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# The development of a directive repertoire in context: A case study of a Dutch speaking young child

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### ABSTRACT

In this paper we present a model of the acquisition of a directive repertoire that critically depends on contextual assumptions. The model accounts for the fact that the development of a directive repertoire is not a linear process, starting with simple direct types and gradually also encompassing embedded and indirect types, but, rather, a context-based, non-linear sequence of extensions. The model is evaluated with longitudinal data from the CHILDES-project. 1297 directives were analysed in terms of verbal type. Each directive was also coded with respect to 25 contextual factors to check to what extent age trends are dependent on these factors. In line with the model, the data show that the development of a directive repertoire starts with direct types and types that are linguistically classified as indirect, but are direct in the context given. Later, the child extends her repertoire by explicitly mentioning the agent, the requested act and the directive function, and embedding these in frames of increasing complexity. She also uses indirect types, but the later ones are more varied and less tied to the immediate social and physical structure. She ends with a repertoire in which many aspects of a directive event are represented and with many options for expressing these aspects. The age trends found are largely independent of the contextual factors studied.

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## 1. Introduction

This paper focuses on directives. A directive is defined here as an attempt to steer the nonverbal behaviour of an addressee (Ervin-Tripp, 1976; Searle, 1969, 1998). An example is 'Get off the scooter'. According to the theory of speech acts, one can distinguish two aspects in a directive:

- 1 an illocutionary aspect: its function as a directive speech act in contrast to, for example, a representative or expressive function;
- 2 a propositional content: a future act (A) of the addressee or hearer (H).

When one wants to express a directive, there are several options for formulating it. One can explicitly express the content 'H performs A' in an imperative sentence type – the modality that is conventionally associated with directive speech acts ('Get off the scooter'). One can also embed the content 'H performs A' in a question or a statement about reasons and

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conditions for the directive, such as the ability of the addressee or the wishes of the speaker ('Can you get off the scooter?'; 'I want you to get off the scooter'). One may even use forms without explicit mention of the content 'H performs A' and give hints or association cues to obtain the scooter, such as 'This scooter is mine'. The choice of a directive form is a context-sensitive interpersonal act, containing markers of social relationships and showing social variation. This makes it a relevant phenomenon to study.

On an empirical level, we describe the extension of the directive repertoire of a Dutch child called Laura between age 1;9 and age 5;6. Data were obtained from the CHILDES project (MacWhinney, 2000). It seems plausible to suppose that young children such as Laura have a limited directive repertoire, i.e., their variation in form when producing directives will be small. We want to find out which forms she uses first, starting at age 1;9, and how this initial and restricted repertoire is gradually extended to encompass many alternatives at age 5;6. An aim behind this empirical description is to contribute to a better understanding of the role of *context* in language use. A leading scholar in the field of our study, Ervin-Tripp (1996), once claimed that context permeates language. To develop valid theories of language and language learning, we need to broaden our understanding of contexts of speech. It is still far from clear, however, what is meant by context, and how it permeates language.

We shall now consider some data in order to get an idea of the relationships between the context and the directives produced by Laura. Fragment 1 presents a conversation that took place at her home, while Laura is still young. She has just been bathing. Jacqueline is her mother. The directives uttered by Laura are preceded by an arrow (→).

Fragment 1 Laura wants her mother to collect the things she played with in the bath (chat 07; age 1;11.21)

	Turn	Speaker	Transcript
→	1	Laura	<i>Ik ook die.</i> I too that.
→	2	Laura	<i>Eendje.</i> Little duck.
→	3	Laura	<i>Eend.</i> Duck.
→	4	Laura	<i>Eend.</i> Duck
	5	Jacqueline	<i>Je eendje [""]. Je eendje pakken we zo.</i> Your little duck? We'll fetch your little duck soon.
	6	Laura	<i>Bad. Ikke bad.</i> Bath. I bath.
	7	Jacqueline	<i>Ja. Ik ga even een andere luijer halen boven. Deze is niet goed meer.</i> Yes. I'm just going to fetch another diaper from upstairs. This one is not good anymore.
	8	Jacqueline	<i>Doe maar even een handdoek. Kom maar. Zo.</i> Just put on a towel. Come on. This way.
→	9	Laura	<i>Ikke eend.</i> I duck.
→	10	Laura	<i>Daa(r).</i> There.
			((Laura points to duck in the bath))
	11	Jacqueline	<i>Je eend d'ruit halen?</i> Fetch your duck out of it?

((Jacqueline takes the duck out of the bath))

12 Laura *Douche.*  
Shower.

13 Jacqueline *Ja, even afdrogen.*  
Yes, just dry.

→ 14 Laura *Die!*  
Them!

((Laura points to the bowls))

15 Jacqueline *Die ook eruit halen.*  
Fetch them too.

((Jacqueline takes the bowls out of the bath))

→ 16 Laura *Die!*  
That one!

((Laura points to the washing-glove)).

17 Jacqueline *Nee, washandje hoeft niet. Die brengen we gewoon naar de keuken.*  
No washing-glove is not necessary. We'll just take that one to the kitchen.

[\*] indicates quotation marks; when a word is incomplete, but the intended meaning seems clear, the missing material is inserted within parentheses.

Laura's directives in Fragment 1 lack an explicit mention of the agent and the required act. What she does mention is herself as the beneficiary (1 and 9), the objects requested (1, 9, 2, 3, 4, 14 and 16), and a location (10). Her mother constructs the directive meaning by making use of salient features of the context.

Fragment 2 also illustrates how context permeates language. It concerns a directive produced by Laura when she is a little older.

Fragment 2 Laura wants her mother to mould trousers from clay (chat 52; age 4;0.20)

	Turn	Speaker	Transcript
→	1	Laura	<i>Kan je een broek van klei maken?</i> Can you make trousers from clay?
	2	Jacqueline	<i>Wie moet een broek van klei maken? Ik?</i> Who has to make trousers from clay? Me?
	3	Laura	<i>Ja.</i> Yes.
	4	Jacqueline	<i>En dan jij maakt de knoopjes zeker in. Nou, geef me een boel klei.</i> And then you put in the little buttons, I bet. Well, give me lots of clay.

Laura's directive in Fragment 2 is linguistically more elaborated than her directives in Fragment 1: it explicitly expresses the agent and the requested act. But when one isolates this utterance from its context, it is not a directive, but a question. This utterance functions as a directive, because the context contributes to its meaning (Searle, 1975; Ervin-Tripp, 1976, 1977; Ervin-Tripp and Gordon, 1985; Ervin-Tripp et al., 1987).

Both fragments show that utterances that lack the characteristics of an explicit directive – the illocutionary force or the propositional content – are perfectly well produced and understood as directives in a specific context. In the case of the younger Laura in Fragment 1, the notion of context refers to aspects of the immediate social and physical environment such as ducks, bowls and Laura herself. When Laura grows older, the notion of context is no longer restricted to such salient features, but also encompasses factors such as the ability of speaker and addressee, their willingness and their rights and duties. In this broader sense context keeps playing a role. However, analysing this role is a mammoth task: when one starts to

think about the context of utterances and its contribution to meaning in general, it is not long before one starts to feel lost. In the next section, we reflect on the notion of context and delimit the ways in which we deal with it in this case study.

### 1.1. The notion of context

Levinson (1983) argues that it is necessary to distinguish between actual situations of utterance in all their multiplicity of features, and the selection of just those features that are culturally and linguistically relevant to the production and interpretation of utterances. The term ‘context’ is used to label the latter, which we regard as a well-motivated restriction. But can we say in advance what such features are likely to be? Ochs (1979:1–2) expresses the general opinion on this matter as follows: “The scope of context is not easy to assess and define. . . . To assess the import of a language user’s behaviour, one must consider the social and psychological world in which the language user operates at any given time.”

Scholars such as Lyons (1977) and Brown and Fraser (1979) tried to reduce the vagueness of the concept by providing lists of relevant contextual features. The best known list-like framework for describing context in sociolinguistic and ethnographic research is still the one proposed by Hymes (1962). He used the mnemonic SPEAKING to distinguish eight aspects in contexts of speech or, as he terms them, speech events:

<b>S</b>	Situation	This can be a physical setting (e.g. kitchen) or an abstract one (e.g. fantasy play)
<b>P</b>	Participants	Speaker, addressee, audience et cetera
<b>E</b>	Ends	The goals of the individuals as well as of the exchange
<b>A</b>	Act sequence	Message form, message content
<b>K</b>	Key	Tone, manner or spirit of act (e.g. serious, ironic)
<b>I</b>	Instrumentalities	Channel or mode. Forms of speech
<b>N</b>	Norms	Norms of interpretation. Norms of interaction
<b>G</b>	Genre	Categories such as joke, lecture, advertisement

This framework is only partly adequate for the problem we focus on. It conceptualises context as a number of extra-linguistic factors that determine language use, and not as a source that participants use and share when they produce and interpret language. This framework needs to be complemented with a psychological notion of context. Particularly useful here is Clark’s (1996) notion of common ground.

