Early bilingual development of Turkish children in the Netherlands

Most studies on bilingual development that have been conducted so far were limited in their scope, given the fact that the languages under consideration were highly related. The present study\(^1\) differs in several respects from this research tradition. First of all, in order to uncover the role of structural properties of two languages in early bilingual acquisition two typologically distant languages will be studied. Furthermore, unlike most of the work that has been done so far, the process of bilingual acquisition is studied by outside researchers in children of a low socio-economic background, L\(_1\) being the ethnic community language spoken by both parents, and L\(_2\) being the dominant language of society. The focus in this study will be on the analysis of children’s speech data in Turkish and Dutch. The children participating in this study are born in the Netherlands and form part of a third generation of immigrants who originally moved from rural sites in Turkey to industrialized areas in the Netherlands.

The process of bilingual development will be studied from an interdisciplinary point of view, combining insights from linguistic theory and developmental theory. Starting from a longitudinal perspective, it will be investigated how the two language systems get differentiated and developed over time. Moreover, the apparent difficulties children encounter in separating the two languages will be examined. An attempt will be made to answer the following two research questions:

1. How do the systems under consideration develop over time in both L\(_1\) and L\(_2\)?
2. To what extent and in what direction does transfer between L\(_1\) and L\(_2\) occur?

The focus will be on a number of linguistic domains that have proved to be highly significant in a large body of cross-linguistic studies on language acquisition in both children (see chapter 1). Before going into the design and preliminary results of the present study, a short description of the structural properties of the domains selected in Turkish and Dutch will be given and earlier research findings on early bilingualism in these domains will be reviewed.

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Theoretical background

The present study will focus on the following linguistic domains: clause structure, reference to time, lexicon and word formation, reference to entities and reference to space.

With respect to clause structure, the central question is how universal principles will lead to two separate grammars. The fact that structural properties of clauses in Turkish and Dutch are partly different will help in answering this question. As is clear from generative work (e.g., Koster, 1975), the underlying pattern of Dutch is SOV, manifesting itself in various surface structures and in a verb movement rule which will usually move the verb to the second position in main clauses. In spoken Dutch, verb-initial occurs as well, due to the non-appearance of a pronounized NP-object (cf. Jansen, 1981). Dutch also takes prepositions. The basic structure of Turkish is SOV, v taking clause final position (Kornfilt, 1984; Ergüvanlı, 1984). As is usual for SOV languages, Turkish takes postpositions.

In exploring reference to time two categories of temporality in language will be distinguished: temporal relations and aspect. Temporal relations refer to the location of events in relation to a given reference time. Aspect refers to the various perspectives that can be taken towards an event, e.g., perfective vs. imperfective. In the process of temporal development children gradually learn to distinguish between speech time, event time and reference time (Weist, 1986). The acquisition rate of temporal features turns out to be highly dependent on the manner in which these devices are coded in the surface structure of the target language (Slobin, 1985). The temporal systems of the three languages under consideration differ considerably. Dutch can be characterized as a language with a very limited aspect system and a restricted tense system. Basically, there is a contrast between present, simple past and perfect. Aspect plays a role in so far as progressive can be contrasted with imperfective aspect by using a locative expression of durative aspect. Turkish grammaticizes more temporal distinctions than Dutch does. With respect to tense there are different markers for past, present and perfect. Within the past there is a modal distinction between the expression of direct and indirect evidence: -DI vs. -MIŞ (cf. Slobin & Aksu, 1982). Past events can also be marked as imperfective or perfective. The perfective form -DI can also be used for unmarked, aspectually neutral past reference. The imperfective view on past events can be further specified as regards the factuality of an event (-İyordu vs. -İrdî). A comprehensive overview on Turkish aspect is given in Johanson (1971). Aksu-Koç (1988) goes into the acquisition of aspect in Turkish.

In the lexical domain children must extend their storage of well-established words and a repertoire of word formation devices for extending the basic lexicon. New meanings can be expressed with forms which fit the word formation options of that particular language, such as stem modification and/or compounding. As has been claimed by Anderson (1985), there is a good deal of idiosyncrasy in word formation devices in different languages, while in any single language word formation rules are quite diverse in terms of input classes and semantic and syntactic
relations involved. In the process of language acquisition, children must learn the diversity of options for coining words in the language under consideration. Clark (1982, 1983) stressed the importance of cross-linguistic evidence on the structure and use of word formation devices in different types of languages. Taking a cross-linguistic point of view as a starting point, Clark & Berman (1984) compared word formation strategies in English and Hebrew. They found that English and Hebrew speaking children acquiring their first language indeed rely on universal principles: semantic transparency, regularization and productivity. However, such principles must gradually be modified in light of the typological properties of the language being learned. What is general in acquisition appears to be gradually shaped by each particular language, as children learn how different options are developed in the conventional lexicon and how to put these options to work in constructing new words.

