

A Psycho-pragmatic Analysis of Baba's Utterances

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Abstract

This study conducts a Psycho-pragmatic analysis of the spontaneous utterances of a young child, 'Baba', within naturalistic domestic settings. Grounded in Sperber and Wilson's Relevance Theory, the research investigates how a developing communicator utilizes limited linguistic resources, to achieve communicative goals and optimal relevance. Employing a qualitative, interpretivist research design, the study performs a micro-analysis of transcribed interactions between the child and adult interlocutors. The analysis focuses on the relationship between cognitive effects and processing effort, as well as the derivation of explicatures and implicatures in early child discourse. Key findings reveal that despite a nascent linguistic system, the child's communicative acts are consistently geared toward maximizing relevance, by leveraging shared cognitive environments and the inferential abilities of adult interlocutors. Through five distinct case studies, ranging from direct requests to complex imitations, the paper illustrates the sophisticated Psycho-pragmatic strategies employed in early childhood. The study concludes that early language use is a dynamic, ostensive-inferential process, where meaning is actively constructed, through a reciprocal negotiation of relevance. These findings have significant implications for understanding the cognitive architecture of pragmatic development and inform practices in developmental psychology and speech-language pedagogy.

Keywords: Psycho-Pragmatics, Relevance Theory, Child Language Acquisition, Cognitive Effects, Processing Effort, Inferential Communication.

Introduction

Language acquisition is a complex developmental process, extending beyond mere grammatical competence to encompass the social and cognitive dimensions of communication. Children, from their earliest stage of language development, engage in pragmatic acts, learning not only what words mean, but also how to use them effectively in diverse

social contexts to achieve communicative goals. This pragmatic development is deeply intertwined with cognitive growth, as children develop the ability to infer intentions, understand context, and manage conversational turns. Psycho-Pragmatics, an interdisciplinary field, explores this link, investigating the psychological processes that underlie pragmatic competence and performance. While extensive research has illuminated various facets of child language acquisition, the varied interplay between a child's developing cognitive abilities and their pragmatic choices, particularly in spontaneous, naturalistic interactions, need further exploration. This study examines the utterances of a young child, 'Baba', within natural conversational settings, shedding light on those Psycho-pragmatic dynamics.

Despite significant advancements in understanding child language development, a persistent challenge lies in comprehensively analyzing the spontaneous and often fragmented utterances of very young children. Traditional linguistic analyses often focus on grammatical structures or lexical acquisition, sometimes overlooking the rich pragmatic information embedded in those early communicative acts. The inferential nature of early child communication, where much is implied rather than explicitly stated, presents a methodological hurdle for researchers seeking to understand the child's underlying cognitive processes and communicative intentions. Specifically, there is a need for studies that apply pragmatic theories, such as Relevance Theory, in the analyses of child-adult interactions to uncover the cognitive strategies children employ to achieve relevance and convey meaning, even with limited linguistic resources. The present study addresses this gap by examining 'Baba's utterances through a Psycho-pragmatic lens. This study is guided by the following research questions:

- i. How do Baba's utterances demonstrate the principles of Relevance Theory, particularly the balance between cognitive effects and processing effort?
- ii. What Psycho-pragmatic strategies does Baba employ to communicate intentions and achieve communicative goals within naturalistic interactions?
- iii. How do adult interlocutors' responses to Baba's utterances reflect an understanding and negotiation of his developing pragmatic competence?

This study holds significant implications for several fields. For linguistics and Pragmatics, it contributes to the empirical validation of Relevance Theory in the context of child language acquisition, offering fine-grained insights into how children navigate the complexities of communication. For developmental psychology and cognitive science, it provides a window into the developing cognitive architecture that underpins pragmatic reasoning, illustrating how children infer intentions and manage information processing. Furthermore, the findings can inform educational practitioners and speech-language pathologists, offering a deeper understanding of typical pragmatic development, which can aid in identifying and supporting children with communication difficulties. By focusing on naturalistic data, the study offers ecologically valid insights into the dynamic and interactive nature of early language use.

