

Existentials at the Interface—NSF Project No. BCS-0131767

Principal Investigators: Sandra Chung and James McCloskey

1. Introduction

Existential sentences of the type *There are cats in the next room* pose a classic puzzle of the syntax-semantics interface. Since at least Milsark (1974), linguists working in the broad framework of generative grammar have made repeated efforts to understand the syntax of this construction and its relation to the semantics and pragmatics, including, but not limited to, the definiteness effect. The result of this 25 years of research is that there are now several very promising theories of the syntax of existentials and—largely separate from this—several very promising theories of their semantics-pragmatics. Some of these approaches are grounded in extensive research on well-studied languages such as English; others are based on broad typological surveys. Ultimately, the hope is that these strands of research will converge to explain the interconnections among the syntax and semantics-pragmatics of existentials in a principled way. But before that goal can be achieved, some difficult issues must be confronted and resolved. Is there a single existential syntax that is universally valid for all languages, or do the competing syntactic analyses that have been proposed for existential constructions represent different options that languages can choose among? If the latter, are these options correlated with other aspects of language design? Similar issues arise on the semantic-pragmatic side, beginning with the issue of whether there is one definiteness effect or a family of such effects. Put most broadly, the question is how much crosslinguistic variation is exhibited by existentials and how that variation should be accounted for.

One way of contributing to the resolution of these issues is through the in-depth investigation of existentials in a small number of languages—languages that are typologically different from the best-studied Indo-European languages and from one another. The aim of this project is to undertake such a study. To maximize the depth of the investigation, we propose to begin with the languages that our research has focused on to date: Chamorro, Irish, and the Polynesian languages—especially Maori. These are languages whose syntax is well known to us and the semantics of whose DP's we have already made some headway in understanding. Though all have verb-initial word order in some circumstances, their basic clause structures are known to be quite different. We view the proposed research as concerned not with word order but rather with the syntax-semantics interface in languages which meet the criterion of typological difference and whose analysis has progressed to the point where subtle theoretical questions can be posed and resolved. All of these languages are in addition endangered and the empirical tasks are urgent.

Section 2 of this proposal gives an overview of current generative approaches to the existential construction. Section 3 discusses some initial findings that suggest ways in which the proposed research will be fruitful. Section 4 surveys some of the analytic questions we plan to address and their theoretical significance. Section 5 describes our qualifications for the proposed research and gives the project plan.

2. Previous Approaches

By and large, syntacticians who have approached the existential construction have assumed that once the syntax is properly understood, certain aspects of the semantics-pragmatics will follow.

Unsurprisingly, semanticists and pragmaticists have taken the opposite point of view. These different styles are in part responsible for the fact that the current state of understanding of existentials consists of partial theories which overlap but are by no means comprehensive. The extent to which such approaches are mutually compatible is one of the larger issues that we plan to address.

Previous syntactic research on existentials has been preoccupied with two questions, one having to do with relatedness among sentence types and the other with internal structure. The relatedness question can be posed this way: what other syntactic constructions is the existential construction most closely related to? One longstanding approach that has been taken to this question is to view existentials as a subtype of impersonal construction (Milsark (1974), Chomsky (1981), Safir (1985), Chomsky (1986), Reuland and ter Meulen (1987), and many others). This approach, which we call the *impersonal approach*, holds that existentials such as (1a) and impersonal sentences such as (1b) have a clause structure that contains an expletive subject (*there* in these examples) and at least one DP argument—the argument that Milsark called the pivot (e.g. *two cats* in (1a) and *a long debate . . .* in (1b)).

- (1) a There are two cats in the next room.
- b There followed a long debate on the merits of postmodernism.

Most versions of the impersonal approach claim further that the expletive and the pivot are linked (but see Belletti (1988) and Chomsky (2000) for a different view). The precise nature of the link between the expletive and the pivot and the theoretical principles governing it have been conceptualized in various ways. Whatever the details, the leading idea is that the link somehow causes the pivot to exhibit the definiteness effect illustrated in (2) (see Chomsky (1995: 384, fn. 44), Frampton (1996), Frampton and Gutmann (1999: 22), Yang (1999) for recent versions of this basic idea).