In the present study Clark’s principles will be elaborated by investigating the lexical development of Turkish children. The basic devices for word formation in Turkish and Dutch are very different (cf. Broeder e.a., 1988). Word formation in Turkish highly depends on affixation. Affixes are postponed, syllabic, regular and distinct. Turkish phonology does not subsequently obscure the borders between formatives. Turkish also favours compounding (Dede, 1978). The basic syntactic structure of a nominal compound is a head noun with a possessive, preceded by a modifying noun. From data on monolingual children we have some information about the process of lexical development in Turkish. Ekmekçi (1987) analysed the lexical innovations made by Turkish children in the age range from 3;0 to 6;0. She found that in creating new words children acquire the most productive suffix first and then apply it in place of other less productive suffixes which serve the same function. Children failed to recognize exceptions to the rules. The application of the most productive suffixes was also pre-empted in loan words.

In the domain of reference to entities pronominal reference and the distinction between definite and indefinite reference will be explored. In pronominal reference we will study the deictic and anaphoric use of pronouns. Studies on first language acquisition (cf. Wales, 1986) have shown that children start using pronouns deictically: first and second person pronouns, referring to the here-and-now, are learned first, while third person pronouns are learned later. According to Karmiloff-Smith (1979, 1986), children learn only gradually children the discourse functions that are involved in the use of anaphoric expressions. In order to comprehend and use the contrast between definite and indefinite reference children must learn that noun phrases get the status of finite in case entities are thought of being identifiable.

Dutch and Turkish vary in their conceptual notions and linguistic devices for pronominal reference to entities (cf. Broeder, 1992). Dutch makes use of a set of pronouns marking person (first/second/third) and number (singular/plural). There is a gender distinction for third person (singular) and a politeness form for second person (singular and plural). In object position most of the pronouns get inflected. Under certain conditions demonstratives can be used to refer to entities. Pronominalization in discourse is conventional. Dutch has explicit markers for indefinite and
definite expressions. Turkish has a set of pronouns, marking person and number, that get inflected for case depending on their grammatical role in the sentence. There is no distinction for gender. Demonstratives can also be used for reference to an entity. Subject agreement in Turkish is marked on the verbal element by means of a person suffix. The use of pronouns is optional. In case the subject has an emphatic or contrastive function, a pronominal form becomes obligatory. In discourse, pro drop can be seen as the unmarked coding for topic continuity. In Turkish, there is no constant marker of the status of definite vs. indefinite reference. Dede (1986) and Czató (1990) make clear that the distinction is realized through an interplay of morphosyntactic and pragmatic factors.

The study of reference to space will focus on the use of spatial concepts which are relevant to the expression of location or motion. As has been shown by Johnston and Slobin (1979) both cognitive maturation and language-specific factors can play a role in the development of spatial terms. The relevant language-specific differences they proposed were placement of adposition, lexical diversity, clarity of etymology, morphological complexity and homonymy. The sub-systems of spatial reference in Dutch and Turkish differ considerably, both in underlying spatial concepts and in the form of the devices they include. In Dutch, there is a dyadic system of primary spatial deixis. Furthermore, locative relations are mainly encoded by means of prepositions and adverbs. These linguistic devices express such semantic relations as path, containment, interior, exterior, neighbouring, inferior/superior, front/back and interposition. Besides, there are motion verbs expressing a change in the position of the agent or an object. Turkish has a three-step system of spatial deixis. Generally, distance contrasts are expressed as proximal, medial and distal. Furthermore, Turkish has a basic system of case suffixes referring to goal (DAT), location (LOC), and source/path (ABL). There is also a complementary system for the indication of spatial relations based on a group of nouns denoting places. These nouns enter into a postpositional construction which corresponds in function to a prepositional phrase in Indo-European languages. Semantic relations, such as containment, interior/exterior, neighbouring, inferior/superior, front/back, interposition, up/down, high/low and left/right can thus be expressed.

Design of the study

Informants

The research is set up as a multiple case study with a longitudinal design. There are three groups of informants:

1. a core group of four Turkish girls born in the Netherlands, growing up with two languages, Turkish and Dutch;
2. a comparison group of two monolingual Dutch girls;
3. and a comparison group of two monolingual Turkish girls living in Turkey. The data of this group are collected by dr. Özden Ekmekçi and Hatice Sofu.

In the analyses to be presented in this chapter only the data of one of the children of the core group of informants, Berrin, are under consideration.

