
A Child's Model for Social Interaction: The Transition to the Adult Linguistic System

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Abstract

This is an on-going longitudinal case study of how two young children built a model for social interaction, thus making the transition into the adult linguistic system. Systemic Functional Linguistic theory is adopted to explicate the bilingual resources of English and Bahasa Melayu/Indonesia of the young children (Halliday 1994 and Halliday & Matthiessen 2004). The concepts of semantic potential and metafunctional hypothesis, central to this model are explored through the emerging patterns of these childrens' language elicited in natural day-to-day contexts. The study shows how English and Bahasa Melayu/Indonesia are simultaneously learnt as a system of meanings in functional contexts. The study also illustrates how the child gradually increases his scope of meanings in the development of two more broadly conceived functions: mathetic and pragmatic functions. The study provides samples of language representing the child's individual strategy for contextualising speech as mathetic, for observing and reflecting, and as pragmatic, for acting in the speech situation. The study substantiates the systemic view that pragmatic and mathetic meaning distinctions correspond to ideational, interpersonal and textual meanings and that these meanings are achieved largely through grammatical complexity and the diversification of speech roles. In terms of descriptive significance, the study adds to M.A.K. Halliday's seminal work on the ontogenesis of language (e.g. Halliday 1975a & 1975b) and Painter's study on early language in childhood (e.g. Painter 1990 & 1999) by validating the applicability of a systemic model in the study of bilingual children. In terms of theoretical significance, the study lends credence to the argument that the emergence of a new level of linguistic form and dialogue is a significant stage for the transition into the adult linguistic system.

Introduction

Since the beginning of child biographies over one hundred years ago, research in the field of child language acquisition has continued to draw insights from the views of scholars from a variety of disciplinary backgrounds. Among these are Skinner's operant conditioning associated with stimulus and reinforcement within a behaviouristic framework, Chomsky's innateness hypothesis concerned with the innate propensities for language within a nativist framework, Piaget's conceptual-linguistic achievements rooted in cognition within a developmental psycholinguistic framework and Halliday's social semiotics of language concerned with the evolution of the functional origins of language within a social interactionist framework (Ingram 1989, Elliot 1981, Painter 1990 & 1999, Chomsky 1996 in Lust and Foley 2004, Gabam 2002, Halliday 1975a & 1975b, Foster-Cohen 1999, Shore 1995). The study of language development approached here is associated with Halliday's systemic functional model of language whose theoretical approach to the study of child language is sociolinguistic in origin, drawing on the social functions of language.

Halliday's view on child language has often been perceived as different from the other prevailing viewpoints. The systemic account for child language, which is entrenched in a larger theory of language as social semiotics, is primarily concerned with how "a child learns language as a set of meanings in functional contexts" (Halliday, 1975a: 9). Halliday prefers to use the term learning rather than acquisition as, unlike a nativist view of child language which interprets the child's early word combinations as departures from the adult form or a cognitive view which interprets the development of language as an aspect of cognitive development, or the behaviorist view which interprets the child's ability to be conditioned to learn language, the functional view interprets the child's language in its own terms and not as a mere result of a biological endowment or a set of environmental conditions. Halliday revolutionized the study of child language when he asked: "If language development is primarily acquisition of structure, why does the child learn one set of structures in order to discard them in favour of another?" (Halliday, 1975a: 3). A systemically oriented longitudinal study has the advantage of showing the original functions of language the child has meanings for and how these meanings are developed over time. The linguistic interactions of the child are interpreted in terms of how the child draws on the 'semantic potential' (e.g. Halliday 1975a: 8) or 'meaning potential' (e.g. Halliday 1975b: 9 and Halliday 1994: 16) of the language around him to create his own meanings with certain purposes in mind. The systemic view emphasizes what the child can mean rather than what he knows; therefore, the semantic potential of the child is not restricted to the meanings of words alone (lexico-semantics). It

covers the linguistic system of the child, which acts as a resource for a range of possible meanings. However, this range of possible meanings does not refer to how the child evaluates oncoming linguistic data around him as suggested in a nativist/universalist orientation. Rather, it implies that language choices made by the child, though not necessarily conscious choices, are paradigmatic ones arising out of the natural use of language to mean (Halliday 1975a).

Statement of the Research Area

The theoretical approaches of local studies to the early linguistic achievements of children have often been carried out with a cognitive orientation (e.g. Asmah 2003 and Tan 2003) or a speech act orientation (e.g. Pillai 2003 and Kow 2003). This paper which is part of a larger study (see Srinivass 2001, 2004 & 2005) investigating the emerging patterns of two childrens' language elicited in natural day to day contexts in the natural course of their development follow M.A.K. Halliday's seminal work on the ontogenesis of language (e.g. Halliday 1975a & 1975b), and theory of systemic functional linguistics (e.g. Halliday 1978, 1979, 1994, Halliday & Matthiessen 2004 & Srinivass 2006) which can be linked to Painter's work on learning the mother tongue and learning through language in early childhood (eg. Painter 1990 & 1999), Hasan's work (1996) on context in language, Martin's (1978) review of Halliday's work on learning how to mean and Martin's (1989) work on exploring and challenging social reality. Although the examples obtained in the current study reflect aspects of the theoretical model founded by Halliday and developed by others, mostly on monolingual children in a Western context, the present study adds to our understanding of early child language by taking an exploratory look at how two children used the bilingual resources of English and Bahasa Melayu/Indonesia in the realm of a Malaysian situation, context and culture in the second year of their lives. As it is a widely held belief that bilingual children are more aware of the use of language and its functions at an early age (e.g. Clyne 1987), the current systemically oriented study may contribute to an understanding of how a bilingual child develops meanings in two languages simultaneously. In order to verify the formal features of Bahasa Melayu/Indonesia obtained in the study, the traditional interpretations of Bahasa Melayu by Nik Safiah Karim et.al (2003) and Asmah Haji Omar & Subbiah (1968 & 1995) were consulted.