This study is delimited to a Psycho-pragmatic analysis of the provided transcript of 'Baba's utterances, focusing specifically on the application of Sperber and Wilson's Relevance Theory. The analysis primarily concentrates on the child's communicative acts and the immediate adult responses within the recorded interactions. While the data offers rich insights into spontaneous communication, it represents a limited sample from a single child, thus restricting the generalizability of findings to broader populations of children. The study does not aim to provide a comprehensive developmental timeline of pragmatic acquisition but rather to offer an in-depth analysis of specific communicative instances. Furthermore, the analysis is constrained by the textual nature of the transcript, which may not fully capture non-verbal cues or prosodic features that are integral to pragmatic meaning-making.

Pragmatics and its Interface with Psychology

The study of Pragmatics, the branch of linguistics concerned with language use in context, has a rich intellectual history. Central to this field is the work of Grice (1975), whose Cooperative Principle and conversational maxims (Quality, Quantity, Relation, Manner) provided a foundational framework for understanding how speakers and hearers collaborate to achieve effective communication. Grice posited that communication is guided by an assumption of rationality and cooperation, where participants strive to make their contributions relevant, informative, truthful, and clear.

Building upon Gricean insights, Sperber and Wilson (1986), developed Relevance Theory, a cognitive-pragmatic framework that re-

conceptualizes communication as an ostensive-inferential process driven by the pursuit of optimal relevance. Unlike Grice, who proposed maxims that can be violated, Sperber and Wilson argue that the two principles of relevance (Cognitive and Communicative) are universal generalizations about human cognition and communication that are always at play. Their theory posits that every utterance carries a presumption of its own optimal relevance, guiding the hearer to seek the greatest cognitive effects for the least processing effort.

Further conceptual contributions to Pragmatics include Stephen Levinson's comprehensive work, which delves into various pragmatic phenomena such as deixis, implicature, and speech acts, providing essential tools for analyzing the nuances of language use. The philosophical underpinnings of speech acts, particularly the idea that language can perform actions, were famously articulated by Austin (1962) in his seminal work *How to Do Things with Words*. Austin's distinction between locutionary, illocutionary, and perlocutionary acts offers a framework for understanding the different levels of action performed through utterances.

The interdisciplinary field of psycho-Pragmatics, which bridges cognitive psychology and Pragmatics, has been explored by scholars such as Dascal (2003). His work emphasizes the mental processes involved in interpretation and understanding, highlighting the crucial role of context and individual cognitive environments in shaping pragmatic meaning. In the realm of child language acquisition, Matthews (2014), has provided significant conceptual insights into the stages of pragmatic development, from early pre-verbal communication to more complex discourse management. Complementing this, Tomasello (2003), usage-based theory of language acquisition underscores the social-cognitive foundations of language, stressing the importance of intention-reading and pattern-finding in children's linguistic development.

Matthews et al. (2018), reviewed individual differences in children's pragmatic ability, linking pragmatic competence to formal language, social cognition, and executive function. Hickmann (2003) explored children's discourse across languages, demonstrating how pragmatic development unfolds in relation to person, space, and time in communicative interaction. Levinson (1983) offered a broad and systematic treatment of Pragmatics, examining deixis, implicature, presupposition, and speech acts as core tools for understanding language in context.

Empirical Insights

Empirical research has consistently sought to validate and refine these conceptual frameworks, particularly in the context of child language acquisition. Alduais (2022) conducted a systematic review of pragmatic language development, mapping the acquisition of pragmatic skills from infancy through adulthood. This study highlights the sequential nature of pragmatic skill development and the various factors influencing it. The relationship between pragmatic ability and broader cognitive functions has been a key area of investigation. Matthews et al. (2018), for instance, empirically demonstrated the association between individual differences in children's pragmatic skills and their formal language abilities, as well as their social cognition, including theory of mind. Further research by Biney and Abbot-Smith (2018) has explored the link between executive functions and children's capacity to derive implicatures in conversational settings, indicating the cognitive demands of pragmatic inference.