- (2) a There are cats/*Sappho and Archie/*they/*them in the next room.
- b There are some/no/many/few/*all/*both/*most/?*the/?*those cats in the next room.

A different, equally longstanding approach to the relatedness question is to view existentials as a subtype of locative construction (Clark (1978), Lyons (1967,1968), Kuno (1971), Freeze (1992), and others). This approach stresses the systematic typological connection between existential and locative sentences. It aims to account for the observation that in many languages, existentials have a surface form in which the locative XP seems to occupy subject position, as suggested by the schema in (3):

- (3) XP_{LOC} *be* DP

We call this class of proposals the *locative approach*. In the version of the locative approach implicit in Clark (1978) and developed by Freeze (1992), existentials (like (2)), sentences with locative predicates (like (4)), and sentences expressing possession are all derived from a common initial structure, one whose subject is empty and whose predicate phrase contains a locative PP (*in the next room* in (4)) and a DP argument (e.g. *two cats* in (4)):

- (4) Two cats are in the next room.

The key claim of the locative approach is that subject selection determines how the common structure is realized. When the DP argument raises to subject position, what emerges is a sentence with a locative predicate. When the locative PP—or, in English, its pro-form copy *there*—raises to subject position, what emerges is an existential sentence. Most versions of the locative

approach claim further that when the DP argument is *strong* in Milsark's sense (that is, one of the types of DP's excluded in (2)), it must raise to become the subject. The result is that existentials, which are formed by raising of the locative, have a DP argument—the pivot—that exhibits the definiteness effect.

These two views of existential syntax are not, of course, necessarily incompatible. Melding the insights of both into a single coherent understanding, though, is not straightforward.

The second question that has organized thinking about existential syntax crosscuts the relatedness question. It is this: how are the meaningful subparts of the existential construction arranged? To state the question in phrase structural terms, what are the complements of existential *be* and how is their internal structure articulated? A particularly challenging version of the question arises in English and other languages in which existentials of type (5) occur.

(5)a There are some cats asleep.

b There were cats meowing.

Two competing approaches to the internal structure of existentials of this type have been, and continue to be, the subject of controversy. According to the small clause analysis of Stowell (1978), Stowell (1981), Chomsky (1981), Chomsky (1986), Safir (1985) and others, the lone complement of *be* is a small clause which is projected from a predicate (e.g. *asleep* or *meowing*) and which has the pivot as its specifier. On the other hand, according to the DP analysis of Jenkins (1975), Williams (1980), McNally (1992), and others, the lone complement of *be* is a DP—the pivot—and the predicative constituent is a modifier adjoined either to the pivot or to some other part of the structure. (Our use of the term 'DP analysis' is broader than in most of the literature, because we take the term to encompass several phrase structural options for the predicative constituent.) The substantial effort devoted to comparing the small clause analysis and the DP analysis has so far led to no consensus on the matter of which deals better with the English existential construction (see McNally (1992) for a valuable overview of the issues). But whatever the resolution of the English question, research on other languages strongly suggests that neither analysis is universally valid (see Reuland and ter Meulen (1987)). Rather, existentials transparently conform to the small clause analysis in some languages but to the DP analysis in other languages, and there may well be other analytic options (see below). One consequence for us is that any systematic investigation of the relatedness question must also take the question of internal structure into account.

Let us now turn to the semantic-pragmatic side. Initial syntactic research on existentials took the key semantic characteristic of the construction to be the definiteness effect. The definiteness effect is, consequently, derived in some fashion by both the impersonal approach and the locative approach. Some foundational work in formal semantics on the classification and analysis of determiners likewise takes the definiteness effect as a point of departure (see Barwise and Cooper (1981) and Keenan (1987)). But beginning with Heim (1987), semantic-pragmatic research on existentials has aimed to account for a wider range of the semantic-pragmatic characteristics noticed originally by Milsark. These include:

- (i) The pivot exhibits the definiteness effect.
- (ii) The pivot takes narrowest scope with respect to other logical operators (see also Heim (1987)).
- (iii) The pivot introduces a new discourse referent—one that conforms to Heim's (1982) Novelty Condition (see also e.g. Enç (1991)).
- (iv) The predicative constituent in an existential sentence exhibits what Milsark called the predicate restriction—it must be stage-level in the sense of Carlson (1977) (see also Kratzer (1989), Kratzer (1995) and Diesing (1992)).