Clark (1996:93) argues that common ground is a ‘sine qua non’ for everything we do with others – from the broadest joint activities to the smallest joint actions that comprise them: “Two people’s common ground is, in effect, the sum of their mutual, common, or joint knowledge, beliefs and suppositions”. Common ground is the shared basis for language use. Clark (1996) suggests that people make use of two broad types of shared basis. The first type is evidence about the cultural communities people belong to. Shared bases of this type lead to communal common ground. The second type is evidence from people’s direct personal experiences with each other. It is information based on personal acquaintance and joint personal experiences which leads to personal common ground. This personal common ground in particular – understood as information from joint perceptual experiences and joint actions – is indispensable as a source for making sense of Laura’s directives, as we have seen in Fragment 1. When Laura grows older and becomes a member of different communities, the communal common ground will play a role as well.

Apart from these two widely diverging notions of context, there is a third and rather different notion: context in the sense of the preceding and following elements in the interaction. Laura’s directives are embedded in and related to the verbal context: Is the directive produced spontaneously or elicited by someone else? Is it the first, second, third or fourth attempt? Is it plain or embrodered with exclamations and attention getters?

Nor do these three notions of context exhaust all possibilities. The production and interpretation of directive speech acts also take place in an interactional setting, in relation to an ‘activity type’ (Levinson, 1979) and against the background of a ‘mental representation of a directive event’ (Huls, 1999). The latter specifies what ‘is in the game’ – in the utterance and in the context – when a directive speech act is performed. Aspects of this mental representation are factors that are identified by various scholars in pragmatics as tied to directive speech acts such as the ability and plans of the addressee, and the sincerity of the speaker (Searle, 1969, 1998; Garvey, 1975; Ervin-Tripp, 1976; Labov and Fanshel, 1977). These aspects are listed on the left-hand side of Table 1. Adult language users are aware of the relevance of these aspects; they are basic in interpreting utterances that lack the prototypical form of directives (for instance questions and statements; examples are listed on the right-hand side of Table 1; see also Fragment 2) as directives (Labov and Fanshel, 1977). The examples are made up from a verbal interaction in which a child directs another child to get off her scooter.

Moreover, the participants involved are characterised by social class, age, gender, and ethnicity, in sum, by different aspects of the *sociological* context. We will not present an abstract discussion of these different and partly overlapping notions of context here. Instead, in a bottom-up way, and taking Laura’s data as the starting point, we will select those aspects of context that play a role in the corpus analysis and explain the ways we deal with them.

**Table 1**  
Relevant aspects of a directive event.

Aspects	Example
1 Ability of addressee	<i>Can you get off the scooter?</i>
2 Sincerity of speaker	<i>I want you to get off the scooter</i>
3 Plans of addressee	<i>Are you going to get off the scooter?</i>
4 Duties of addressee	<i>You have to get off the scooter</i>
5 Rights of addressee	<i>You can get off the scooter</i>
6 Duties of speaker	<i>I have to give back the scooter</i>
7 Rights of speaker	<i>The scooter is mine</i>
8 Necessity/need	<i>I need the scooter</i>
9 Willingness of addressee	<i>Do you want to get off the scooter?</i>
10 Reasons	<i>I have to take these cookies to aunt Sarah</i>
11 Circumstances	<i>It is too wet to play outside</i>
12 Possibilities	<i>You can use the skateboard as well</i>
13 Various optional aspects that have no generality of form	<i>Do you see that swing over there?</i>

The following section 1.2 focuses on models of the development of a directive repertoire. Section 1.2.1 discusses the standard, linear model. Section 1.2.2 treats preliminaries to an alternative model. In section 1.2.3 our alternative, non-linear, model is presented. It concerns the relation between one contextual factor, the age of the speaker, and the language phenomenon we focus on, the composition of the directive repertoire. In section 1.3 we explain the way we have dealt with all those other contextual variables (i.e., other than age of the speaker) that are present in our collection of natural data, and that might have influenced Laura's directive development.

## 1.2. Models of the extension of the directive repertoire

### 1.2.1. A linear model

At first glance, a three-stage model derived from Searle's (1969, 1998) classification of indirect speech acts looks appealing, because it coincides with the general view that development is a process of increasing linguistic and cognitive complexity. This model suggests that the initial directive repertoire of children encompasses direct forms, that is, explicit expressions of the content 'H performs A' in an imperative sentence type – the modality conventionally associated with directive speech acts. (1) is an example of this direct category.

In the second stage, the directive repertoire is extended with a category of formulations which, in Searle's (1969, 1998) sense, is indirect with respect to the illocutionary aspect (see (2)). Through conventionalisation these utterances have contextually unambiguous meanings that differ from their literal meanings (Brown and Levinson, 1987). They are conventionally indirect. In these formulation types, the content 'H performs A' is embedded in questions or statements about reasons and conditions for the directive, such as the ability of the addressee or the wishes of the speaker. Formally, they give H the option to ignore the directive function, although this would be rather bizarre.

In the third stage, when children become more clever at steering others, their directive repertoire starts to contain directives that are 'really' indirect, i.e., they lack an explicit expression of the agent, the requested act and the directive function and have no conventionalised connection to the directive function (see (3) for examples). They are statements of reasons, motives, rules, etc. for the requested act, as well as hints to the requested acts. What characterises these utterances most is their multi-functionality, thereby granting the addressee the opportunity to ignore the directive aspect. For instance, 3a to 3d can function as statements and directives; 3e as exclamation and directive.

- (1) Get off the scooter.
- (2) Can you get off the scooter?  
I want you to get off the scooter.  
Would you mind getting off the scooter?
- (3) a Over there, there is a swing you could play on.  
b This scooter is mine.  
c I need the scooter.  
d It is my turn.  
e Hey!

However, this linear model turns out to be contradicted by the facts (Garvey, 1975; Ervin-Tripp, 1976, 1977; Ervin-Tripp and Gordon, 1985; Huls, 1982, 1989). Already at an early age, children use forms which meet the criteria of indirectness (see e.g. Fragment 1). Moreover, this linear model is focused on language development, thereby overlooking the fact that 'performatives are prior to speech' (Bates et al., 1979) and that the first requests appear by 9–10 months in the form of conventionalised gestures and vocalisations (Bruner et al., 1982; Marcos, 1991), which are obviously implicit and indirect.

Even when we restrict the applicability of this linear model to phases of development wherein language is available – as is the case in our data –, a basic problem with it still remains: it does not take context into account. Category (3) encompasses a variety of types with – in a given context – more or less farfetched relationships to the content of the directive ‘H performs A’. For instance, 3a, 3d and 3e do not mention the scooter, which is a crucial object in this directive exchange. Producing these types differs from producing types which explicitly mention the focal object, such as 3b and 3c. In fact, uttering a propositionally empty exclamation such as *Hey!* (3e) is a felicitous directive, which, in a given context, does not require many inferences and is not indirect at all. While Searle (1969, 1998) proposed this category as one that captures ‘real indirectness’, it encompasses more than that. What we need to do is to reconsider this category (3) and, in order to explain the findings of empirical studies that refuted the linear model, to reflect on an alternative model, which takes notions of context such as ‘common ground’ and ‘mental representation of a directive event’ into account.

### 1.2.2. Preliminaries to an alternative model

Elaborating on studies by Ervin-Tripp (1976) and Garvey (1975), we distinguished thematic subtypes such as ‘possession statement’ (3b), ‘need statement’ (3c) and ‘norm or rule’ (3d) within category 3, the indirect directives. This resulted in a fine-grained typology of 14 subtypes, as presented on the left-hand side of Table 2. Not only the application of this fine-grained typology to early child language, but also field studies of families of different socio-economic class and ethnicity (Huls, 1982, 1989), made clear that several of the thus distinguished indirect types were used in a similar way as the most direct type, the imperative. Although they were implicit with respect to ‘H performs A’, H as well as A were salient in the context – understood as common ground –, so these types were ‘direct-in-context’. Moreover, it became apparent that it was not a matter of direct vs. indirect, but the thematic subtypes differed in degree of ‘directness-in-context’, with for example 3c at the relatively direct end of the scale (at least in the context of a young child talking with a cooperative adult interlocutor), 3a at the indirect end, and 3d somewhere in between. To account for such differences in degree of directness-in-context of the various thematic subtypes, we grouped them into four main types on the basis of the kind of factor that is touched upon in the language form: mentioning a speaker factor is part of the personal common ground and considered to be relatively direct in the context that we study; mentioning other environmental and readily observable factors is regarded as being less direct than mentioning a speaker factor, but more direct than mentioning norms and rules, which belong to the communal common ground and require knowledge of the non-observable social order, or causes and consequences, which require an understanding of complex processes. Propositionally nearly empty utterances such as an addressee term or exclamation could not be ordered beforehand, because they can be both very direct and indirect, but we decided to treat them as direct, except when Laura and her mother did not reach an understanding. The grouping of the thematic subtypes into four main types, as shown in the middle column of Table 2, was a prerequisite for our alternative model of the development of the directive repertoire. The right-hand column of Table 2 contains examples of the subtypes and main types. They are neither glosses nor translations, but approximations of the subtypes distinguished.

