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# Intervening with Interjections: A Comprehensive Approach to Study Ambiguity in Natural Conversations

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#### **Abstract**

Ambiguity during communication, in which a linguistic or gestural sign has multiple meanings, is often considered to be a deterrent to successful communicative interactions. The resolution of ambiguity, therefore, has been a concern in linguistics and in communication studies. This paper critiques certain prevalent experimental paradigms, which have been the most popular approaches to investigate ambiguity resolution, and proposes an alternative methodology to understand and address this phenomenon.

**Keywords:** Experimental studies in ambiguity, language, pragmatics, semantics, gestures, interjections

## 1. Introduction

Ambiguity, a phenomenon pervasive in all languages, results when signs, linguistic or otherwise, have multiple meanings or interpretations. Within linguistics, ambiguity has been considered a property of language, wherein a single linguistic form could imply more than one meaning. The meanings, however, could sometimes be semantically related (Wang 2011). For example, compare the words *see* and *bank*. *See* could mean perceiving something, noticing or becoming aware of a person or object—primarily by using one's eyes, having the ability to see, forming a mental picture of something, visualising an event, understanding something, supposing, or recognising an event or action. While seeing a bird fly across and seeing the point of an argument are different from one another, the two meanings are, nevertheless, semantically related. This is different from the word *bank*, where the sense of it being a financial institution or referring to the riverside are not semantically related; similar is the word *bark*, which could refer to both a dog's call or the

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outer layer of a tree's trunk, where the sense of 'call' and 'outer layer' are not related. Etymological, morphological and semantic analyses, taking into note, metaphoric and metonymic extensions of the words and the senses, and syntactic parsing are some of the ways to distinguish between homonyms and polysemous words (See Rajendran 2014 for an exposition of how related and unrelated pairs of words are distinguished).

In studies that aim to study communication, ambiguity is examined in a related yet subtly different manner. For example, in pragmatics, ambiguity is studied with reference to how participants in communication negotiate various interpretations of a single utterance. Words, phrases, utterances can potentially have more than one interpretations or meanings. It could be problematic during communicative interactions given that the utterances speakers use could be interpreted in more than one ways by the recipient. Rajendran (2014) notes that "native speakers who speak a natural language have an implicit knowledge or competence to understand correctly these ambiguous utterances", as they have a capability of assigning a relevant interpretation to the utterances they create and receive, and they have an implicit knowledge that utterances could have multiple meanings or interpretations.

There is ample literature concerned with what ambiguity is (see, for example, Kempson 1977; Hirst 1992; Cruse 1982; Ruwet 1983; Yusuf 1984,1990; Bach 1998; Oloruntoba-Oju 1999; Wasow et al. 2005, 2015; Handke 2013), what the various types of ambiguity are (structural or syntactic and lexical; Bach 1998; Handke 2013; Rajendran 2014) and how we resolve ambiguity (Swinney 1979; Ide and Veronis 1990; Krovetz and Croft 1992; Mc Roy 1992; Ahrens 1998; Faust and Chiarello 1998; Holler and Beattie 2003; Rajendran 2014). Importantly, the disciplines of semantics, syntax, pragmatics, or gesture studies have dealt with the problem of ambiguity in distinctly different ways.

Within studies in semantics, for example, the concern is not with the implications of ambiguity for communication. Rather, semantic studies examine whether the words that indicate multiple meanings are related, whether the senses that the words denote are derived from a single source, what the variations in the semantic extensions of the root or source word are, or whether the multiple meanings of the words are systematic or arbitrary (for example, Ibarretxe 1999; Rodd *et al.* 2002, Sweetser 2011; also see Geeraerts 2010, Language in India <a href="https://www.languageinindia.com">www.languageinindia.com</a> ISSN 1930-2940 15:7 July 2015 Rolla Das, M.A. Ph.D. Candidate, Rajesh Kasturirangan, Ph.D. and Anindya Sinha, Ph.D. Intervening with Interjections: A Comprehensive Approach to Study Ambiguity in Natural Conversations

for a comprehensive review of semantic approaches and their accounts of multiplicity of meanings associated with lexical units).