Berrin is the youngest daughter of a Turkish family living in a middle large town in the eastern part of the Netherlands. Both her parents are of a low educational level. They originate from Central Anatolia and live in the Netherlands for about 20 years now. Berrin has two elder sisters, who were about 16 and 14 years old at the time of recording, and one elder brother, who was 13 years of age. Berrin has attended a so-called international day care centre ever since she was six weeks old. From the beginning of the period of data collection Berrin visited the centre during five days a week. In Berrin’s group as in the other groups at the centre, both a Dutch and a Turkish caretaker had been appointed. Thus, the ethnic background of staff more or less represented the ethnic composition of the group of children, most of whom were of Dutch or Turkish origin as well. As a consequence Berrin received both Turkish and Dutch language input at the day care centre. Turkish input originated from her Turkish caretaker and from her Turkish playmates. The Turkish caretaker always used standard Turkish to the children. Dutch input was given by the Dutch caretakers, by the Turkish caretaker when she addressed a Dutch child or a mixed group of children and by the Dutch children. The language choice of the caretakers as a function of addressee is given in Table 1. The Dutch caretakers expressed a clear regional accent in their Dutch.

Table 1. Language choice of caretakers as a function of ethnic background of addressed child(ren).

<table>
<thead>
<tr>
<th>Addressee</th>
<th>Dutch caretaker</th>
<th>Turkish caretaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>(group of) Dutch child(ren)</td>
<td>Dutch</td>
<td>Dutch</td>
</tr>
<tr>
<td>mixed group of children</td>
<td>Dutch</td>
<td>Dutch</td>
</tr>
<tr>
<td>(group of) Turkish child(ren)</td>
<td>Dutch</td>
<td>Turkish</td>
</tr>
</tbody>
</table>

Both of Berrin’s parents were not very proficient in Dutch. In the summer of 1990, when Berrin was aged 2;6-2;8, the family spent its holiday in Turkey, which implied a sharp increase of Turkish input from monolingual speakers of Turkish.

Data collection

Twice every month an audio recording was made of the speech of each child of the group of core informants: one aimed at eliciting Turkish speech and one aimed at eliciting Dutch speech from the informant. In order not to provoke codeswitching from the child as an artefact, recordings were made by a native speaker of the target language. Intervals between two recordings in the same target language varied between 20 to 40 days. The period of data collection covered the informant’s age.
range from 2;0 (in years; months) to 3;6. This resulted in a data base of 38 recordings (19 months, 2 languages). Every recording lasted at least one hour.

During the recording session the informant wore a jacket with a small microphone and a wireless transmitter. Her speech was recorded by means of a receiver connected to a tape recorder. By using this technique the speech recorded is not restricted to researcher-informant interactions alone. All of the informant’s utterances are recorded as long as the equipment is switched on. Thus, the child’s free conversations with peers and caretakers as well as her monologues are included in the recordings also.

An activity which was performed in all recording sessions consisted in the reading of a picture book. The researcher and the informant together looked at the book. At the same time the researcher tried to elicit speech from the informant by asking wh-questions directly relating to the events depicted or to the real life experience of the child.

Recordings were transcribed and stored into the computer according to the conventions of CHAT, Codes for the Human Analysis of Transcripts (MacWhinney, 1991). This transcription and coding format has been designed to establish a uniform database of child language acquisition data, called CHILDES (Child language Exchange System).

Preliminary data will be presented of the first twelve months of recording of Berrin. All recordings of Berrin were made at the day care centre. Because there was both native input of Turkish and Dutch, neither of the target languages of the recordings was artificial. From this age range four transcripts of each language will be analysed in this paper. The recording sessions were divided into blocks of three months each. From every block one transcript was selected, as is shown in Table 2.

<table>
<thead>
<tr>
<th>Age range</th>
<th>2;0-2;2</th>
<th>2;3-2;5</th>
<th>2;6-2;8</th>
<th>2;9-2;11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch</td>
<td>2;2</td>
<td>2;5</td>
<td>2;8</td>
<td>2;10</td>
</tr>
<tr>
<td>Turkish</td>
<td>2;2</td>
<td>2;5</td>
<td>2;6</td>
<td>2;10</td>
</tr>
</tbody>
</table>

Due to the natural setting of data collection and the degree of language proficiency, transcripts show considerable variation in length. In the analyses this problem is dealt with either by using qualitative analyses and making comparisons within sessions on the one hand, or by standardising frequencies for 100 utterances on the other.
Results on Turkish language acquisition

Clause structure

The distribution of left branching and alternative word order in verbal and nominal clauses is presented in Table 3. Due to the relatively big share of elliptic utterances the total number of neither verbal nor nominal clauses amounts to 100. With the child’s progression of age there is a gradual decrease of nominal clauses together with a gradual increase of verbal clauses. At age 2;2 there is a balance of nominal and verbal clauses. At age 2;10 verbal clauses outnumber nominal clauses.