What we further need to do before we present our alternative model is to introduce finer distinctions in the other two categories of the linear model. Within the ‘direct’ category (1) we distinguish between ‘imperatives’ (‘Get off the scooter’) and ‘elliptical imperatives’ (‘Get off’). Within the ‘conventionally indirect’ category (2) we take the specific interrogative or declarative sentence frame used to embed the propositional content of the directive as a distinctive characteristic. Or one could equally say: we use relevant aspects of a directive event such as the ones listed in Table 1 to make finer distinctions in category (2). For example, directives with a frame sentence concerning the ability of the addressee are distinguished from directives with frames concerning the rights and duties of speaker and addressee or the willingness of the addressee. This results in 11 subtypes of embedded directives, as represented in the left-hand column of Table 3. Next, we grouped them on the basis of canonical speech act theory as frames related to the conditions of directive speech acts (nr. 1–7) and the irregular or elaborated frames that were not related to these conditions (nr. 8–12). We refer to the first group as main type ‘explicit, embedded in regular frame’. The irregular and elaborated frames are classified as indirect, because the illocutionary function is relatively difficult to infer from the embedded construction.

**Table 2**  
Subtypes and main types within Searle’s category 3 of implicit directives.

Subtypes	Main type	Made-up example
1 Addressee term/exclamation	Direct	<i>Hey, Lois</i>
2 Need statement	Implicit, using speaker factors	<i>I need the scooter</i>
3 Possession statement	Implicit, using speaker factors	<i>That scooter is mine</i>
4 Statement of emotions	Implicit, using speaker factors	<i>The scooter is so nice</i>
5 Statement of (in)ability	Implicit, using speaker factors	<i>I can ride a scooter</i>
6 Necessity statement	Implicit, using other readily observable factors	<i>It is necessary</i>
7 (Im)possibility	Implicit, using other readily observable factors	<i>That is impossible</i>
8 Permission directive	Implicit, using other readily observable factors	<i>Can I ride the scooter?</i>
9 Other motives/circumstances	Implicit, using other readily observable factors	<i>It is too wet to play outside</i>
10 Question directive	Implicit, using other readily observable factors	<i>Do you have a scooter for me?</i>
11 Norm or rule	Indirect	<i>It is my turn</i>
12 Consequences	Indirect	<i>You might fall</i>
13 Association cue	Indirect	<i>Over there, there’s a swing you could play on</i>
14 Other hint	Indirect	<i>Go and play at your mummy’s</i>

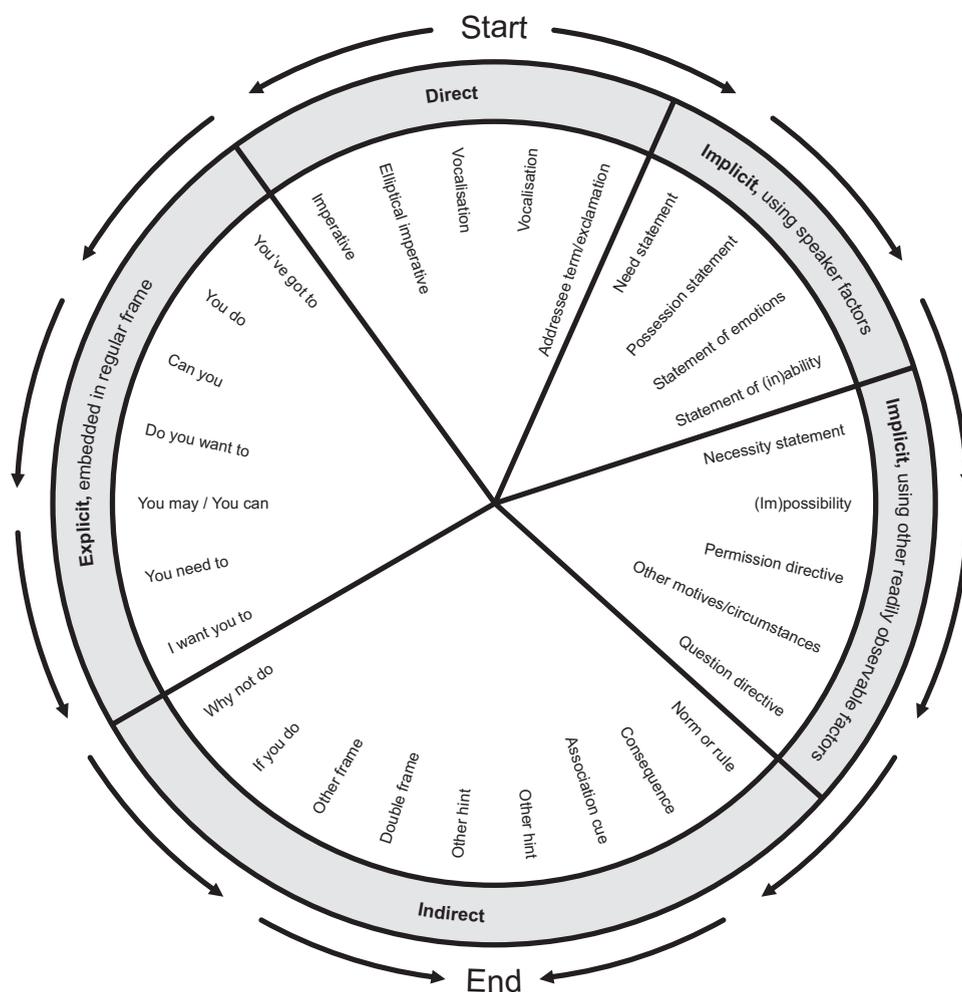
**Table 3**  
Subtypes and main types within Searle's category 2 of explicit directives.

Subtypes	Main type	Made-up example
1 You've got to do A	Explicit, embedded in regular frame	<i>You've got to get off the scooter</i>
2 You do A	Explicit, embedded in regular frame	<i>You get off the scooter</i>
3 Can you do A	Explicit, embedded in regular frame	<i>Can you get off the scooter?</i>
4 Do you want to do A	Explicit, embedded in regular frame	<i>Do you want to get off the scooter?</i>
5 You may/you can do A <sup>a</sup>	Explicit, embedded in regular frame	<i>You can get off the scooter</i>
6 You need to do A	Explicit, embedded in regular frame	<i>You have to get off the scooter</i>
7 I want you to do A	Explicit, embedded in regular frame	<i>I want you to get off the scooter</i>
8 Why not do A?	Indirect	<i>Why don't you get off the scooter?</i>
9 If you do A	Indirect	<i>If you get off the scooter...</i>
10 Other frame	Indirect	<i>You promised to get off the scooter</i>
11 Double frame	Indirect	<i>I wonder if you could get off the scooter</i>

<sup>a</sup> This subtype concerns the related concepts 'permission' and 'rights'. The Dutch label for this subtype is 'Je mag', which can be translated literally as 'You may'. However, English 'may' differs from Dutch 'mag' in connotations and frequency of use. A better translation of 'mag' in most contexts might be 'can', but if we opted for this, there is a potential ambiguity because 'can' is used for labeling two distinct categories, namely ability and permission. We decided to denote to this subtype with the distinctive label 'you may/you can'.

### 1.2.3. An alternative, non-linear model

In this study we abandon the one-dimensional model and adopt a new perspective, visualised as a circle in Fig. 1. Basic in our perspective is that there are two roads to indirectness: the one that is represented in the middle column of Table 2 and the one in the middle column of Table 3. We suppose that a pre-lingual child – i.e., a child younger than the studied



**Fig. 1.** Context-based non-linear model of the development of the directive repertoire.

Laura – starts her development with uttering vocalisations, which are linguistically primitive forms and precede formulations on the right-hand side of the circle as well as on the left-hand side. In the early lingual phase – which applies to the younger Laura in our data collection – the directive repertoire of the child is extended with the linguistically most direct form, the imperative, as well as with linguistically indirect but contextually direct forms: the exclamation and the addressee term. Vocalisations, exclamations and addressee terms can exist in this phase, because the context contributes significantly to meaning and provides the indispensable elements of a directive – the agent and the act required.

When the child extends her repertoire, she proceeds around the circle on both the left-hand and right-hand side. On the right-hand side, she follows the contextual road to indirectness. She dissociates from her primary needs and her caregivers and explores the wider environment. She discovers cause–effect relationships, differentiates between motives, reasons and circumstances and acquires a mental representation of a directive event. She produces directives that reflect the increasing complexity of her relationships with her environment.

On the left-hand side she follows the linguistic road to indirectness. She experiences the increasing necessity of steering the interpretation of her interlocutors with verbal elaborations. She also learns to take the role of the other, gets an understanding of politeness and respect for others and realises that embedding can be more effective and appropriate than directness. She extends the imperative forms with linguistically explicit embedded directives.

Finally, along both ‘routes’, the child reaches the bottom of the circle. The child has learned to take the role of the addressee, and shows consideration for others. Its knowledge of relative status, rights and possession increases. Being a sensitive and a cooperative person, the child uses directive subtypes that show respect and offer freedom of choice to the other: she exploits subtypes that are either vague in the context given, or embedded in a relatively extended frame.

In the empirical validation of this context-based model, we depart from the categorisation into main types, which is represented in the outer layer of Fig. 1. No claims are made as to the specific order within a main type. Thus, for instance, it is not claimed that ‘can you’ will be said earlier than ‘do you want to’ or ‘you may/you can’.