Aim

The overall aim of the study is to make explicit how a model for social interaction is developed along a continuum from proto-language to language. This involves making explicit how meanings made manifest in the early linguistic system of the child (the development of microfunctions) evolve into later mathetic and pragmatic meanings (the development of macrofunctions) and later into the systems of lexicogrammar and dialogue (the development of metafunctions). The development of the above functions or meaning systems enable the child to mean more than one thing at once, use the same linguistic structures to serve different meanings, use different linguistic structures to serve the same meanings, or reorganize the configuration of linguistic constituents to create a different emphasis. These different ways of meaning are what Halliday refers to as the metafunctions of language which is that all language is organised in terms of three basic functions, the ideational function, the organization of language in terms of the world of experience, the interpersonal function, the organization of language in terms of role relationships and the textual function, the organisation of language in terms of its coherence as text. (See Halliday 1975a & 1975b, 1978, 1979, 1994 & 2002 and Halliday & Matthiessen 2004).

Scope

This paper will focus on the development of the child's model for social interaction which involves his transition into the adult linguistic system. Therefore, to keep the length of this paper within specified limits, child 1's and child 2's language samples may not be equally represented. Also, interpretations of the microfunctions for which the child's early bilingual utterances had meanings for will only be given a brief treatment.

Research Questions

The following research questions guide the study:

1. How does the child increase his scope of meanings in the development of two broadly conceived functions, termed macrofunctions (mathetic and pragmatic meanings)?
2. How does the child build a model for social interaction in the process of making the transition to the adult linguistic system (the system of lexicogrammar and entry into dialogue)?

Research Methodology

Data

The data comprise 2 subjects, the researcher's own children, whose speech were studied when first words began to be produced. Table 1 gives a brief biodata of the research informants. The childrens' development of language were elicited in natural day to day interactions with their parents, two elder sisters, caregivers, grandparents and others in a variety of situations such as bath times, meal times, play times and socializing times. Being brothers, both subjects grew up in a similar social environment and had more or less the same kind of linguistic exposure in their early years such as the typical register of motherese or caregiver speech characterized by shorter well-formed syntactic utterances, exaggerated intonation patterns, typical elements of redundancy in here and now contexts. Both children had access to 'more than one linguistic code as a means of social communication' (Hamers & Michel 2000: 25), in this case, the children were regularly addressed in only two spoken languages from birth, which were English and Bahasa Melayu/Indonesia throughout the study although they were also exposed to a negligible amount of Tamil and Malayalam. The Indonesian caregivers spoke their own variety of Bahasa Melayu/Indonesia or 'Indonesian Malay' (Asmah 2003: 21) to everyone including the children.

Both children spoke two different languages, mostly English to all family members and mostly Bahasa Melayu/Indonesia to their respective Indonesian caregivers with occasional instances of code switching. Family members spoke English to each other with occasional code-switching and spoke only Bahasa Melayu/Indonesia to the Indonesian caregiver. Both children became speakers of English and Bahasa Melayu/Indonesia by 22 months as a result of "early, simultaneous, regular, and continued exposure" to both English and Bahasa Indonesia/Melayu and found themselves in "a bilingual language environment input" (De Houwer 1995: 222).

Data collection

The traditional method of field work research using a pencil and a notebook was deemed suitable for collecting samples as the children were only producing occasional utterances and more importantly the interactions of the children when the researcher was not present was not coded as it was not practical. Therefore, copious field notes of the context of situation were made. The researcher herself collected all the data, sometimes in her role as interactant

and sometimes as observer over a period spanning between 9 to 11 months for each child.

Theoretical framework/Conceptual development of the study

Data for this study came from a large corpus consisting of the use of language by the children. The developmental features of each child were studied intensively and interpreted every 4 weeks for any noticeable development in three phases. The data were categorized into three distinct stages as follows:

1. Phase 1 utterance 12- 14 months (duration of 3 months)
2. Phase 2 utterances: 15-22 months
 - i. Phase 2a utterances: 15-19 months (duration of 5 months)
 - Early Phase 2a. 15-17 months
 - Late Phase 2a. 18-19 months
 - ii. Phase 2b utterances: 20-22 months(duration of 3 months)

Table 1
Brief biodata of research informants

Subjects	Names	Gender	Nationality/ Ethnicity	Date of birth	Production of first words	Period of study: 9-11 months
Child 1	Hariram Das	Male	Malaysian/Indian	9 June 1999	13 th month	24 August 2000 – 4 May 2001
Child 2	Harilakshman Das	Male	Malaysian/Indian	14 March 2002	11 th month	31 January 2003 – 22 February 2004

Table 2:
The Microfunctions of a two level system of child language following
Halliday (1975)

CATEGORIES	FUNCTIONS
1. INSTRUMENTAL	Desires for goods and services or the "I want" function
2. REGULATORY	Commands and Suggestions or "Do as I tell you" function
3. INTERACTIONAL	Greetings and responses to calls or "me and you" function
4. PERSONAL	Expressions of pleasure and disgust or "here I come" function
5. HEURISTIC	Naming and "tell me why" function
6. IMAGINATIVE	"let's pretend" function
7. INFORMATIVE	Giving information or "I've got something to tell you."

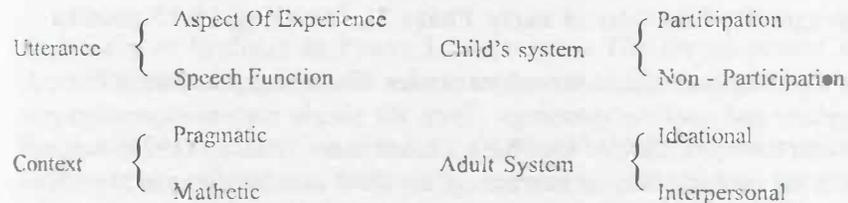


Figure 1
The grouping of language functions in Phase 2

**Framework of Phase 1 utterances:
12- 14 months (duration of 3 months)**

Phase 1 involved interpreting the child's (in reality both children but for ease of reference the singular form will be used) early utterances that could account for meaning by specifying the content of the child's utterances in relation to seven basic functions of language it was used for. Table 2, drawn largely from Halliday (1975) and Painter (1990 & 1999), reflect the microfunctions of a two level system of language, that of meaning (content) and sound (expression).

