perhaps the most likely among all forms of figuration to elicit humor. Consider, for example, the following excerpt of a conversation between several California university students when they ran into each other outside a campus coffee shop, noting some of the potentially ironic utterances in italics

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which we will discuss throughout this article (Gibbs 2000: 8). This excerpt was collected by a university student who transcribed the conversation and noted when people laughed, as well as some characteristics of how ironic remarks were spoken.

(1) Kayla: How are you doing?

    Cherie: Um . . . good. We're going to study Latin but the coffee shop is just packed.

    David: It's rockin'.

    Sarah: . . study Latin . . . Latin language?

    Kayla: It's wet out here.

    Sarah: *You guys are taking Latin*? (laughs)

    Cherie: Yeah . . . (laughs).

    Kayla: (whiny tone of voice) *But that's a dead language* (everyone laughs). I'm just kidding. is that not what everyone tells you?

    Cherie: It's true and we don't really know how to pronounce everything.

    David: It's really hard.

    Cherie: Yeah, but it's only a year-long program.

    David: *So, you're fluent in Latin after a year.* (everyone laughs)

    Kayla: *Right . . . right.*

    David: *It's true.* (everyone laughs)

    Sarah: *You read all those ancient texts, that's cool.* (laughs)

    Cherie: Why you guys dissin' on Latin?

    David: (mocking tone) *What, wo-ah, you're dissin' my Latin.*

    Kayla: Actually, Latin helps because, doesn't it, it helps with etymology, it helps with words, breaking words down.

    David: *Totally . . . yeah, yeah, she got it . . . yeah.*

    Cherie: Structure, parts of speech, yeah.

    David: *I'm a changed person since the last couple weeks of Latin.*

We know nothing more about the people in this conversation, other than that they were university students and casual friends. But it is reasonable to speculate that many of the speakers' utterances here may be broadly construed as "ironic". Irony is traditionally defined as cases where speakers/writers aim to communicate the opposite of what they literally say. But much linguistic research shows that irony is far more complex in its forms and functions, and may include cases where a speaker endorses what was literally said but still implies an ironic message (e.g., when a speaker says "I love drivers who signal before turning" and means this after a driver has just not done what was stated, cf. Sperber and Wilson 1995). Some scholars suggest that irony is an umbrella term

covering a variety of more specific figurative intentions, including sarcasm, jocularity, rhetorical questions, hyperbole and understatement (Gibbs 2000). Indeed, many of the so-called "ironic" remarks in the students' conversation above may be more properly characterized as being specifically sarcastic (blame by praise), jocular (praise by blame), and hyperbolic (overstatement). For instance, early in the exchange, Sarah rhetorically asks with jocular disbelief "You guys are taking Latin?" and then laughs, perhaps to indicate her derision of that fact. Cherie immediately acknowledges the oddity of taking Latin by agreeing "Yeah", followed by her own laughter. Kayla then utters, "But that's a dead language", which ironically echoes a common belief that learning Latin is futile given that it is a dead language, a comment that almost everyone present laughs at. When David later mockingly comments "So, you're fluent in Latin after a year", everyone laughs at the ridiculousness of such an assertion, with Kayla then non-seriously agreeing with David's comment by saying "Right . . . right". David then continues his derisive banter by stating "It's true", and thus mocks anyone who could possibly assume that one could be fluent in Latin after only one year of study. This comment also provokes a hearty burst of laughter among the participants. Sarah then picks up on her original stated disbelief about studying Latin by mockingly assuming "You read all those ancient texts", followed by an ambiguous, to some, "that's cool" and her own laughter. Cherie then complains "Why you guys dissin' on Latin?" which David openly mocks when he echoes, "What, wo-ah, you're dissin' my Latin". After Kayla seriously mentions some of the benefits of learning Latin, David ambiguously agrees with this by stating "Totally . . . yeah, yeah, she got it . . . yeah", and at the end self-mockingly makes the ironic comment "I'm a changed person since the last couple weeks of Latin".

This conversational interaction is obviously quite complex, but generally contains many remarks and questions that scholars have referred to as "humorous aggression", "humorous derision", "banter", "jocularity", and "teasing" (Gibbs 1994, 2000). Our focus in this article is on how and when irony gives rise to the experience of humor in verbal discourse. A traditional assumption within linguistic pragmatics is that humor often arises when people make an utterance that expresses some incongruity between what is literally said and pragmatically implied (Attardo 2001; Forabosco 2008; Raskin 1985). Listeners recognize this incongruity, which, in some psychologists' view, creates an affective tension that can be resolved or *relieved* once the speaker's communicative, and perhaps humorous, intentions are eventually understood (Berlyne 1972; Shurcliff 1968). Under this account, the humor in irony should always be localized to a particular moment in time that comes immediately *after* a speaker's ironic message has been correctly inferred.