The crucial question raised by (i-iv) is: why should these characteristics co-occur? The general approach pursued by the semanticists and pragmaticists who have addressed the question is to claim that the existential construction exhibits some fundamental semantic or pragmatic property from which most or all of (i-iv) can be derived.

Pragmatic analyses of the existential construction assert that the crucial property is that the pivot must introduce a new discourse referent (see e.g. Lumsden (1988), Prince (1992), Abbot (1992, 1993, 1997), Ward and Birner (1995, 1997) and Zucchi (1995) for a similar proposal in a different theoretical context). A similar view informs much of the research done on existentials in the functional and cognitive traditions. On the other hand, semantic analyses of the existential construction localize the crucial property to the meaning of the pivot and/or its co-argument(s): for instance, the pivot must denote a property (see McNally (1992)), or it must have the option of quantifying over stages of individuals (Musan (1996)), or it must have a co-argument that denotes a spatio-temporal location (Dobrovie-Sorin (1997)). For Borschev and Partee (2001), the crucial property of existential sentences in Russian is that the location, not the theme (or ‘thing’) is the perspectival center. Notice that these approaches are not incompatible, and none seems dependent on any particular approach to existential syntax. When the semantic and pragmatic approaches are combined, as in McNally (1992), the result is an approach that deconstructs the definiteness effect into two separate effects, one produced by a pragmatic restriction and the other by a semantic restriction (for a different deconstruction, see Zucchi (1995)).

3. Research Strategy and Initial Findings

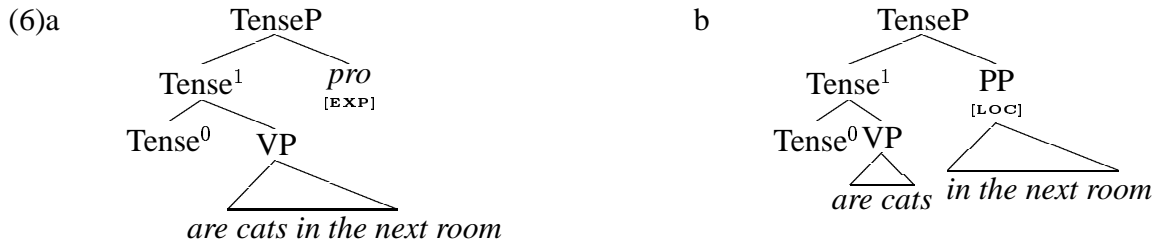
How are these overlapping approaches to the syntax, semantics, and pragmatics of existentials to be fused into a single comprehensive understanding? We believe that the question can best be pursued by broadening the range of languages in which the structure and function of existentials are investigated in depth. But we also believe that for this research to succeed, it must be grounded in a sophisticated understanding of the syntax and semantics-pragmatics of the languages under investigation. These twin beliefs have shaped the research strategy that we plan to pursue.

This project will begin with an investigation of existentials in three languages—Chamorro, Irish, and Maori—which meet the criterion of typological difference and whose syntax and semantics have already been analyzed in enough depth to warrant an investigation at the interface. Our goal at this point is to focus on the syntax and semantics of existentials in these languages, building a foundation from which the pragmatics can subsequently be explored. We and others have explored the syntax of these languages in great detail. In addition, Chung has been involved since 1994 in joint research with William Ladusaw on the semantics of DP’s, focusing on Maori and Chamorro. Though that research is separate from the project proposed here, we expect to benefit in an ongoing way from its results. Finally, we have access to significant amounts of narrative discourse in Maori and Irish and so are in a position to begin serious investigation of discourse structure in these languages.

