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Abstract

As mobile phones become more and more commonplace in communities across Papua New Guinea, Tok Pisin is developing linguistic resources to talk about how they work and how they are used. This paper uses recorded interviews with Tok Pisin speakers from across the country to analyse the emerging discourse about mobile phones, investigating lexical, grammatical and semantic innovations and the degree to which they are entrenched in spoken language. These innovations are frequently based on English, and include both loanwords and loan-based creations; both material and structural borrowing; and both code-switching and true borrowing. The analysis is used to evaluate the state of Tok Pisin in response to new technology, and suggest recommendations for future Tok Pisin dictionary projects.

Keywords: Tok Pisin; language contact; codeswitching; lexicography; conceptual metaphors; loanwords; borrowing; mobile phones; internet

1. Introduction

New technological developments typically result in linguistic innovations in any language, as speakers find ways to talk about new aspects of their material environment. Often these innovations include 'cultural borrowings', using words and expressions from other languages which already have ways to talk about the technology (Haspelmath 2008: 47). In Papua New Guinea, the last ten years have seen a phenomenal explosion in the saturation of mobile phone technology throughout the country, with the extensive building of 'Digicel towers' enabling people in even the most remote areas to have the chance of buying and using a phone to connect with the wider world. This explosion has had a very significant social impact on communities, so that mobile phone usage is now considered one of the most significant issues in community life in many areas. However, the aim of the research in this paper is not to look into the social implications of this new technology, but rather to see what impact it has on Tok Pisin, one of the two most widely spoken languages of wider communication across the country, alongside English. According to the Ethnologue, Tok Pisin was spoken as L1 by 122,000 speakers in 2004 and as L2 by some 4,000,000 speakers (Lewis 2013). The current figures are undoubtedly higher.

Since Tok Pisin is an English-based creole, it is very easy to adopt words from English to describe new phenomena. English is termed the 'lexifier' language for Tok Pisin, as it is the source of almost all new vocabulary. However, have the same words been adopted into the Tok Pisin spoken in different parts of the country, or have different areas found their own ways of talking about mobile telephones? Are there any distinctive Tok Pisin ways of talking about mobile phones that are different from the English origins from which loanwords are taken? Are new metaphors emerging to help people think about, and reason about, what mobile phones do?

These questions prompted a research project in which I recorded conversations with forty different Papua New Guinean Tok Pisin speakers from different parts of the country, talking about their mobile phones. In each case, the conversation was guided along the same lines: the interviewees were presented with a picture of many mobile phones (including a mixture of button and touchscreen varieties) and asked what the picture showed. Then, they were asked how people used these phones, and following on from that, how (in more detail) they did the things they had mentioned. Finally, they were asked to explain why it is that sometimes you want to telephone someone, but you do not succeed. At each stage, I tried to ask questions that only used words and conceptualisations that people had already used themselves, so that they were not prompted with new words or ways of talking about how phones work. The main exception to this rule was when someone did not mention anything that people did with telephones other than ringing other people, in which case I sometimes needed to prompt them towards other ideas (such as listening to music).

All the conversations were recorded at Ukarumpa, in the Eastern Highland Province. The majority of the interviewees were current or past participants in courses at the Pacific Institute of Languages, Arts and Translation, or staff members there. Out of the 40 interviewees, 35 were men and 5 were women (reflecting the balance of course participants in general). Table 1 shows the home province for each person, and figures 1 and 2 show the spread of age and formal education level, demonstrating that the sample included a reasonable range of education (from those with none to those with bachelor's degrees, although the majority had grade 8-10), geographical distribution (from 9 different provinces) and age (from twenty to early sixties). Linguistic examples in the body of the paper are followed by gender, age and home province of the speaker.

Province	Total
Central	5
East Sepik	3
Eastern Highlands	6
Madang	8
Manus	3
Morobe	8
New Ireland	4
Oro	2
Western Highlands	1

Table 1. Distribution of home province within the sample

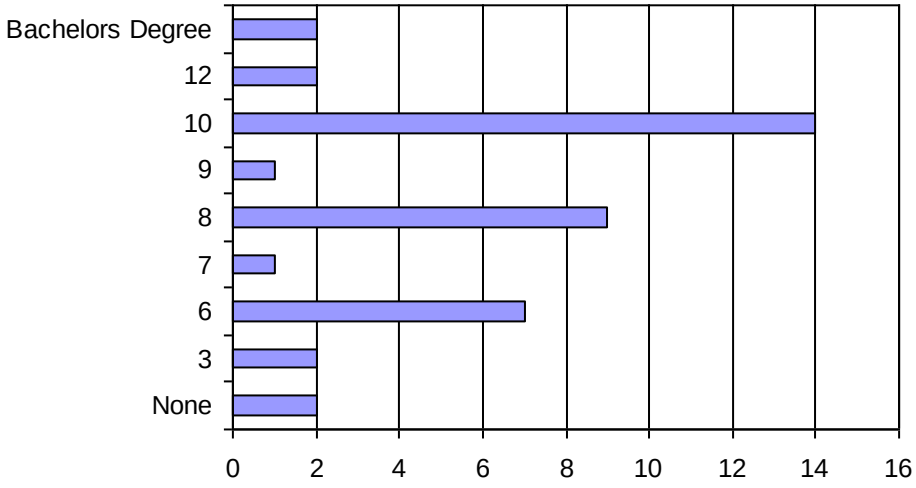

Figure 1. Level of formal education within the sample

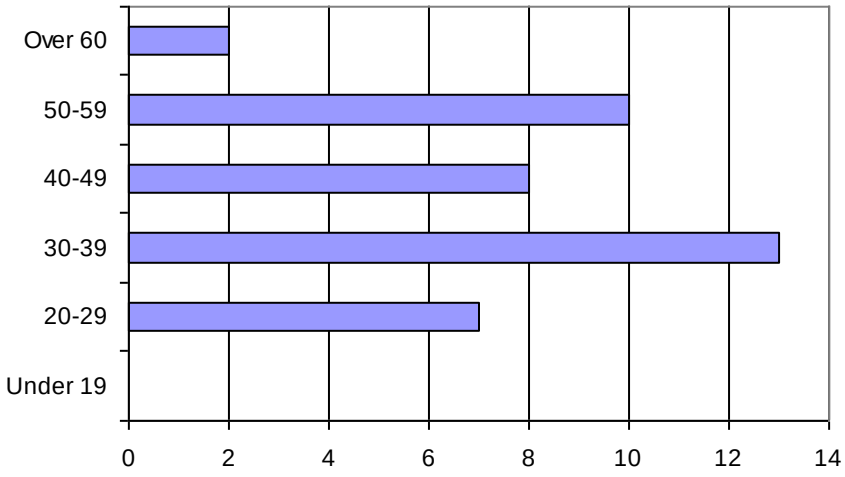

Figure 2. Spread of age within the sample

By picking people from several different provinces, I hoped to get a representative sample of how Tok Pisin is spoken across the country. However, since many of the participants were attending courses which had a minimum English level in order to attend, there is probably a higher than average level of English bilingualism for the participants in the sample.

All the interviews were recorded and then segmented and transcribed using Saymore software (available from http://palaso.org/), keeping only the text of the Papua New Guinean interviewee for analysis and ignoring the utterances of the interviewer. They were then transferred to Fieldworks Language Explorer where they were glossed and categorised, resulting in just under 13,000 words of glossed text, clearly a very small sample in comparison to the 1,600,000 words of the written corpus used by Verhaar (1995) or 383,000 words of the spoken corpus used by Smith (2002).

When looking at the data, several interesting phenomena became apparent outside the narrow scope of language to talk about mobile phones. As a result, while the focus of this paper is still on the Tok Pisin innovations related to mobile phone technology, I will also discuss other innovations in the language. Several of these are not documented in the standard reference works by Mihalic (1971, abbreviated to *JD*), Verhaar (1995) or Volker (2008, abbreviated to *TPED*), although they are introduced by Smith (2002). Since Smith's oral data was collected in the late 1980s and early 1990s, this paper gives an opportunity to corroborate many of his findings and give a snapshot of how some trends have developed in the past twenty years.

This paper is structured into four sections. Section 2 investigates some of the theoretical issues related to language contact which form a necessary backdrop for the subsequent analysis. Section 3 presents the findings from the research, divided into five subsections covering: new loanwords and loan-based creations; connectives; phrasal verbs; the –s plural; and conceptual metaphors. Finally, section 4 presents conclusions and implications for Tok Pisin as a language and for future Tok Pisin grammatical description and lexicography.

Since this is essentially a corpus-based investigation into Tok Pisin, there are similarities to Verhaar's grammar (1995). However, there is a very significant difference in the corpus, and hence in the variety of Tok Pisin that is being discussed. Verhaar bases his study on a written corpus including the Tok Pisin Buk Baibel and various other books and booklets (1995: xviii). The grammar is so uniform within this corpus that Verhaar deems it a standardised form which he calls a 'virtual standard' for Tok Pisin. He notes this standard is a 'mesolect', containing more ongoing influence from English than the basilects of Tok Pisin spoken in remote rural areas, or the highly anglicised acrolects spoken in government circles. By contrast, since the Tok Pisin corpus analysed in this paper is oral, it has a less standardised grammar, although still generally at the level of mesolect.

The corpus is much more similar to that used by Smith (2002), reflecting the Tok Pisin people actually speak, rather than how they think people should speak. This leads to phenomena where people use certain words of English origin while speaking in Tok Pisin, but later firmly assert that they are not actually 'Tok Pisin'. As Crowley notes, 'people's expressed attitudes towards lexical borrowings are often at considerable variance with their observed linguistic usage' (2004: 43). In contrast to Smith, however, this corpus includes people of all ages (not just school children), and there has been little attempt to reflect the phonological variation between different speakers. Instead, I attempted to write the recorded speech using standardised Tok Pisin spelling. This caused significant problems when the people used phonemes that are not part of the standardised Tok Pisin represented by the lexicons. For example, the English word 'catch' is now borrowed into Tok Pisin with a very similar sound to the English original, though with the transitive *–im* suffix added. Smith (2002) uses the English orthographic convention of <ch> to represent the palatal affricate [tʃ] and so writes this word as *kechim*. However, this sequence of letters is not used in the standard lexicons, leaving possibilities like *kesim* (in parallel with *tasim* 'touch', which often has a palatal affricate in the middle) or *ketsim*, making the affricate more noticeable.