Within Pragmatics, the concern, however, is to provide general descriptions of participants' actions during communication. The pragmatist and philosopher of language H.P.Grice, for example, proposed the use of specific normative maxims that would serve to conduct a communication event effectively, rationally, cooperatively and *unequivocally* (Grice 1969, 1975; Fredsted 1998, italics added). In other words, Grice's conversational maxims is based on the assumption that in 'unmarked' cases, that is, in straightforward uses of language, ambiguity is an undesirable feature and is an obstacle for effective, cooperative communication (Grice 1969, 1975). Fredsted (1998) notes that even Aristotle in his Rhetoric, proposed that "ambiguity should be avoided unless it is intentional". However, while Grice's conversational maxims capture the 'unmarked' uses of language, Grice and other scholars have examined how in 'marked' uses of language, cases where the normative maxims are not adhered to, participants understand one another's intentions. In contexts where participants deliberately flout these maxims, recipients, it is proposed, interpret the speaker's intention on the basis of conversational implicatures, that is, by inferentially interpreting not only what speakers said, but also taking into account what speakers could have meant precisely by flouting the maxims (Grice 1969, 1975; see Levinson 1983, for a detailed exposition on the same). In pragmatics, therefore, the primary question ceases to centre on whether utterances are ambiguous, but rather, how participants interpret and understand intentions, in spite of utterances having the possibility of indicating multiple interpretations.

Gesture studies, although not directly preoccupied with issues of ambiguity, have offered insights into not only how spoken language but also gestures could potentially assist in disambiguating meanings in different contexts (for example, Kendon 1985, 2004; Holler and Beattie 2003).

Thus, while there have been a multitude of linguistic, syntactic or semantic analyses to understand the operation and resolution of ambiguity (Katz & Postal 1964; Chomsky 1965; Lakoff 1970; Zwicky and Saddock 1975; Cruse 1982; Hirst 1992; Tuggy 1993), these are largely theoretical and have remained aloof from practical considerations <a href="Language in India www.languageinindia.com">Language in India www.languageinindia.com</a> ISSN 1930-2940 15:7 July 2015
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of how participants of communicative interactions understand one another in spite of using words, phrases, sentences or gestures that potentially have multiple meanings. There have also been experimental approaches to study how ambiguity is resolved (for example, Swinney 1979; Onifer and Swinney 1981; Faust and Chiarello 1998; Rayner 1998; Trueswell 1996; Dussias 2003; Holler and Beattie 2003) but these too have focussed on decontextualised and abstract situations without being concerned with the processes by which participants resolve ambiguities in everyday communication. In this paper, we critically examine the characterisation and understanding of ambiguity as revealed by empirical studies and provide a more comprehensive framework to study potentially ambiguous utterances—words or gestures—in natural conversations.

#### 2. Types of Ambiguity

Ambiguity has generally been categorised into three types: syntactic (or structural) ambiguity (Bach 1998), lexical (or semantic) ambiguity (Bach 1998), and the much less studied and discussed pragmatic ambiguity (Donnellan 1966; Fredsted 1998).

Syntactic ambiguity results from phrases or sentences that could be interpreted in multiple ways owing to their particular syntactic structure or by virtue of containing certain specific syntactic categories, such as ellipsis, pronoun deletion, or indeterminate attachment to modifiers (Wang 2011). Such ambiguity results, for example, when a particular sentence can potentially be parsed differently. Take, for example the sentence, *flying planes can be dangerous* that Chomsky (1957, 1976) used for illustrating structural ambiguity. Here, *flying planes* could either refer to the act of flying planes or planes that are flying.