Consider David's remark, in the above conversation, "So, you're fluent in Latin after a year" after which everyone laughs. The laughter here may reflect the *release of tension* after the incongruity has been resolved between what the speaker has said (e.g. can be fluent in Latin after only one year of study) and implied (e.g. there is no way that one can be fluent in a dead language after only one year of study). People's experiences of humor in such situations may emerge automatically as a release from the ongoing tension of struggling to maintain predictability in our social interactions (Oring 2003). Of course, humor serves much more than just a means to overcome tensions produced by exceptions to predictions. Explicitly causing pleasure in other people through the use of verbal irony typically makes them feel more positively toward the speaker, which can serve a multitude of social purposes.

Still, our main argument is that explaining how verbal irony sometimes creates humor requires a broader examination of the complex behavioral manifestations of linguistic humor in ordinary experience. Studying the relations between irony and humor demands, at the very least, that we attend to the phenomenological qualities and temporal characteristics of people's ironic experiences in discourse. People do not necessarily infer ironic meanings, or experience humor, at very specific points in verbal interaction, such as right after hearing a speaker's complete ironic utterance. Instead, ironic humor may unfold at different places, at different times, and for different people depending on various intersecting factors.

2 Irony as staged communicative acts

Ironic language is often considered to be a kind of nonserious speech or "staged communicative act" (Clark 1996). The key ingredient in these acts is pretense (Clark and Gerrig 1984). For example, in the above conversation, many of the students' utterances involve a speaker pretending to think or do some specific thing. When David says "So, you're fluent in Latin after a year", he only pretends to believe that one can be fluent in a difficult, dead language after only one year of study. Kayla then continues the pretense by affirming that David is correct when she says "Right . . . right". Most of the conversation is staged in the sense that each speaker created for the audience a brief, improvised scene in which an implied person, someone other than the actual speaker, makes an assertion to an implied listener (people who are not necessarily actual listeners). As coparticipants in this hypothetical scenario, the various speakers wish for the others to imagine the scene and to appreciate their pretense in staging it. By engaging in pretense, the students enable themselves to conceptualize of a seri-

ous topic (i.e., some of them are studying Latin), in a nonserious manner, which momentarily redefines the students' relationships (i.e., enhancing their social bonds).

Understanding ironic speech specifically requires sophisticated metarepresentational reasoning because the ironic meanings people comprehend are interpretations of some further thought or utterance, mostly attributed to individuals other than the speaker. Again, when David says "So, you're fluent in Latin after a year", he is pretending to be someone who seriously believes that Latin can be learned in one year. Metarepresentational reasoning is clearly entailed in irony as conversational participants must infer second-order beliefs that they jointly construct in pretend scenarios. In David's case, listeners need to infer that his statement about being fluent in Latin reflects not his own thoughts, but his beliefs about what some other, unknowing person must believe (i.e., a thought about someone else's thought or a second-order belief).

Psycholinguistic studies provide evidence that is consistent with this perspective on irony as staged communicative acts. For example, Colston and Gibbs (2002) compared people's interpretations of metaphor and irony, particularly when speakers use similar utterances in different contexts. Thus, the expression "This one is really sharp" can be employed to convey an ironic meaning when a teacher is referring to a dull pair of scissors, but asserts metaphoric meaning when a teacher is commenting positively on a very smart student. One study examined the metarepresentational inferences readers drew after reading expressions such as "This one is really sharp" in ironic and metaphoric contexts. One question looked at the importance of pretense in understanding the speaker's meaning in the final expression in each context (e.g., "This one is really sharp"). We expected readers to infer that a speaker was adopting pretense when using irony but not metaphor. Participants rated their agreement with the following statements:

> Irony: The teacher's remark reflects the fact that she is only pretending that the scissors are sharp.

> Metaphor: The teacher's remark reflects the fact that she is only pretending that the student is a cutting instrument.

The data showed that people gave higher ratings of agreement to the ironic statements than to the metaphoric ones, showing that readers recognize more pretense for irony than with metaphor.

Another statement looked at people's recognition of the allusion to prior beliefs in the speaker's final utterance in each story. Once again, irony reflects via

pretense a speaker's prior belief or verbally expressed opinion that no longer holds given the new context. Listeners should not understand most instances of irony unless they correctly infer how the speaker's utterance alludes to some previous belief or opinion. Participants rated their agreement with the following statements:

> Irony: The teacher's remark refers to her prior belief (meaning her belief about the scissors before the conversation) that the scissors should be sharp.