To illustrate the lines of thought we plan to investigate, we now summarize some of our initial findings concerning the syntax, the semantics, and (to a lesser extent) the pragmatics of existentials in these three languages. Our summary begins with syntactic analysis.

Consider in general terms a language in which clauses are verb-initial and in which subjects appear somewhere to the right. Assume further that in this language, pronouns, including expletives, are null. In such a language, existential sentences of the form *are cats in the next room* or *are in the next room cats* could in principle be analyzed as impersonal existentials with a null expletive subject (as in (6a)). But depending on the specifics of clausal word order, they might

also be analyzed as locative existentials with *in the next room* as subject (compare (6b), where we represent the subject as clause-final):



Preliminary work reveals that the evidence favors the impersonal approach for existentials in Chamorro but is neutral between the impersonal and locative approaches for Irish. For each language, these initial results raise further questions about the semantics-pragmatics of these constructions and its relation to the syntax.

3.1. Chamorro

Chamorro is an Austronesian language of the Mariana Islands which also has large numbers of speakers on the West coast of the United States. It is a null argument language in which clauses are predicate-initial but word order is otherwise flexible. The most frequent word order of clauses whose predicates are verbs or adjectives is VSO. In several works, Chung has argued that this VSO word order arises from a clause structure in which the subject occupies the highest specifier of the clause, which is projected to the right:



The clause structure in (7) is directly reflected by clauses with VOS order. VSO and a range of other word order options, we assume, are the consequence of subject lowering, which optionally right-adjoins the subject to some projection of the verb. For discussion of the larger claim that there is no single universally valid derivation of VSO order, see Chung (1990), Chung (1998), and McCloskey (1996).

The existential construction in Chamorro consists of an existential verb, *guäha* ‘exist’ or *taya* ‘not exist’, followed by a pivot DP and optionally by a locative PP (Chung (1987)). The existential verb invariably appears in a default third person singular form. Consistent with Chamorro’s word order flexibility, the pivot and the PP are not strictly ordered with respect to one another, though the order shown in (8a) is more common:

- (8a) *Guäha famagu’un gi giput.*
exist children at party
 ‘There were children at the party.’
- (8b) *Taya’ nengkanu’.*
not-exist food
 ‘There’s no food.’

Existential sentences such as (8) might seem to be equally amenable to the impersonal or the locative approach. Because Chamorro lacks overt expletives, existentials of type (8a) could be analyzed as impersonal sentences with a null expletive subject. On the other hand, because

Chamorro has null pronouns, including (arguably) null locative pronouns, existentials could equally plausibly be analyzed as locative existentials with a locative PP subject that is either overt (in (8a)) or null (in (8b)) (see Freeze (1992)). This second option is made more attractive by the fact that Chamorro also has locative verbs, *gaigi* ‘be (at)’ and *taigui* ‘not be (at)’, which are clearly morphologically related to the existential verbs but which take the locative PP as a complement rather than as the surface subject.

- (9)a Man-gaigi i famagu’un gi giput. b Taigui si Juan.
 AGR-be.at the children at party not.be.at Juan
 ‘The children were at the party.’ ‘Juan wasn’t there.’

Nonetheless, preliminary research suggests that the Chamorro existential construction cannot be a locative existential, because the locative PP is not, after all, a subject:

- (i) The locative PP can be a negative concord item. But subjects in Chamorro cannot be negative concord items (see Chung (1998)).
- (ii) The locative PP can contain a possessive pronoun which is anteceded by (the possessor of) a co-argument. But subjects in Chamorro cannot contain a possessive pronoun that is anteceded by (the possessor of) a co-argument (cf. Chung (1989)).
- (iii) In clauses containing a coordinate VP, the subject has scope over every conjunct VP, even when the subject occurs at the right edge of the clause. But when two existential predicates are coordinated and only the rightmost has an overt locative PP, it appears that the locative PP has scope over the rightmost conjunct only.