Further, there is possible interference to the Tok Pisin used in these interviews from the fact that I as the interviewer am a mother-tongue English speaker. Although all the interviewees were aware that I was particularly studying Tok Pisin, they may have unconsciously used more English in their conversation than they would otherwise, because of the person to whom they were talking.

2. Issues of Language Contact

An immediate issue when trying to document Tok Pisin innovations as part of this research was to identify which utterances or parts of utterances could be legitimately classified as Tok Pisin, and which were really just English. For example, the corpus included words and phrases like *fonkols / phonecalls*; *adawais / otherwise*; *depending on the phone*; and *each other*. Which of these should be considered Tok Pisin? Such questions are frequent in any situation of language contact, where speakers have several different linguistic forms in their repertoire from different languages. However, they are even more complicated for a language like Tok Pisin, as an English-based creole in ongoing pervasive contact with its lexifier language, since English words can very naturally be fitted into Tok Pisin phonological and grammatical structure. This section will document some of the reasons why English words and grammatical features may appear in Tok Pisin utterances, and then give some suggestions for a method to decide whether a word or feature should be considered part of 'Tok Pisin' or not. First, however, it is helpful to step back and look at the overall picture of the language in the corpus, and the concept of matrix language.

2.1 Tok Pisin as matrix language

It is possible (and even common) in multilingual situations for people to start speaking in one language and switch completely to another shared language during the conversation. Usually, though, there is a 'matrix language' which provides the overall grammatical frame throughout an utterance and an 'embedded language' which provides some other material, typically in the form of 'embedded language islands' or bare forms (Myers-Scotton 1993, 2000). Throughout the corpus, Tok Pisin is consistently the matrix language, and English the embedded language. There are no examples of people switching completely into English for any more than a short 'island', perhaps because of the constraints put on the interview situation, where interviewees were specifically asked to talk in Tok Pisin.

Thus, in the example from the corpus given in (1), below, the phrase 'depending on the phone' is clearly an English embedded language island, shown by the use of several morphemes and structures that are not normal Tok Pisin: the *–ing* suffix, the preposition *on* and the article *the*.

1. *Digicel gat setings bilong en we* ***depending on the phone*** . . .
   Digicel have setting.PL of 3SG where 'depending on the phone' . . .

   'Digicel have their own settings, which, depending on what phone you are using, . . . ' (New Ireland, F, 29)

In this example, it is clear that 'depending on' and 'the phone' should not be considered as lexical innovations in Tok Pisin.

In (2), the word *personally* only occurred once in the whole corpus and appears to be an English bare form incorporated into the Tok Pisin matrix.

2. *long mi* ***personally*** *mi save yusim long mobail benking*
   PREP 1SG personally 1SG HAB use PREP mobile banking

   'Personally, I use (them) for mobile banking' (Central, M, 53)

Examples like these recur throughout the whole corpus as a very pervasive phenomenon. This confirms that these multilingual Tok Pisin speakers are not consciously choosing and switching from

one language system to another, but rather they are seeking to use the variety of linguistic structures they have in their multilingual repertoire to 'balance effectiveness and precision of expression' against the 'social demand . . . to select only context-appropriate structures' that can be understood by those they are addressing (Matras 2009: 152).

These examples of language contact phenomena can be subcategorised further based on the speaker's reasons or awareness of using 'English' forms in Tok Pisin discourse, as clarified in Section 2.2.

2.2 Reasons for 'English' elements in Tok Pisin discourse

Typological studies of language contact suggest at least three reasons why words and phrases from one language may appear in discourse that is ostensibly in another language: bilingual lapses; codeswitching; and true borrowing.

2.2.1 Bilingual lapses

Bilingual lapses, or bilingual malfunctions, are a common feature of utterances from people who know more than one language (Matras 2009: 91-99). In these situations, words appear in an utterance because of an unconscious lapse on behalf of the speaker to pay attention to what language he or she is ostensibly using. These phenomena are most obvious when bilinguals insert words into a conversation that clearly could not be understood by those to whom they are speaking, such as when a mother-tongue German speaker accidentally uses a German discourse marker in between English sentences when talking to a monolingual English speaker. Such lapses are often connectors, discourse markers, tags or particles. For example, the use of *adawais* in (3), *insted* in (4) and *at least* in (5) may best be considered multilingual malfunctions.

3. *em bai . . . givim yu tok orait long yu ken*
   3SG IRR . . . give 2SG message alright PREP 2SG can

   go long dispela netwok ***adawais*** *bai yu no inap*
   go PREP this network otherwise IRR 2SG NEG able.to

   'it will . . . give you permission to go to this network, otherwise you will not be able to' (Manus, M, 39)

4. *i gat sampela ol difrent program-s we yu ken yusim . . .*
   PRED have some 3PL different program-PL where 2SG can use . . .

   insted *long yu yusim SMS*
   instead PREP 2SG use SMS

   'There are several different programs you can use . . . instead of using SMS' (New Ireland, F, 29)

5. *na tu olsem sapos nogat yunit em*
   and too as if NEG unit 3SG

   at least *yu mas painim yunit long putim pastaim*
   at least 2SG must seek unit PREP put first

   'Also, if you don't have units, at least you need to find units to put on first' (Madang, M, 47)

The fact that these bilingual malfunctions often occur between different propositions (that is, as connectors and discourse markers) may be due to the speaker's need to monitor exactly such elements more closely to make sure that the hearer is following the thread of an argument or other discourse (Matras 2009: 95-99). Since the speaker is subconsciously devoting more energy and attention to making sure that the logic of the discourse makes sense to the hearer, and less to monitoring what language is being used, he or she may lose control of selecting the correct language for the communication situation.

2.2.2 Codeswitching

Second, codeswitching describes switches from one language to another in an utterance that are more intentional than those resulting from bilingual malfunctioning. Codeswitching can describe changing from one language to another for utterances of any length within a discourse, but the only examples in this corpus are at the word or phrase level, as in the case of 'depending on the phone' in example (1). In codeswitching, a speaker may choose to use a word or phrase from his or her linguistic repertoire that is not commonly part of the matrix language because he or she cannot think of a suitable word in the matrix language, or because a phrase from another language can convey the meaning better, or to impress a particular point, or even just for fun. Generally a speaker chooses to codeswitch on the assumption that the addressee can understand what is being communicated. Although some codeswitches leave the morphological and phonological form of the word intact, it is also possible for speakers to adapt the morphology and phonology of a word as they use it for the first time in an utterance. For example, in Tok Pisin it is very easy to morphologically adapt any transitive English verb to sound like Tok Pisin by adding *–im* to the end.

In (6), the speaker has a wide knowledge of English linguistic forms, and codeswitches freely between Tok Pisin and English to convey his message, using codeswitches with some morphological and phonological adaptation like *fansen* 'function', *establisim* 'establish', *living* and *rimot erias* 'remote areas'.

6. *ol* *i* *ken* *lukim* *hau* *yu* ***establisim*** *o* *hau* *yu* *setim* *dispela* ***fansen***
   3PL PRED can see how 2SG establish or how 2SG set this function

   bilong *dispela* *sindaun* *o* ***living*** *bilong* *yu* *insait* *long* *wanwan* ***rimot*** ***erias***
   for this life or living of 2SG inside PREP each remote areas

   'They can see how you establish, or how you set up, this function (?) for your life in remote areas' (Morobe, M, 38)

2.2.3 Borrowing

So far we have discussed bilingual malfunctions and codeswitching, which are used to describe language contact phenomena in the speech of individual people. However, these should not be called 'borrowings'. The word 'borrowing' can only rightly be used when a word or phrase from another language is being used more widely within a language community by many speakers (Haspelmath 2008, 2009; Haspelmath and Tadmor 2009). When a word or phrase has been borrowed into another language, speakers feel free to use it in a wide variety of interactions, rather than just a limited set of contexts (Matras 2009: 147). In (7), the word *blututim* 'Bluetooth (v)' is one that occurred several

times in the corpus, and has been phonologically and morphologically adapted (changing 'th' to 't' and adding the suffix *–im*), suggesting it has now become a borrowing in Tok Pisin.

6. *sampela taim mi* ***blututim*** *ol singsing mi laikim*
   some times 1SG Bluetooth 3PL song 1SG like

   'And sometimes I Bluetooth songs that I like' (Central, M, 53)

From the perspective of speakers, it does not make much difference whether part of their utterance is a bilingual malfunction, codeswitch or true borrowing: their main concern is to communicate effectively (or serve other communicative goals) and they will draw creatively on all the linguistic resources in their multilingual repertoire to do so, rather than switching on and off different language systems (Matras 2009: 7).

However, these distinctions are important for lexicographers, teachers and professional writers in Tok Pisin (such as journalists for the Wantok newspaper). For such people, it is important to clarify what is, and what is not, considered to be Tok Pisin. Some possible guidelines are given in Section 2.3.

2.3 Distinguishing borrowings from codeswitches

Since language change begins with innovations introduced by individual speakers which then spread throughout a speech community (Matras 2009: 310), it is difficult to decide at which point a word has become a borrowing rather than just an isolated codeswitch. Matras (2009: 113-114) describes the situation as a continuum between two prototypes for codeswitches and borrowings:

> The prototypical, least controversial kind of borrowing . . . involves the regular occurrence of a structurally integrated, single lexical item that is used as a default expression, often a designation for a unique referent or a grammatical marker, in a monolingual context. The least controversial codeswitch is an alternational switch at the utterance level, produced by a bilingual consciously and by choice, for special stylistic effects.