> Metaphor: The teacher's remark refers to her prior beliefs (meaning her belief about the student before the conversation) that the student should be sharp is only pretending that the student is a cutting instrument.

Not surprisingly, people gave much higher ratings of agreement to the ironic statements than to the metaphoric ones. This suggests that people thought that the ironies alluded to prior beliefs to a greater degree than did the metaphoric remarks.

The next statement examined people's possible recognition of the speaker's multiple beliefs in understanding ironies and metaphors. If irony depends on listeners' recognition of the speaker's complex metarepresentational beliefs, then participants should give higher ratings of agreement to the following ironic commentaries than the metaphoric ones.

> Irony: The teacher's remark reflects her multiple beliefs in that she is both referring to her present belief that the scissors are not sharp and her prior belief that the scissors should be sharp.

> Metaphor: The teacher's remark reflects her multiple beliefs in that she is both referring to her present belief that that student is a cutting instrument and her prior belief that the student should be sharp.

The data here showed significantly higher ratings of agreement for the ironic commentary than for the metaphoric ones. This finding shows that understanding irony reflects more complex recognition of the speaker's multiple beliefs than is the case when understanding metaphors. People clearly viewed ironic remarks as reflecting a speaker's second-order attributions in a way that was not necessary for interpreting metaphors.

Finally, to what extent did the speakers' final utterances (e.g., "This one is really sharp") mock specific beliefs? Again, understanding that a speaker mocks someone else, or some social norm, is critical to understanding irony, but not metaphor. Participants rated their agreement with the following statements.

Irony: The reason that the teacher possibly refers to her prior belief that the scissors should be smart is to mock this expectation, given that the scissors are not sharp.

Metaphor: The reason that the teacher possibly refers to her prior beliefs that the student should be sharp is to mock her expectation, given that the student is smart.

The ratings were, once more, significantly higher for the ironic commentaries than for the metaphoric ones. This result is consistent with the claim that irony mocks speakers' or listeners' prior beliefs more so than does metaphor.

We note that there were also questions for which people did not give higher agreement ratings for ironic statements than metaphorical ones. For example, when students were asked whether the teacher's statement "This one is really sharp" reflects her current beliefs, people gave similar ratings of agreement to both the metaphorical and ironic uses of the expression. This finding shows that people were not always interpreting the ironic utterances as having greater pragmatic effects than metaphor. Overall, though, the results from Colston and Gibbs (2002) suggest that people recognize that irony involves pretense and uses complex metarepresentational reasoning to mock an individual's prior beliefs. Part of the humor in some verbal irony, therefore, arises from people's abilities to draw metarepresentational inferences in order to discern a speaker's distance from, and mocking of, what is being said.

3   Must irony be difficult to comprehend?

The idea that irony involves metarepresentational reasoning seems, on the surface, to be consistent with the claim that irony must necessarily be more difficult to interpret than non-ironic speech, as well as many other forms of figurative language (Grice 1989; Searle 1979). If this were true, then people's humorous reactions to verbal irony may also require a burdensome cognitive process. However, the psycholinguistic literature presents contrasting data on this issue. For example, Gibbs (1986a, 1986b) and Pexman et al. (2000) have shown, using different measures of processing effort, that people often understand ironic messages as quickly as literal ones. Even complex ironic expressions, such as "Why don't you take your time washing the dishes?" (implying "Hurry up and wash the dishes"), can be easily understood given the right context (Gibbs 1986b). On the other hand, Giora (2002, 2011) has long argued that certain ironies should always take longer to process than non-ironic statements because people need to first analyze the context-free salient meanings of these expressions before ironic messages are properly interpreted. Various experimental evidence, obtained using different empirical methods, support this position.

One way of resolving this disagreement in the literature about the cognitive effort needed to understand irony requires a closer look at both the specific ironic utterances studied and the contexts used in the various psycholinguistic experiments. For instance, Gibbs (2000; see also Gibbs and Colston 2012) claims that some discourse contexts in which irony is seen evoke an ironic conception of the topic long before an ironic utterances is ever read, which subsequently speeds up the time it takes people to understand the ultimate ironic statement. The student conversation above illustrates this idea given that the participants are all, at varying times, "on stage" with their ironic remarks being linked together, almost as an "irony chain" (Gibbs 2000). Once a group of speakers adopts an ironic viewpoint in some interaction, people's use and understanding of ironic messages should be facilitated to a certain degree. Participants need not start linguistic processing of each ironic remark from a neutral position given that they are already in a pretense mode of understanding as they attempt to infer each speaker's ironic comments.