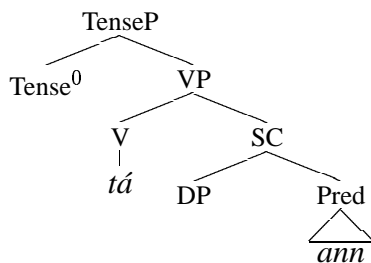
Moreover, there is evidence that the pivot is not the subject of the existential construction, either. Like the locative PP, the pivot can be a negative concord item. But this possibility is excluded for Chamorro subjects, as was just observed.

The only syntactic analysis fully consistent with this evidence is the impersonal approach. Chamorro existentials, in other words, have the classic impersonal structure—a structure like (7) in which the specifier of TenseP is occupied by a null expletive pronoun. (Less relevant for current purposes is the question of internal structure. For evidence that Chamorro existentials conform to a version of the DP analysis, see Chung (1987).)

The conclusion that Chamorro existentials have an impersonal syntax raises a semantic-pragmatic question: does the pivot in this construction exhibit the same definiteness effect found in existential sentences in English? Preliminary inquiries suggest that the answer to this question is surprisingly complicated. On the one hand, the pivot in Chamorro existentials is clearly constrained by a version of the definiteness effect. The pivot can routinely be headed by weak determiners, such as numerals or the indefinite articles, but not by strong determiners, such as universal quantifiers or the definite article. As in English (McNally (1992)), the ban on universal quantifiers can be suspended when quantification is over kinds (cf. *There was every kind of ice cream in the fridge*). On the other hand, the Chamorro version of the definiteness effect is unexpected in several ways. Most notably, it appears to be simply impossible for the pivot to be a pronoun or proper name, even when a list reading would be plausible. The observation opens some territory for investigation, given that some of the most compelling evidence for a pragmatic approach to existentials comes from English examples in which the pivot is morphologically definite but hearer-new. Does the existential construction have different discourse functions in Chamorro and in English, and if so, what precise discourse differences are responsible for the distributional differences in the pivot? This is one of the questions we plan to investigate.

We conclude that the structure of (11) is as shown in (14) below (where ‘SC’ does duty for whatever is ultimately the right phrase structural understanding of small clauses).

(14)



Notice that the structure in (14) conforms straightforwardly to the small clause analysis of existentials. It also connects with the work of Moro (1989), Hoekstra and Mulder (1990), and Moro (1997), all of whom argue that *there* in English and its equivalents in other languages are predicates which raise to the specifier of TenseP.

The analysis schematized in (14) also opens up a promising connection with work by Borschev and Partee (see Borschev and Partee (1998), Borschev and Partee (2001); for closely related ideas see Dobrovie-Sorin (1997), Musan (1996)) which explores the use of the genitive of negation in Russian for subjects of existential sentences (where the term ‘existential’ is construed more broadly than we construe the term here). Borschev and Partee (2001) propose that existential claims are always made relative to a location that is often implicit but which is nonetheless the perspectival center. They offer the schematic semantic analysis: BE (THING, LOC) for existential sentences. On this view, existentials assert the existence of the referent of a DP (THING) at a particular (perhaps metaphorical) location (LOC). There is a transparent relationship between this semantic analysis and the syntactic analysis represented in (14) for Irish. The predicative expression *ann* realizes the default locative argument often implicit in other languages. The inactivity of EPP in Irish, and the fact that it is not a scrambling or ‘free word order’ language, mean that the movements which often obscure the structure in (14) do not apply.

Given this view of existential syntax in Irish, certain investigative possibilities are opened for us. We have in the first place an existential construction that involves no expletive and in this sense is not impersonal. Many syntactic approaches to the definiteness effect have assumed that impersonal syntax, in one form or another, is a core contributing factor to this effect (see Chomsky (1995: 384, fn. 44), Frampton (1996), Frampton and Gutmann (1999: 22), Yang (1999)). Irish provides us with a natural testing ground for this idea. If the presence of an expletive is crucial to the definiteness effect, then Irish existentials should either lack the definiteness effect or exhibit a different version of it. It is already known that definites, proper names and pronouns appear in the pivot position:

- (15) Táimse ann ó roimh Abraham a bheith ann.
be [PRES][S1] *in-it from before* *be* [-FIN] *in-it*
 ‘There was me before there was Abraham.’