In order to place specific words or phrases on this continuum, the following four criteria can be used.

First, the 'simplest and most reliable criterion' is to use the *speech of monolinguals* (Haspelmath 2009: 40), or in this case, those who do not speak English, since those who speak Tok Pisin but have low levels of English would not be expected to codeswitch to the same extent. However, so many people in Papua New Guinea are bilingual to at least some extent in English and Tok Pisin that this is still problematic. Certainly everyone interviewed for this paper had some command of English.

Second, the *degree of phonological and morphological adaptation* could indicate whether a word has truly been borrowed or not (Haspelmath 2009: 41, Matras 2009:113). Tok Pisin does not have a lot of inflectional or derivational morphology, making this somewhat difficult to observe. The most obvious morphological adaptation is the adding of the transitivising suffix *–im* to English verbs. However, this is so automatic when bringing an English verb into a Tok Pisin sentence that even this is not sufficient evidence that the speaker is not just codeswitching (c.f. Smith 2002: 204-205). Thus, it is best to consider levels of adaptation, and measure the degree to which a word has been modified. For example, in (7) the word *search* showed no morphological or phonological change from the English original, and uses both a vowel and final affricate that are not part of standard Tok Pisin. On the other hand, the word *teksim* in (8) shows phonological adaptation in the loss of the final 't' from

'text' and morphological adaptation through the addition of *–im*, suggesting this is more likely to be a real borrowing than just a codeswitch.

7. *bai yu go long fon buk na bai yu* ***search*** *long nem bilong en*
   IRR 2SG go PREP phone book and IRR 2SG search PREP name of 3SG

   'You go to the phone book and you search for his name' (Central, M, 32)

8. *ol save yusim long . . .* ***teksim*** *ol wantok bilong ol*
   3PL HAB use PREP . . . text 3PL relative of 3PL

   'They use them to . . . text their relatives' (Western Highlands, F, 29)

A third criterion is the *frequency* of a certain single word codeswitch, which in this case would be the number of times a word occurs in the corpus. Thus, the fact that *netwok* occurs 57 times in the corpus suggests that this should indeed be considered a Tok Pisin word, and that it is, in fact, a very salient word when talking about mobile phones.

Finally, Matras (2009: 113) prefers to consider the *regularity* of the occurrences of a particular word, not just the frequency. This depends to some extent on how often a word occurs in the corpus, but also the number of different contexts in which it occurs.

These four criteria can be used together to help rate how far a word is progressing on the continuum from being a codeswitch to a true borrowing in Tok Pisin. Haspelmath uses the term 'incipient loanword' (2009: 41) for a word that is beginning the process of being used more widely in a speech community, and this is a helpful term for many of the examples in this corpus.

3. Findings

3.1 Lexical innovations

This section examines Tok Pisin lexical innovations found in the data. That is, new words or senses of words, that are not listed in *TPED*. These can be separated into at least two categories. First, some words are borrowed into Tok Pisin from English and keep the identical (or near-identical) meaning of the original English word. Such words are called 'loanwords', and examples that occurred frequently in the corpus are *entaim / entarim*[1] (as in 9), which is used for entering credit or contact details and occurred 14 times; *daialim* (sixteen tokens, as in example 10 with number as 'object', and in example 11 with 'phone' as object); *presim* (31 tokens, as also in example 10); *teks / teksim* (28 tokens altogether, as in examples 12 and 13); and *daunlodim* (14 tokens, as in example 14).

9. *Pastaim em ol mas baim fleks kat,* ***entaim*** *go insait,*
   first 3SG 3PL must buy FLEX card enter go inside

   OK, bihain long dispela nau em ol save risets i go
   OK after PREP this now 3SG 3PL HAB research PRED go

   insait long intanet long sekim ol samting
   inside PREP internet PREP check 3PL something

[1] Note that this variety in pronunciation and spelling is reflected also in *TPED* for similar words, with variant spellings for words like *onaim / onarim.*

'First they need to buy a FLEX card and enter it inside, and then they research on the internet to check things' (Morobe, M, 36)

10. *Fon i on, nau mi* ***daialim*** *tasol namba na* ***presim*** *grin baten*
phone PRED switched.on now 1SG dial just number and press green button

na bai wok, sapos i gat netwok
and IRR work if PRED have network

'If the phone is on, then I just dial the number and press the green button, and it works, if there is network' (Central, M, 53)

11. *em save* ***daialim*** *fon i go long namba bilong husat poro bilong en*
3SG HAB dial phone PRED go PREP number of which friend of 3SG

'He/she dials the phone to the number of whichever of his/her friends…' (Madang, M, 52)

12. *ol bai salim* ***teks*** *i go long wantok*
3PL IRR send text PRED go PREP relative

'They send texts to their relatives' (Morobe, M, 52)

13. *sampela taim sapos yunit . . . i no pulap dispela fon moa*
some time if unit PRED NEG full this phone more

na i ken yusim teks long ***teksim*** *poroman*
and PRED can use text PREP text friend

bai sevim yunit insait long fon bilong en
IRR save unit inside PREP phone of 3SG

'Sometimes if units are no longer full in this phone, he can use a text to text a friend and save the units in his phone' (New Ireland, M, 30)

14. *na arapela i nid laikim gen ol bai kisim emti memori kat gen nau*
and other PRED need like again 3PL IRR get empty memory card again now

ol bai ***daunlodim*** *gen long dispela i gat pinis na skruim skruim i go*
3PL IRR download again PREP this PRED have CMP and keep.on keep.on PRED go

na olgeta yet i gat memori kat ol i gat singsing arapela samting
and all REFL PRED have memory card 3PL PRED have song other something

insait.
inside

'And if someone else needs or wants them again, they take another empty memory card, they will download it again from this [memory card] which already has it, and keep on doing this, and everyone who has a memory card will have the songs and other things inside them' (Madang, M, 49)

However, other words, although clearly derived from an original English word, have different semantic content. In some cases, this content is so different that these should be called 'loan-based creations', rather than loanwords (Haspelmath 2009: 39). This is a common occurrence, with Tok Pisin words frequently covering a considerably broader semantic range than the English original,

being an 'independent development in pidginization', rather than an influence of contact with other languages in Papua New Guinea (Mühlhäusler, Dutton and Romaine 2003: 27). As Matras recognizes (2009: 175-176),

> Bilingual speakers are not just 'copiers' of forms, . . . they can also act as creative replicators of raw material which they recruit in the context of interaction in the 'donor' language, but shape and re-model functionally within the context of the 'recipient' language.

For example, the word *ketsim / kesim* occurred four times in the corpus, and clearly has some relation to the English word 'catch'. However, since it is used primarily (at least in this corpus) with respect to accessing the internet, as in (15), or connecting to a mobile network, as in (16), neither of which are normal uses of the English word, this is more of a loan-based creation than a straight loanword.

15. *em ol sampela em ol save* ***ketsim*** *intanet*
    3SG 3PL some 3SG 3PL HAB connect internet

    'Some people access the internet' (Eastern Highlands, M, 25)

16. *em bai i ken go long wanem hap em save* ***ketsim*** *netwok*
    3SG IRR PRED can go to whatever place 3SG HAB connect network

    'He/she can go to whatever place he/she usually gets network coverage' (Morobe, M, 36)

Some other borrowings that occurred several times in the corpus and are not straightforward copies of semantic content include *yunit*, *program*, *netwok* and *FM*. These will be covered in some detail, to demonstrate the changes in semantic content that take place in these kinds of loan-based creations.

3.1.1 *Yunit*

The Tok Pisin word *yunit* is phonologically identical, and clearly derived from, the English word 'unit'. However, whereas the English word describes 'an individual thing . . . regarded as single and complete' (Allen 1990: 1339), and is thus a countable noun, the Tok Pisin word is primarily used to talk about whether someone has any credit to make phone calls, and is one of the most common ways of talking about this, occurring 29 times in the corpus. The corpus suggests this word is used in a much more specific semantic sense than English, a case of semantic narrowing when the word has been borrowed into Tok Pisin. The description in (17) explains the general meaning of *yunit*.

17. ***yunit*** *em mani mipela save kisim na putim insait long fon*
    credit 3SG money 1EXCPL HAB get and put inside PREP phone

    '*Yunit* is money that we get and put into the phone' (Eastern Highlands, F, 28)

The word *yunit* can be linked to specific monetary values, as in (18), although it is clear that *yunit* itself is not countable or tied to any one particular value. It is not possible to have 'one' *yunit* or 'two' *yunits*, for example, although there were examples of *sampela yunit* 'some credit' and *inap yunit* 'enough credit'. There were no examples in the corpus of *yunit* with the plural morpheme *–s*. All of these show that *yunit* is a mass noun rather than a countable noun in Tok Pisin.

18. *em yu ken putim sampela* ***yunit*** *olsem twenti kina, fifti kina, ten kina,*
    3SG 2SG can put some credit like twenty kina fifty kina ten kina

faiv	*kina,*	*tri*	*kina*
five	kina	three	kina

'You can put (on) some *yunit*, like K20, K50, K10, K5, K3' (Eastern Highlands, M, 54)

Without *yunit* it is impossible to ring on a phone, as explained in (19), and it can be used to buy time on the internet, as in (20).