### 1.3. Moderating factors in the verbal and extra-linguistic context

Our data were collected in spontaneous conversations, that is, in a non-experimental, non-systematic way. Therefore, many contextual factors might be systematically related to age and thus potentially distort the observed developmental pattern. The following example clarifies this. Suppose we find a relationship between the age of Laura and her use of main types, and that this relationship turns out to underpin the model that is presented in section 1.2.3 empirically. Then, the conclusion that the model is supported would still be premature, because this relationship might be determined by factors other than age. For example, it is easy to imagine that activity types such as playing games and solving puzzles drive Laura to more indirectness. If the older Laura is more often engaged in these activity types than the younger Laura, then the trend found cannot yet be attributed to age, because the activity type might be a decisive factor in it. What we need to do then, is compare the age trend in the overall data with the age trends in subsamples that include or exclude the activity type ‘playing games and solving puzzles’. If the relationship between age and main type that was found in the overall data stands firm in the context-specific subsamples, then the conclusion that the data support the model is independent of activity type and thus more valid.

In order to study the potential distorting or moderating effects of factors from the context on what appears as an age trend, we coded the sample for 25 contextual aspects. 23 of these factors concern the verbal context. These are described in Table 4. A directive is hardly ever an isolated act; other acts accompany it, it has a relation to previous verbal events and to activities of the addressee. Thus, it can be preceded by attention getters, followed by reasons, and interrupt ongoing activities of the addressee. In short, directives are embedded in sequences.

In addition, each directive was coded for two factors that concern the extra-linguistic context: ‘aim of the directive’ (e.g. getting attention, obtaining an object, or the performance of an act) and ‘type of activity’ (e.g. during role playing, when eating and drinking, while reading aloud).

We summarise the five ways in which ‘context’ recurs in the case study presented here:

1. The psychological context refers to the interlocutors’ common ground, that is, to their knowledge of joint perceptual experiences and joint actions. This notion of context is fundamental for the model presented here.
2. The pragmatic context refers to the mental representation of a directive event, which language users exploit as a framework for interpreting interrogative and declarative utterances – i.e. utterances that lack the prototypical form of directives – as directives. This notion of context also plays a role in our model.
3. The sociological context refers to aspects such as social class and position in the birth order. In the present study – as in all cases studies – these aspects are constants, implying that results cannot be generalised without caution.
4. The extra-linguistic context refers to specific properties of the situation in which a conversation takes place: what is the aim of the interaction? What kind of activity are the interlocutors involved in?
5. The verbal context refers to characteristics of the sequence of verbal exchanges a specific utterance is part of. Table 4 lists 23 of these characteristics.

With an in-depth examination of a developmental process when so many variables in the extra-linguistic and verbal context might moderate its outcome, we intend to contribute to the understanding of language development but also to set an example for the methodology of corpus-based research.

**Table 4**  
Potentially moderating factors in the verbal context.

Group	Instances
Accompaniment	Is directive accompanied by acts (e.g. pointing at or pushing addressee)? Is directive embroidered with exclamations, attention getters, addressee terms and tag questions (in short, attitudinal features)? Is directive accompanied by statements of reasons? Is directive produced in a speaking turn with other utterances which have no relationship with the directive?
Relation to previous verbal events	Is directive the first, second, third or fourth attempt? Is speaker giving in? Is directive a repetition of a prior one? Is directive a clarification of a prior one? Is directive spontaneous or elicited? Is speaker supporting another speaker?
Strength	Is directive meaning of the utterance weak? Is speaker 'fishing' with the directive?
Bounding	Is directive bound to a time lag? Is directive bound to a condition?
Relation to other acts	Is the act aimed at with the directive part of a series of connected acts? Is directive part of a series of directive utterances that together aim at one act, while none of the utterances by itself accomplishes the directive speech act?
Relation to activities of addressee	Is the requested act part of the tasks or duties of addressee? Does directive interrupt the ongoing discourse? Does directive interrupt ongoing or planned activities of addressee? Is directive aimed at a precious good or a difficult or unusual service?
Relation to following verbal events	Is directive followed by a request for clarification? Is directive interrupted before completion? Is the directive successful in the sense that the addressee carries out the act?

## 2. Method

### 2.1. Material

We obtained our language material from Van Kampen's (1994, 1997) data collection of a girl named Laura. This sample is electronically available from the CHILDES-project, the child language component of the system for sharing and studying conversational interactions called Talk Bank (<http://childes.psy.cmu.edu/>; MacWhinney, 2000). This case was chosen because it contained a longitudinal corpus of mother–child interactions in an unstructured home setting over the longest time period (4.5 years). The first conversation was recorded when Laura was 1;9 years old. Subsequently, every 2 or 3 weeks a conversation of about 45 min was recorded. During the final session, Laura was 5;6 years old. In all, the data collection consists of 70 recordings in home situations such as eating, reading aloud, bathing and playing. The face-to-face interactions were non-elicited and spontaneous, i.e. not structured in relation to a specific research question. Most conversations took place between Laura and her mother; only a few times were Laura's father, her baby-sitter and the latter's son involved. The audio recordings were made by the mother (professional linguist Van Kampen), using a Prefer OCC/1121 microphone and a Nakamichi 350 recorder. Several transcribers, supervised and assisted by Van Kampen, made transcripts according to the conventions of CHAT. The transcribers used a Sanyo TRC 9010 with a foot pedal. When relevant, the transcribers and/or Van Kampen added descriptions of the situation and the acts of the interlocutors to the transcripts.

Our study is a case study, which means that the results cannot be generalised to a category of children, let alone to all children. The value of this case study lies not in high external validity and its purpose is not to generalise the findings, but to provide a first test of the internal validity of a theoretical model with data from an exemplifying case (Bryman, 2008:56–57). Our case is chosen because Laura does not seem to be extreme and unusual in any way, while she provides an apt context for the working-through of our research questions. Our case also has the characteristic of a 'revelatory' one (Bryman, 2008:56): she provides us with spontaneous and natural longitudinal data covering a period of 4.5 years, i.e. a collection of data that is hard to find in the literature (see the CHILDES-project; <http://childes.psy.cmu.edu/>). Therefore a case study such as the one we carried out forms a useful contribution to the academic discussion, while case studies in general are an acknowledged research design in the (applied) fields of psychology, education and medicine (Backman and Harris, 1999).

### 2.2. Analyses of utterances

A directive was defined as an attempt to regulate the nonverbal behaviour of an addressee. These attempts differ in strength, since they vary from strong cases, such as commanding and forbidding, to rather weak ones, such as insisting, dissuading, inviting and suggesting. Attempts to regulate the verbal behaviour of the addressee were not taken as directives

for the practical reason that, in that case, almost every utterance would have to be included in the analysis. During the analyses, guidelines were discussed and documented continuously to secure uniformity of coding. For example, the utterance 'Look' had to be interpreted as an explicit directive if the addressee made an accompanying body movement, and as an attention-getter, an attempt to steer the conversation, if such a movement did not occur. In all, 1297 cases were obtained from the transcripts that were considered to be directives. Each case was coded with respect to *age* and *type*.

The transcript specifies age of the speaker in years, months and weeks. It starts at the age of 1 year and 9 months and ends at the age of 5 years and 6 months. In the statistical analysis, we collapsed age into five consecutive periods of 9 months each. In some cases, this division was reduced further into a binary one with 3 years and 6 months as midpoint.

Each directive was coded for type in terms of the fine distinctions presented in Fig. 1. With respect to this coding, we were aware that it was a task with a judgmental and an analytical aspect. We aimed to minimise the judgmental and potentially subjective aspect by analysing language forms, i.e. entities with observable characteristics, using insights from pragmatics and by basing decisions on explicit criteria and procedures. This was a collaborative process. Problematic cases were discussed. The application of objective criteria and procedures reduced the judgmental aspect of the analysis considerably. Since the analyses were a joint effort, we could not compute a numerical value for inter-rater reliability such as Cohen's (1960) Kappa.

In the statistical analyses, the subtypes coded were put together into the five main types, also defined in Fig. 1. In some cases, this division was reduced further into a categorisation as either an explicit or an implicit type. An explicit directive mentions the propositional content of the directive speech act ('H performs A') in a regular frame, whereas an implicit directive does not and expresses speaker factors or other readily observable factors (see left- and right-hand sides of Fig. 1 respectively). Vocalisations were excluded given their combined explicit and implicit nature. The relations between age and main type were evaluated statistically using  $\chi^2$ -tests.

### 2.3. Analyses of potentially moderating context factors

As explained in section 1.3, each directive was coded for two extra-linguistic variables: 'aim of the directive' and 'activity type'.

Of the 23 factors of the verbal context mentioned in Table 4, 17 showed an extremely unbalanced distribution and were therefore excluded from further analyses. For example, a directive never interrupted the ongoing discourse and only 0.2% of the cases involved an issue not within the tasks or duties of the addressee. Six factors scored an overall 5% or more on their least frequent aspect, which made them amenable to further statistical analysis: (1) Is directive accompanied by acts (e.g. pointing or pushing addressee)? (2) Is directive embroidered with exclamations, attention getters, addressee terms and tag questions? (3) Is directive the first attempt or a later one? (4) Is directive uttered spontaneously? (e.g. a mother says to her child: *Shall I tickle you?*; in this case, the directive of the child is not spontaneous, but elicited: *Yes, very gently*). (5) Is directive followed by a request for clarification? and (6) Is directive successful in its effect?

The relationships of these eight contextual factors (two extra-linguistic factors plus six factors of the verbal context) with age were evaluated with binary logistic regression (including Nagelkerke R Square, Hosmer and Lemeshow Test, with a high *p*-value indicating a good fit, and Wald statistics). Unlike the classical  $\chi^2$ -test, logistic regression offers the possibility to check the data for interactions between independent factors. It also provides an estimate for effect size.