**Framework of Phase 2 utterances:
15-22 months**

Between 12-14 months, the child had a system consisting of seven meanings, giving him a meaning potential — a set of meanings to choose from. As the child progressed from one stage of development to the next, three noticeable important developmental features characterized his utterances.

They were:

- 1 The identification of two distinct modes of meaning, two macrofunctions which were the mathetic and pragmatic functions in early Phase 2a covering 15-17 months;
- 2 The emergence of a new level of linguistic form, termed the lexicogrammar, in late Phase 2a covering 18-19 months,
- 3 The beginmngs of dialogue in late Phase 2a covering 18-19 months and Phase 2b covering 20-22 months.

The grouping of language functions in Phase 2 is shown in Figure 1

The identification of two distinct modes of meaning, mathetic and pragmatic functions in early Phase 2a covering 15-17 months

The child began to realize two major modes of meaning potential in Phase 2, pragmatic and mathetic meanings, from the simple content-expression pair that characterized much of his Phase 1 utterances. Halliday (1975) suggests that in the mathetic way of interacting, the child uses language in his role as observer to give information or to reflect on things (non-participant function) and conversely in the pragmatic way of interacting, the child uses language in his role as intruder in the speech situation by saying he wants to do something, asks someone to do something for him, asks a question or interacts with someone (participant function) (see Figure 1).

The emergence of lexicogrammar and early dialogue in late Phase 2a (18-19 months) and Phase 2b (20-22 months)

Apart from using language in the two distinct macrofunctions discussed above, the child began mobilizing his language to develop a grammar consisting of content, form and expression, which signals his entry into the next stage. The child made a gradual transition in his use of language by extending the use of the same linguistic structures in both the pragmatic function and the mathetic function. The grammar of the child was given a basic metafunctional treatment using a system structure model in the traditions of Saussure, Firth and Halliday (e.g. Firth 1957, Lyons 1966, Culler, 1976, Halliday 1975 & 1994, Halliday and Matthiessen 2004) which studies semantic relationships among constituents in lexicogrammar along two intersecting dimensions, the syntagmatic and paradigmatic. The syntagmatic axes represents sequenced constituents in a structure and the paradigmatic axes the system of potentiality or alternatives, in systemic terms, the system of metafunctions where every strand of clause makes three kinds of functional meanings, the ideational, the interpersonal and the textual. Another linguistic milestone was in the child's ability to engage in a simple question-response session with an adult and eventually in meaningful dialogue where he defines a speech role for himself.

Findings

Summary of findings in Phase 1 utterances: The Development of Microfunctions, 12-14 months (duration of 3 months)

This section gives an overview of how the child's early language was organised in terms of microfunctions (instrumental, regulatory, interactional, personal, imaginative, heuristic and informative). As shown in Table 3, the child's early language is organised in terms of seven basic microfunctions which are the instrumental, regulatory, interactional, personal, imaginative, heuristic and informative. Table 3 attempts to capture the child's semantic system, which is his conception of his daily life and the world that he is part of. The child's conceptual categories at this stage are still contextually dependent as each utterance corresponds to a single function at a time.

Findings in Phase 2 utterances: the development of pragmatic and mathetic meanings, lexicogrammatical complexity and entry into dialogue

The child increases his scope of meanings in the development of mathetic and pragmatic meanings in two phases which are early Phase 2a (15-17 months) and late Phase 2a (18-20 months). The child further increases his scope of meanings in the development of lexicogrammar and dialogue in Phase 2b (20-22 months) thus building a model for social interaction and making a transition into the adult linguistic system. The following sections will attempt to show how the above mentioned meanings were developed.

Table 3
Selected samples of language on early word meaning in English and Bahasa Indonesia/Melayu elicited from both Child 1 and Child 2 between 12-14 months.

THE MICRO-FUNCTIONS OF EARLY LANGUAGE	Examples of child 1's and Child 2's language and their context of use			
	Child 1	Context of use	Child 2	Context of use
1. Instrumental				
English	'open'	He wants the lid of a toy or the packet of some snack opened for him or the battery compartment from a toy removed.	'wipe'	He wants his face to be wiped.
Bahasa Melayu/Indonesia	'ambil' (=take)	He wants someone to get him chips in a bottle, or the remote control or a bunch of house keys he had dropped.	'atas' (=up stairs)	He wants to go upstairs
2. Regulatory				
English	'up and down'	He wants his mother to play the see-saw game by putting him on her legs and moving it up and down	'go'	He wants you to take him towards his favourite biscuit on the shelf
Bahasa Melayu/Indonesia	'makcik' (=aunt)	He wants the caregiver to carry him	'buka' (=open)	He wants his mother to remove the cushions of the sofa so that he may sit on the wooden frame
3. Interactional				
English	'cheachy'*	He calls either one of his sisters	'ye-bye'	He says this when his mother leaves for work
Bahasa Melayu/Indonesia	---	---	'makeik' (=aunt)	He calls his Indonesian caregiver
4. Personal				
English	'Hariram'*	He keeps mentioning his name to get his parents attention	'nicc'	He likes what he is eating and makes a comment.
Bahasa Melayu/Indonesia	'asin' (=sour)	He responds when the maid asks him whether his food was salty each time she is about to feed him.	'tak mahu' (=don't want)	He says this when he is given porridge
5. Heuristic				
English	'acha'*	When someone asks, "Who's upstairs?"	'amrna'*	When someone asks, "Whose slippers are these?"
Bahasa Melayu/Indonesia	---	---	---	---