19.

yunit	*yu*	*putim*	*insait*	*nau*	*em*	*bai*	*yu*	*ring,*
credit	2SG	put	inside	now	3SG	IRR	2SG	ring

sapos	*yu*	*no*	*gat*	*yunit*	*em*	*bai*	*yu*	*no*	*inap*	*ring*	*nau*
if	2SG	NEG	have	unit	3SG	IRR	2SG	NEG	able.to	ring	now

'When you have put the yunit inside, you can ring, if you don't have yunit you can't ring' (Eastern Highlands, M, 54)

20.

ol	*save*	*baim*	*sampela*	*ol*	*data*	*long*	***yunit***	*ol*	*i*	*putim*	*long*	*fon*	*bilong*	*ol*
3PL	HAB	buy	some	3PL	data	PREP	credit	3PL	PRED	put	PREP	phone	of	3PL

'They buy some data with the *yunit* they put on their phone' (Morobe, M, 46)

All these examples suggest the closest English translation for *yunit* is 'credit' rather than 'unit'. This is a helpful reminder that the English word from which a Tok Pisin loan is derived is not always the best translation equivalent.

3.1.2 *Program*

In contrast to the semantic narrowing seen in the word *yunit*, the word *program* in Tok Pisin, as it occurred in the corpus, has a much wider meaning than many things that are called 'program' in English, at least with respect to mobile technology. *Program* in Tok Pisin appears to have become the general category for all sorts of different things related to the phone, including: voicemail (21, understood by this speaker as any time you hear a Digicel operative speaking on the phone); the necessary settings to connect to the internet (22); the app for taking photos (23); and even the Digicel network itself (24).

21.

voismeil	*mi*	*klia*	*long*	*ol*	*man*	*i*	*bosim*	*dispela*	*senta*	*bilong*	*ol*
voicemail	1SG	clear	PREP	3PL	man	PRED	be.in.charge	this	centre	of	3PL

Digicel	*ol*	*wok*	*long*	*dairektim*	*mipela*	*long*	*ol*	*dispela*	***program***
Digicel	3PL	work	PREP	direct	1EXCPL	PREP	3PL	this	program

'Regarding voicemail, I understand that all the leaders at the Digicel centre send us to these programs' (Madang, M, 49)

22.

pastaim	*long*	*yu*	*go*	*konekt*	*wantaim*	*fesbuk*	*o*	*intanet*	*em*	*yu*	*mas*
first	PREP	2SG	go	connect	with	Facebook	or	internet	3SG	2SG	must

daunlodim	*dispela*	*ol*	*seting*	*o*	***program***	*bilong*
download	this	3PL	setting	or	program	to

mekim	*dispela*	*koneksen*	*long*	*fon*	*bilong*	*yu*	*wantaim*	*intanet*
do	this	connection	PREP	phone	of	2SG	with	internet

'Before you connect with Facebook or the internet you need to download these settings or programs to make the connection between your phone and the internet' (Western Highlands, F, 29)

23. *i gat* ***program*** *insait long en em*
PRED have program inside PREP 3SG 3SG

taim ol go tru long kamera bai ol ken kisim fotograf
time 3PL go through PREP camera IRR 3PL can get photograph

'It has a program inside which they can use to take photographs when they go through to the camera' (New Ireland, M, 35)

24. *Wankain olsem nau yumi gat dispela Digicel* ***program***
same.thing thus now 1INCPL have this Digicel program

em wanpela samting we em i helpim mipela truaut nesen
3SG one something where 3SG PRED help 1EXCPL throughout nation

so ol wok long kipim dispela netwok ***program*** *long yumi ring go kam*
so 3PL work PREP keep this network program PREP 1INCPL ring go come

'In the same way, now we have this Digicel program, it's something that helps us throughout the nation. So they keep this network program so that we can ring back and forth.' (Madang, M, 49)

This variety of uses of the word makes it very hard to find any single word English equivalent, but a definition may need to be something like 'a program or other electronic function that makes something else work'.

3.1.3 *Netwok*

The Tok Pisin word *netwok* was very salient in the corpus, occurring 57 times. It is the most typical way of explaining how mobile phones work. In this case, the word *netwok* appears to collate together semantic components of many different words or phrases in English, such as 'network coverage', 'signal', or 'reception', and gather them all into one conceptualisation. The *netwok* appears to be conceptualised as a 'thing' which is out there in certain places that can be sought (25, 26), found (25) and caught (16) or got (27).

25. *mipela save go antap long maunten na mipela save painim i go i go*
1EXCPL HAB go on PREP mountain and 1EXCPL HAB seek PRED go PRED go

nau ***netwok*** *kam insait nau mipela save ringim ol fren-s bilong mipela*
now network come inside now 1EXCPL HAB ring 3PL friend-PL of 1EXCPL

'We go up the mountain and search around for it, and when the *netwok* comes inside we ring our friends.' (Oro, M, 60)

26. *mi stap long . . . longwe long* ***netwok****, long Digicel*
1SG be PREP . . . distant PREP network PREP Digicel

olsem na mipela sampela taim mipela save go painim ***netwok***
thus and 1EXCPL some time 1EXCPL HAB go seek network

long hap we Digicel ***netwok*** *save go*
PREP place where Digicel network HAB go

'I live a long way from the *netwok*, from Digicel, so sometimes we have to go and find the *netwok* in the place where the *netwok* goes' (Central, M, 22)

27. *taim pawa em i blakaut long dispela hap we*
when power 3SG PRED blackout PREP this place where

fon bilong yumi wanwan i ekses long ***netwok****, taim pawa i blakaut,*
phone of 1INCPL each PRED access PREP network time power PRED blackout

netwok *stesen em i daun, em i hat tru long kisim* ***netwok***
network station 3SG PRED down 3SG PRED hard very PREP get network

'When the electricity is out in the place where our individual phones access the *netwok*, when the power is out, [and then] the *netwok* station is 'down', it's very hard to find the *netwok'* (East Sepik, M, 41)

The *netwok* is conceptualised in (25) and (26) as being distant from some places and coming to others, as also seen in (28).

28. ***netwok*** *em olsem mi mas stap insait long dispela kain eria*
network 3SG thus 1SG must be inside PREP this kind area

we em i gat pul ba bilong en, ***netwok*** *mas kam gut*
where 3SG PRED have full bar of 3SG network must come well

'"*Netwok*" is like we need to be inside this kind of area where it has its full bar, the *netwok* must come well' (Madang, M, 49)

Thus, in this case, although a simple dictionary definition of *netwok* may be similar to the English etymon and read something like 'network coverage, signal', a more encyclopaedic definition of the folk concept would identify it as an invisible entity making it possible to talk on mobile phones, which must be found and caught in order to be used.

3.1.4 *FM*

FM was also a fairly frequent word in the corpus, occurring 14 times. Again, the usage of this word is different to the English original. For example, the word can be pluralised by adding the word *ol*, as in (29). The fact that *FM* is actually referring to FM radio stations is clear in (30).

29. *ol redio tu i save kam on long dispela, ol* ***FM***
3PL radio too PRED HAB come on PREP this 3PL FM

'Radio can also come on this, FM [radio stations]' (Eastern Highlands, M, 33)

30. *ol putim go long redio,* ***FM****, em* ***FM*** *save kam,*
3PL put go PREP radio FM 3SG FM HAB come

kain olsem 93 FM, Redio Lait, dispela kain ol ***FM*** *em save kamap*
kind as 93 FM radio light this kind 3PL FM 3SG HAB happen

> 'They put it on FM radio, and FM comes, like 93 FM and Radio Light, these kind of stations are there' (Eastern Highlands, M, 33)

These examples illustrate a metonymic meaning extension when *FM* has come from English into Tok Pisin, so that the word does not just refer to the method by which radio is transmitted, but also the stations that are being transmitted in that way.

These four examples (*yunit, program, netwok* and *FM*) illustrate some of the semantic processes that can take place when words are borrowed from English into Tok Pisin, demonstrating semantic broadening, semantic narrowing, innovative folk conceptualisations and metonymic meaning extension. All of these are helpful reminders for dictionary makers to think how a word of English origin is actually used in Tok Pisin, even when referring to a new technological artefact, rather than just giving the most obvious English gloss.

3.2 Connectives

One very noticeable linguistic feature when comparing the oral corpus of this research with existing grammatical and lexical descriptions was the much greater number of connectives. Verhaar (1995: 422-442) lists four coordinating conjunctions (*na, tasol, o* and *olsem na*) and a longer list of subordinating conjunctions: *taim, long taim, inap long, bihain long, bipo long, pastaim long, long wanem, sapos, bai, bilong, inap, maski* and *olsem*. The word *bikos* is mentioned as a recent Anglicization, but is awarded a normal place in the dictionary by the time of *TPED*.

The recorded oral corpus had a much wider set of connectives, most significantly including many tokens of *so* and *bat*, but also a small number of tokens of words like *adawais* (otherwise), *aida* (either), and *sem taim* (at the same time). The most frequent words and numbers of tokens are listed in Table 2. The table also shows the number of provinces (out of the nine included in the sample) that had people using these connectives.

Connective	Tokens	Speakers	Provinces
na	504	40	9
o	203	37	9
so	55	23	9
tasol[2]	25	10	6
bat	18	7	6*
bilong[3]	10	9	8
bikos	8	6	4
olsem na	6	6	4

[2] There are 59 tokens of *tasol* overall, but the ones listed here are just the connectives, with the meaning 'but', excluding those glossed as 'just' or 'only'.
[3] This only records the uses of *bilong* as a connective, meaning 'in order to', and ignores the preposition use meaning something like 'of'.

long wanem	2	2	1
bilong wanem	0	0	0

Table 2. Connectives in the corpus

Bat is used to show contraexpectation relationships between clauses, in very much the same way as *tasol*, as in (31).

31. *sampela samting em i save hat long karim*
some something 3SG PRED HAB hard PREP carry

bat *fon em isi insait long poket*
but phone 3SG easy inside PREP pocket

'Some things are hard to carry, but phones are easy, in a pocket' (Eastern Highlands, M, 61)

The word *so* is used both as a coordinating conjunction, parallel to *olsem na* and meaning something like 'and as a result' (32); and as a subordinating conjunction, parallel to *bilong* or *inap long*, meaning something like 'in order that', as in (33).