In other cases, however, ironic remarks may be quite novel or seen in context that do not create an ironic framework for interpreting subsequent ironic remarks, which may slow down processing of ironic meaning. Pexman (see Pexman et al. 2010; Kowatch et al. 2013) and Giora (Giora 2011; Giora et al. 2007) present contrasting data on the possible effect that that ironic contexts have on immediate verbal irony comprehension. As Gibbs and Colston (2012) observed about these debates, however, the fact that so many experiments find that people can infer ironic meanings quickly demonstrates that the classic two-step Gricean model of irony understanding has been falsified. By no means does this conclusion imply that irony never takes extra cognitive effort to interpret, as Colston and Gibbs (2002) found. People can often infer ironic meanings without necessarily having to interpret these as classic conversational implicatures, a conclusion that is consistent with the tenets of Relevance Theory and its echoic mention view of irony understanding (Sperber and Wilson 1995). This conclusion raises several questions regarding the incongruity view of humor, especially in regard to how ironic humor is experienced in discourse.

4　Is the experience of humor part of irony understanding?

Psycholinguistic studies on irony comprehension, as noted above, have often examined the cognitive effort required to understand what specific ironic comments imply in particular contexts, typically by measuring people's reading times for

irony (at either the word or whole sentence level). Consider the statement above in which David states "I'm a changed person since the last couple weeks of Latin". This instance of irony, or specifically hyperbole, took the listeners some amount of cognitive effort, measured in time, to interpret. Within the context of a standard psycholinguistic experiment, participants would read this statement in context and push a button indicating that the utterance has been understood. But what exactly is the product of that understanding? Does the reader merely understand that the statement has ironic meaning referring to the speaker not really being a changed person from studying Latin the last couple of weeks? Or does the reader's button push, and the time that it overall takes, include both an understanding of the specific ironic meaning in context *and* something of his or her affective/aesthetic reaction to what the speaker communicated?

These questions are important to consider if we wish to seriously apply the psycholinguistic findings to issues related to the role of humor in verbal irony use. For the most part, psycholinguists have not discussed in detail what a reading time response entirely entails in irony interpretation. The traditional assumption within psycholinguistics was that the response or reading time measure taps into "meaning understanding" but not necessarily people's affective and aesthetic responses to what they heard or read.

More recent studies within psycholinguistics and cognitive neuroscience, however, suggest that online utterance interpretation often engages wide "webs of meaning" including various sensorimotor and emotional associations (Gibbs 2006; Hauk and Tschentscher 2013; Newcombe et al. 2012). It is possible, then, that humor responses may be elicited quite quickly in discourse, and indeed, can sometimes arise before people process a speaker's complete verbal utterance. Our argument is that there is no simple, invariant linear sequence associated with processing ironic humor. People do not always begin processing a linguistic utterance, then interpret what it communicates in context and only then affectively react to it, perhaps by laughing. We can also genuinely ask whether the incongruity perspective embraces the idea that the time needed to understand irony actually includes the affective response, or the release of tension, which is closely part of what irony sometimes communicates in discourse.

5 Do people recognize ironic utterances as expressing "ironic" meaning?

A related issue regarding the time required to infer ironic meaning concerns people's possible recognition of a speaker's deliberate intention to express irony by

his or her utterance. Do speakers use irony deliberately and necessarily desire listeners to recognize that deliberate intention? Our judgments of the deliberate nature of irony are closely tied to the impression that a person was mindful of irony and wanted others to interpret their speech as being deliberately ironic. The problem, though, is that the frequency and distribution of irony in human interactions does not necessarily entail that the ironic acts in question were created with conscious and deliberate intent. Gibbs (2011) argued that although people may strategically employ irony in discourse, this does not imply that they consciously think "I will now speak ironically" which leads them to speak in a specific figurative manner. The student speakers in the above conversation may have wanted to mock others in some cases, but may have employed irony as the best way to do this without any conscious deliberation. In fact, there is actually no empirical evidence to support the claim that people typically recognize irony as a special type of language during their online interpretation of ironic language.

But might speakers, nonetheless, provide clues in their talk that signals their utterances should be interpreted a deliberate irony? Vocal pitch is often cited as an important part of the ironic tone of voice, especially lowered pitch (e.g. Cheang and Pell 2008), and is believed to be critical to inferring that what a speaker implies is different from what is said (Grice 1989). But psychological studies show that the tone of voice assumed to be associated with irony is similar to that used when people simply speak angrily, or are inquisitive (Bryant and Fox Tree 2005). There is, therefore, no specific tone of voice cue that uniquely identifies some utterance as conveying irony.