THE MICRO-FUNCTIONS OF EARLY LANGUAGE	Examples of child 1' and Child 2's language and their context of use			
	Child 1	Context of use	Child 2	Context of use
6. Imaginative				
English	'hello'	He pretends to pick the phone and answer the call although the phone didn't ring or when he plays with his toy telephone.	'apple'	He pretends to eat the plastic toy apple
Bahasa Melayu/Indonesia	---	---	---	---
7. Informative				
English	'sugar'	He sees his mother opening the sugar container to make her morning coffee.	'tough'	When his father takes him near the teddy bear
Bahasa Melayu/Indonesia	'sakit'* (=painful)	He points towards a mosquito bite on his leg when he is addressed for his morning bath on a Sunday morning.	'minum'* (= to drink)	When he drinks water

Transcription conventions:

Acha: term of address for father in Malayalam Anima: term of address for mother in Malayalam

Cheachy: term of address for sister in Malayalam Hariram: Child 1's own name

: no language sample was produced in that language

Findings: Increase in scope of meanings in early Phase 2a (15-17 months)

In early Phase 2a, unlike Child 1, Child 2 did not develop any more new utterances in the interactional function and neither subject had any new utterances in the imaginative function as most of their imaginative play activities usually involved non verbal interactions. In early Phase 2a, a large number of meanings were still expressed in the original functions of Phase 1 (see Table 3); however, within a few weeks, his scope of meanings increased in the following ways.

The use of vocatives

There were noticeable differences between Child 1's and Child 2's use of vocatives. Unlike Child 1, Child 2 used vocatives frequently whether he spoke English or Bahasa Indonesia/Melayu. Child 2 being the youngest of four siblings may have had to compete to get the attention of his parents. Typical examples are, "Amma, I want to go home", used in the regulatory function and "Amma, naughty cats" in the informative function. However, a high use of vocatives in the interactional function such as "Good evening, amma" is to be expected as interactional expressions are usually accompanied by vocatives.

Unmarked 'I want' instrumental function

Both Child 1 and Child 2 had an unmarked 'I want' expression in the instrumental function whose meaning is equivalent to a general desire for goods and services. However, Child 1's protolanguage system also included the use of polarity in the instrumental function for demanding objects, "I want Barney" and refusing objects, "I don't want Barney". Child 1 also freely combined the instrumental meaning of 'I want . .' with a number of lexical options such as "I want keyboard", "I want chocolates" or "I want the car keys" He is also able to use a two part process structure as in "I want to study" or "I want to follow" in the instrumental function and "Amma went to work" in the informative function. This use will be further elaborated in 'The beginnings of grammatical complexity in phase 2b (20-22 months).'

Metalinguistic awareness and codeswitching

Sometimes Child 1's metalinguistic awareness was heightened in that he wanted to rectify an instance of codeswitching, for example, he says, "I don't want air, water ' (air = water) with no pause and at other times he doesn't, for

example "Ambil towel" (ambil=take) in the regulatory function. However, Child 2 hardly codeswitched in English and Bahasa Melayu/Indonesia. Any instances of codeswitching involved the use of a vernacular lexis, for example, "Put for me *pottu*, amma" (*pottu* = red dot).

The development of heuristic meanings

Another noticeable difference was that, Child 1's heuristic meanings were mostly developed in English, for example, "Where's amma?" or "Where's the lorry?" in contrast to Child 2's which were mostly in Bahasa Melayu/Indonesia, "Mana baju?" (=Where're the clothes?) or "Mana sembahyang?" (=Where're the prayer things?).

Foregrounded use of the informative function

Unlike Child 1, the use of language in the informative function was very marked in Child 2's speech although still in a protolinguistic form. Child 2 appeared to have mastery over the use of the informative function in the following ways:

- To give information. "Makcik bathroom" (his caregiver, makcik, is in the bathroom)
- To name: "Amma, Krishna" (picture of Krishna (name of God for Hindus))
- To direct attention: "Amma, see acha's" (his father's clothes (acha = father))
- To comment: "Amma, naughty cats" (with reference to the family cats)
- To recall: "Amma, mosquito bite" (a mosquito had bitten him)

The above examples substantiate the view that the child learns about his environment primarily through his use of the informative function. However, it should also be noted that certain expressions such as "Amma, nice" or "Rice good" may belong to both the personal function of expressing likes and dislikes and the informative function of giving information. The reason for this is that such expressions lack a grammatical organization and thus, meanings are still coded in terms of phonology and content. The ambiguity is more easily resolved when the child's speech shows pragmatic and mathetic distinctions as discussed, in 'Increase in scope of meanings. the development of macrofunctions in late phase 2a (18-20 months).'

The consistent development of meanings in one language

Sometimes, the child also developed a consistent development of meanings in one language. For example, Child 2 used only English to ask for milk in the instrumental function, as in "I want milk" and only Bahasa Melayu/Indonesia to ask for milk in the regulatory function, for example, "Amma, susu". The use of a vocative followed by the lexis 'susu' (=milk) in Bahasa Melayu/Indonesia could be because the child's use of Bahasa Melayu/Indonesia is still protolinguistic compared to his use of English. In English, the child's lexicogrammar corresponds to that of the adult in having ideational, interpersonal and textual meanings. The child expresses a Sensor, 'I' followed by a mental process of cognition, 'want' followed by the phenomenon 'milk'.

Summary of Child 2's development of functions in Phase 2a

Due to space constraints, only the speech of Child 2 in Phase 2a will be summarized to show the original Phase 1 functions it derives from as follows:

1. Expressions in the instrumental function of 'satisfying the child's material needs' (Halliday 1975: 19) are only in English

Examples in English:

- i. Child 2 says "Go upstairs" when he wants to climb the stairs.
- ii. Child 2 says "I want milk" when he wants milk.