The most common type of ambiguity is that of lexical ambiguity. It originates at the level of the word, where a single word refers to more than one meaning, as, for example, the above-mentioned *bank*, which could refer to a financial institution or the riverside. Within the domain of lexical semantics, a branch of linguistics that studies the meanings of words and their interrelationship, such ambiguity is distinguished into two categories: homonyms and polysemy (Lyons, 1977, 1981; Cruse, 1986; Rodd *et al.* 2002; Wang 2011). The words *bank* (a financial institution) and *bank* (riverside) are similar in terms of their orthographic representation or in how they are written and homophonic or Language in India <a href="https://www.languageinindia.com">www.languageinindia.com</a> ISSN 1930-2940 15:7 July 2015
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phonetically similar but have distinct differences in their meanings. Within this category, ambiguity can also result from homophones, which are words that are orthographically different but phonetically similar, as, for example, *right* and *write*. In contrast, words such as the above-mentioned *see* have multiple meanings, which are orthographically similar, but are considered to be polysemous, owing to the systematic and close relatedness of their various meanings.

Within lexicography, concerns about ambiguity of various types have influenced how dictionaries are constructed. While, in most cases, lexicographers have been in agreement regarding whether different meanings of a lexical unit should correspond to different lexical entries or whether they should correspond to different senses within a single entry (Rodd *et al.* 2002), there has been considerable debate regarding the categorisation of distinct lexical entries (Lyons 1977, 1981; Kilgarriff 1992). Within such lexicographic approaches, words and their meanings have been tested against several criteria, such as etymological, semantic or syntactic, in order to clearly distinguish between the senses and meanings of words (Rodd *et al.* 2002).

Pragmatic ambiguity results when a particular utterance could have multiple interpretations or could invoke or involve presuppositions of different kinds. For example, when one says, "could you pass me the salt", it could be interpreted to either question the participant's ability to pass on the salt or her willingness to do so (see Searle 1969 for indirect speech acts). Again, the utterance, "I miss you too" could involve presuppositions of various kinds and could mean, I miss you just as you miss me, or I miss you just as someone else does, or, I miss you as I miss someone else as well.

# 3. The Problem of Ambiguity in Linguistics

Conversations

Wasow, et al. (2005) have argued that "the central function of languages is presumably the representation of information, normally for communicative purposes." It has thus been argued that, in communication, information is conveyed from the sender to the receiver, the sender producing a signal which is received and interpreted by the receiver (Shannon and Weaver 1949; cf. Grice 1969, 1975). If there is no ambiguity, the system is optimal, as it reduces the comprehension and production efforts of both participants. In contexts of ambiguity, however, there are potential risks of miscommunication in the absence Language in India <a href="https://www.languageinindia.com">www.languageinindia.com</a> ISSN 1930-2940 15:7 July 2015
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of proper disambiguation. The primary concern of pragmatics, therefore, has been two-fold: to guard against the risks of potential ambiguity and miscommunication or to devise mechanisms and processes which allows participants to negotiate the hurdles of potential ambiguities. However, there are few exceptions to the dominant paradigm, for example Brown-Levinson (1987); Lakoff (1977); Leech (1977, 1983), Charles (1995) who have studied the importance of deliberate ambiguous statements to achieve a variety of interactional actions, for example, to achieve poetic effects, to mitigate disagreements, to diplomatically negotiate power-relationships or to euphemistically indicate multiple senses when a single reading is undesirable or impolite.

Within semantics too, it has often been argued that ambiguity is not advantageous in all contexts (see Rodd et al. 2002 for discussions on ambiguity advantage hypothesis and its constraints). Consequently mechanisms have been formulated to resolve ambiguities. For example, Rajendran (2014) notes some of the mechanisms adopted for resolving ambiguity such as adoption of parts of speech tagging (POS tagging), usage of selectional restrictions (Katz and Fodor 1963), consultation of neighbouring words and dictionary definitions, consideration of Bayesian classification models (Yarowsky 1992), lexicon cohesion models (Morris and Hirst 1991), neural network models (Ide and Véronis 1990), all of which in some ways aim to capture the context in which the word could be used and what its appropriate interpretation would be in the given context.