Early communicative acts, such as imitation, have also been subject to empirical scrutiny. Foster (1986) provided a pragmatic analysis of spontaneous imitations in children, revealing how these acts serve as crucial pragmatic tools for turn-taking and maintaining discourse, rather than mere mimicry. The acquisition of more complex pragmatic phenomena, such as scalar implicatures, has been investigated by Papafragou and Musolino (2003), whose experiments shed light on how children (typically aged five and above) process these inferences compared to adults, indicating a developmental trajectory in pragmatic reasoning.

Wilson and Carston (2007) have contributed to the empirical understanding of lexical Pragmatics, analyzing how children construct ad hoc concepts through enrichment processes in their utterances, further supporting the inferential nature of communication as proposed by Relevance Theory. Finally, Heidi Hickmann's (2003) extensive empirical work on children's discourse across different languages has illuminated how children acquire the ability to refer to entities and events in discourse, managing person, space, and time in their communicative acts. These empirical studies collectively underscore the cognitive complexity involved in pragmatic development and provide a rich backdrop for analyzing the specific utterances of a child like Baba.

Theoretical Framework

This study is primarily guided by Sperber and Wilson's Relevance Theory. Relevance Theory offers a major framework for analyzing how

communicative acts are interpreted by hearers, emphasizing the cognitive processes involved in inferring meaning. The theory establishes that every act of ostensive communication (an utterance) communicates a presumption of its own optimal relevance. This presumption guides the hearer to seek an interpretation that yields sufficient cognitive effects (new information, strengthening or weakening of existing beliefs), for the least possible processing effort.

Specifically, the analysis leverages on the core tenets of Relevance Theory:

1. The Cognitive Principle of Relevance: Human cognition is geared towards maximizing relevance, meaning our attention and processing resources are naturally drawn to information that promises the greatest cognitive benefits for the least effort.
2. The Communicative Principle of Relevance: An ostensive stimulus (like Baba's utterances) creates an expectation of optimal relevance. This means the stimulus is relevant enough to be worth the audience's processing effort and is the most relevant one compatible with the communicator's abilities and preferences.
3. Explicatures and Implicatures: The theory distinguishes between explicatures (developments of the logical form of an utterance, involving disambiguation, reference assignment, and enrichment) and implicatures (contextually inferred propositions that are not explicitly stated but are necessary to satisfy the expectation of relevance).

By applying these principles, the study analyzes Baba's utterances to understand how he, as a developing communicator, attempts to achieve relevance and how his adult interlocutors interpret his communicative intentions. The framework allows for a detailed examination of the inferential processes at play, even in utterances with limited linguistic complexity, providing insights into the Psycho-pragmatic mechanisms of early language use.

Additionally, elements of Speech Act Theory are implicitly considered to categorize Baba's utterances as performing specific actions (requesting, asserting, expressing emotion), which further informs the analysis of his communicative intentions, within the Relevance Theory framework. The interplay between these theories provides a

comprehensive lens, through which to analyze Baba's early language use through the Psycho-pragmatic perspective.

Methodology

This study employs a qualitative, interpretivist research design, focusing on a micro-analysis of spontaneous child-adult interactions. The primary data source is a transcript of naturalistic conversations involving a young child, referred to as 'Baba', and his adult interlocutors (R and M). The transcript, designated as ATR.MC.01B (142-331) and recorded between August and October 1992, captures authentic communicative exchanges in domestic settings.

The data consists of transcribed verbal interactions, including Baba's utterances, adult responses, and contextual notes (actions, laughter, environmental cues). The transcript provides both the original utterances and, where necessary, English translations or interpretations are made. This naturalistic approach to data collection is crucial, for observing pragmatic phenomena as they unfold in real-time, offering insights into the dynamic and emergent nature of child communication.