Table 3. Distribution of word order in verbal and nominal clauses per 100 Turkish utterances as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal clauses</td>
<td>26.3</td>
<td>28.1</td>
<td>28.5</td>
<td>40.2</td>
</tr>
<tr>
<td>SOV</td>
<td>26.3</td>
<td>28.1</td>
<td>26.3</td>
<td>34.7</td>
</tr>
<tr>
<td>Non-final V</td>
<td>–</td>
<td>–</td>
<td>2.2</td>
<td>5.5</td>
</tr>
<tr>
<td>Nominal clauses</td>
<td>26.3</td>
<td>14.6</td>
<td>11.0</td>
<td>11.2</td>
</tr>
<tr>
<td>S - Predicate</td>
<td>26.3</td>
<td>14.6</td>
<td>10.6</td>
<td>7.8</td>
</tr>
<tr>
<td>Other order</td>
<td>–</td>
<td>–</td>
<td>.4</td>
<td>3.4</td>
</tr>
</tbody>
</table>

There is more variation in word order as the child grows older. Until the age of 2;5 there is a uniform pattern of left-branching word order patterns both in verbal and nominal clauses, resulting in SOV and S - predicate order respectively. From the very beginning, the child strictly applies the rule that indefinite or non-referential objects occur right before the verb and can not be removed.

From age 2;6 onwards the proportion of alternative word order patterns gradually increases. In verb non-final word order patterns of verbal clauses a broad range of constituents can be placed after the verb: subjects (ex. [1]), objects (ex. [2]), directives, locatives and adverbial constituents:

1. *neye gidiyo bebek?* (2;10)
   *where-DIR go-PRES-3SG doll*
   ‘where goes the doll?’

2. *ben atmadm buyu.* (2;10)
   *I throw-NEG-PAST-1SG this-OBJ*
   ‘I did not throw this.’

Generally, the same constraints that apply to variation in word order of monolingual Turkish children can be found in Berrin’s utterances (cf. Ekmekeçi, 1986). In the vast majority of cases word order turns out to be semantically or pragmatically
motivated. There is a tendency to place new information right before the verb, both in SOV- and in non-verb final clauses. In some cases, however, the alternation of word order seems counterintuitive with respect to the given-new contract (cf. Chafe, 1980), such as in [3], where the new information, i.e., the information that is asked for by the adult, is placed after the verbal predicate. The symbol ‘#’ in this and following examples indicates a pause, the symbol ‘:’ stands for a lengthening of the preceding phoneme.

3. adult: *mert nerde?*
   *mert where-LOC
   ‘where is mert?’*

   child: *gitti.*
   *go-PAST-3SG
   ‘he is gone.’*

   gitti *tuvate # me:*. 
   *go-PAST-3SG toilet-DIR mert
   ‘(he) went to the toilet mert.’

   me: gitti *tuvate me:.*
   ‘mert went to the toilet mert.’

In [4], when commenting on the motion of a milky liquid in a toy bottle, Berrin seems to vary word order in order to emphasize the various semantic roles in the utterance:

4. *ama süt içinde döküyör.*
   *but milk in-POSS3SG-LOC spill-PASS-PRES-3SG
   ‘but the milk inside is spilled.’*

   döküyör süt içinde.
   ‘(it) is spilled the milk inside.’

   içinde döküyör süt.
   ‘inside (it) is spilled the milk.’

Most of the alternative word order patterns in nominal clauses are of the type locative-subject [5] or predicate-subject [6], whereas Berrin in the earlier stages only used subject-locative and subject-predicate word order:

5. *nerde elman?* (2;10)  
   *where-LOC apple-POSS2SG
   ‘where is your apple?’*

   *halil nerde?* (2;5)  
   *halil where-LOC
   ‘where is halil?’

58 Early bilingual development of Turkish children in the Netherlands
6. *sirke mi o?* (2;10) 
*vinager QUES that*

‘is that vinager?’

*o pasta?* (2;5)

that *pasta*

‘is that *pasta*?’

*kimin yumurtasi?* (2;10)

*who-GEN egg-POSS3SG*

‘whose egg is that?’

*bu kimin?* (2;5)

this *who-GEN*

‘whose is this?’

We should remark here that the word *pasta* in example [6] is a dutch loan, used to refer to a kind of nutpaste that is spread on sandwiches.

With respect to case marking, it can be concluded that the general rules for inflecting nouns are acquired at an early age. Errors seem to go along with the expansion of the child’s linguistic repertoire. With respect to the lexicon, it is clear that lexical entries displaying such features as argument structure and subcategorization restrictions must be learned one-by-one. Examples of deviant learner varieties of case marking governed by the verb are *ondan şevedem (= seveceğim)* for standard *onu* (‘I will love that’), and *onda istiyom* for standard *ondan* or *onu* (‘I want (something from) that’). This struggle with the acquisition of argument structure is also apparent from the fact that intransitive verb forms sometimes occur in combination with an object (as in [7] and [8]), although at the same time instances of these verbs occurring with correct argument structure can be found:

7. *kayd bolsu.* (2;10) 
*slide-PAST-3SG this-OBJ*

‘he slid this.’

**standard:** *kaydırdı bu n.*
*slide-CAUS-PAST-3SG this-OBJ*

‘he made this slide.’

**or:** *kaydı bu.*
*this-SUBJ*

‘this slid.’

8. *şayata bit.* (2;5) 
*sandwich finish(INTR)-IMP*

‘sandwich, finish.’