2. Expressions in the regulatory function of regulating the behaviour of others are used both in English and Bahasa Melayu/Indonesia with occasional code switching in the vernacular

Examples in Bahasa Indonesia/Melayu:

- i. Child 2 says "Makcik, saya mahu pakai*" when his caregiver attempts to wear his shoes for him and he would rather wear it himself.
- ii. Child 2 says "Amma, buka untuk saya" (=Amma, open for me) when he wants a food packet to be opened for him.
- iii. Child 2 says "Hariram umbrella" to tell his mother to retrieve the umbrella that his brother, Hariram had taken.

Example in English:

- i. Child 2 says "Amma, I want to go home" when he gets bored and tired in a neighbour's house and wants to return home.

Example showing an instance of code switching:

- i. Child 2 says "Put for me *pottu*, amma" when he sees his mother putting 'pottu' (= the red dot which worn by Hindus to adorn the space between the eyebrows)

3. Expressions in the personal function of 'expressing the child's own uniqueness' (Halliday 1975: 20) are used only in English

Examples in English:

- i. Child 2 says "Don't touch" when hot milk is brought to the dining table.
- ii. Child 2 says "Go away" to his cousin, Asha, who is sitting on his mother's lap.

4. Expressions in the interactional function 'to interact with those around him' (Halliday 1975: 19) are used only in English

Examples in English:

- i. Child 2 says "Teacher, how are you?" when he sees his sister's piano teacher.
- ii. Child 2 says "Sorry, makcik" when he has spilt milk and his caregiver comes to clean up the mess.

5. Expressions in the heuristic function 'towards the exploration of the environment' (Halliday 1975: 20) are used only in Bahasa Melayu/Indonesia

Examples in Bahasa Melayu/Indonesia:

- i. Child 2 says "Mana soap?" (= Where's the soap?) When he asks for soap to wash his hands after a meal.
- ii. Child 2 says "Mana sembahyang?*" (=Where are the prayer items) when the altar is empty of prayer items which have been removed to be washed.

6. Expressions in the informative function in which 'language is used as a means of communicating information to someone who does not already possess that information' (Halliday 1975: 21) are used in both English and Bahasa Indonesia/Melayu

Examples in Bahasa Melayu/Indonesia.

- i. Child 2 says "buah habis" (= fruit finished) when he sees an empty bowl which had cut fruits in it earlier.
- ii. Child 2 says "Sembahyang, masuk" (=pray, enter) when he sees his grandmother entering the prayer room.

- iii. Child 2 says "Avanit jatuh" (=Avanit fallen down) when his sister fell down.
- iv. Child 2 says "Umbrella atas*" (=Umbrella is up there) to tell his mother that the umbrella is on the cupboard.

Examples in English:

- i. Child 2 says "Amacha car umbrella" when Subject 2 is trying to tell his mother that his grandfather's car has an umbrella.
- ii. Child 2 says "Amma, umbrella there" and points to umbrella leaning against a glass panel.
- iii. Child 2 says "Amma, umbrella this" and shows his mother the umbrella he is holding in his hand.
- iv. Child 2 says "Amma hold umbrella" to indicate that his mother is holding an umbrella.

Increase in scope of meanings: the development of macrofunctions in late phase 2a (18-20 months)

The child is seen to be gradually increasing his scope of meanings in the development of two more broadly conceived functions, termed macrofunctions in late Phase 2a from 18-20 months.

Sometime at around 18 months, it was beginning to be difficult to continue categorizing the meanings in the original Phase 1 microfunctions as some utterances began to have meanings in more than one function. One example is in the use of "up and down", by Child 1 in the regulatory function (see Table 3), which later comes to be used in the informative function when Child 1 wants to refer to some plastic fish which move up and down in an electrically operated cylindrical aquarium.

Tone distinctions

Similar to Halliday's (1975) and Painter's (1990 & 1999) findings, it was possible to distinguish two different intonation contours as some expressions in the instrumental and regulatory functions were spoken in a rising tone and the others in a falling tone. To continue interpreting the child's utterances in terms of the protolinguistic microfunctions would fail to capture the meaning distinctions being made through tone distinctions. The following examples drawn from Child 2's speech will be used to distinguish them.

1. Examples of Mathetic speech, spoken in a falling tone:
The child uses language in his role as observer in an aspect of experience.
 - i. Child 2 says "Amacha car umbrella" when Subject 2 is trying to tell his mother that his grandfather's car has an umbrella.
 - ii. Child 2 says "Amma, umbrella there" and points to umbrella leaning against a glass panel.
 - iii. Child 2 says "Amma, umbrella this" and shows his mother the umbrella he is holding in his hand.
 - iv. Child 2 says "Amma hold umbrella" to indicate that his mother is holding an umbrella.
 - v. Child 2 says "Umbrella atas*" (=Umbrella is up there) to tell his mother that the umbrella is on top of the cupboard.

2. Examples of Pragmatic speech, spoken in a rising tone:
The child uses language in his role as intruder in a speech act.
 - i. Child 2 says "Hariram umbrella" to tell his mother that his brother, Hariram has taken the umbrella away from its usual place and is playing with it and that he wants his mother to take it away from his brother.

The mathetic function was the use of language to learn, for example, in the use of 'Amacha (=grandfather) car umbrella' to comment that there was an umbrella in his grandfather's car. The child is relating an aspect of experience and is a non-participant in that speech situation. On the other hand, the pragmatic function was the use of language to act on the reality of the situation, for example, in the use of 'Hariram umbrella' to accomplish a task in this case asking his mother to retrieve the umbrella back from his brother. Here, the child is an active participant in the speech situation. At this stage of the child's language development, language when it is used as an aspect of experience can be related to ideational meanings whereas when it is used as a speech function can be related to the interpersonal meaning in the adult linguistic system as reflected in Figure 1

Increase in scope of meanings: the emergence of lexicogrammar in late phase 2a (18-20 months)

A systemic view of child language looks at the emergence of lexicogrammar as a significant step for protolanguage to evolve into language. In late Phase 2a, 18-20 months, there emerges fresh development in terms of a new level of linguistic form, markedly characterized by the production of sequenced constituents in lexicogrammar and the production of potentiality or alternatives,

as shown in tables 4, 5, 6 and 7 with reference to Child 2 between 21-22 months (see 'The emergence of lexicogrammar and early dialogue in late phase 2a (18-19 months) and Phase 2b (20-22 months)'). This new level of linguistic form bridges the gap between sound and content and is what is called 'the explosion into grammar' taking Halliday's lead, (Halliday 1992 in Halliday 2002: 355). The child's explosive use of grammar enables him to reconstruct his meanings and make the transition into the adult linguistic system. His meanings are now characterised by the realization of three kinds of meanings — Interpersonal, Experiential and Textual meanings like the adult linguistic system corresponding to the basic systemic claim that we make three kinds of functional meanings simultaneously: ideational, interpersonal and textual meanings.