A different possibility is that instead of using some particular "ironic tone of voice" to help listeners derive proper inferences, speakers tend to contrast prosodic features of ironic utterances with speech immediately preceding them. Consider the following exchange between two housemates discussing past roommate experiences (Bryant 2010a: 563):

(2) Kristen: My side of the room would always be messy.
    Shayna: You the messy one? Ha.
    Kristen: Hah ha ha, I know, can you believe it?

Kristen explains that in a past living situation, her side of the room would be messy, and this comes as no surprise to Shayna, her current roommate. Shayna responds with an ironic rhetorical question that elicits ironic jocularity, and in it she exaggerates particular prosodic features associated with interrogatives. Kristen responds with exaggerated surprise signaling her participation in the irony, especially with the shared laughter following Shayna's laugh. These vocal signals

functionally serve to mark play, and make this part of the interaction distinct from other talk in the immediate communicative context without necessarily intended everyone to see the marked segments as ironic. One study measured pitch, loudness, and speech rate contrasts in spontaneously produced verbal irony utterances generated in conversations between friends (Bryant 2010a). Ironic utterances were compared to the speech immediately preceding them, and these baseline utterances were compared to utterances immediately preceding them as an index of contrast rates not related to verbal irony. Speakers produced significantly more contrasts when they spoke ironically, and they also contrasted more dimensions simultaneously. The only consistent change across most instances of ironic speech was that speakers often slowed down their speech during ironic utterances – possibly to give listeners more time to process the irony. Still, marking one's speech as playful (a cognitive effect) is not the same as signaling that one has deliberately employed irony, or more specifically sarcasm, jocularity, hyperbole, etc to bring about these effects. There are no specific linguistic or paralinguistic devices that uniquely, and unambiguously, identify a linguistic utterance as being specifically ironic.

Most generally, it is important not to confuse people's general intentional desires in communication with more specialized conscious, deliberate thought processes. Theories of irony use and understanding need not assume that there is a stage of deliberation that precedes the production or interpretation of ironic speech and actions. We do not make categorical judgments that "I am about to produce irony" or "The speaker has said something ironically" in engaging in ironic performance.

6 Incongruity reconsidered

Part of the long-standing appeal of the Gricean perspective on irony is that is coincides with the intuition that irony understanding involves recognition of incongruity between what speakers semantically state and what they ironically imply. But does the psycholinguistics research – showing that irony, at least in many contexts, can be interpreted quite easily – contradict the incongruity thesis? After all, how do people sense incongruity, and later resolve this with comic *relief*, if they are *not* first analyzing what an utterance literally says?

There are several ways to answer this question. The entire relationship between incongruity and humor is quite complex (Dynel 2012; Forabosco 2008). Many incongruities in both language and life are neither humorous nor ironic (e.g., many non sequitur responses to remarks), and there are funny (and ironic) things which are not incongruous in any meaningful way (e.g., a person

behaving in a way that confirms a stereotype they already embody). In other cases, the specifics of the context matter more than some crude incongruous relationship between the propositions associated with what is said and implied. Many ironies allude to people's expectations about real world events (see Dynel 2013 for an overview). Indeed, incongruities between what is expected in some event and what actually happens are sometimes more meaningful than incongruities between what was said and implied. The expectation versus reality discrepancies do not always neatly align with stated and implied meanings, and yet can still readily be interpreted ironically.

For instance, one study that examined the role of expectations in verbal irony comprehension presented participants with examples of ironic speech in situations where a clear deviation from expectations had occurred (Colston 2001). These were compared to situations where such a deviation was not readily apparent. The former kind of ironic speech involved spoken echoes of common positive expectations when events turned out relatively and unexpectedly negative (labeled "echoic"), such as saying "What great news", when you get a traffic ticket in the mail". The latter type involved negative commentary about positive events, in which the comments do not echo commonly held positive social norms (labeled "negative jests"), such as saying "What awful news" when you win an award. The participants rated these different comments along a number of dimensions across several experiments.

The results revealed that people found that the direct comments ("What great news" about an award, and "What awful news" about a ticket) did not express violations of expectations on the part of the speakers. However, sarcastic comments ("What great news" about the traffic ticket) were seen as reflecting a speaker's violation of expectations in that participants believed speakers had expected things to have turned out better than they did. The negative jests also were seen as reflecting a speaker's violation of expectation, but in these cases people thought the speakers had expected things to have turned out worse than they did. Finally, the degree of violation for the negative jests was greater than that for the sarcastic comments.