32. *ples bilong mi nogat taua* ***so*** *em dispela tasol save mekim hevi*
place of 1SG NEG tower so 3SG this only HAB do problem

'My community does not have a tower, and as a result, this is the only thing that causes problems' (Central, M, 53)

33. *yu mas gat sampela akaunt insait* ***so*** *bai yu ken salim emel*[4]
2SG must have some account inside so IRR 2SG can send email

'You need to have an account inside so that you can send email' (Manus, M, 39)

Looking at how common these words are, as a point of contrast, Smith (2002: 96) also compared the frequency of *so* to *olsem na* and *bat* to *tasol* in his corpus recorded from children's speech in the late eighties and early nineties.

bat	59	tasol	211
so	366	olsem na	408

Table 3. Connectives in Smith's data (2002)

So, in Smith's corpus, *tasol* was nearly 4 times as common as *bat*, and *so* was a little less common than *olsem na*. In the present corpus, however, *tasol* is only a little more common than *bat*, and *so* is nearly ten times more frequent than *olsem na*. Clearly, the new connectives (*bat* and *so*) have continued to take over from *tasol* and *olsem na*, and are more prevalent now than they were in Smith's research.

However, are these truly borrowings, or just bilingual lapses or codeswitches? In Section 2.2, connectives were identified as a particularly common type of bilingual lapse. So, recalling the methodology of Section 2.3, it is important to note that although *bat* was spoken by people originating from six different provinces, several of them had been living for a long time outside their

[4] Spelling follows *TPED*, although pronunciation is *imel*.

home areas and in places where they were used to speaking a lot of English, including three members of SIL PNG staff, so may be heavily influenced by English. Further, four tokens came from one Central Province speaker who said his first language was English, and another six from a single speaker from Madang. All this suggests that *bat* is still more at the bilingual lapse or codeswitch side of the spectrum right now, rather than a fully-fledged borrowing. The growth in its usage over the past twenty years (in comparison to *tasol*) does show it is nevertheless an 'incipient loanword'.

On the other hand, the word *so* is very prevalent, spoken by people in all the provinces in the sample, and by 23 out of the 40 speakers interviewed. It is used in several different kinds of construction, and is much more frequent than the more traditional *olsem na*. All of this suggests that it must be considered a true Tok Pisin word now. The concise nature of *so* compared to *olsem na* may be a significant reason for this replacement.

This creates some problems for dictionary making, as it is now a third meaning to add to the *TPED* definition of *so*. Those listed already are 'saw' and 'show', which both have the same spelling, though the meaning glossed as 'saw' usually has a different pronunciation. With new lexical items in Tok Pisin it is increasingly difficult to use an orthography that uses one sound for one symbol. The same problem occurs with the word *lo* 'low' (used in the corpus to describe a phone battery that needs to be charged). If this is added to the dictionary it will create confusion with *lo* 'law', which requires the same spelling, but a different pronunciation. These are challenges for lexicographers and other scholars working on the orthography for standardised Tok Pisin.

3.3 Phrasal verbs

Another area of change highlighted by the corpus was that of phrasal verbs. Several Tok Pisin words are already recognised in *JD* or *TPED* which derive from a combination of an English verb with an adverb or preposition. For example, *kamap* ' appear, arrive', *pundaun* 'fall', *kamaut* 'come out', *sindaun* 'sit' and *singaut* 'call, cry'. As Smith (2002: 90) notes, these are mostly used as single unanalysable morphemes. Further, the fact that they can often be transitivised by adding the *–im* suffix to the end of the word (as in *kamapim* 'create, originate', *kamautim* 'pull out' and *singautim* 'call someone') confirms that they are viewed as a complete predicate, and should be written as one word.

Whilst these words are well attested, Smith's corpus revealed several more, including *go aut, pip in, kuldaun, pekap* and *traimaut* (which noticeably has the *-im* suffix before the adverbial element). The mobile phone corpus here revealed a further set of similar verbs.

3.3.1 Verbs with *ap* and *aut*

Many of the new phrasal verbs used adverbs that are already incorporated into recognised Tok Pisin verbs: *aut* (which is also recognised as a word in isolation in both *JD* and *TPED*), and *ap*. These verbs included *topap* (1 token, in example 34), *ringaut* (4 tokens, giving a standard way to describe making phone calls, as in example 35), *wokaut* (1 token, in example 36), and *painaut* (1 token, as in example 49, rather than the standard *painimaut*). All of these do not have an *–im* suffix on the verb, either before or after the adverbial element.

34.	*mi*	*save*	***topap***	*long*	*sim*	*kat*	*bilong*	*mi*	*long*	*sampela*	*kredit*
	1SG	HAB	top-up	PREP	SIM	card	of	1SG	PREP	some	credit

'I top up some credit on my SIM card' (Madang, M, 59)

35. *bai mi gotru long kontak-s na sekim nem bilong en*
IRR 1SG go.through PREP contact-PL and check name of 3SG

o ida mi daialim stret namba bilong en na mi ***ringaut***
or either 1SG dial directly number of 3SG and 1SG ring.out

'I'd go through my contacts and check for his name or alternatively I would dial his number directly and ring out' (Manus, F, 32)

36. *sapos sevis i no konekt na kamtru long fon*
if service PRED NEG connect and come.through PREP phone

em olsem koneksen em katof em i no ***wokaut***
3SG as/thus connection 3SG cut.off 3SG PRED NEG work.out

'If the service doesn't connect and come through to the phone, the connection is cut off, it doesn't work out' (Madang, M, 49)

The corpus also included a new sense of the word *goaut* meaning 'waste' (37) which only has the physical sense of leaving a country or store in *TPED* (5, 21).[5] There are also three tokens of *ring (i) go aut*, a more complex predicate, used for telephoning, as in (38).

37. *voismeil i stopim mi na sampela koin-s i* ***go*** ***aut***
voicemail PRED stop 1SG and some coin-PL PRED go out

'Voicemail stops me and I waste some coins'[6] (Madang, M, 49)

38. *so, mi save onim fon, na go long hap i gat netwok,*
so 1SG HAB switch.on phone and go PREP place PRED have network

na mi save ***ring*** ***i*** ***go*** ***aut*** *long en*
and 1SG HAB ring PRED go out PREP 3SG

'So, I switch on the phone, and go to the place where there is network coverage, and I telephone him' (East Sepik, M, 38)

Other new verbs use *aut* as part of a phrasal verb with the suffix–*im* included on the stem, before the adverbial element: *sekimaut*, *wokimaut*, and *soimaut*. If conventions parallel those of *painimaut*, these should also be written as one word rather than two. *Sekimaut* was the verb used twice by one Morobe speaker to describe the process of using a particular function on the phone, using the calculator in (39) and the addition function in (40).

39. *em bai putim long wanem bilong 'tuls' na* ***sekimaut*** *long*
3SG IRR put PREP whatever of tools and check.out PREP

kalkyuleta na em save ***wokimaut*** *kalkyuleta kam*
calculator and 3SG HAB work.out calculator come

[5] *Go aut* is listed as two words in *TPED* in the example sentence under the definition of *aut* (5), but listed as one word in the near identical example sentence defining *goaut* (21), demonstrating the difficulty in making decisions about word breaks for these constructions in Tok Pisin.

[6] The context here is that when someone does not answer the phone, you waste money when it goes to voicemail.

‘He needs to put it on the whatsit of 'tools' and ‘check out’ the calculator, and he makes the calculator come out’ (Morobe, M, 31)

40. *olsem em save putim long kalkyuleta* ***sekimaut*** *adim olgeta totalim*
thus 3SG HAB put PREP calculator check.out add all total

na em save baim ol samting
and 3SG HAB buy 3PL something

‘Like, he puts it on calculator, ‘checks out’ adding everything, totals it, and he buys things’ (Morobe, M, 31)

The verb *wokimaut* was used either to describe ‘working something out’ on a calculator (41), or actually getting the calculator function to appear on the screen (39).

41. *mipela save long hamas bai mipela kisim o hamas bai mipela bai*
1EXCPL know PREP how.much IRR 1EXCPL get or how.much IRR 1EXCPL IRR

spendim, ol dispela kain mipela save ***wokimaut*** *long kalkyuleta*
spend 3PL this kind 1EXCPL HAB work.out PREP calculator

‘We know how much we will get or how much we will spend. These are the kinds of things we work out on a calculator.’ (Morobe, M, 46)

Finally, the verb *soimaut* was used to describe showing videos again that had been stored in the phone (42).

42. *klip em ken kisim ken storim insait long* ***soimaut*** *gen*
clip 3SG can get can store inside PREP show.out again

long yumi ken lukim
PREP 1INCPL can see

‘It can get clips and store them inside and show them out again so we can see them’ (Madang, M, 49)

It is interesting to note that in most of these cases the *aut* component of the verb refers to making something visible that is inside the phone, a subject which will be revisited in Section 3.5.

3.3.2 Verbs with *in* and *tru*

As well as compound verbs using *aut* and *ap*, which are already common components in Tok Pisin, other verbs used adverbs or prepositions that are much more rarely attested in the standard literature: *in* and *tru*. The word *in* only occurred one time in the corpus, in a description of how the internet works (43). Although it looks somewhat strange, parallels with *kamaut* suggest this should be written as one word.

43. *mi save olsem em bai kisim ol samting i stap long we*
1SG HAB like 3SG IRR get 3PL something PRED be PREP way

long ***kamin*** *insait long fon bilong mi*
PREP come.in inside PREP phone of 1SG

‘I know it gets something that is a long way away to bring it inside my phone’ (Madang, M, 49)

Since *in* occurs in this one isolated occurrence, it is hard to justify it as an innovation in Tok Pisin semantics, and it should just be considered an isolated codeswitch rather than a borrowing. However, it does give evidence for the wider conceptual metaphors for thinking about the internet covered in Section 3.5.