One of the criticisms levied against Halliday's discussion of child language was that he did not go on to explore the syntagmatic dimensions of language development and focused too much attention on paradigmatic options or the meaning potentials of language (e.g. Martin 1978). This section attempts to clarify the perceived shortcomings of Halliday's study by demonstrating some aspects of the child's early entry into the syntagmatic dimensions of language development. It will also show how the mapping of mood choices onto ideational, interpersonal and textual ones enable the child to mean more than one thing at a time.

The beginnings of grammatical complexity in phase 2b (20-22 months)

Table 4 outlines Child 2's increasing grammatical complexity in the semantic relationships among constituents in lexicogrammar. The syntagmatic axes represents sequenced constituents in a structure and the paradigmatic axes, increasing semantic potentiality.

It will be recalled that the 'I want' function has an instrumental antecedent. The child freely combines it with a number of lexical options. Table 5 abstracts out the semantic relationship with a syntagmatic and paradigmatic analysis of the use of nominals by the child. The use of the lexis 'a handphone', 'a green colour handphone', 'a new handphone' or 'a different handphone' may be interpreted as the use of language as a resource to express the different meanings in natural contexts. These utterances also reflect the child's repertoire of linguistic use with reference to the naming function. Thus it can be seen that the original instrumental 'I want' function and the informative function, 'I have something to tell you' are conflated. The child is able to mean more than one thing at once.

Table 4
The development of lexicogrammar in Child 2 between 21-22 months
(Topic: I want ...)

Metafunctional Organisation of Clause Structure	TYPE OF STRUCTURE						
		I	want				
		I	want		bread,		
	Amma,	I	want		another one.		
		I	want		this.		
	Amma,	I	want		tissue that*		
	Amma,	I	want		a new handphone		
	Amma,	I	want		a handphone		
	Amma,	I	want		A different handphone		
		i	want		'Govinda Bolo Hari'		
		I	want		drink	with Ribena.	
		I	want		some more papaya.	/	amma.
		I	want		some more 'Smart Milk'		
		I	don't want		plain water,		cheachy.
		Saya	mahu	ikut			
		Saya	mahu	ganti	baju		
Interpersonal	Vocative	Subject	'present' Finite	Predicator	Complement	Circumstantial Adjunct	Vocative
		Mood		Residue			
Experiential	φ	Senser	Mental process		Phenomenon	Circumstance	φ
Textual		Theme	Rheme				

Grammatical complexity: the use of two part processes in phase 2b (20-22 months)

Table 6 shows language being used to project mental meanings by freely combining with a variety of secondary processes such as in the use of a mental process of perception, "I want to see makcik", a verbal process, "I want to ask Asha", a material dispositive process, "I want to eat" and a relational intensive process, "I want to be with amma" The child's language also encompasses the use of circumstantial adjuncts to encode spatial meanings, "here", accompaniment meanings, "with sauce", temporal meanings, "now", and the use of conjunctive adjuncts to encode interpersonal meanings, such as "also" Incidentally, the use of vocatives, e.g. "Amma" are outside the scope

Table 5
Examples of range of semantic potentials identified

Deictic (Identification of the thing)	Deictic (Further identification of the thing)	Numerative (Numerical feature)	Epithet (Quality of the thing)	Classifier (Indicating subclass of thing)	Thing
Determiner (Non specific)	Adjective	numeral	adjective	Noun or adjective	Noun
a	∅	∅	∅	∅	handphone
a	∅	∅	new	∅	handphone
a	∅	∅	∅	different	handphone
a	∅	∅	green colour	∅	handphone
∅	∅	a lot of	∅	∅	ants
∅	∅	some more	∅	∅	'Smart Milk'
∅	∅	some more	∅	∅	papaya

of the Mood and the Residue and are fairly mobile occurring thematically, e.g. "Amma, I want a new handphone" or finally, e.g. "I want some more papaya, Amma" in the child's language. Table 7 shows child 2 at the brink of an adult like system, in the use of a logico-semantic projection.

Expressions of both pragmatic and mathetic meanings in a system network showing options in lexicogrammar: mood and transitivity systems

Selected language samples of Child 2's speech may be represented as one complete system in a system network as in Figure 2. The system of mood type realizes two co-existing types of choices, indicative and imperative, with the indicative further realizing two co-existing types of choices, declarative and interrogative whereas the system of process type realizes four different process types which are the material, mental, relational and verbal.

Table 6
 Child 2's use of two-part processes, a (primary process) and b
 (secondary process) (Topic: I want to ...)