What must be stressed here is that the primary concern in all the approaches outlined above has been to 'resolve' ambiguity rather than to understand its prevalence and circulation in natural, everyday, conversations. A similar stance has also been taken for other parallel concepts, such as polysemy and vagueness in allied fields. While several scholars have generally disapproved of ambiguity as a normative mandate (for example, Grice 1969, 1975; BA Oluga 2010), others have increasingly taken note of its ubiquity and instead of denying or resolving the issues that are raised by its presence, have argued for studies that focus on the rationale and effectiveness of its occurrence (see Piantodosi et al. 2012; Wasow 2015).

Within gesture studies, it is argued that gestures and speech collaborate in representing aspects of the speaker's "common cognitive representation, which neither exhibits completely' (Mc Neill, 1985, p.353). In other words, information that is not <a href="Language in India www.languageinindia.com">Language in India www.languageinindia.com</a> ISSN 1930-2940 15:7 July 2015
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contained in one semiotic mode, for example, speech, is provided by gestures, the other ubiquitously, accompanying semiotic mode in order to offer a fuller insight into a speaker's cognitive representation of an event. Another perspective, within gesture studies, proposes that we get a richer account of speech-gesture associations, if we perceive gesture as an "available resource, and try to see how participants deploy it in the light of how they understand how its properties may best meet the current communicational requirements of the interactional situation in which they are taking part" (Kendon 1985, p 233). In conformance with the latter perspective, therefore, attempts have been made to reveal how gestures facilitate communicative efficiency. Studies have demonstrated how in contexts of use of homonyms and lexically ambiguous statements, gestures provide disambiguating information in contexts where speech alone is considered insufficient by the speakers (Holler and Beattie 2003). Longitudinal studies have also been conducted to explore how children develop their ability to resolve lexical ambiguity via speech, gesture or both (Kid and Holler 2009).

## 4. Empirical Approaches to Ambiguity

Conversations

From the perspective of ambiguity resolution, certain studies, using experimental approaches, have investigated how instances of ambiguity, which ostensibly cause communication problems, are resolved by speakers. These have investigated various aspects of ambiguity, especially how ambiguity affects language processing and comprehension. Some studies have thus tested whether semantic context has any effect on lexical access during sentence comprehension (Swinney 1979), whether familiarity of word meanings affect processing times to access a lexical unit in order to disambiguate the various meanings of the same lexical unit (Gernsbacher 1984), whether ambiguity has differential effects in different types of linguistic tasks (naming, lexical decision, semantic categorisation) (Hino *et al.* 2002) or whether gestures assist in resolving lexical ambiguities (Holler and Beattie 2003).

These studies have typically used decontextualised sentences, verified by native speakers, to ask experimental subjects what the different senses of a particular word were, or how they could disambiguate the different senses of that word. In most cases, the stimuli used were isolated lexical tokens (Hino *et al.* 2002; Rodd *et al.* 2002), while some studies included their semantic or sentential contexts in order to make the stimuli more natural (For example, Swinney 1979; Faust and Chiarello 1998). Other investigations have used experimental setups wherein they provided pictorial or textual narratives that included ambiguous terms and Language in India <a href="https://www.languageinindia.com">www.languageinindia.com</a> ISSN 1930-2940 15:7 July 2015
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asked participants to recount the narratives to subjects who were ignorant of the original story (Holler and Beattie 2003). Within this framework, these studies have also deployed some explicit markers to draw attention to the relevance of the resolution of the ambiguity for a successful understanding of the story, as retold by the participants.