However, the use of *tru* is much more significant, and does seem to now be a full borrowing. The prepositional use of *tru* (derived from 'through' in English) is not recorded as a sense in *JD* or *TPED*, nor is it mentioned in Verhaar (1995), yet it occurs many times in the corpus. In several of the examples, it is difficult to tell whether *tru* should be analysed as part of a phrasal verb or as a separate preposition. At least the examples of *kamtru* (36, 44), *gotru* (45, 46) and *folotru* (47) seem to be reasonably analysed as phrasal verbs, and so are written as one word.

44. *saposyumi no kisim kavarij*[7] *long netwok i no* ***kamtru*** *long*
if 1INCPL NEG get coverage PREP network PRED NEG come.through PREP

mobail, em nau bai givim mipela hevi
mobile 3SG now IRR give 1EXCPL problem

'If we don't get the network coverage coming through to our mobile, that gives us a problem' (Madang, M, 52)

45. *em gat kredit long fon em gat ekses long go long intanet*
3SG have credit PREP phone 3SG have access PREP go PREP internet

na ***gotru*** *long fesbuk*
and go.through PREP Facebook

'If he has credit on his phone, he can access the internet and go through to Facebook' (Manus, F, 32)

46. *bai mi* ***gotru*** *long kontak-s na sekim nem bilong en*
IRR 1SG go.through PREP contact-PL and check name of 3SG

'I go through to 'Contacts' and find his name' (Manus, F, 32)

47. *em i no* ***folotru*** *long en*
3SG PRED NEG follow.through PREP 3SG

'It does not follow through with it' (East Sepik, M, 54)

The uses of *tru* with *kisim* (48) and *yusim* (49, 50) are less clearly derived from phrasal verbs since they do not reflect an English original.

48. *ol i ken rikwestim long ol i ken kisim moa* ***tru***[8] *long intanet*
3PL PRED can request PREP 3PL PRED can get more through PREP internet

long kisim dispela sampela musik bilong Papua New Guinea
PREP get this some music of Papua New Guinea

[7] In classic Tok Pisin, word final /j/ in English is often replaced by /s/, as in *jas* 'judge'. However, *TPED* includes the final /j/ for words like *mesej* 'message' (also found many times in this corpus), and so *kavarij* here has also been spelled the way it was usually pronounced, with a final /j/.

[8] The intonation here suggested that *tru* be grouped with *long intanet*, rather than with the preceding words, in which case it would have meant 'they can get **even** more from the internet'.

'They can ask to get more through the internet, to get some of this music of Papua New Guinea' (Morobe, M, 38)

49. *so ol i yusim* ***tru***[9] *long fon long fainaut long*
so 3PL PRED use through PREP phone PREP find.out PREP

dispela kain ol sityuesen bilong ol long ples i olsem wanem
this kind 3PL situation of 3PL PREP place PRED as what

'So, they use the phone to find out how the situation is in the village' (Madang, M, 47)

50. *yu mas baim ol sampela fleks kat yu putim i go insait*
2SG must buy 3PL some FLEX card 2SG put PRED go inside

yu ken yusim ***tru*** *long Digicel*
2SG can use through PREP Digicel

'You need to buy a FLEX card, put it inside, and then you can use it with Digicel' (Morobe, M, 38)

Other examples even more clearly have *tru* as a separate preposition, rather than as part of a phrasal verb, as in (51)-(53). Sometimes *tru* is followed by the general preposition *long*, as in (52) and (53), but not at other times, as in (51). In more traditional Tok Pisin, these meanings would just be expressed with the preposition *long*, so that (52), for example, might say *mi ken lukim long intanet*. The addition of *tru* allows the speaker to add finer nuances to the meaning.

51. *sampela ol i konekt long intanet* ***tru*** *Google*
some 3PL PRED connect PREP internet through Google

na ol narapela program-s olsem
and 3PL other program-PL like

'Some people connect to the internet through Google and other programs like that' (New Ireland, M, 35)

52. *wanem samting i kamap em mi ken lukim* ***tru*** *long intanet*
whatever something PRED happen 3SG 1SG can see through PREP internet

'Through the internet, I can see whatever happens' (Eastern Highlands, F, 28)

53. *yu ken yusim dispela komyunikesen* ***tru*** *long mobail system*
2SG can use this communication through PREP mobile system

'You can use the communication through the mobile phone system' (Morobe, M, 38)

Verhaar (1995: 25, 294) describes similar phenomena as 'package loans', in which several words are borrowed into Tok Pisin from English with the same morpheme in them, so that then the morpheme itself begins to have a valid status in Tok Pisin grammar. Here, the use of *tru* as part of the 'package' in several borrowed phrasal verbs is making it increasingly common to hear the word *tru* with the sense of 'through', to the extent that now it also seems reasonable to use this as an independent

[9] Again, this could potentially mean 'they really use' rather than 'they use through', but the latter makes best sense in this context, and in (50) and (52).

preposition in Tok Pisin, to add to the small class of existing prepositions. This is an interesting example, because prepositions are low on the hierarchy of borrowability (Matras 2007: 61). That is, looking across different languages, prepositions are less likely to be borrowed than nouns, verbs, discourse markers, adjectives, interjections or adverbs.

In terms of the status of this word, it may well have begun as a codeswitch, when speakers began using English phrasal verbs as necessary to communicate. However, the regularity in many different kinds of expressions in the corpus suggests that now it has become a true borrowing, and should be considered a Tok Pisin word.

3.4 Plural –s morpheme

In traditional Tok Pisin, the correct way to make a plural is usually through the addition of the word *ol* before a noun that has no other changes to show number. That means the expected plural of *fon* 'phone' (for example) would be *ol fon* and not *ol fons* or even *fons* on its own. However, the frequency of such plurals using the *–s* morpheme in the corpus suggested they warranted investigation. This kind of borrowing is termed 'structural borrowing' (borrowing an element of grammatical structure), rather than the 'material borrowing' (of content words such as nouns, verbs and prepositions) that has been considered so far (Haspelmath 2009: 38-39). Since there have been various treatments of the status of the pluralising suffix *–s* over the years, it is worth commenting how this corpus corroborates and contributes to those studies.

Mihalic (1971) does not include the *–s* suffix in his treatment of nouns in his Tok Pisin grammar, and Verhaar (1995: 294) uses the existence of an *–s* suffix on certain words as evidence that they are not in fact Tok Pisin words at all, but rather Papua New Guinean English words written in Tok Pisin orthography. By contrast, Romaine (1992, cited in Smith 2002: 71) found 195 words taking the *–s* plural in her study, and Smith (2002: 65-76) finds 1040 examples of *–s* pluralisation in his corpus. *TPED*, created in 2008, does list a few words with the *–s* plural as valid Tok Pisin words, often without the singular equivalent, such as: *raits* (but not *rait*, in this sense); *indastris* (but not *indastri*) and *spikas* (meaning amplifying equipment, whereas the only meaning for *spika* is in the parliamentary sense).

The existing studies (Smith 2002: 71-72) suggest that *–s* tends to be used more commonly for animate objects than for inanimate ones, and for words which often occur in English in the plural. The animate noun *frens* was the most common word with an *–s* plural in Smith's corpus (2002: 73, joint with *bois*), and is again very close to the top of the list in this research, only just beaten by *fons*, which was to be expected given the interview questions. Studies have also shown that phonology does not constrain the use of the *–s* morpheme, nor is it restricted just to words of English origin.

The corpus here included 91 tokens of the plural *–s* morpheme, or 0.7% of the corpus, compared to 0.27% of Smith's corpus. The greater percentage in this corpus reflects the particular questions asked of the interviewees (especially the first question, asking them to identify a page full of mobile phones), as well as perhaps the greater number of borrowed English plurals to talk about what you can do with mobile phones. Table 4 shows the complete list of words in the corpus with the *–s* plural morpheme.

Plural noun	Gloss	Occurrences
fons	'phones'	19
frens	'friends'	17
setings	'settings'	9
programs	'programs'	5
kontaks	'contacts'	3
piksas	'pictures'	3
erias	'areas'	3
guds	'goods'	2
wans	'ones'	2
fonkols	'phonecalls'	2
batens	'buttons'	2
sitis	'cities'	2
koins	'coins'	2
kantris	'countries'	2
kastoma keas	'customer care operatives'	1
sims	'SIMs'	1
klips	'video clips'	1
dairektas	'directors'	1
wantoks	'relatives'	1
fandings	'funding opportunities'	1
kesets	'cassettes'	1
letas	'letters'	1
akaunts	'accounts'	1
tems	'terms'	1
emels	'emails'	1
tuls	'tools'	1
nids	'needs'	1
filings	'feelings'	1
selfons	'cellphones'	1
top aps	'top-ups'	1

mobails	'mobiles'	1
nems	'names'	1
mesijes	'messages'	1
sevises	'services'	1
provinses	'provinces'	1
adreses	'addresses'	1
kols	'calls'	1

Table 4: List of words with –s plural morpheme

Some of the words here clearly reflect mobile phones with an English language operating system and the need to navigate to different areas labelled with these plural nouns, as in the use of *tuls* in (39) and *kontaks* in (54).

54. *bai yu jas go long tok* ***kontaks*** *na slaid go daun*
IRR 2SG just go PREP word 'contacts' and slide go down

long nem we hap we yu laikim long ring long em
PREP name where place where 2SG like PREP ring PREP 3SG

'You just go to the word 'contacts' and slide down to the name of the place of the person you want to ring' (Central, M, 22)

The words *setings* and *programs* look like they could also come from labels on the phone's screen, but neither of them are used directly in this way in the corpus. Examples of the use of *setings* is given in (55) and programs in (51).

55. *fon bilong ol em klostu wankain setings olsem bilong mi*
phone of 3PL 3SG close same.thing settings as of 1SG

'Their phones have pretty much the same settings as mine' (New Ireland, F, 29)

A further feature of these plurals is the use of the *–s* pluralising morpheme on words that cannot take this morpheme in English. For example, the plural *kastoma keas* is used in (56) for 'customer care personnel', and *fandings* is used in (57) for funds.