If such a relationship was found, we studied the relationship between age and main type in contextual-specific subsamples with the aid of  $\chi^2$ -statistics. However, the last group of contextual factors in Table 4 had to be excluded from this context-specific analysis of the relationship between age and main type on conceptual grounds. These factors follow upon the choice of directive type, which makes them highly unlikely candidates for explaining it: by themselves, they cannot determine what happens before them. In general, previous experiences of failure, unintelligibility and being interrupted may motivate Laura to extend her directive repertoire, but it would be bizarre to suppose that these factors led Laura to choose specific directive types. We included them in our study and established their relationship with age, because they might illuminate our findings in a broader framework and play a role in the discussion.

### 2.4. Outline of the empirical evaluation of the model

The results of this longitudinal study of the Dutch-speaking child Laura begin with a description of the relation between age and directive subtype. Next, the expectations derived from our model are evaluated. Within the time-span studied, directive development starts with linguistically direct formulations and implicit ones, provided that the latter 'speak for themselves'. Development ends with the acquisition of indirect forms. In between, the repertoire is extended in two ways: the principle of increasing embedding of the propositional content in language frames and the principle of increasing differentiation in contextual factors (motives, circumstances and reasons). More specifically, three expectations are empirically evaluated:

1. In the early lingual phase, direct types predominate, i.e. lingual development starts at the top of Fig. 1. With age, these types are used increasingly less frequently.
2. When a child begins to extend its repertoire, it does so with both explicit and implicit types, i.e. it produces types that are represented in the left-hand and right-hand sides of Fig. 1.

3. In the final stage, a child starts to produce indirect types, i.e. explicit directives with an elaborated frame and implicit directives based on not easily observable aspects of the mental representation of a directive event, i.e. development ends at the bottom of Fig. 1.

For a further understanding of the development, the corpus is also inspected with respect to the following two issues:

4. Are explicit and implicit formulations produced equally frequently or does one of the two predominate?
5. Is the set of implicit formulations ordered, in the sense that speaker-related utterances are produced at an earlier stage than utterances related to other readily observable aspects of the representation of a directive event?

Finally, the possibility that the patterns observed are not so much related to age but to co-occurring factors in the verbal and extra-linguistic context of the directives is investigated.

### 3. Results

#### 3.1. First mention of a directive subtype

Table 5 shows at what age a specific subtype was used for the first time. In the first conversation recorded, Laura (1;9) uses vocalisations, elliptical imperatives, imperatives and addressee terms/exclamations. When Laura is 2;2, she uses her first type of the main 'explicit, embedded in a regular frame' type, namely 'you've got to' (e.g. 'you've got to get off my scooter'). In Dutch, she uses the modal verb *moeten*, which can be translated literally as 'must'. Dutch *moeten* is very common and has many meanings (Droste, 1956). At a very general level, it refers to necessity and obligation. It might have an undifferentiated and complex meaning in the initial language development of children, from which in a later phase different words and different meanings are derived (Slobin, 1985). Not until 6 months after 'you've got to', at age 2;8, does she extend her repertoire of explicit types with 'do you want to' and 'you may/you can'. At 2;9, 'you do' appears, and at 3;6, other frame/double frame is observed. Only when she is 4 years old does 'can you' appear, followed much later (4;9) by 'you need to'. The types 'I want you to', 'why not do?' and 'if you do' are not represented in the data collection.

Implicit directives using speaker factors appear rather early in the development. The need statement is used before Laura is 2 years old (1;11), followed somewhat later by statement of emotions (2;3), statement of possession (2;4) and statement of (in)ability (3;1). Of the implicit directives using other readily observable factors of the mental representation of a directive, (im)possibility comes first (2;3), followed by other motives/circumstances (2;5), necessity statement (2;6), question directive (2;7), and permission directive (3;3). Laura already uses 'other hints' before she is 3 years old (2;8). She uses norms or rules at age 4;4. Only two implicit subtypes are not represented in the data: the consequence and the association cue.

Examples of Laura's use of the various subtypes are provided in Appendix A.

#### 3.2. Age-related changes in distribution over main type

Table 6 shows, for each age period, how the directives were distributed over the five main types. With age the directive repertoire became more diverse ( $\chi^2(16) = 246.92, p < .0001$ ). At the beginning, direct types dominated. With age, these types showed a regular decline from 93.8 to 46.8% ( $\chi^2(4) = 203.91, p < .0001$ ). In the first parts of the time-span studied, they were replaced by explicit and implicit types. Later, the repertoire started to include indirect types. These observations are in accordance with the three expectations in section 2.4.

**Table 5**

The first use of a directive subtype (age in years and months).

Age	Explicit subtypes	Implicit subtypes
1;9	vocalisation, (elliptical) imperative	vocalisation, addressee term/exclamation
1;11		need statement
2;2	you've got to	
2;3		statement of emotions, (im)possibility
2;4		possession statement
2;5		other motives/circumstances
2;6		necessity statement
2;7		question directive
2;8	do you want to, you may/you can	other hint
2;9	you do	
3;1		(in)ability
3;3		permission directive
3;6	other frame/double frame	
4;0	can you	
4;4		norm/rule
4;9	you need to	

**Table 6**

Distribution of directives over main types in relation to age (in %).

		1;9–2;5 (n = 304)	2;6–3;2 (n = 319)	3;3–3;11 (n = 156)	4;0–4;8 (n = 300)	4;9–5;6 (n = 218)
Direct		93.8	80.3	63.5	51.0	46.8
Explicit	Embedded in regular frame	1.0	5.6	10.3	24.0	23.4
Implicit	Using speaker factors	4.6	9.4	11.5	11.3	8.7
Implicit	Using other readily observable factors	0.7	4.1	12.2	9.0	15.6
Indirect		0.0	0.6	2.6	4.7	5.5

**Table 7**

Distribution of directives within the subsample of explicit and implicit types in relation to age (in %).

		1;9–2;5 (n = 19)	2;6–3;2 (n = 61)	3;3–3;11 (n = 53)	4;0–4;8 (n = 133)	4;9–5;6 (n = 104)
Explicit	Embedded in regular frame	15.8	29.5	30.2	54.1	49.0
Implicit	Using speaker factors or other readily observable factors	84.2	70.5	69.8	45.9	51.0

### 3.3. Age-related changes in the extension of the directive repertoire

When Laura starts to increase her use of types other than the direct ones, the question arises whether the implicit and explicit main type will be used with equal frequency. Therefore, it was decided to examine (for each age period) how directives were distributed within the subsample of explicit and implicit types. Table 7 shows the results. The distributions differed ( $\chi^2(4) = 22.06, p < .0001$ ). The explicit types rose regularly from 15.8 to about 50%. The implicit ones showed the opposite trend, of course, from 84.2 to about 50%. In her earliest stages, implicit types outnumbered the explicit ones. This answers issue 4, raised in section 2.4. Only at the end of the period analysed, that is, about age five, did both types begin to occur equally frequently. Summing up over all age periods, Laura used implicit types more often than explicit ones (57% versus 43%).

When Laura starts to increase her use of implicit types, the question arises whether she will restrict herself to making mention of speaker factors, or include other factors that are part of the directive event. Therefore, it was determined (for each age period) how directives were distributed within the subsample of implicit types. Table 8 shows the results. The distributions differed ( $\chi^2(4) = 19.07, p < .001$ ). The implicit ones using speaker factors decreased regularly from 87.5 to 35.8%. The implicit ones using other readily observable factors moved in the opposite direction, from 12.5 to 64.2%. When Laura began to produce implicit formulations, she referred to speaker-related aspects far more often than to other readily observable factors. At the end of the period studied, however, their relative importance turned out to be reversed. This answers issue 5 raised in section 2.4.

### 3.4. Inspection for interactions with potentially moderating context factors

It could be objected that the patterns were caused by variables other than age, and that they did not result from a growth in communicative competence, but were simply due to some co-occurring change in the verbal or extra-linguistic context of the directives. We do not know all the variables that might be relevant, but we have touched on 25 of them (see section 1.3).

**Table 8**

Distribution of directives within the subsample of implicit types in relation to age (in %).

		1;9–2;5 (n = 16)	2;6–3;2 (n = 43)	3;3–3;11 (n = 37)	4;0–4;8 (n = 61)	4;9–5;6 (n = 53)
Implicit	Using speaker factors	87.5	69.8	48.6	55.7	35.8
Implicit	Using other readily observable factors	12.5	30.2	51.4	44.3	64.2

**Table 9**

Factors in the verbal context in relation to age (in %; first period: n = 695; second period: n = 602).

	Age (years; months)		Wald statistics
	1;9–3;6	3;7–5;6	
Directive was accompanied by acts	9.2	2.2	18.74, $p < .0001$
Directive was embroidered	17.0	17.9	0.55, $p = .46$
Directive was the first attempt	79.0	87.7	11.04, $p < .005$
Directive was uttered spontaneously	89.8	92.4	7.05, $p < .01$
Directive was followed by a request for clarification	13.4	2.0	40.61, $p < .0001$
Directive was successful in its effect	59.4	73.4	20.48, $p < .0001$

**Table 10**

For the first two age periods, the distribution of directives over main types computed for the sample before and after exclusion of the cases with accompanying acts (in %).