In conformity with these paradigms, we had earlier studied a few homonyms in order to understand how speakers disambiguate between different meanings of a selected set of orthographically similar words (Das and Kasturirangan 2013; Das and Kasturirangan, in prep.). It is important to note, in this regard, that while earlier studies have used, as their target words, those that fell under the category of 'nouns' and 'adjectives' (for example, Foss 1970; Swinney 1979; Kendon 1985; Rodd *et al.* 2002; Holler and Beattie 2003), we extended the scope of our investigations to study words that could be included in the category of 'interjections'. The results of this investigation prompted us to question the feasibility of studying words that were ambiguous in their affective content using the commonly accepted experimental paradigm. Drawing from the insights that were obtained, we provide, in this paper, an alternative framework to comprehensively study interjections and other words or phrases, which embody varying affective stances, in natural conversations.

## 5. Ambiguity Resolution in Interjections: A Case Study

In our study, we broadly followed the framework used by earlier investigations (see Holler and Beattie 2003), wherein the experimenter had asked participants, in individual trials, to visually examine sentences consisting of ambiguous words, such as glass, pot, ring, bow, bark, arms, toast, That's great!, Yeah!, Right!, Of course!, No way!, Really? and Is it so?, projected on a computer screen. The experimenter then requested participants to explain the meaning of the ambiguous words contained in each sentence, indicate whether the speaker's communicative intent (in the imagined conversation presented as stimuli) was clear in the sentences presented, and explain the meaning of words that were potentially ambiguous (Das and Kasturirangan 2013; Das and Kasturirangan, in prep.).

The study, conducted in the city of Bengaluru in southern India, involved 50 college-educated, multilingual volunteers, including 40 females and 10 males. The study provided us with three key results:

A. The response of the participants to the situations involving target words, which fell under the speech type, noun and verbs, were comparable with earlier studies, that is, participants used gestures (primarily representational, iconic hand gestures<sup>1</sup>), speech or both to disambiguate different meanings of each word. However, there was also a significant difference in the way hand (and other) gestures were used in the resolution of noun and verb ambiguity in contrast to interjection ambiguity (Das and Kasturirangan 2013; Das and Kasturirangan, in prep.). This suggested that the strategies used to connote the various senses are markedly different in the case of interjections. For example, in the speech repertoire, a significant number of participants disambiguated the different meanings of nouns or verbs through the use of synonyms, descriptions, explanations involving spatial terms (size, length, shape) or function (glasses: something to drink from or what is worn when reading) of the target words. For interjections, however, they referred to attitudes and feelings, such as being irritated or being sarcastic, and the like.

With reference to the gesture repertoire, participants routinely used representational, iconic gestures, which represent imagistic content, to disambiguate nouns or verbs but not interjections. For example, when confronted with the word glasses, participants often used their hands to point towards their eyes and/or mimicked holding a drinking glass in their hand. But, for interjections, they often changed their prosody or used distinct facial expressions. It was thus clearly evident that other semiotic devices are necessary to disambiguate the multiple senses of an interjection.

B. The participants' response to the various target words were semiotically different from one another. Words such as Really?, Is it so? or That's great! could not be disambiguated either verbally (by using a single word or an equivalent synonym) or by using hand gestures. It is noteworthy that most gesture studies on lexical ambiguity so far have observed hand gestures, whereas we observed that many of the interjections could be disambiguated by other embodied conducts, including facial expressions or prosodic tones.

<sup>&</sup>lt;sup>1</sup> See Holler and Beattie (2003) for the categorization of gestures. For the use of gestural repertoire during disambiguation of the categories of nouns, our findings were comparable with their study. It is being reported in a separate paper (Das and Kasturirangan in prep).

The participants themselves routinely referred to prosodic tone as an important element that could be used to distinguish the various meanings of interjections.

C. The disambiguation of nouns and verbs could be successfully achieved by reference to the sentential context in which these words were embedded. In contrast, however, the participants reported that knowledge of the context or the prior conversational event was absolutely essential for the successful disambiguation, or a proper understanding of the various meanings, of interjections, even though a sentential or a short conversational context was provided for them.