To establish the full significance of this initial observation, further work will be required—not least, a careful comparison of the Irish evidence with the results of Ward and Birner (1995) on the discourse conditions under which definites may appear in the pivot position of English existentials. This research will be facilitated by the availability of a large corpus of attested Irish examples whose full discourse context is recoverable.

A larger issue lurks behind these observations. It is often assumed that the syntactic form of constructions involving expletives, including existential constructions, is shaped by constraints

on information structure (in the sense of Vallduvi (1990) or Erteschik-Shir (1997)). Such an assumption raises the question of how a language with no expletive constructions—that is, with an inactive EPP—achieves those information-structure differences for which other languages exploit expletive constructions. While we plan to examine the issue specifically for Irish, we also intend to be sensitive to the larger implications of our findings at every point.

3.3. Maori

Maori, which is distantly related to Chamorro, is a Polynesian language of New Zealand. Like Chamorro, it is a null argument language in which clauses are predicate-initial and the predicate can be of any category type. The word order of arguments and adjuncts following the predicate is not fixed, but rather governed by factors such as animacy, pronominality, agency, and grammatical relations (see Bauer (1993), Bauer (1997)). Some syntacticians have taken the word order option VSO to indicate that Maori, like Irish, has an inactive EPP. However, little independent support has been advanced for this assumption. One of the syntactic questions we plan to address is the overall organization of Maori clause structure, specifically, whether the EPP is active or not.

Maori resembles other Polynesian languages in having few determiner quantifiers. The language does, however, have two indefinite articles, *he* and *tētahi*, whose semantic and pragmatic properties have generated some comment (see, among others, Chung, Mason, and Milroy 1995, and Bauer (1997)). In work in progress (Chung and Ladusaw (2001)), Chung and Ladusaw argue that the two indefinite articles have overlapping distributions that can be characterized in part in terms of scope: DP's headed by *he* must have narrow scope, whereas DP's headed by *tētahi* allow the full range of scope possibilities. This difference will become relevant immediately.

The Maori existential construction, in its affirmative version, consists simply of a pivot DP, followed optionally by a locative PP. There is no overt expletive, no overt existential verb (as in Chamorro), and no overt nonverbal predicate meaning 'in it', 'there' (as in Irish):

- | | | | |
|-------|---|---|---|
| (16)a | Āe, he taniwha.
<i>yes a taniwha</i>
'Yes, there are taniwhas.'
(Bauer 1993: 78) | b | He mutunga mahi i te mira
<i>a stopping work at the mill</i>
'There was a strike at the mill.'
(Ngata 1994: 458) |
|-------|---|---|---|

The locative PP in (16b) is probably not the predicate of the existential construction, since it differs from a predicate in being neither obligatory nor clause-initial. Nonetheless, two observations suggest that existential sentences of type (16) do have a nonverbal predicate after all—an existential predicate meaning 'in it', 'there', which happens to be unpronounced. First, in the version of Maori attested in some 19th century texts, affirmative existential sentences began with the predicate *ai* (see e.g. W.L. Williams 1923[1862]: 40). This predicate, now viewed as archaic, is homophonous with the Maori locative pronoun *ai* 'in it, there':

- (17) Ki te ai he toki
if in.it a axe
'If there should be an axe.' (Williams 1862/1923: 40)

Second, in its negative version, the existential construction begins with a negative verb. This is true of contemporary Maori as well as 19th century versions of the language:

- (18) Kaore he putanga ki t'ahuna
T.NEG a access to beach
'There is no access to the beach.' (Ngata 1994: 3)

Negative verbs in Maori serve principally to indicate sentential negation, and in that function transparently take the negated clause as complement. The choice of one negative verb as opposed to another is determined by properties of the negated clause, including whether the negated predicate is stage-level or individual-level (in the sense of Carlson (1977), Kratzer (1989), Diesing (1992), Kratzer (1995), and many others). Significantly for present purposes, the negative verbs that occur in the existential construction are exactly those used for sentential negation when the negated predicate is stage-level. This is a telling fact. Stage-level predicates are those that can be meaningfully attributed to an individual only at a particular place and time. Given this connection to the semantics of location (made explicit by e.g. Kratzer (1989), Musan (1996), Dobrovie-Sorin (1997), Borschev and Partee (1998), and Borschev and Partee (2001)), the distribution of negative verbs in the existential construction lends weight to the idea that there is also an unpronounced predicate in affirmative existentials—an existential predicate, similar to Irish *ann*, whose meaning incorporates location in some sense.