One implication of these findings is that the simple mention of something oppositional or incongruous to a given event is insufficient for an ironic interpretation to occur. Instead, people recognize that a speaker's utterance refers to some violation of his or her prior expectations. In this manner, irony is based more on violations of expectations than the simple propositional incongruity between what is said and pragmatically implied, contrary to the pragmatic accounts of Grice (1989) and Searle (1979).

A second general concern with the classic incongruity thesis is that once people enter into an ironic mode of thinking, as when the students fully en-

gaged in staged communication about studying Latin, they may generally appreciate the pretense in their speech and laughter without necessarily having to compute the incongruity of what each speaker's utterance says compared with what it pragmatically implies. Thus, incongruity at a general level may be noticed and then assumed, yet this does not necessarily come with a cognitive cost in terms of how each individual utterance is comprehended and responded to.

Third and related to the above, incongruity may exist at many levels in a discourse situation without this ultimately resting on the conflict between a speaker's semantic and pragmatic meanings. Contrasts in prosody might represent one of the many ways speakers attempt to signal their intentions (Bryant 2010a). Perceptible changes in the acoustic signal mark the utterances explicitly and can facilitate the desired understanding, and reaction. But prosodic contrasts, or any kind of contrast for that matter, might be better understood as one part in a much more global process working across utterances and communicative contexts rather than as a local feature of individual words or utterances. The interaction dynamic sets up contrasts, but also stands as an ongoing coordination between conversationalists. In this sense, ironies (and the humor that emerges in part through the ironies) are among the enormous array of phenomena that allow people to achieve pragmatic goals. The humor is not functioning in any way specifically, but instead might best be characterized as epiphenomenal to the discourse process.

Finally, even if people have some experience, conscious or tacit of incongruity when irony is used in discourse, this experience may sometimes occur downstream from some specific incongruity between a current ironic comment and the speaker's intended meaning of that comment. For example, in the initial example, one of the participants might have simply laughed along with the others when David said, "So, you're fluent in Latin after a year". Laughter is contagious, especially in a small group of people who are joking with one another and have already collectively laughed. Only at some point later, though, might that participant fully realize the explicit contradiction presented by the comment, between a person learning a language, "after [only] a year", and the more likely reality that fluency would take longer, in part because they recall the earlier comment that learning Latin is, "really hard".

7 Finding the humor in irony

Where does humor arise in ironic discourse? One possible way of examining this question is simply to track when people laugh after irony is used. Laughter can figure prominently in discourse play, and act as a metacommunicative signal by

which people acknowledge the presence of pretense. One study has shown that over half of all ironic utterances in spontaneous conversations between friends were closely associated with laughter (Bryant 2010a). When used with irony, laughter can likely be used to help listeners recognize an ironic intention, although this has never been demonstrated empirically. Many instances of laughter "bracket" ironic play (Bryant 2010a). Thus, conversationalists will laugh (often together), engage in some ironic exchange with obvious pretense, then laugh together again and resume the conversation while concluding the pretense component. Laughter can often recommence the previous play, or perhaps signal a new play.

Consider the example from the introduction. David at one point remarks "So, you're fluent in Latin after a year" and in response everybody laughs. The conversationalists now enter into a pretense mode, which was signaled by the co-laughter. Kayla chimes in with "Right . . . right" and David continues with "it's true" after which everybody laughs again. Finally, Sarah adds her line to the verbal play and asks (again, rhetorically) "You read all those ancient texts? That's cool" and again, everyone laughs. The pretense is bracketed by laughter, and once it has run its course, Cherie asks more seriously, "Why you guys dissin' on Latin?" which evokes more ironic scorn. An important observation that this example illustrates is that the laughter is not signaling humor specifically, but rather is helping the conversationalists nonverbally coordinate their constructed play.

Determining who is laughing and when they do so also complicates the challenge of finding humor in ironic language. Provine (1993) noted that a majority of laughter in natural conversation was actually produced by speakers, not listeners. For example, several speakers in the student conversation laugh immediately after stating some utterance. On the surface, this laughter may be understood as speakers laughing at themselves. But, once again, it might be better to consider this sort of laughter as a metacommunicative signal that denotes play and facilitates the upcoming co-action. Moreover, laughter does not simply occur at the end of speakers' utterances, as speakers often generate laughter within words, and switch rapidly between laughter and talking (Bryant 2011). Indeed, a closer look at most conversations in which irony is used shows laughter coming and going throughout what speakers say, including laughs generated by both speakers and listeners. The distribution of laughter across conversations reveals the complex dynamic of conversational coordination that undermines more simple analyses of humor that concentrate on punch lines and specific laugh signals.