	1;9–2;5		2;6–3;2	
	Included (n = 304)	Excluded (n = 256)	Included (n = 319)	Excluded (n = 303)
Direct	93.8	92.6	80.3	79.5
Explicit embedded in regular frame	1.0	1.2	5.6	5.9
Implicit using speaker factors	4.6	5.5	9.4	9.6
Implicit using other readily observable factors	0.7	0.8	4.1	4.3
Indirect	0.0	0.0	0.6	0.7

As reported in section 2.3, 17 of these variables showed an extremely unbalanced distribution. Due to this lack of variation, our corpus does not provide the opportunity to evaluate their influence on the observed developmental pattern. The relationships of the six remaining factors in the verbal context with age were evaluated with a binary logistic regression. Table 9 presents their main effects.

The model explained 13.2% of the variance; the Hosmer and Lemeshow Test was not significant ( $\chi^2(6) = 10.47, p = .11$ ). One factor, the embroidering, did not change with age, but the other five did. In the second period, a directive was less often followed by a request for clarification or accompanied by acts, and more often successful in its effect, the first attempt and uttered spontaneously.

As clarified in section 2.3, two of these factors follow upon the choice of directive type – the frequency of requests for clarification and the chance of being successful – and thus cannot have determined what happened before them. We excluded them from the context-specific analyses of the relationship between age and main type.

The three remaining potentially relevant factors in the verbal context, as well as the two extra-linguistic factors, will be investigated more precisely with respect to their effect on the relationship between age and main type.

#### 3.4.1. 'Accompanied by acts'

With age, it became less frequent for a directive to be accompanied by acts (see Table 9). For the first two age levels, we checked whether Laura's directive repertoire would change after exclusion of the directives that were accompanied by acts. Table 10 presents the distributions over main types for the sample including the cases with an accompanying act, and for the sample excluding these cases. For both periods, the distributions were similar (1;9–2;5:  $\chi^2(1) = 0.30, p = .58$ ; 2;6–3;2:  $\chi^2(1) = 0.05, p = .83$ ). The fact that a directive did not stand completely on its own had not affected the type that was realised.

#### 3.4.2. 'First vs. later attempts' and 'spontaneity'

The frequency of first attempts and that of spontaneous directives increased with age (see Table 9). As regards first attempts: they were more often direct than later attempts. We can conclude here that the effect of age – as shown in Table 6 – is somewhat underestimated, because an effect of attempt also plays a role.

With respect to spontaneity (see section 2.3 for a clarification of this notion) the results show a change in pattern, demanding a more detailed analysis. Elicited directives are more direct than the spontaneous ones. The effect of age – as shown in Table 6 – might be somewhat overestimated by this difference in spontaneity. We made subsamples of the younger Laura and the older one (before and after 3;7) and checked in both subsamples whether the overall directive repertoire differed from the directive repertoire after exclusion of the non-spontaneous directives. Table 11 presents the distributions over main types for the sample including versus excluding the non-spontaneous cases. For both periods distributions were similar (1;9–3;6:  $\chi^2(4) = 0.52, p = .92$ ; 3;7–5;6:  $\chi^2(4) = 1.95, p = .57$ ). Differences in the spontaneity of the directive had not affected the relationship between age and main type.

#### 3.4.3. 'Aim' and 'activity type'

Table 12 shows to what extent age was related to changes within the 'directive aim' and 'activity type' factors. Both distributions differed for age periods (Directive aim:  $\chi^2(5) = 24.73, p < .001$ ; Activity type:  $\chi^2(6) = 342.56, p < .0001$ ). A binary logistic regression for Directive aim revealed significant increases for 'attention' and 'specific action, framed by an activity', but no significant decreases (Nagelkerke: .025; Hosmer and Lemeshow Test:  $\chi^2(2) = 0.00, p = 1.0$ ). For Activity type,

**Table 11**

Contrasting two age periods, the distribution of directives over main type computed for the sample before and after exclusion of the non-spontaneous cases (in %).

	1;9–3;6		3;7–5;6	
	Included (n = 695)	Excluded (n = 624)	Included (n = 602)	Excluded (n = 556)
Direct	84.3	82.9	51.3	48.2
Explicit embedded in regular frame	4.2	4.6	21.8	23.4
Implicit using speaker factors	7.6	8.2	10.3	10.6
Implicit using other readily observable factors	3.5	3.8	11.8	12.8
Indirect	0.4	0.5	4.8	5.0

**Table 12**

Distribution of directives over directive aims and activity types in relation to age (in %).

		1;9–3;6 (n = 695)	3;7–5;6 (n = 602)
Directive aim	Action	60.0	54.0
	Restriction	15.1	12.5
	Specific action, framed by an activity	13.1	20.1
	Object	8.5	8.1
	Unknown	1.9	1.0
Activity type	Attention	1.4	4.3
	Creative play	20.9	46.2
	Other	19.4	7.6
	Reading aloud	19.1	7.0
	Role play	13.7	8.5
	Eating and drinking	12.5	4.0
	Bathing	11.1	0.7
	Games and puzzles	3.3	26.1

**Table 13**

For the directive aims increasing and decreasing with age the distribution of directives over main types (in %).

	Direct	Explicit, embedded in regular frame	Implicit, using speaker factors	Implicit, using other readily observable factors	Indirect
Attention and specific action, framed by an activity (n = 248)	72.6	9.7	3.2	12.9	1.6
All other directive aims (n = 1049)	68.2	13.0	10.2	6.0	2.7

**Table 14**

For the activity types increasing and decreasing with age the distribution of directives over main types (in %).

	Direct	Explicit, embedded in regular frame	Implicit, using speaker factors	Implicit, using other readily observable factors	Indirect
Creative play, games and puzzles (n = 603)	60.2	17.4	8.6	9.9	4.0
All other activity types (n = 694)	76.6	7.9	9.1	5.2	1.2

all changes were significant: 'creative play' increased in frequency together with 'games and puzzles'; the other 5 activities decreased (Nagelkerke: .34; Hosmer and Lemeshow Test:  $\chi^2(5) = 0.00$ ,  $p = 1.0$ ).

It was examined whether 'attention' and 'specific action, framed by an activity', the directive aims that increased in frequency with age, had a distribution over main types that differed from the one for the remaining set of directive aims, which tended to decrease with age. Table 13 presents the results. The distributions differed ( $\chi^2(4) = 27.26$ ,  $p < .001$ ). The major difference had to do with the form of the implicit directives. The aims becoming more frequent scored higher on 'Implicit, using other readily observable factors'; the aims becoming less frequent scored more highly on 'Implicit, using speaker factors'. We have to conclude that the trend reported in Table 8 is somehow overestimated as a result of an underlying change in directive aims.

It was also examined whether 'creative play' and 'games and puzzles', the activity types that increased in frequency with age, showed a distribution over main types that differed from the one for the remaining set of activity types, which tended to decrease with age. Table 14 presents the results. The distributions differed ( $\chi^2(4) = 56.05$ ,  $p < .0001$ ). The major difference occurred for the use of direct and explicit types. The activities becoming more frequent scored higher on explicit types; the activities becoming less frequent, on direct types. We may conclude that the trend reported in Table 7 is partly determined by an underlying change in activity types.

#### 4. Conclusions

The longitudinal data analysed here support the three expectations and clarify the two issues that were raised in section 2.4. They underpin the context-based model. In the earliest lingual phase in our data, direct types do indeed predominate (expectation 1); it is only in the latest phase that the directive repertoire encompasses a certain amount of indirect types (expectation 3). In between, the directive repertoire becomes extended in two ways: (1) a more explicit embedding of the agent, the requested act and the directive function in frames of increasing complexity on the one hand, and (2) an increasing differentiation in motives, circumstances and reasons on the other (expectation 2). The second development is observed at an earlier age than the first (issue 4), though part of this difference may be due to a simultaneously occurring change in activity types. Within implicit formulations, the ones relating to speaker factors are used far more frequently in the first part of our data collection than the ones relating to other readily observable factors. Gradually they lose their dominant position,

however, and they even end up as a category used less frequently (issue 5), a trend that has probably been somewhat overestimated because of a co-occurring change in directive aims.

## 5. Discussion

### 5.1. Explanation of the developmental order

Why is the developmental order as it is? What are the driving forces behind the pattern we found? Why did Laura not stick to the contextually direct types such as vocalisations, imperatives, addressee terms and exclamations? Our study identified three factors in the verbal context that stimulate the extension of the directive repertoire in a general sense (see Table 9). First of all, the directives from the younger Laura are relatively unclear: they are followed by a request for clarification more often than her later directives. Moreover, the younger Laura is not very successful in giving directives. Her success-rate increases with age. Related to these findings is the relatively high percentage of second, third, and fourth attempts in the repertoire of the younger Laura: she has to repeat her directive attempts relatively often. Extension of the directive repertoire appears to be profitable in the sense that it prevents clarification and repetition sequences, while it improves the successfulness of directives. Marcos and Bernicot's findings (1994) underpin this explanation in the sense that the clarification situation that these scholars created in their experiment elicited more vocal outputs than gestures in both age groups studied (1;6 vs. 2;6), and thus appeared to stimulate the exploitation of language.