The analysis proceeds in several stages, guided by the principles of Sperber and Wilson's Relevance Theory:

1. **Identification of Communicative Acts:** Each of Baba's utterances was identified as a communicative act, whether verbal or non-verbal (e.g., gestures, babbling that elicits a response).
2. **Contextualization:** For each communicative act, the immediate linguistic and non-linguistic context was thoroughly examined. This includes preceding utterances, shared physical environment, and background knowledge assumed by the interlocutors.
3. **Assessment of Cognitive Effects:** The potential cognitive effects of Baba's utterances on the adult interlocutor were evaluated. This involves considering how Baba's message might strengthen existing assumptions, contradict previous beliefs, or lead to new contextual implications for the adult.
4. **Estimation of Processing Effort:** The processing effort required by the adult to interpret Baba's utterance was considered. Factors such as linguistic clarity, semantic ambiguity, and the need for contextual enrichment were assessed.
5. **Explicature and Implicature Derivation:** For each utterance, an attempt was made to derive the explicatures (the explicit content enriched by context) and implicatures (contextually inferred

propositions) that would satisfy the expectation of optimal relevance for the adult interlocutor.

6. **Identification of Psycho-pragmatic Strategies:** Based on the analysis of cognitive effects, processing effort, explicatures, and implicatures, the study identifies the Psycho-pragmatic strategies Baba employs to achieve his communicative goals, even with limited linguistic resources.
7. **Adult Response Analysis:** Adult responses were analyzed to understand how they interpret and negotiate Baba's communicative attempts, providing further evidence for the relevance-theoretic interpretation.

This systematic approach allows for a detailed examination of the inferential processes underlying early child communication, providing empirical grounding for the theoretical claims of Relevance Theory in a developmental context.

Data Presentation and Analysis

The analysis of Baba's utterances reveals a dynamic interplay between his developing linguistic abilities and his innate drive for relevant communication, consistent with the tenets of Relevance Theory. Despite his limited vocabulary and grammatical structures, Baba consistently attempts to maximize cognitive effects for his interlocutors, while minimizing their processing effort, often relying heavily on context and shared cognitive environments.

Case Study 1: The

Case Study 1: The "Pooh-pooh" Interaction (Lines 1-17)

Plain Text

1. (Early in the morning, Baba apparently
- 2 from the toilet meets R in the bedroom)
- 3 / Daddy, gu-moni /
- 4 R: Baba O / ---/ Daddy
- 5 Good morning 2x / fine /
- 6 How are you? / ---/ 260
- 7 / Daddy / - - -/
- 8 R: You pooh-pooh? / Un m pooh-pooh /
- 9 [Yes I pooh-pooh]
- 10 R: You pooh-pooh? /en--1

- 11 1.....
 12 R: Let me go and clean for you (No response)
 13 R: Who is this? / ----/
 14 R: Get up X XX /Un-Un/
 15 [No No]

In this exchange, Baba, having just come from the toilet, is met by R. The interaction begins with a conventional greeting, but quickly shifts to a more pragmatically loaded exchange. R's question, "You pooh-pooh?" (Line 8), is a direct attempt to infer Baba's state and needs, given the context of Baba coming from the toilet. Baba's response, "/ Un m pooh-pooh / [Yes I pooh-pooh]" (Line 8-9), despite its phonetic approximation, is highly relevant. It provides a significant cognitive effect for R, confirming the assumption that Baba has indeed defecated and requires assistance. The processing effort for R is minimal, due to the strong contextual cues. The explicature is clear: Baba has used the toilet. The implicature is a request for R to clean him, which R immediately infers and acts upon by saying, "Let me go and clean for you" (Line 12). Baba's subsequent resistance ("/ Un-Un / [No No]" in Line 14-15), further illustrates his developing communicative intent, even when it is to refuse an inferred offer. This sequence demonstrates how a child with limited linguistic resources can still achieve optimal relevance, by leveraging shared context and the adult's inferential abilities.

Case Study 2: The "Rain Outside" Interaction (Lines 30-35)

Plain Text

- 30 (It is drizzling) /jEnnta/
 31 [RainOutside]
 32 / ----/ 33 /jEn/
 34 R: Rain. Where are you going? /----ga/
 35 (S insists on going into the rain through courtyard)

Here, Baba observes the drizzling rain and utters "/jEnnta/ [Rain Outside]" (Line 30-31). This utterance, while descriptive, carries significant pragmatic weight. Given the context of a child observing rain, the cognitive effect for R is not merely the information that it is raining, but an understanding of Baba's potential desire or intention related to the rain. The processing effort is low, as the utterance directly corresponds to the observable environment. The explicature is that there is rain outside.