Humor should not be considered the pragmatic function of the irony, but instead an important regulatory component of indirect social communication.

Proximately, these interactions involve a subjective sense of being funny, but ultimately (i.e., evolutionarily), these interactions serve many social signaling functions. As with humor more generally, verbal irony typically allows speakers to mutually recognize implicit information. Flamson and Barrett (2008) proposed, and presented empirical studies in support of the idea, that humor is often a form of encryption in which people signal honestly the possession of certain knowledge that requires specific implicit knowledge to recognize (i.e., a key). When this recognition occurs, it is subjectively experienced as funny, and often results in some indicator of that (e.g., a laugh).

When people signal to each other the possession of mutual unspoken knowledge, they are assorting themselves socially. Laughter can operate as a type of social glue in such contexts, and consequently open up a niche for social exploitation (Flamson and Bryant, 2013). If laughter indicates the recognition of some encrypted information, it is not easy to know whether the listener actually got the humor, or they merely recognized the presence of humor and produced a laugh to pretend understanding. This effort is motivated by the desire for accessing the many possible benefits of sharing humor with someone. The power of the encryption idea is that it explains why incongruity, and other proximate mechanisms described by various theories of humor, matter to speakers. If speakers want to ensure understanding of a remark and garner inclusive social relations, which also likely accompanies some explicit motivation to be funny (like in a crowd with a large audience), then they should often produce utterances in a highly contrastive manner, including linguistic and prosodic features. But in other cases where the goal is more about exclusive social assortment, and wide understanding is a not the goal, then speakers should generate utterances with few if any disambiguating features. In fact, Flamson, Bryant and Barrett (2010) show that speakers in a town meeting generated humorous utterances that were encrypted jokes shared by a subset of the group, and did not contain any contrastive prosodic features.

Not all laughs are the same, of course, and this too complicates the search for humor in irony. Scholars have distinguished between different kinds of laughs, designating some as deliberate as opposed to spontaneous (e.g., Gervais and Wilson 2005). This distinction relates closely to "fake" versus "real" smiles, or Duchenne smiles. Laughter generated during the production of different kinds of smiles have been labeled similarly, and recent research has explored the difference between real and fake laughs, with real laughs containing acoustic features such as relatively higher pitch and greater energy, as well as a higher proportion of unvoiced elements (Bryant and Aktipis, in review). When people laugh, they can signal to others successful decryption, but also to possibly mark humor, signal irony, and potentially trigger laughter in others. By laughing together,

conversationalists can jointly communicate a willingness to pursue a relationship and/or continue to cooperate, and they can broadcast this information to others not immediately involved in the interaction.

Recent research has examined the acoustic features of laughing together in spontaneous conversation (Bryant 2010b). Consider a small segment of a conversation between Jill and Annie who are 18 year-old women and have been friends for about four months. These friends were discussing roommate experiences, and began laughing together immediately producing similar laughs. Annie then asked Jill about her roommate by saying "So, what does Kelly do?" and immediately laughed again, triggering Jill to laugh along in close synchrony. The two ended this co-laughter bout with simultaneous inhalations likely indicating their mutually entrained speech production and breathing (Wilson and Wilson 2006), which was followed by Jill saying "no Kelly, why do we have to start with Kelly?" Co-laughter generates a collective signal that is broadcast to those outside of the interaction, so overhearers can infer relevant relationship information from listening to people laugh together. The effort to broadcast affiliation to outsiders might be enhanced if the co-laughter was longer, louder, and less acoustically variable (all features that facilitate signal transmission in noisy environments).

One examination of over 2000 laughs, taken from 41 natural conversations between friends and strangers in all gender combinations, found that co-laughter between friends in particular did have many of these predicted differences from individual laughs (Bryant 2010b). Not surprisingly, friends laughed more than strangers, and women laughed more than men. Friends and females also produced more voiced laughs (i.e., laughter with tonal properties) relative to unvoiced laughs, a finding that is consistent with previous results showing that voiced laughter is typically judged as more emotionally positive than unvoiced laughter (Bachorowski and Owren 2001). Friends also produced significantly more co-laughs than strangers, but did so with much more variable timing. Moreover, research shows that observers are able to distinguish whether people laughing together are friends or strangers by the quality of their laughs alone (Bryant, 2010b), an effect that has now been replicated in over 18 cultures across 6 continents, including three traditional, indigenous populations. These data strongly suggest that co-laughter, across cultures and languages, constitutes a signal of affiliation, and is not simply outward evidence of people's private humorous experiences.