**standard:** *salata y bitir.*
*sandwich-OBJ finish-CAUS-IMP*

‘finish the sandwich.’

**or:** *salata bit.*
*finish(INTR)-PAST-3SG*

‘the sandwich is finished.’

**Reference to time**

The results with respect to temporal marking of verbs are presented in Table 4. With the child’s progression of age the range of linguistic means for expressing tense and also aspect gradually expands.
Table 4. Distribution of verbal inflections in Turkish as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>-iyor</td>
<td>2</td>
<td>16</td>
<td>36</td>
<td>80</td>
</tr>
<tr>
<td>-Di</td>
<td>-</td>
<td>10</td>
<td>22</td>
<td>51</td>
</tr>
<tr>
<td>-mlş</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>-EcEk</td>
<td>-</td>
<td>5</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>-R</td>
<td>-</td>
<td>-</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>conjunctive</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>imperative</td>
<td>2</td>
<td>22</td>
<td>30</td>
<td>25</td>
</tr>
</tbody>
</table>

Starting at age 2;5 the child appears to use -iyor for marking events in the present and the suffix -Di for events in the past. -mlş is occasionally used in aspectual opposition to -Di as is illustrated in [9]. This example was taken from a fragment of picture telling. The child looks at two pictures of a man holding balloons. On the first picture he has three of them, on the second he has only two balloons in his hand. The inflection -mlş is used to mark an inferential (IFR) connotation.

9. adult: bunun yok balonu.  
'this one does not have a balloon.'

bunun var.  
'this one has.'

child: biyi patamış değil mi?  
burst-IFR-3SG  
'one of them bursted, did not it?'

The future tense -EcEk is also mastered at an early age. The aorist -R and the conjunctive appear at age 2;6. These suffixes not only denote tense, but also modal concepts (cf. Boeschoten, 1990: 81 ff.).

At age 2;10 we find another example of aspectual marking. With the imperfective marking of -iyor du in [10] the child seems to point to the fact that in the predicate of ‘falling’ there is no beginning and no end point (cf. Johanson’s, 1971 notion of Intraterminalität).

10. bak dışiyordu.  
look fall-PRES-PAST-3SG  
'look, he was falling.'

As the denotation of imperative meaning is concerned, an expansion of the set of
linguistic means can be observed, starting from the sole verb stem to the use of the suffixes -sEnE and -EIE (which is a contraction of the verb stem and the particle hele), both giving extra emphasis to the imperative (Lewis, 1986). Therefore this expansion can be taken to be a modal expansion of the imperative system.

**Lexicon**

With respect to lexical diversity the number of different nouns and verbs in 100 utterances was counted. The results are given in Table 5. As the child grows older, the numbers of both nominal and verbal word types increase.

Table 5. Nominal and verbal word types in 100 Turkish utterances as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal types</td>
<td>16</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>Verbal types</td>
<td>16</td>
<td>17</td>
<td>21</td>
</tr>
</tbody>
</table>

In Table 6 the numbers and proportions of transitive and intransitive verb types used by the child are given. There is a relative increase of the use of intransitive verbs with the child’s progression of age.

Table 6. Distribution of transitive and intransitive verb types in numbers (left) and percentages (right) as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive verbs</td>
<td>4</td>
<td>100</td>
<td>14</td>
<td>67</td>
</tr>
<tr>
<td>Intransitive verbs</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>33</td>
</tr>
</tbody>
</table>

The development of the verb lexicon seems to start with the acquisition of transitive verbs. Gradually, relatively more intransitive verbs are used. At age 2;10 there is almost a balance of the number of transitive and intransitive verbs used.

In a number of cases the child shows evidence for lexical innovations. Examples of derivation are given in [11]:

11. N > V: **gemi** (‘boat’) > **gemiş** as in **gemişiyor** ('to get the shape of a boat')

V > N: **kay=** (‘to slide’) > **kaya** as in **kayada** (‘on the slide’)  

Other cases concern the construction of verbs by composing a noun with the auxiliary yap= (‘to make’), such as in **boya yap=** (‘to paint’; from **boya** ‘paint’). A special case is the innovation **kayıksı yap=**, which Berrin uses to refer to the act of
sliding on a slide, along with the standard verb *kay=*. Since this innovation consists of a noun in combination with the verb *yap=*, it can be categorized as a compound. At the same time the noun itself is the result of derivation of the noun *kayık* ('(shaped like a) caique') with the suffix *-si*, which in Standard Turkish is used to indicate (a high degree of) similarity. Probably the phonological resemblance of this noun to the verb *kay=* plays an important role in the creation of this lexical innovation.

**Reference to entities**

Table 7 presents the results on the use of verbal markers for person in subject agreement as a function of age. There is an expansion of use of personal markers on the verb in the age range from 2;2 to 2;10. The child predominantly uses singular markers with a preference for first and third person.