All this leads us to hypothesize that the existential construction in Maori resembles Irish existentials in one important respect: it has a nonverbal existential predicate related to the locative pronoun. In Maori, of course, it is an open question what, if anything, occupies the highest specifier of this clause type. Even so, the form of the predicate opens up a connection between the existential constructions of the two languages. It also serves to relate the Maori construction to existentials in other Polynesian languages, such as Tongan and Samoan, in which the predicate of an existential sentence is transparently the locative PP (')*i ai* 'there, in it', and brings us back again to the ideas of Musan (1996), Dobrovie-Sorin (1997), and Borschev and Partee (2001). Consider the Samoan example:

- (19) P⁻e i ai se pua'a i le 'auala?
INTERR-T *at-it a pig in the road*
 'Is there a pig in the road?' (Johnson and Harmon 1970: 48)

This second connection provides us with another natural testing ground for relations between the syntax and the semantics-pragmatics of the existential construction. The Polynesian languages are very closely related, a fact visible in the surface profile of clauses as well as in the inventory of determiners. The closeness of the relationship raises some important questions for our investigation. What is the phrase structure of clauses in general, and of existential sentences in particular, in Tongan and Samoan? Is the EPP active in these languages or not? Do the existential constructions in these other Polynesian languages exhibit a definiteness effect? Do they serve to introduce a new discourse referent? Are the answers to any of these questions different from their answers in Maori, and if so, what accounts for the difference?

That there is significant territory for investigation here is suggested by the following. The existential construction in Maori, as it happens, exhibits a very strict version of the definiteness effect. Only DP's headed by the indefinite article *he* can serve as the pivot; DP's headed by the definite article or by *tētahi* cannot, even though DP's headed by *tētahi* can take narrow scope with respect to logical operators (see Chung and Ladusaw (2001)). In contrast, Hendrick (1996) has shown that the existential construction in Tongan exhibits a very weak version of the definiteness effect, if it exhibits one at all. Among the permissible pivots in Tongan are DP's headed by the narrow-scope indefinite article *ha* (cognate with Maori *he*) as well as proper nouns and DP's headed by the definite article. What combination of syntactic and semantic-pragmatic factors is responsible for this parametric variation? We plan to investigate these questions and analogous questions for Tongan or Samoan (on which see Mosel and Hovdhaugen (1992: 114, 149, 480–2, 525–7)).

4. Questions to Be Addressed

Our goal in this project is to undertake a sustained investigation of the syntax and semantics of the existential construction. Our syntactic research will be conducted within the broad framework of Principles and Parameters Theory (see e.g. Chomsky and Lasnik (1993)). Our investigation of the semantics will be conducted within the broad framework of Discourse Representation Theory (see e.g. Kamp (1981), Heim (1982)), informed by more recent dynamic approaches (e.g. Kamp and Reyle (1993), Chierchia (1995), Bittner (2001)). Because we view the proposed project as the first stage of a longer-term investigation of the interface, we want to be maximally open to empirical connections of all sorts between the syntax of existential sentences and their semantics-pragmatics. Accordingly, our plan is to operate within theoretical frameworks rich enough to handle the intricacy of the material we expect to find. At every stage of the project, we intend to be sensitive to pragmatic concerns. But it does not seem feasible to us to undertake a full pragmatic analysis of existentials at this time. Our plan is to embark on such an analysis only after we have investigated the syntactic-semantic issues outlined below.

We will continue to explore the interface properties of existential sentences in Chamorro, Irish, and Maori, building on the initial results described in the preceding section and addressing the questions raised there. These languages are different enough from one another and from the European languages most closely studied in this context that typologically interesting results should surely emerge from the investigation.