Still, it is important to recognize that humor need not necessarily involve laughter. In many cases, humor might be channeled into other behaviors like retorts, participation (adding to the ironic stance), or adding new irony to a discourse (e.g., saying deadpan to a funny joke, "That's not funny at all"). There may

even be parallel processes that actively seek to suppress humor (i.e., in the case of a person holding negative attitudes toward a speaker making humorous remarks, when competition is at play such that a person squelches their experience of humor to resist social bonding with a speaker, etc).

Finally, people's experience of humor in ironic discourse may not simply be a matter of individuals automatically feeling that some remark is funny and then laughing aloud as a result. Some ironic interactions may be structured around speakers intending for listeners to specifically draw humorous reactions to what they said. In other situations, people may speak ironically, and hope that listeners draw relevant inferences about what they imply without any expectation of listeners responding humorously through laughter. One difficulty with the linguistic literature on humor is that it too often assumes humor to be a spontaneous and private affair where individuals "leak out" their inner reactions through laughter and other indications of mirth. But there may be differences in the ways speakers intend their remarks to be understood and appreciated as being funny that in turn affect the ways listeners subsequently respond. This is clearly one topic in need of further discussion and research.

8 Conclusion

Our essay has touched on several issues on the relations between irony and humor in verbal interactions. Ironic utterances are staged communicative acts that are produced and understood in light of people's complex metarepresentational reasoning abilities. Nonetheless, people can sometimes readily infer ironic messages without having to first analyze and then reject the literal or semantic interpretations of speakers' utterances. Various personal and contextual information, including the earlier recognition that speakers are "on stage" and engaged in pretense, enable listeners to infer ironic meanings, and perhaps humorously enjoy them, without undue cognitive labor. We are not entirely sure whether standard measures of irony understanding within psycholinguistics necessarily include people's affective reactions to what they are hearing. But other cognitive science research suggests that complex emotional and embodied information plays an immediate role in people's interpretation of language, including various kinds of figurative speech. This work points to the possibility that at least some humorous reactions to irony may quickly arise in discourse, and even shape people's understanding of ironic meanings per se.

We have consequently argued that humor does not simply emerge only once listeners have resolved the local incongruity between what speakers say and

imply, typically after processing the pragmatic meaning of a speaker's entire utterance. People may experience humor along different dimensions of verbal irony given the wide-ranging pretense that speakers often engage in during close personal interactions. As with many staged communicative acts, the pretense associated with irony exists along multiple levels of description. For example, pretense is manifested within broad socio-cultural scenarios (e.g., university students' playful banter at particular social occasions) down to the vocal characteristics of articulating specific words (e.g., the contrast in how a person talks while "on stage" and previously "off-stage".). The complex ways that pretense is dynamically enacted and experienced makes it difficult to state that humor typically arises at very specific places within ironic discourse. Laughter is also distributed through ironic speech, not just at the end of speakers' utterances. Moreover, much empirical research on laughter makes it clear that it is not always possible to tell from the outside what kind of affective experiences a person is having when they laugh or verbally respond to irony in a particular way. People laugh for all sorts of reasons, including various social and communicative purposes that do not simply reflect their private, asocial, affective reactions to what they, or others, have said. Laughter often surrounds ironic speech, as seen in the student conversation that is the primary focus of this article. Still, it is a mistake to view laughter as an automatic indication that people are finding something to be purely funny.

These observations cast doubt, in our view, on any simple theory that people understand the ironic meaning of an utterance and then humorously react to it given the release of tension they momentarily experienced during the interpretation process. We believe that this conclusion leads us away from simple incongruity theories of ironic humor, most of which derive from attempts to model isolated joke understanding and appreciation. The simple fact is that humor scholars cannot fully recognize the changing dynamics in human discourse by merely looking at language on the page. Instead, humor scholars should pay greater attention to the real-world behavioral complexities of using irony in conversation. Studying real conversations and laughter, along with other nonlinguistic qualities of talk, is critical to finding when and how humor emerges within ironic discourse. We should note the varied ways that irony can be used and how ironic meaning unfolds across discourse, and not just at the beginnings and ends of speakers' utterances. Similarly, we should recognize that laughter, typically seen as the best indicator of humor, may serve many complex social functions that differ depending on the people involved, the character of their laughter, and what they may be attempting to achieve by their coordinated verbal behaviors.

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