Table 7. Verbal markers for person in subject agreement as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>first person</td>
<td>2</td>
<td>4</td>
<td>29</td>
<td>36</td>
</tr>
<tr>
<td>second person</td>
<td>-</td>
<td>2</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>third person</td>
<td>1</td>
<td>27</td>
<td>54</td>
<td>109</td>
</tr>
<tr>
<td>Plural</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>first person</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>second person</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>third person</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

In a number of cases the child uses a subject pronoun. In Table 8 a survey is given of the contexts in which the singular first and second person pronouns *ben* and *sen* are used.

Table 8. Contexts in which the Turkish pronouns ‘*ben*’ and ‘*sen*’ are used as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emphasis</td>
<td>-</td>
<td>7</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Contrast</td>
<td>-</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Response to interlocutor</td>
<td>-</td>
<td>3</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>13</td>
</tr>
</tbody>
</table>

The child starts using overt pronouns by the age of 2;5. Most pronouns are used in order to give emphasis, such as in [12]:

---

Early bilingual development of Turkish children in the Netherlands
12. adult: *bakiyim.*
   ‘let me see.’

   child: *sen de yap.*
   you too do-IMP
   ‘you do it as well!’

Other occurrences of overt pronouns can be explained by such contexts as contrast (as in [13]), and response to the interlocutor who starts the introduction of an overt pronoun (as in [14]):

13. *ben küçük sen büyük.*
   I small you big
   ‘I (have the) small (one), you (the) big (one).’

14. adult: *sen de elma yedin.*
   you too apple eat-PAST-2SG
   ‘you ate (some) apple as well.’

   *şimdi armut yiyecesin.*
   now pear eat-FUT-2SG
   ‘now you are going to eat (some) pear.’

   child: *ben evde yidim ama.*
   I house-LOC eat-PAST-1SG but
   ‘but late (it) at home.’

A remarkable use of an overt pronoun emerges in the sequence of utterances in [15]. Though the gist of the discussion is not *who* is to eat but *what* is going to be eaten, exactly the subject is emphasized by the use of an explicit pronoun:

15. adult: *hadi bi de armut ye.*
   ‘come on, eat (some) pear as well.’

   child: *elma.*
   ‘apple.’

   adult: *al ondan bundan.*
   ‘take from that and from this.’

   child: *ben elma istiyom.*
   I apple want-PRES-1SG
   ‘I want (some) apple.’
Reference to entities can be expressed by means of nominal constituents, or by means of the demonstrative pronouns *bu*, *su* and *o*. In order to determine the relation between the two types of coding devices a deixicality coefficient was computed. This coefficient is the ratio of the tokens of demonstrative pronouns (used non-attributively) and the sum of this number plus the number of content noun tokens, all occurring in 100 utterances. Demonstrative pronouns were only counted if they were used deictically, i.e., referred to the here-and-now of the speech situation. Pronouns used anaphorically were excluded. The results are given in Table 9. There is a gradual decrease of the deixicality coefficient as the child grows older.

Table 9. Deixicality coefficient in Turkish as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deixicality coefficient</td>
<td>57.1</td>
<td>54.4</td>
<td>33.9</td>
<td>27.6</td>
</tr>
</tbody>
</table>

Finally, the use of definite and indefinite reference in relation to the expression of possession was examined. In Table 10 a survey is given of the coding devices for possession used by the child as a function of age. In Turkish, whenever a possessive relationship refers to a definite owner, the (pro)noun referring is inflected with genitive case; nouns referring to an indefinite entity are not inflected.

Table 10. Use of devices for possession in Turkish as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) N-poss</td>
<td>-</td>
<td>8</td>
<td>12</td>
<td>26</td>
</tr>
<tr>
<td>(2) PRO-gen N-poss</td>
<td>-</td>
<td>4</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>(3) N N-poss</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>(4) N-gen N-poss</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>(5) N-poss-gen N-poss</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

The first two devices are used at an early age. The other three devices appear to cause more difficulties. Constructions of type (3) occurring in Berrin’s utterances at age 2;5 are used in contexts where type (4) is obligatory (see [16]). In these cases the definite noun, in all cases a proper name, is handled as if it were indefinite. The same applies to construction (5). Correct realization of this type occurs only once in the data set. Again it seems to be the genitive case which causes the problem. Berrin appears to avoid the construction by leaving out the genitive case and placing either the head noun or the modifying noun as a kind of afterthought after the predicate, as is exemplified in [17] and [18]:

16. *ike annesi.* standard: ilkerin annesi
ilker mother-POSS3SG ilker-GEN mother-POSS3SG
'ilker's mother'

17. eyim  
hand-POSS1SG paint-PAST-1SG

boyadım. içini.
inside-POSS3SG-OBJ

standard:
elimin  içini  boyadım.
hand-POSS1SG-GEN inside-POSS3SG-OBJ
'I painted the inside of my hand.'

18. senin adın ne baba?
you-GEN name-POSS2SG what father.

standard:

senin babanın adı ne?
you-GEN father-POSS2SG-GEN name-POSS3SG what?