#### 6. Ambiguity Resolution in Interjections: Insights

Our study extended the oft-used experimental paradigm, typically used to explore lexical ambiguity in nouns and verbs, to that of interjections. While some earlier investigations have examined the effect of ambiguity on language processing using isolated words as stimuli, several others included sentential (words preceding or following the target word) contexts as stimuli. A significant issue worth noting concerns the stimuli set for nouns and verbs and for interjections, which could not be designed in a similar manner. In fact, the standard design typically used for nouns or verbs proved to be woefully inadequate for interjections. For example, we found that while nouns or verbs could be included in a sentence, such as "Pass me those glasses please", where glass could be marked as the target word, it was not possible to present stimuli that included interjections in the same way. We thus had to devise a similar, but modified, format for the latter. Depending on relevance, we added one, or at times, two sentences before the interjection in order to make it look like a natural conversation. Furthermore, we argue that the existing empirical frameworks may also not be adequate for target words or phrases that are ambiguous in the different attitudes, stances and emotions that they could potentially convey. Nevertheless, given the pervasive use of such words or phrases in everyday language, their role and functioning in conversations require urgent attention.

Typically, studies that have investigated the role of gestures in resolving lexical ambiguity have focussed on lexical units such as nouns or verbs, as they allow for disambiguation on the basis of providing imagistic, gestural or verbal descriptive information (see Holler and Beattie 2003). To the best of our knowledge, we have not, till date, <a href="Language in India www.languageinindia.com">Language in India www.languageinindia.com</a> ISSN 1930-2940 15:7 July 2015
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encountered any such study being conducted on syntactic categories such as adjectives or adverbs, in spite of them having comparable descriptive or imagistic content in their structure. What is more relevant is the observation that the speech type of interjections has never been studied within such a framework.

Moreover, in asking participants to display how they would disambiguate the various meanings of a specific word or express its different senses, the traditional experimental paradigm enforces them to 'act' in a specific manner, which may seem to be distant from how speakers and recipients normally use certain lexical types, in this case, interjections, under natural circumstances. The ecological validity of the experiments, therefore, comes into question. While such studies routinely refer to how the experiments mimic the real world situations, it is hard not to notice the enforced and task-driven focus of the experimental setups that creates a distance between what is considered relevant or problematic by participants, as observed by their conducts during a communicational event vis-à-vis what the experimenters create as problematic in an experimental setup. This leaves us with a pertinent question, do the standard empirical paradigms, in such a situation, ever represent real-world phenomena?

## 7. Ambiguity in Natural Conversations: A Comprehensive, Alternative Framework

In light of the above-mentioned shortcomings of the traditional empirical frameworks, we have adopted an alternative methodology to study interjections or comparable affectively loaded words or phrases. Even before attempting to understand how ambiguity, could be potentially resolved (if it at all exists,) in natural conversations involving interjections, we needed to understand whether the interacting participants considered such interjections to be ambiguous at all.

We first recorded participants engaging in natural face-to-face conversations. As the first stage of analysis, after repeated observation of the entire recording, we separated out conversational excerpts in which participants used specific interjections and categorised them according to the user—whether speaker or recipient and the various embodied conducts associated with the usage of the interjection—including, for example, head and hand gestures, gazes, smiles or prosodic manipulations. We also noted whether the interjection was used alone or was embedded in a longer utterance.

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It is worth mentioning here that within Conversation Analysis, Sacks et al. (1974) demonstrated that when speakers produce an utterance, occasionally either the speaker herself realises that there is or could be a problem communicating a information, or the addressees have trouble understanding what the speaker meant. In such cases either the speaker or the addressee indicates the trouble. When the speaker initiates the trouble and resolves it, it is called self-initiated, self-repair and when the addressee initiates and resolves it, it is called other-initiated, self-repair. Keeping in mind the processes via which participants locate potentially problematic contexts and resolve such problems, we noted subsequent interactions following the use of the interjections as well because that would have allowed us to consider the larger discourse context in which it was used and see whether the interjection use caused any communication problem.