The implicature, however, is more complex: Baba might want to go out into the rain, or he might be commenting on the weather as a precursor to an action. R's follow-up question, "Rain. Where are you going?" (Line 34), explicitly seeks to clarify this implicature, indicating R's inferential process. Baba's subsequent insistence on going into the rain (Line 35) confirms his communicative intention, demonstrating his ability to use even simple observations to convey complex desires and influence the interaction.

Case Study 3: The "My ball" Interaction (Lines 50-70)

Plain Text

50 R: What? (S Laughs) / won /

51 [Want]

52 R: You want your ball? /ye/

53 [Yes]

54 / Daddy, gi'me daddy / 165

55 [Daddy, give me (my ball)]

56 J: / ---/ 57 -/ 58 R: What is this? / ---/

59 R: What's this one? /b :/ [Ball]

60 R: Good? (S giggles)

61 R: 'You want to play it? (S runs in another direction, but with no verbal response)

62 R: Come here, come here

63 J: Take /b :/[Ball]

64 (S Laughs, plays wvith J)

65 (J shuts door so that S does not go out)

66 /Siil 170

67 / Daddy, my ball /

68 / Joke siil

69 J: Take your ball / ball, ball/

70 (But J still holds the ball) / ban mu/

This segment illustrates Baba's direct and indirect requests for his ball. When R asks, "You want your ball?" (Line 52), Baba responds with a clear "/ye/ [Yes]" (Line 53), providing a direct cognitive effect with minimal processing effort. His subsequent utterance, "/ Daddy, gi'me daddy / [Daddy, give me (my ball)]" (Line 54-55), is a clear request, explicitly stating his desire. Later, when J holds the ball, Baba's repeated utterance, "/ Daddy, my ball /" (Line 67), functions as a persistent request, even though it is not a direct imperative. The implicature is a

demand for the ball. J's action of holding the ball despite Baba's request (Line 70) creates a tension, highlighting the pragmatic negotiation of desires and actions in child-adult interactions. Baba's communication here demonstrates a developing understanding of how to express wants and needs, relying on both explicit and implicit means to achieve his communicative goals.

Case Study 4: The "Spoon" Interaction (Lines 74-87)

Plain Text

74 R: Ki lo fe je? /je/
 75 R: Beans? /en/ 225
 76 R: Ewa? /en/
 77 R: O fe je /en/ 78 R: Okay (S is excited, mimicks A B C D) / - - - - /
 79 R: Go and collect your spoon / Spoon /
 80 /my spoon/
 81 R: Go to Joke and collect your spoon / Spoon /
 82 R: Yes, Go and collect your spoon from Joke /Spoon,Joke/
 83 R: Go and collect it from Joke so
 84 that we'll eat together (S Laughs)
 85 /Joke, Joke/
 86 / n tate /
 87 ['I don't want to go to Joke]

This interaction begins with R attempting to establish what Baba wants to eat, to which Baba responds affirmatively. The crucial pragmatic exchange occurs when R instructs Baba to "Go and collect your spoon" (Line 79). Baba's initial response, "/ Spoon / / my spoon/" (Line 79-80), could be interpreted as an acknowledgment or a repetition. However, when R specifies, "Go to Joke and collect your spoon" (Line 81), Baba's subsequent utterances, "/ Joke, Joke/" (Line 85) followed by "/ n tate / [I don't want to go to Joke]" (Line 86-87), clearly indicate resistance. The cognitive effect for R is the realization of Baba's unwillingness to comply. The processing effort is slightly higher here, as R must infer the refusal from Baba's fragmented speech and repetition, which is then explicitly confirmed. This sequence highlights Baba's developing ability to express negative intentions and assert his will, even when it requires more elaborate inferential work from the adult interlocutor.