	I	want	to see	makek,	here
	I	want	to see	wash basin	
	I	want	to see	washing machine.	
Conce,	I	want	to see	fish	in front.
	I	want	to eat	∅	In front.
Anna,	I	want	to eat	this	∅
	I	want	to eat	∅	with sauce.
	I	want	to eat	'Maggi Mee'	
	I	want	to drink	'Smart Milk'	
Anna,	I	want	to colour	∅	here.
	I	want	to try	∅	
	I	want	to read	newspaper.	
	I	want	to be	∅	with Anna.
	I	want	to ask	acha	∅
	I	want	to watch	cartoons	
	I	want	to hear	'Gevinda Bolo Hari' song.	
	I	want	to play	bicycle	
	I	want	to play	bicycle	now
	I	want	to go	∅	also.
	∅	want	to put	the egg	in front
	Saya	mahu	ganti	baju	
	Saya	mahu	ikut.		
	∅	Don't want	to watch	cartoons	∅
Interpersonal	Subject	Finite	Predicator	Complement	Adjunct
	Mood		Residue		
Experiential	Participant 1	Process Mental Process α	Process 2: mental (e.g. see) /material (cat) /verbal (ask) /relational (e.g. be) β	Participant 2	Circumstance
			Projected clause. Proposal		
Textual	Theme	Rheme			

Table 7
 Child 2's use of logico-semantic projection, a (main clause) and b
 (dependent clause) (Topic: Amma asked you to)

Metalinguistic Organisation of clause structure	Type of structure: Logico-semantic projection					
	Amma	asked	you	to	practise	piano
Interpersonal	Subject	'past' finite	Predicator	Complement	Predicator	Complement
	Mood	Residue				
Textual	Theme	Rheme				
Experiential	Actor	Verbal process α	Verbiage	Material process β	Goal	
			Verbiage	Projected clause: Proposal		

The system network below, Figure 2, represents child 2's ability to map mood choices onto transitivity ones (process types). Some examples are given below:

Example 1 (an instance of code-switching)

'This pen **jatuh*** already'.

Process type: Material clause, 'jatuh' = material process (i.e. process of doing)

Mood type: Indicative, Declarative (i.e. information giving)

Example 2

'Keep umbrella here'

Process type: Material clause, 'keep' = material process

Mood type: Imperative (i.e. demanding)

Example 3

'Why don't you wash hands for me?'

Process type: Material clause, 'don't .. wash' = material process with negative polarity (i.e. process of doing)

Mood type: Indicative, Interrogative (i.e. asking for information)

While the system of mood type is complete, the system of process type is not developed for behavioural and existential processes at 22 months.

Increase in scope of meanings: the development of dialogue in late phase 2a and phase 2b

The examples above show the child enriching his potential of linguistic resources. Besides an advancement in his lexicogrammar, the child makes an attempt at engaging in dialogue as his sensitivity to the speech roles and representational content increases with his use of language exploration of his environment. The beginnings of dialogue are more noticeable in Phase 2a at 18 months. Initially, as the following language samples indicate, the dialogues

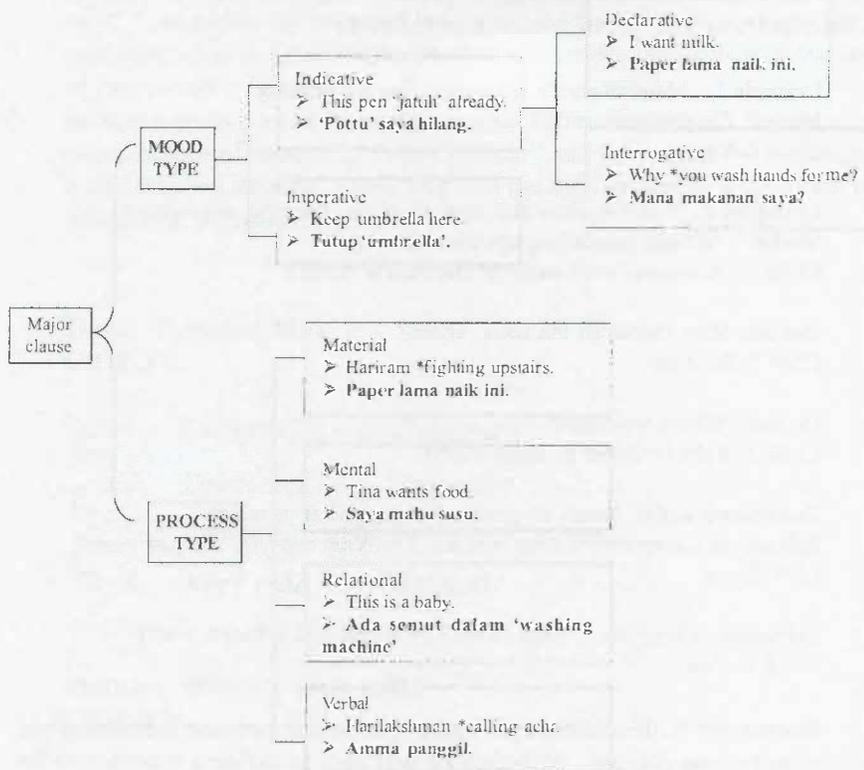


Figure 2.
System Network Showing Options in Lexicogrammar: Mood and Transitivity Systems, selected bilingual samples of language from Child 2 in Phase 2b, 20 - 22 months

appear to be still at the proto-dialogue stage as the child's responses are limited to single word utterances only. This pattern soon changes to short transactions to incorporate much more complex attempts as the child begins to define for himself a set of social roles through linguistic means.

Dialogue in late Phase 2a: Protodialogues

The following examples suggest how the child initially engages in dialogue with his mother or caregiver. The child uses language in response to questions concerning his material needs which derive from the instrumental function of Phase 1, his general response to questions deriving from the heuristic function in here and now and recall situation as follows:

Example 1. Material needs situation. Yes/No polarity

Mother: Do you want milk?

Child 2: Yes

Examples 2, 3 and 4. Here and now situation. Naming who/whose

Mother: Whose house/bag/shirt/watch is this?

Child 2. Ammama's/ Cheachy's/ Hariram's/ Acha's.

Mother: Who threw all the toys about?

Child 2. Hariram

Mother: Who's upstairs?

Child 2. Acha (= father in Malayalam)

Examples 5 and 6: Recall situation: Naming what or which

Indonesian Caregiver: Lewat apa tadi? (=What did you see just now?)

Child 2: cat

Indonesian Caregiver: Mana kena? (=Where did it touch you?)