56. *em ol save yusim long ring na askim ol kastoma kea-s*
3SG 3PL HAB use PREP ring and ask 3PL customer care-PL

na ol tokim ol long rot bilong wanem samting i bagarap
and 3PL tell 3PL PREP way of whatever something PRED broken

'That's what they use to ring and ask Customer Care personnel and they tell them what it is that is broken' (Morobe, M, 36)

57. *yu ken negotiate wantaim ol long lukluk long sampela rot*
2SG can negotiate with 3PL PREP look PREP some way

long kisim ol fanding-s
PREP get 3PL funding-PL

'You can negotiate with them to find a road to get funds' (Morobe, M, 38)

The data in the corpus suggests a composite language situation for this phenomena (Myers Scotton 2000: 25), with grammatical structure from both English and Tok Pisin occurring together, as in *ol mobail fons*, so that the plural is marked in both a normal Tok Pisin way and in English. Although Verhaar (1995: 294) and many Tok Pisin speakers are sceptical of such structures, or see them as a threat to Tok Pisin, such a creation of multiple grammatical subsystems can better be seen as enriching the language (Aikhenvald 2007).

3.5 Conceptual Metaphors

Whereas Section 2 considered lexical innovations, covering new words related to mobile phones in Tok Pisin and their meanings, the aim of this section is to move beyond individual lexemes to look at broader conceptual structures that are emerging and changing in Tok Pisin as a result of the mobile phone explosion. The focus is on conceptual metaphors, and how people use language to think about and understand mobile phone technology.

Conceptual metaphors (Lakoff and Johnson 2003) are ways that people think of abstract target domains (such as mobile phone technology and its use) in terms of more physical source domains (such as movement, or being inside or outside a container). Such conceptual metaphors are revealed through the consistent use of particular physical prepositions and other linguistic metaphors when talking about the more abstract domain. The use of such metaphors highlights some aspects of the target domain which are consistent with the source domain, and hides others, which are not.

One of the most noticeable differences between English conceptual metaphors and Tok Pisin conceptual metaphors for mobile technology is the difference between surfaces and containers.

3.5.1 English: PHONES AND INTERNET ARE SURFACES

The use of prepositions and other linguistic metaphors in English consistently conceptualise the internet and mobile phones as two-dimensional surfaces on which people move around purposefully. For example, Maglio and Matlock (1998: 2) found that people typically talked about the internet in English as moving around a two-dimensional surface (rather than entering a container), and that phrases in which people 'go to' information rather than information 'coming to them' were considered more 'sensible'. Similarly, Isomursu et al (2007) investigated metaphors for the internet, and found the most significant was as a boundless ocean of information where people are moving across the surface, and sometimes dipping in.

For example, the following sentences are conventional ways of talking about the internet in English, all of which conceptualise it as a surface:

Reading: She read pages **on** the internet

Interacting: Max **surfed** the internet

Accessing items: I downloaded the file **off / from** the internet **onto** my phone / computer

Turning specifically to mobile phones, they are also consistently viewed as surfaces, and interactions with them use the preposition 'on'. This is shown for different activities in the following common English examples:

Money: He put credit **on** his phone

Using apps: Can you access the internet **on** your phone?

Storage / music: I have / listen to music **on** my phone.

Contacts: Do you have my number **on** your phone?

Photos / camera: Margaret has a camera **on** her phone. She takes photos **on** her phone.

That is, English speakers typically put money or credit 'onto' (rather than 'into') their phone; they read webpages and write texts 'on' (rather than 'in') the phone; they listen to music 'on' their phone, and this is music they have put 'onto' the phone or SD card, rather than into it. People also access the internet 'on' their phone, rather than 'in' it, and generally store friends contact numbers 'on' rather than 'in' their phone. Finally, it makes more sense to talk about getting network coverage 'on' a phone rather than 'in' it.[10]

3.5.2 Tok Pisin: PHONES AND INTERNET ARE CONTAINERS

By contrast, Tok Pisin speakers consistently use the preposition *insait* 'in' for all these situations, which, together with other linguistic metaphors, reflects a conceptualisation of the internet and mobile phones as three-dimensional containers rather than surfaces.

First, looking at use of the internet, (58) shows that people research by going 'inside' the internet. Although Tok Pisin does not have a preposition corresponding directly to 'on' in English, it would be more natural to just say *go long intanet* (with the generic preposition) if the internet was viewed as a surface. In (59) and (60), other interaction involves going 'inside' the internet or Facebook (rather than 'on' Facebook). The use of *gotru long fesbuk* in (45) also suggests moving through a boundary into an interior space when using Facebook. In contrast to Maglio and Matlock (1998), Tok Pisin can also conceptualise users as more passive with information 'coming out' to them, rather than actively going to information, as in (61). The use of *kamin* in (43) to describe information coming from the internet to a phone also reflects this. Together with (62) and (63), these show a conceptualisation of the internet as a container with information and media 'inside' it, so users either need to go inside themselves to get it, or have it brought out to them.

58. *ol* *save* *risets* *i* *go* ***insait*** *long* *intanet* *long* *sekim* *ol* *samting*
3PL HAB research PRED go inside PREP internet PREP check 3PL something

'They research in the internet to check the things they want' (Morobe, M, 36)

59. *ol* *i* *save* *yusim* *long* *ring* *na*
3PL PRED HAB use PREP ring and

go ***insait*** *long* *intanet* *na* *harim* *musik,* *dispela* *kain*
go inside PREP internet and hear music this kind

'They use them to ring and go into the internet and listen to music, that sort of thing' (New Ireland, M, 30)

[10] Interestingly, at least to me, when there is a problem, 'something has gone wrong **on** my phone' suggests a problem with the operating system or user interface, whereas 'something has gone wrong **in** my phone' suggests something malfunctioning deeper in the hardware.

60. *na bihain em go* ***insait*** *long fesbuk*
And after 3SG go inside PREP Facebook

'And afterwards he can go into Facebook' (Manus, F, 32)

61. *o yu inap kisim infomesen i* ***kamaut*** *long intanet*
or 2SG able.to get information PRED come.out PREP internet

'Or you can get information that comes out from the internet' (Manus, M, 39)

62. *ol mas putim paswod bilong ol i go* ***insait*** *pastaim,*
3PL must put password of 3PL PRED go inside first

na bai ol i go ***insait*** *long kisim ol*
and IRR 3PL PRED go inside PREP get 3PL

musik o sampela samting tu ***insait*** *long intanet*
music or some something too inside PREP internet

'They must put in their password then they will go in and get music or something else in the internet' (Madang, M, 24)

63. *o ol save yusim long kisim ol song-s* ***insait*** *long intanet o kain olsem*
or 3PL HAB use PREP get 3PL song-PL inside PREP internet or kind like

'Or they use them to get songs from inside the internet or things like that' (Madang, M, 24)

Moving on to phones specifically, Tok Pisin uses *insait* (or other 'container' terms) for all the same activities for which English speakers typically used 'on' above: money / credit in (64) - (66); using apps like the radio in (67), calendar in (68), and the reference to *wokimaut kalkyuleta kam* in (39); music and storage in (69); entering contacts in (70) and (71) and accessing contacts in (72); and photos and camera in (73)-(74), and in the reference to 'showing out' pictures again in (42). Text messages can also be conceptualised as being written 'inside' the phone, as in (75) and (76), rather than 'on' it. Even the *netwok* is something that comes 'into' the phone, as in (25).

64. *yunit em mani mipela save kisim na putim* ***insait*** *long fon*
unit 3SG money 1EXCPL HAB get and put inside PREP phone

'Yunit is money that we get and put into the phone' (Eastern Highlands, F, 28)

65. *wanem arapela gat mani ol save salim kam* ***insait*** *long fon na mipela kisim*
what other have money 3PL HAB send come inside PREP phone and 1EXCPL get

'Whoever else has money, they send it to come inside the phone and we get it' (Eastern Highlands, F, 28)

66. *ol save baim sampela fleks kat na putim i go* ***insait***
3PL HAB buy some FLEX card and put PRED go inside

'They buy a FLEX card and put it in' (Manus, F, 31)

67. *na redio tu i stap* ***insait****, em ol i save harim*
and radio too PRED be inside 3SG 3PL PRED HAB hear

musik	*na*	*sampela*	*tok*
music	and	some	talk

'And if there is a radio inside, people listen to music and some talk' (Eastern Highlands, M, 43)

68.

na	***insait***	*long*	*mobail*	*i*	*gat*	*ol*	*kalenda*	*i*	*stap*
and	inside	PREP	mobile	PRED	have	3PL	calendar	PRED	be

'And in a mobile there are calendars' (East Sepik, M, 54)

69.

em	*sampela*	*ol*	*i*	*save*	*putim*	*ol*	*sampela*	*musik*	***insait***	*long*	*en*
3SG	some	3PL	PRED	HAB	put	3PL	some	music	inside	PREP	3SG

'In some of them, people put music in them' (Madang, M, 53)

70.

ol	*i*	*putim*	*ol*	*namba*	*go*	***insait***
3PL	PRED	put	3PL	number	go	inside

'They put numbers inside' (Manus, F, 31)

71.

em	*mas*	*painim*	*namba*	*bilong*	*dispela*	*poro*	*bilong*	*en*
3SG	must	seek	number	of	this	friend	of	3SG

sapos	*em*	*i*	*gat*	*na*	*em*	*i*	*rikodim*	***insait***	*long*	*fon*
if	3SG	PRED	have	and	3SG	PRED	record	inside	PREP	phone

'He needs to find the number of his friend, if he has it, and has recorded it in the phone' (Eastern Highlands, M, 61)

72.

pasin	*bilong*	*ring*	*em*	*olsem*	*yu*	*ken*
habit	of	ring	3SG	as/thus	2SG	can

go	***insait***	*long*	*kontak-s*	*na*	. . .
go	inside	PREP	contact-PL	and	. . .