Case Study 5: The "Daddy, wait" Imitation (Lines 40-45)

Plain Text

- 40 / Daddy, daddy WE/
41 / Daddy, daddy wait/
42 [i.e. Let me play with MCR]
43 R: Don't stop it / Daddy, wait /
44 If you stop it, I'll beat you /agu-gu/
45 (Imitation of R's 'I'll beat you)

In this final example, Baba's utterance "/ Daddy, daddy wait/" (Line 41) is interpreted by the transcriber as "[i.e. Let me play with MCR]" (Line 42), indicating a request for continued play. This demonstrates how a child's seemingly simple utterance can carry a complex implicature that is understood through shared context and the adult's knowledge of the child's desires. The most striking aspect is Baba's imitation of R's threat, "/agu-gu/ (Imitation of R's 'I'll beat you') (Line 44-45). This imitation is not merely a repetition; it is a pragmatic act. The cognitive effect for R is likely amusement and perhaps a recognition of Baba's developing understanding of social interaction and consequences. The processing effort is low for R to recognize the imitation. The implicature of this imitation could be playful defiance, an attempt to assert control, or simply an exploration of language and its social functions. This act showcases Baba's engagement with the communicative environment and his nascent ability to use language creatively and pragmatically.

These case analyses collectively demonstrate that Baba, despite his limited linguistic repertoire, consistently adheres to the principles of Relevance Theory. His utterances, whether direct or indirect, are geared towards achieving optimal relevance by generating significant cognitive effects for his interlocutors, who in turn expend processing effort to infer his intended explicatures and implicatures. The interactions highlight the dynamic, inferential nature of early child communication and the sophisticated Psycho-pragmatic processes at play.

Recommendations

Based on the Psycho-pragmatic analysis of Baba's utterances, several recommendations emerge for both theoretical understanding and practical application:

1. **Further Longitudinal Studies:** To fully capture the developmental trajectory of pragmatic competence, future research should involve

longitudinal studies of children's spontaneous interactions, tracking the evolution of their communicative strategies over time. This would provide richer data on how children refine their ability to achieve relevance and manage processing effort.

2. **Multimodal Analysis:** While this study focused on transcribed verbal data, future analyses should incorporate multimodal data (video recordings) to capture non-verbal cues (gestures, facial expressions, gaze) that significantly contribute to pragmatic meaning-making in early childhood. These cues often reduce processing effort for interlocutors and enhance cognitive effects.
3. **Cross-Cultural Comparisons:** Expanding such analyses to diverse linguistic and cultural contexts would provide valuable insights into the universality and culture-specificity of Psycho-pragmatic development, particularly concerning the balance between explicature and implicature.
4. **Educational and Clinical Applications:** The findings underscore the importance of fostering rich, responsive communicative environments for young children. Parents, educators, and speech-language pathologists should be encouraged to engage in inferential communication with children, recognizing and responding to their implicit communicative intentions, thereby supporting their pragmatic development.
5. **Refinement of Relevance Theory in Developmental Contexts:** While Relevance Theory provides a powerful framework, further theoretical work could explore how the concepts of cognitive effects and processing effort manifest and evolve specifically in the context of developing cognitive systems, particularly in the transition from pre-linguistic to linguistic communication.

Conclusion

This Psycho-pragmatic analysis of Baba's utterances, grounded in Sperber and Wilson's Relevance Theory, offers compelling evidence for the sophisticated inferential processes at play in early child communication. The study demonstrates that even with a nascent linguistic system, young children like Baba are adept at producing utterances, that are optimally relevant, balancing the generation of cognitive effects with the processing effort required from their interlocutors. Through detailed case studies, we observed how Baba leverages contextual information, adult inferential abilities, and a

combination of explicit and implicit communication to convey desires, intentions, and even resistance.

The interactions highlight that adult interlocutors actively engage in complex inferential processes to interpret Baba's meaning, often filling in linguistic gaps and disambiguating utterances based on the presumption of relevance. This reciprocal inferential dance underscores the social and cognitive foundations of language acquisition, where meaning is not merely decoded but actively constructed in real-time. The findings affirm Relevance Theory's explanatory power in developmental Pragmatics and contribute to a deeper understanding of the intricate relationship between cognition and communication in the earliest stages of human language use. Further research, particularly longitudinal and multimodal studies, will continue to enrich our understanding of these fascinating Psycho-pragmatic dynamics.

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