Child 2: eyes

In example 6, the child's eyes had begun to tear because something had hit him as he was playing. Although he was able to define a speech role for himself as giver of information, he was still not able to give a further specification of what happened in this protodialogue stage; hence, signaling the end of the dialogue unless his caregiver had initiated a continuation.

Dialogues in Phase 2b: Into the adult language

From producing language in a limited range of pragmatic and mathetic contexts, the child makes the transition to incorporate both roles in a single speech situation as illustrated by the example analysed in Figure 3. The child's speech, which was produced without the prompting of a parent or caregiver, demonstrates the child's transition into the adult linguistic system with an interpretation of context by

- i. intruding upon it, for example, by proposing that he wants milk in the use of "I want milk", followed by a condition in the use of "drink cup" (he wants to drink with a cup), followed by the use of "I want 'Smart Milk' ", an additional proposal indicating the type of milk desired, and
- ii. reflecting upon it, for example, passing a judgment on the milk in the use of "very cold",
- iii. intruding upon it again by answering his mother's query, in the use of a circumstance of location, "in the kitchen" and by ending the exchange with "finished already" predicting that his mother would want to know whether he'd finished his milk.

Topic: Drinking Milk

CHILD 2:

- 1 I want milk. — Pragmatic
- 2 Drink cup. — Pragmatic
- 3 I want 'Smart Milk' — Pragmatic
4. **Very cold.** — **Mathetic**

Mother: Where's your milk?

CHILD 2:

- 5 In the kitchen. — Pragmatic
6. Finished already — Pragmatic

Figure 3

Emergence of dual roles in a single speech situation: both observer and intruder functions in a 22 month old infant's exposition

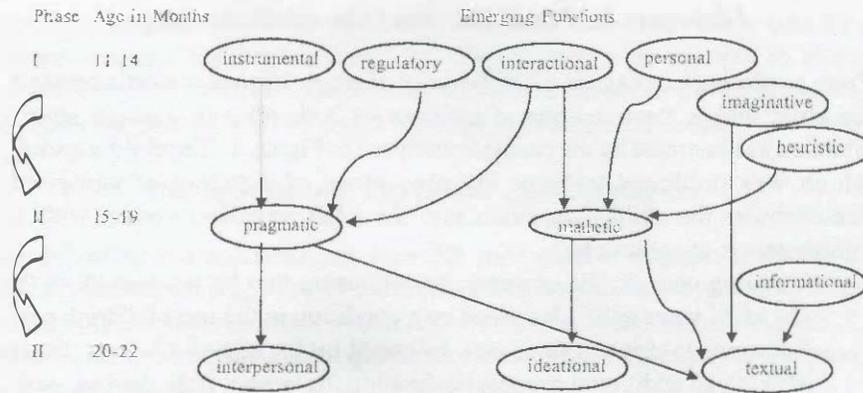


Figure 4

A functional development of language with the view to develop a model for social interaction (adapted from Martin 1978)

Discussion and further research

Figure 4 outlines how the child built a model for social interaction in the process of making the transition to the adult linguistic system. This model illustrates that the child's use of the seven basic functions, instrumental, regulatory, interactional, personal, heuristic, imaginative and informational, acts as a precursor for later more complex speech. The study implies that the child first learns language as a system of meanings in functional contexts and later makes pragmatic and mathetic distinctions both to act and to reflect in the speech situation. These pragmatic and mathetic meaning distinctions correspond to ideational, interpersonal and textual meanings in the adult linguistic system as shown in Figure 4.

The study substantiates the systemic view that with a set of seven basic meanings, called the microfunctions of language, the child increases his scope of meanings in the development of two more broadly conceived functions, termed macrofunctions (mathetic and pragmatic meanings). The child learns to interact linguistically in these two ways, the mathetic and pragmatic, whose distinctions are coded in terms of how the child conceives the phenomena of his world to be. The use of intonation and the contextual features of the situation played an important role in the coding of language phenomena.

A major advance recognized in the development of language by the young child is both the development of lexicogrammar where he can mean more than one thing at the same time and the child's entry into discourse where he is able to define social roles for himself. As suggested by Halliday, this study has shown that increasing complexity of lexicogrammar and participation in discourse are significant achievements towards the transition into the adult linguistic system.

Further research in the emerging patterns of the child's language may show how the child develops potential for interpersonal communication, construing experience and organising language as text after the age of 22 months. Systemic functional theory argues that language is learnt through the linguistic experiences of the child and this paper has attempted to give a brief account of how the child progresses from his protolinguistic use of language to linguistic use.

An added implication of the study is that it may assist parents, educators and health care professionals faced with the challenges of early identification of communication delay in children. Although there is a wide range of normal variation in the early language learning and development of children, this study demonstrates what social functions children learn and develop language for in the natural course of their development. This study may also be used to rate the early linguistic achievements of young children which can account for meaning and help distinguish simply late talkers from children experiencing true prevalence of language delay.

Unlike Halliday's and Painter's work which were on monolingual Western children, the current study showed to some extent the bilingual development of the functions of language by two Malaysian children. The study also briefly pointed out the salient differences in the functional use of language by the two children studied. Since the children in this study were both bilinguals in English and Bahasa Melayu/Indonesia, it will be interesting and insightful to see the overall trend in the building of world knowledge, knowledge of culture and intellectual development in these two languages through the development of language functions. To this end, an interpretation of the multidimensional phenomena of bilingualism and bilinguality may be further pursued.

Conclusion

Although this was a case study highlighting how two children learnt their first languages in the natural course of their development, the findings have both descriptive and theoretical significance. The study adds to the body of research into child language development by providing a first hand account

of how two Malaysian children used the bilingual resources of English and Bahasa Melayu/Indonesia to learn about their immediate environment and become users of those languages. This study has strongly suggested that the development of pragmatic and mathetic functions serve as an impetus for lexicogrammar and dialogue development in the life of a young child. This study well exemplifies the systemic view that language development is achieved largely through language itself. An understanding of the child's construction of reality may give an insight into what is involved in the evolvement of language from proto language to discourse.

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