'The way to ring is that you can go inside the contacts and …' (Central, M, 22)

73.

man	*i*	*sanap*	*na*	*ol*	*presim*	*ol*	*baten*	*nabaut*	*long*	*fon*
man	PRED	stand	and	3PL	press	3PL	button	around.about	PREP	phone

na	*ol*	*save*	*kisim*	*na*	*piksa*	*save*	*kamap*	***insait***	*long*	*fon*
and	3PL	HAB	get	and	picture	HAB	happen	inside	PREP	phone

'People stand up, and they [the photographer] press various buttons on the phone and they take them, and the pictures appear in the phone' (Eastern Highlands, M, 33)

74.

yu	*ken*	*lukim*	*piksa*	*o*	*vidio*	***insait***	*long*	*em*
2SG	can	see	picture	or	video	inside	PREP	3SG

'You can see pictures or videos inside it' (Western Highlands, F, 29)

75.

na	*bai*	*ol*	*arapela*	*i*	*ken*	*lukim*	*dispela*
and	IRR	3PL	other	PRED	can	see	this

wanem	*samting*	*mi*	*raitim*	***insait***	*long*	*fon*	*bilong*	*mi*
whatever	something	1SG	write	inside	PREP	phone	of	1SG

'And others can see whatever I wrote in my phone' (Madang, M, 49)

76. *yu kisim ol sampela mesij kam long arapela*
2SG get 3PL some message come PREP other

o ***kam*** ***insait*** *long fon bilong yu*
or come inside PREP phone of 2SG

'You get some messages coming from others or coming inside your phone' (Madang, M, 49)

3.5.3 Surfaces versus containers

The data presented above shows a significant difference between the way the internet and mobile phones are conceptualised in English and in Tok Pisin, between two-dimensional surfaces and three-dimensional containers. The variety of examples where this difference can be seen suggests it may foster differences in the way people think about these electronic devices, and that it is worth asking what is highlighted or hidden by each conceptualisation. These differences may also affect the way people problematize difficulties and look for solutions.

First, when the internet is viewed as a surface, it is typically viewed as unbounded and with no barriers to impede progress. This coheres well with the ease with which most English speakers access the internet in countries with good connectivity. By contrast, a container typically has a boundary to be crossed in order to get in or out, and several Tok Pisin interviewees mentioned the need to 'go through' or 'inside' to get to something. Again, this coheres with the difficulty of accessing the internet from many places in PNG, where power, accounts and network connectivity are all issues.

Second, the surface metaphor suggests that information is open and available (you can see things across the surface), whereas containers are more likely to hide things within. Further, the English metaphors highlighted purposive action as people move to find what they want, whereas the metaphors used in Tok Pisin had more examples of things 'coming out' to the user. Such a difference may reflect the newness and mysteriousness of the internet for many Tok Pisin speakers.

Finally, with regard to phones, the surface conceptualisation highlights the outside of the phone and the physical interaction with it by looking at the surface and touching icons. It hides the internal workings. The Tok Pisin container conceptualisation by contrast highlights the existence of an inside to the phone where information is stored, and is perhaps somewhat mysterious.

It is possible that over time the Tok Pisin conceptual metaphor will become more similar to that of English, with less use of the preposition *insait*. It will be interesting to observe the development over time as Tok Pisin speakers become more familiar with mobile technology.

4. Conclusions

This survey of some of the ways people are talking about mobile phone technology in Tok Pisin suggests various implications both for dictionary making and for the language in general.

First, with regard to dictionary making, this research has highlighted some of the difficulties in deciding whether a word or phrase can rightly be regarded as Tok Pisin or not, and thus whether it should be included in a dictionary. Criteria such as use by those with limited English; morphological and phonological adaptation; and frequency or regularity were suggested as ways to place new

potential Tok Pisin words on a spectrum of adoption into the language. This recognition of various degrees of adoption could perhaps be reflected in a dictionary, with some kind of rating based on these factors for any entry, so that users would have an idea how common a given word is. Alternatively, this kind of weighting could be used to classify some words as 'in' the dictionary, and others as 'out'. The variety of new words that have emerged in recent years and been adopted quickly across the country with their own specific semantic nuances also suggests that dictionary makers should embrace the richness of new loanwords and constructions, rather than avoiding them or being embarrassed by them.

With regard to Tok Pisin itself, the research shows that Tok Pisin is still holding its own in the domain of new technology. Discussion of the post-creole continuum for creoles in ongoing contact with their lexifier language suggested that some languages might become more and more like the lexifier in such situations (Smith 2002: 209-211). Also, it would be possible for people to code-switch completely and revert to English when talking about such a technical concept as mobile phones. However, this research shows that Tok Pisin is still undoubtedly the matrix language for all the interviews, with people finding new ways within the language to talk about new concepts. There is some new English relexification, with words such as *risivim* and *katsim* entering the language (alongside the existing word *kisim*), as well as the *–s* plural and the use of the preposition *tru*. Yet, the language is still fundamentally distinct from English, with composite grammatical features rather than wholesale switching, just as Smith found in his research (2002: 210). Where there are new borrowed words, this research has shown that they have taken on distinctive Tok Pisin semantic colouring, rather than being straightforward loans from English. Overall, Tok Pisin is not being invaded or displaced, but rather becoming richer from the introduction of new technology and the words and concepts needed to talk about it.

Abbreviations

1	First person
2	Second Person
3	Third person
EXC	Exclusive
F	Female
HAB	Habitual
INC	Inclusive
IRR	Irrealis
M	Male
NEG	Negative
PL	Plural
PRED	Predicate marker
PREP	Preposition
REFL	Reflexive

SG	Singular
SIM	Subscriber Identification Module
SMS	Short Message Service (i.e. texting)

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Appendix

The list below gives all the words that occurred at least twice in the corpus but are not listed in *TPED*, together with the frequency in the corpus. All speakers gave permission for their recordings to be shared on the internet, so the original recordings and FLEX database will be archived with SIL and available for future researchers.

Word	**English Gloss**	**Category**	**Tokens**
Fon	Phone	Noun	227
Mobail	Mobile	Noun	105
Intanet	Internet	Noun	61
Netwok	Network	Noun	57
Ringim	Ring	Verb	44
Presim	Press	Verb	31
Yunit	Unit	Noun	29
Poro	Friend	Noun	23
Teks	Text	Noun	22
Bat	But	Connective	19
Blutut	Bluetooth	Verb	19
Digicel	Digicel	Noun	19
Fons	Phone	Noun	19

Frens	Friend	Noun	17
Daialim	Dial	Verb	16
Kredit	Credit	Noun	15
Daunlodim	Download	Verb	14
Entaim / entarim	Enter	Verb	14
Fesbuk	Facebook	Noun	14
Fleks	FLEX	Noun	14
FM	FM	Noun	14
Kavarij	Coverage	Noun	14
Rikodim	Record	Verb	14
Konekt	Connect	Verb	13
Kalkyuleta	Calculator	Noun	11
Kontaktim / kontakim	Contact	Verb	11
Risivim	Receive	Verb	11
Sim	SIM	Noun	11
Koneksen	connection	Noun	9
Kontak	Contact	Verb	9
Settings			9
System	System	Noun	9
Video	Video	Noun	9
Voismeil	Voicemail	Noun	9
On	switched.on	Adjective	7
SD	SD	Noun	7
Data	Data	Noun	6
Depen	depending	Verb	6
Ekses	Access	Noun	6
Instolim	Install	Verb	6
Problem	Problem	Noun	6
Teksim	Text	Verb	6
Adim	Add	Verb	5
Blututim	Bluetooth	Verb	5
B-mobile	B-mobile	Noun	5
Difrent	Different	Adjective	5

Eria	Area	Noun	5
Minim	Mean	Verb	5
Pileim / pilaim	Play	Verb	5
Send	Send	Verb	5
Trenslesen	translation	Noun	5
Tru	Through	Preposition	5
Banking	Banking	Noun	4
Gospel	Gospel	Noun	4
Jas	Just	Adverb	4
Katsim	Catch	Verb	4
komyuniket	communicate	Verb	4
Odio	Audio	Noun	4
Of	Off	Preposition	4
Selektim	Select	Verb	4
Waiales	Wireless	Adjective	4
Daunlod	Download	Verb	3
Devais	Device	Noun	3
Each other	each.other		3
Erias	Area	Noun	3
Filim	Fill	Verb	3
Krietim	Create	Verb	3
Latest	Latest	Adjective	3
Maltiplaikesen	multiplication	Noun	3
Paswod	Password	Noun	3
Sent	Sent	Verb	3
Setim	Set	Verb	3
Seting	Setting	Noun	3
Slaidim	Slide	Verb	3
Tatscrin	touchscreen	Adjective	3
Weda	Whether	Connective	3
Yus	Use	Noun	3
Adawais	Otherwise	Connective	2
Aida	Either	Connective	2
Ansaim	Answer	Verb	2
Blakaut	Blackout	Verb	2

Bosim	be.in.charge	Verb	2
Brekdaun	break.down	Verb	2
Daial	Dial	Verb	2
Dairektim	Direct	Verb	2
Dil	Deal	Verb	2
Fes	First	Connective	2
Fitim	Fit	Verb	2
Fles draiv	flash drive	Noun	2
Fonkols	Phonecall	Noun	2
Fotograf	photograph	Noun	2
Guds	Good	Noun	2
Inboks	Inbox	Noun	2
Ivin	Even	Adverb	2
Koins	Coin	Noun	2
Konektim	connect.to	Verb	2
Lokesen	Location	Noun	2
Purpose	Purpose	Noun	2
Risets	Research	Verb	2
Storim	Store	Verb	2
Tasim	Touch	Verb	2
Top ap	top up	Verb	2
Wans	Ones	Noun	2