'what is your father's name?'

Reference to space

With respect to locative expressions an analysis was made of the non-attributive use of *bu*, *şu* and *o* as deictic locative expressions. The number of occurrences of these linguistic markers in 100 utterances as a function of age is presented in Table 11.

Table 11. Number of occurrences of bu, şu and o in 100 Turkish utterances as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>bu</td>
<td>-</td>
<td>15</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>şu</td>
<td>25</td>
<td>7</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>o</td>
<td>35</td>
<td>9</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

At age 2;2 the child uses a two-step demonstrative system. The use of *şu* and *o* decreases, whereas *bu* gains in importance. In correspondence with the findings of Verhoeven (1987) it is found that when the child grows older, *bu* gradually becomes the unmarked case, whereas *o* is used for reference to persons, especially if persons do not fulfil the role of agents in the utterance (as in [19]), and for the expression of a contrast of views (as in [20]):

19. adult:  
en çok kimi seviyorsun?
'who do you love most?'

Hanneke van der Heijden and Ludo Verhoeven
Furthermore, the number of unmarked and marked nominal references in locative expressions was determined as a function of age.

Table 12. Numbers of locative expressions with unmarked and marked nominal references and adverbial reference as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;6</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarked nominal reference (case)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-E</td>
<td>–</td>
<td>10</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>-DE</td>
<td>–</td>
<td>2</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>-DEN</td>
<td>–</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Marked nominal reference (postpositions)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>içine/içinde (‘in(to)’)</td>
<td>–</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>dışarıda (‘outside’)</td>
<td>–</td>
<td>4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>yanında (‘next to’)</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Adverbial reference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>buraya/burada (‘here’)</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>şurada (‘over here’)</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>orada (‘there’)</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

These frequencies show that the child uses nominal reference to space before she uses adverbial expressions. As with deictic reference to entities, buraya/burada is used more often than şurada and orada. Furthermore, at all age levels unmarked nominal reference is the most frequently used device. In general, the number of locative expressions in the child’s language seems to be very low, especially as the number of marked nominal expressions referring to space is concerned. The only
expression which seems to be used productively is the postpositional construction with iç, referring to containment.

**Results on Dutch language acquisition**

The amount of Dutch data varies considerably between the sessions. The first session at age 2;2 contained very little Dutch data. The same holds for session 2;8, when Berrin had just arrived in the Netherlands after a two-month holiday she had spent in Turkey. In these cases both linguistic and emotional factors are due to the small amount of Dutch utterances of Berrin.

**Clause structure and temporal reference**

The number of Dutch utterances with a verbal predicate is quite low. The inflectional system of the verb is gradually expanded, though even at age 2;10 it is still limited to present tense (3rd person singular). At age 2;2 the child uses only clauses of the type subject - verb(infinitive) (see [21]):

21. _he die pop # zitten_. (2;2)
    hey that doll sit-INF

At age 2;5 the child uses utterances with finite verb forms in present tense as well. The obligatory third person singular marker, however, is not realized (see [22]):

22. _deze saap_. (2;5)
    'this sleep.'

At age 2;10 the third person singular marker in present tense is realized, whereas infinitive verb forms are only used in utterances starting with an adjunct. Examples are given in [23] and [24]:

23. _bebe saapt_. (2;10)
    baby sleep-PRES3SG
    'the baby sleeps.'

24. _niet zitten_. (2;10)
    not sit-INF

In nominal clauses the copula zijn 'to be' is not used (as is exemplified in [25]). In all instances of this type word order is left branching, resulting in subject-predicate order:
25. *deze mij.* standard: *deze is van mij.* (2;5)
   this be-PRES3SG from I-OBL
   ‘this is mine.’

   *jij ziek.* standard: *jij bent ziek.* (2;10)
   you be-PRES2SG ill
   ‘you are ill.’

Auxiliaries are incidently used in formulaic speech (e.g., [26]). Otherwise modal auxiliaries are not realized.

26. *mag niet.* (2;8, 2;10)
   is allowed not
   ‘is not allowed.’

**Lexicon**

As a measure of lexical diversity the number of nominal and verbal types was counted. The results are given in Table 13. As the child is growing older, only the number of nominal types increases.

Table 13. Numbers of nominal and verbal types in 100 Dutch utterances as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>Nominal types</th>
<th>Verbal types</th>
</tr>
</thead>
<tbody>
<tr>
<td>2;5</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>2;10</td>
<td>12</td>
<td>5</td>
</tr>
</tbody>
</table>

In Table 14 the numbers of transitive and intransitive verbs used by the child are given. As all numbers are very low, proportions were not counted. There is only a small difference in the use of transitive and intransitive verbs used. Nevertheless, the class of intransitive verbs seems to be slightly ahead of that of the transitive ones, unlike the development in the Turkish verb lexicon.