Such a framework allowed us to not only examine how participants in conversation use terms such as interjections, which have often been considered notorious in their ambiguity and vagueness, but has also provided us with a completely different set of observables. For example,

Based on our data, the interjections would be classified under the specific tags as below:

Lexica		Sequential	Indication	Gestures	Prosody	Sense
Unit	Producer	Position	of trouble			

We, therefore, replaced the rather artificial conception of context, which was, in earlier experimental studies, represented by sentences or words, with actual conversations in which 'ambiguous' words were being used and understanding shared. It is also crucial to note that there was virtually no evidence of any miscommunication, as revealed by the conduct of the participants, following the use of interjections.

It is perhaps illuminating that similar reflections exist in the relevant literature. In a classic study, for example, Wasow et al. (2005) observe that

"Others have told us that they find the ubiquity of ambiguity unremarkable because in normal situations of language use, non-linguistic information

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usually suffices to disambiguate. Indeed, most people don't even notice the potential ambiguities in most utterances. For example, the sign (purportedly spotted in Heathrow airport) Dogs must be carried could, in principle, mean that only people carrying dogs are allowed in that location (analogous to Shoes must be worn) or, more naturally, that dogs are forbidden there except when they are carried. But commonsense knowledge of the world keeps anyone but a linguist from noticing the former interpretation."

What is unfortunate, however, is that such insightful observations have tended to remain neglected and virtually never incorporated into subsequent explorations of such intriguing phenomena. The need of the hour is, therefore, not to ask whether ambiguity confounds communication but whether ambiguity is of any major consequence at all in natural conversations.

## 8. Concluding Remarks

Conversations

In conclusion, ambiguity during communication, in which a linguistic or gestural sign could have multiple meanings, has often been considered a deterrent to successful communicative interactions. The resolution of ambiguity, therefore, has traditionally been a concern in linguistics and in communication studies. We have, however, critiqued the current experimental paradigms, which presuppose the existence of ambiguity and propose approaches to resolve it in a de-contextualised manner. Resolution of ambiguity which makes a system optimal in terms of information production and comprehension could have important implications for natural language processing but it is debatable whether ambiguity resolution, specifically, lexical ambiguity does indeed pose communication problem in natural, face to face interactions. The important question to ask, we opine, is whether participants in everyday conversations perceive such ambiguity at all.

Whither next? We suggest two promising lines of enquiry into the development and potential applications of the mechanisms by which interactants are able to comprehend meanings in apparently ambiguous conversational contexts. First, how do children learn to resolve seeming ambiguities and understand variations in meaning associated with them, as they grow and develop? Conceivably, our proposed naturalistic framework could unravel the processes underlying such development, as reflected in the changing use of speech, gestures <a href="Language in India www.languageinindia.com">Language in India www.languageinindia.com</a> ISSN 1930-2940 15:7 July 2015
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or their associations in growing children. Second, our framework could be useful for scholars working on human-computer interfaces, where coding individual words, creating semantic networks and facilitating lexical retrieval allowing for contextual effects are all of great importance. This may also be of significance to linguists who, instead of aiming to resolve ambiguity, are requesting more attention towards the various facets of natural, yet less than ordinary, aspects of incomplete, unambiguous language. Piantadosi *et al.* (2012) and Wasow (2015), for example, mention how ambiguity, which has been considered a deterrent in language comprehension, is, in actuality, an 'efficient' aspect of how language functions. Conceptions of ambiguity perhaps originate from a detached and decontextualised understanding of how language operates whereas, in our everyday world, meanings exist in extremely rich, contextual niches, which provide us the coordinates of making sense of our myriad worlds.

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