Furthermore, we found extra-linguistic conditions that stimulate the development more specifically. Two conditions motivate the exploitation of the different types on the right-hand side of Fig. 1, i.e. of the implicit types (see Table 13). When Laura asks for a specific action that is framed by an activity, such as a board game or playing happy families, and when she tries to get the attention of her interlocutors, she exploits the possibilities of the 'implicit – using other readily observable factors' main type more often than in other circumstances. For example, in the context of playing happy families, the regular way for asking your interlocutor to give you a card is the permission directive *May I/Can I have from you from light blue the snowdrop?* (Laura chat 73; age 5;5.14). Finally, we found conditions that function as driving forces for an increasing explicitness. When Laura is involved in creative play, games and puzzles, she is pushed down on the left-hand side of the circle (see Table 14). These activity types stimulate the use of relatively context-independent and syntactically complex types such as 'Can you get off the scooter' and 'Do you want to get off the scooter'. Fragment 2 illustrates this.

However, with the aid of the factors mentioned above, the question of why the developmental order is as it is has only been answered partially. Our search for a more complete answer suggests that the development of a directive repertoire cannot be seen as the result of particular factors, nor as the result of a single process such as an increasing grammatical ability, an increasing understanding of reasons and conditions, or an increasing politeness. Rather, several processes which have intrigued psychologists for decades might converge on it, namely the processes of *individualisation* (Vygotski, 1978), *intellectualisation* (Piaget, 1972) and *socialisation* (Kohlberg, 1969). This explanation is visualised in Fig. 2, which is a stylized version of Fig. 1.

The pre-lingual child enters the circle on the position that is marked as start, and begins with uttering vocalisations. Initially, these utterances may be interpreted by a co-present adult, while the child had no intention to communicate, as Bates et al. (1979) argue. Two levels of development emerge before the child is using language: the 'perlocutionary' stage, i.e. the stage in which utterances have effects upon co-present others, and the 'illocutionary stage', i.e. the stage in which utterances convey intentions and perform acts such as directing and representing. The child that we studied is beyond these stages: a great deal of her vocalisations is communicative and one can observe imperatives, addressee terms and exclamations in her utterances, which means that her utterances show characteristics of language.

When the child extends her repertoire via the contextual road, which is represented on the right-hand side of the circle, underlying processes of individualisation might be operative (Vygotski, 1978): the child gradually distinguishes herself from her environment and becomes a person. The early use of implicit directives indicates that the child simply states what occurs to her: what she sees, feels, smells et cetera (Ervin-Tripp et al., 1987; Gordon and Ervin-Tripp, 1984). Basically, she is not aware of the information need and the mental status of her addressees, and takes it for granted that they share her wishes, feelings and thoughts (Gordon and Ervin-Tripp, 1984). Later, she dissociates from her primary care-takers and explores the environment actively. She discovers relationships between means and ends and causes and effects, such as the relationship between hunger and food. She differentiates between motives, reasons and circumstances, and gradually acquires a mental representation of the directive event.

When the child extends her repertoire via the linguistic road, which is represented on the left-hand side of the circle, intellectualisation might be the process underlying her directive development (Piaget, 1972). The child detects the symbolic order and gets involved in manipulating symbols and developing grammar. She learns to use language as a means to break away from the immediately present situation and enters interactional frames that are not bound to the here and now (e.g. fantasy play and games). She notices that it is necessary to steer the interpretation of her interlocutors with verbal elaborations and extends the direct types with explicit types, which are initially learned as linguistic formulae. The notion that these conventional types are also used to get cooperation and indicate politeness is emerging.

Both roads lead to the bottom part of the circle. The underlying process playing a role in this developmental phase is socialisation: the child detects that other people are relevant entities, organized in social systems. Her knowledge of relative status, rights and possession increases (Ervin-Tripp and Gordon, 1985). She becomes socially sensitive, cooperative and strategic, which is reflected in the fact that she offers others freedom of choice. She increases her recognition of cues that are

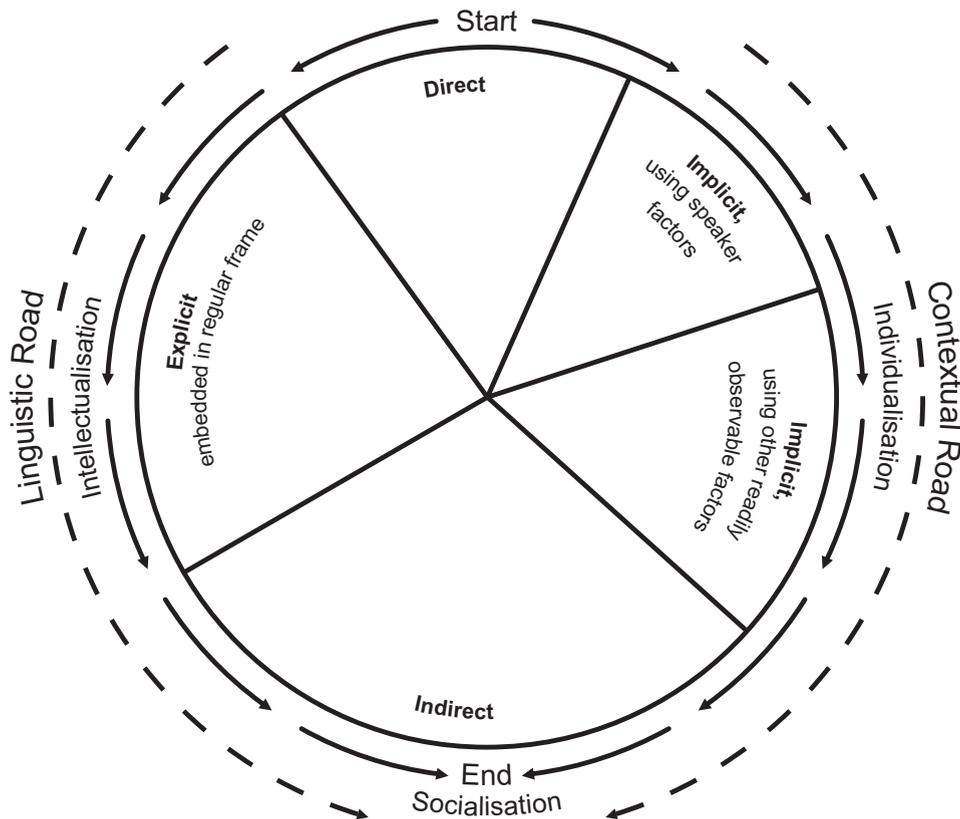


Fig. 2. Developmental processes underlying the extension of the directive repertoire.

indicative of the mental state of her addressee and, in this respect, exhibits communicative skills (Marcos and Bernicot, 1994). Moreover, she detects the relevance of norms and rules (Kohlberg, 1969). In the end, she will develop ethics.

In the empirical part of our study, the focus was on the emergence of language forms. It is a challenge for future research to establish empirically the relationship suggested here between linguistic repertoire and socio-cognitive development.

## 5.2. Context

An objective of the empirical description of Laura's directive repertoire was to explore the role of context in language use. Acknowledging that context is a difficult concept, which until now has not yet been operationalised in all its different layers and aspects, we outlined five ways in which 'context' recurs in this case study (see section 1.3). The psychological notion of context as referring to the interlocutors' common ground is a gauge in our model of the extension of the directive repertoire, just like the pragmatic notion of context, which refers to what 'is in the game' – in the utterance and in the context – when a directive is performed. Our model proved fairly successful as a framework for understanding the order in which directive types emerged in the verbal output of the child we studied, and thus it illuminated the interdependency of language and psychological as well as pragmatic context.

With respect to the third notion of context, the sociological conditions of language development (Bernstein, 1973), the value of our study – being a case study – is modest. We studied one child growing up in a white Dutch upper class family with parents who had a relatively high level of education. As we stated in section 2.1, our conclusions cannot even be generalised to this category of children, let alone to sociological categories. The question whether the age pattern that we found applies to other children in the same way is definitely a relevant question for future research. In addition, when one starts to describe the developmental pattern of more children and especially of 'socially disadvantaged' children, it will be informative also to describe the directive repertoire of the persons who are looking after the child, as for example Kornhaber and Marcos (2000) did. This would open the possibility of studying relationships between a child's input and output.

Moreover, we took the extra-linguistic context into account by checking to what extent age trends were dependent on changes in activity type and aim. The effects that we found here, which have been discussed in section 5.1, are in line with the studies of other scholars (e.g., Bruner et al., 1982). We could not check the effect of specific interlocutors, because one interlocutor – Laura's mother – was the addressee of 98.5% of our collection of directives.

The fifth notion of context that played a role in our study was the verbal context: we tried to find factors in the verbal context (see Table 4) that could invalidate or moderate the age trend that we found. These factors appeared to be largely

infrequent or not related to age, which invalidated them immediately as potential explanatory factors for the age trend in our data – i.e. the relationship between age and main type. The few that were related to age were studied in specific subsamples, which showed that they could not account for the age trend either. We are not particularly surprised by finding that context in this fifth sense does not matter: it indicates that the factor ‘age’ is a strong factor underlying the extension of a directive repertoire and that none of the factors in the verbal context stood out as an explanatory factor for the age trend. We cannot compare this finding with results of other studies because there are no studies of these factors in a comparable design.