Table 14. Distribution of transitive and intransitive verb types in Dutch as a function of age.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;8</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive verbs</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Intransitive verbs</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>
Reference to entities

Table 15 presents an overview of Berrin's use of subject pronouns in Dutch as a function of age. Just as in the Turkish data was the case, only singular pronouns are used.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;8</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singular</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>first person</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>second person</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>third person</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Plural</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>first person</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>second person</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>third person</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Determiners are only used to refer to objects. Table 16 presents the frequencies of the Dutch determiners used. The determiners *deze* and *dit* express proximity, whereas *die* and *dat* express distance. Furthermore, the use of *dit* and *dat* is restricted to neuter nouns in singular; *deze* and *die* can be combined both with masculine and feminine nouns, either in singular or plural, and with neuter nouns in plural.

In the data-set these determiners are all used predicatively either in combination with a noun (as in [25] and [27]) or as an independent utterance, accompanied by gestures.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;2</th>
<th>2;5</th>
<th>2;8</th>
<th>2;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>deze</td>
<td>1</td>
<td>28</td>
<td>-</td>
<td>36</td>
</tr>
<tr>
<td>dit</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>die</td>
<td>1</td>
<td>12</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>dat</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

As can be seen from the table the expressions referring to proximity (*deze* and *dit*) are much more frequent in the data than the expressions for distance (*die* and *dat*). Again a deixicality coefficient was computed as a function of the child's age in order to evaluate the relative use of nominal and pronominal constituents. The results are given in Table 17. It can be seen that the coefficient decreases as the child grows older.
Finally, the expression of possessive relations was examined. The general possessive construction was Det - N, starting at age 2;5. The determiner is used predicatively to refer to the object possessed, the noun refers to the possessor. An example is given in [27].

27. *deze papa.* standard: *deze is van papa.*
   \[\text{this be-PRES3SG from daddy}\]
   \[\text{‘this is daddy’s.’}\]

**Reference to space**

Spatial expressions are very scarce in the data under consideration. The few realized ones nearly all refer to location. The commonly used device for locative reference is the deictic term *daar* ‘there’, in standard Dutch referring to distant locations. More specific locative reference by means of prepositions occurs only once in the data (at age 2;5), in combination with the deictic term *daar*. Even in reproductions of adult speech prepositions may be left out (as in [28]):

28. adult: *zullen we deze hierin zetten?*
   \[\text{here-into}\]
   \[\text{‘shall we put this one into this?’}\]
   
   child: *hier zetten.*
   \[\text{here put(INF)}\]
   \[\text{‘put here.’}\]

To motion Berrin refers once in the present data-set. Remarkably enough she then uses a Turkish device: the Turkish directive suffix is placed after a Dutch noun (see [29]). A verb of motion is not realized.

29. *vivian sapkamaya.*
   \[\text{bedroom-DIR}\]
   \[\text{‘vivian (is) to the bedroom.’}\]
Conclusions

From the present study several conclusions can be drawn. First of all it is clear that Berrin’s dominant language is Turkish. In all domains analysed her level of proficiency in Turkish is higher than her level of proficiency in Dutch. In Turkish she has a wider range of linguistic means to express meaning than she has in Dutch. A good example of this is the verb inflectional system. In Dutch she only realizes infinitives and present tense forms in third person singular, whereas in Turkish she uses standard devices to refer to present, past and future with certain aspectual properties involved. Secondly, the rate of development in Turkish is higher than in Dutch. The structural development of the Dutch utterances clearly shows less expansion in the age range analysed than the Turkish ones do.

The dominance of Turkish over Dutch might lead to the expectation of a high degree of transfer from L1 to L2. At the lexical level very few instances of mixing of both language systems were found. Berrin used only incidentally single Turkish words when speaking to a native speaker of Dutch. Instances of Dutch lexical items addressed to a native speaker of Turkish were not found at all. That there exists nevertheless some relationship between the two lexicons is nicely illustrated by the songs Berrin invented right after her return from holiday in Turkey, and which consisted of strings of Turkish and Dutch equivalent words like anne and mama (‘mother’). On the morpho-syntactic level traces of transfer are harder to detect. In several domains striking similarities have been found, e.g., the preponderance of deictic terms denoting proximity over those denoting distance. However, in order to distinguish properly between effects of transfer and general language learning phenomena we first need monolingual comparative data. The data on the development of Turkish, e.g., the development of the verb inflectional system and the acquisition of word order, show parallels with what is known about the acquisition of Turkish by monolingual children. On the other hand, the system for spatial reference seems to be relatively undeveloped. Comparative data are also needed to evaluate the rate and structure of development in both languages.

One of the ways in which this study will be elaborated will consist in a comparison of the data obtained from the coregroup of informants with those of monolingual Turkish and Dutch children. Furthermore, the data of Berrin will be compared to those of the other three bilingual core-informants in the Netherlands, who all differ in the respective amount of Turkish and Dutch language input. Finally, data from the full period of data collection will be taken into account.

References