Our framework for the study of context is basically list-like. This is – as far as we can see – unavoidable, considering the current state of the art in pragmatics. The major merit of our study of contextual factors is not that it offers an innovative perspective on the notion of context, but that it is relatively comprehensive in the factors and points of views included. This has allowed us to use quantitative methods to trace contextual effects in a large longitudinal corpus of spontaneously produced and therefore contextually complex data.

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## Appendix A. Examples of the early use of specific subtypes of directives

### 1 Vocalisation

→ Laura (1;9.04) wants her mother to peel a kiwi: Yyy.

((Laura keeps on whining))

Jacqueline: *Je hebt net fruithapje op. Je hebt net fruit op.* (You just had your fruit snack. You just had fruit.)

### 2 Addressee term

((The ball rolls under the chair))

→ Laura (1;9.04): *Mamma.* (Mummy.)

Jacqueline: *Moet mamma em even pakken?* (Should mummy pick it up?)

### 3 Exclamation

→ Laura (1;9.04): *Oh.* (Oy.)

((Laura shows her hand))

Jacqueline: *Eens kijken. O, je nagel een beetje gescheurd. Zullen we straks even knippen.* (Let me look. Oh, your nail's a bit broken. We'll just cut it later.)

→ Laura: *Eh.*(Ugh.)

Jacqueline: *Nu knippen?* (Cut now?)

Laura: *Ja.* (Yes.)

### 4 (Elliptical) imperatives

((Laura (1;9.04) gives something to Jacqueline))

Jacqueline: *Dank je wel.* (Thank you.)

→ Laura: *Pakke(n).* (Take it.)

Jacqueline: *Wat wil je?* (What do you want?)

→ Laura: *Pakke(n).* (Take it.)

Jacqueline: *Wat zeg je? Moet ik hem pakken?* (What do you say? Should I take it?)

### 5 Need statement

→ Laura (2;7.19): *Ikke wi [=wil] zalve.* (I want some balm.)

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**6 You've got to**

Laura (3;8.15): *Ga jij nou doen?* (Are you going to do now?)

Jacqueline: *Ik ga koffiedrinken.* (I'll have a cup of coffee.)

→ Laura: *Nee, jij moette ehm, hoedje maak.* (No, you've got to um, make little hat.)

**7 Statement of emotions**

→ Laura (2;8.24): *Au, <zeer, zeer> [/], zeer.* (Ow, hurts, hurts.)

Jacqueline: *Wat doet er zeer ['']?* (What hurts?)

Laura: *<tee zeer> [=teen zeer].* (Toe hurts.)

Jacqueline: *Ja?* (Yes?)

Laura: *Ja. Au. Peiste [=pleister] op, op xxx.* (Yes. Ow. Plaster on, on xxx.)

Jacqueline: *Moet er een pleister [''] op?* (Should there be put a plaster on?)

Laura: *Ja.* (Yes.)

**8 Possibility or impossibility**

((Jacqueline and Laura are reading a book aloud. Jacqueline wants Laura to comment on the pictures, and Laura wants Jacqueline to do so))

→ Laura (3;1.19): *Nee, jij kan ook haaltjes telle.* (No, you can tell stories too.)

Jacqueline: *Ja, maar jij kan ook verhaaltjes vertellen.* (Yes, but you can tell stories too.)

Laura: *Nee, jij <o no> [=ook nog] een.* (No, you another one.)

**9 Possession statement**

((Laura and Jacqueline are playing with Lego. Laura tries to stop Jacqueline from taking a blue piece.))

→ Laura (2;4.01): *Nee. Die is fan mij.* (No. That one is mine.)

**10 Other motives/circumstances**

((Jacqueline tries to draw a train for Laura))

→ Laura (2;8.02): *E pot, oh wieletjes epe, apot!* (Broken, oh, little wheel is broken.)

Jacqueline: *Is zn wieletje [''] kapot?* (Is its little wheel broken?)

Laura: *Ja.* (Yes.)

Jacqueline: *Nou, ik zal het even goed beter maken, zo, zo goed?* (Well, I'll just make it better, like this, like this, OK?)

**11 Necessity statement**

((Laura and Jacqueline are doing a jigsaw puzzle))

→ Laura (3;0.18): *Nee, daar moe niet. Moet hier.* (No, does not fit there. Fits here.)

Jacqueline: *Oh, moet die daar?* (Oh, does this fit there?)

**12 Question directive**

((Laura and Jacqueline are playing memory. Laura wants Jacqueline to hand her a picture of a clown))

→ Laura (4;9.14): *En had je een clown liggen bij jou?* (And did you have a clown lying near you?)

**13 Do you want to**

((Laura is painting))

→ Laura (5;4.23): *Mama, wil je nog meer water pakken? De water is op.* (Mummy, do you want to get some more water? The water has run out.)

Jacqueline: *Is 't water op?* (Has the water run out?)

Laura: *Ja.* (Yes.)

Jacqueline: *Goed.* (OK.)

**14 You may/You can**

((Laura and Jacqueline are drawing))

→ Laura (4;5.28): *Je mag zelf weten welk [///] eh, wat je wil maken.* (It is you who may/can decide which [///] erm, what you want to make.)

Jacqueline: *Mag ik zelf weten wat ik wil maken? Oh!* (May / Can I decide myself what I want to make? OK.)

**15 Other hint**

((Laura wants Jacqueline to mould a bow tie on a mouse made from clay))

→ Laura (3;1.19): *Dan krijg se n strikje hier aan.* (Then she gets a bow tie on here.)

**16 You do**

((Laura is pretending that she is going to the crèche and drives around with a car. She directs Jacqueline in the context of her imaginative play))

→ Laura (2;9.23): *Nee, ga jij m daarheen.* (No, you go there.)

**17 Inability**

((Jacqueline and Laura are reading a book aloud. Jacqueline wants Laura to comment on the pictures, and Laura wants Jacqueline to do so))

→ Laura (3;1.19): *Ik kan niet telle!* (I cannot tell!)

Jacqueline: *Kun je niet vertellen?* (You cannot tell?)

**18 Permission directive**

→ Laura (3;6.28): *Mas ik nu sap?* (May / Can I have juice now?)

Jacqueline: *Mag ik nu sap? Strakjes krijg je sap.* (May / Can I have juice now? You'll get juice soon.)

Laura: *Nee, ik wil.* (No, I want.)

Jacqueline: *Als we het boekje uit hebben, dan.* (When we have finished the book, then.)

**19 Other frame**

'H does A' is expressed in a frame that refers to a former appointment

((Laura and Jacqueline are playing and chatting. The younger child Sarah is supposed to be sleeping upstairs, but a sudden bang on the second floor suggests that she has woken up))

→ Laura (4;7.02): *Je zou naar Saar+. . .* (You said you would go to Saar + . . .)

Jacqueline: *Nee, ik ga niet naar d'r toe.* (No, I am not going to her.)

**20 Double frame**

((Laura and Jacqueline are playing a board game. The embedded directive 'you switch the light on' is presented in a future time frame))

→ Laura (4;7.30): *Zullen we even xxx licht aandoen?* (Shall we just switch on xxx light?)

Laura: *Anders zien we het niet zo goed.* (If not, we do not see so well.)

→ Laura: *Zullen we de licht aandoen?* (Shall we switch on the light?)

Jacqueline: *We zien alles heel best, joh.* (We see everything totally perfectly, come on.)

**21 Can you**

((Laura and Jacqueline are moulding clay))

→ Laura (4;0.20): *Kan je een broek van klei maken?* (Can you make trousers from clay?)

Jacqueline: *Wie moet een broek van klei maken? Ik?* (Who has to make trousers from clay? Me?)

Laura: *Ja.* (Yes.)

Jacqueline: *En dan jij maakt de knoopjes zeker in. Nou, geef me een boel klei.* (And then you put in the little buttons, I bet. Well, give me lots of clay.)

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**22 Norm/rule**→ Laura (4;4.23): *He, dat mag niet.* (Hey, that is not allowed).**23 You need to**

((Laura and Jacqueline are playing with Lego. Jacqueline wants to build a windmill))

Jacqueline: *Een molen is een beetje rond of zoiets, hè. Ja?* (A mill is a bit rounded more or less, isn't it? OK?)

Laura (4;9,10): xxx

→ Laura: <Jij moet> [//] *Jij hoeft dat niet te maken, hoor.* (<You must> [//] You do not need to make that!)**Clarification of the symbols used in the transcripts**

→	indicates the line which contains directive subtype
yy	indicates unintelligible speech transcribed on a phonological line, not treated as a word
xxx	unintelligible speech, not treated as a word
[“]	marks a metalinguistic reference to a word or phrase, for example when the speaker repeats the utterance of her interlocutor
text(text)text	when a word is incomplete, but the intended meaning seems clear, the missing material is inserted within parentheses
[=text]	indicates a brief explanation
[/]	retracing without correction; used in those cases when a speaker begins to say something, stops and then repeats the earlier material without change
[//]	retracing with correction; used when a speaker starts to say something, stops, repeats the basic phrase, changes the syntax but maintains the same idea
< >	the words between these brackets are repeated
+ . .	trailing off marker; the sentence is incomplete, but not interrupted by the interlocutor
.	full stop
?	question
!	exclamation

We made the transcripts easier to read by using capitals at the start of new utterances and full stops at their end, and, in the case of successive utterances by Jacqueline, filling out the lines.

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