We then plan to extend our investigation to the existential constructions of three further languages: Breton, either Tongan or Samoan, and some language whose existential syntax conforms to the locative analysis. Breton is closely related to Irish; Tongan and Samoan are closely related to Maori. The strategy of broadening the investigation by looking at closely related languages offers clear advantages. Closely related languages are typically quite similar in overall design, and that similarity imposes a kind of control on the range of analytic possibilities: it increases the likelihood that crosslinguistic correlations are real and that crosslinguistic variation can be reliably traced to its source. For a language whose existential syntax conforms to the locative analysis, we will need to look elsewhere—for instance, at Bantu languages (see e.g. Bresnan and Kanerva (1989)) or perhaps one of the Austronesian languages of Taiwan (see Zeitoun et al. (1999)).

Here are some of the additional questions that we plan to address.

4.1. The Nature and Distribution of Definiteness Effects

We observed earlier that the two major approaches to existential syntax—the impersonal approach and the locative approach—ultimately trace the definiteness effect back to the character of the phrase occupying the highest specifier of the clause. On the other hand, some approaches to existential semantics attribute the definiteness effect to the argument structure of the existential verb. The contrast between these styles of approach raises some related questions.

- Are definiteness effects ever found in existential constructions that are formed without an overt verb? If so, such effects might be more easily handled by a syntactic approach than by an argument structure approach, because the latter requires a verb or other predicative head whose argument structure can be annotated in the appropriate way.

Existential constructions that transparently have a locative PP as their main predicate are prime targets for the investigation of this question. As mentioned earlier, existentials in Irish, Tongan, and Samoan are of this type. Hendrick's careful research (Hendrick (1996)) reveals that Tongan existentials do not exhibit a classic definiteness effect. What is the

situation in Samoan and Irish? And to what extent is the issue clouded by the fact that in all three languages, at least some existential sentences fall together with sentences with locative predicates (i.e. the same string of words can mean ‘There are two cats in the bed’ and ‘Two cats are in the bed’)?

- Are definiteness effects ever found in constructions that do not exhibit existential syntax—constructions in which, for instance, there is a highest specifier that is neither an expletive nor a locative PP? Such effects might be handled more easily by an argument-structure approach than by a syntactic approach.

It has been suggested by several researchers that English has constructions of this type. Keenan (1987: 306) for instance, claims that in the existential ‘have’ construction exemplified by *Sylvia has several friends*, the direct object exhibits a definiteness effect (see also Partee (1999)). Heim (1987: 26) suggests that in DP’s of the sort *a house with many windows*, the object of ‘with’ exhibits a definiteness effect. Complicating these claims is the fact, noted by Heim, that the relevant English constructions cannot be straightforwardly separated from similar sentence types that have no definiteness effect (e.g. *Sylvia has all the friends she could want, the house with those windows*). See also de Jong (1987).

Possibly more revealing is the existential ‘have’ construction found in Chamorro. In this construction, the DP subject of ‘have’ is a possessor (or, in Freeze’s terms, a location) and the direct object seems to exhibit a transparent version of the definiteness effect (compare Szabolcsi (1994) on Hungarian). There are indications that the direct object of this construction must be NP rather than DP. We intend to probe the definiteness effect in this construction with the aim of determining whether it is syntactic, semantic, and/or pragmatic in origin.

- In the locative approach to existential syntax, the definiteness effect is claimed to be an accidental consequence of the requirement that forces DP arguments to raise to the highest specifier of the clause when they are strong. Such a requirement should perhaps be assimilated to the family of language-specific restrictions demanding that the subject must be specific in some sense. Specificity restrictions on the subject have been identified in Dutch (see Rullmann (1989)) and in some Austronesian languages, including Malagasy (see Keenan (1976)), Chamorro (see Chung (1998)), and Tagalog (see Kroeger (1993)). The EPP is again relevant, since that principle has sometimes been linked with specificity restrictions (Chomsky (2000)). What is intriguing here is that the restrictions exhibit some crosslinguistic variation: languages differ in what types of DP’s count as ‘specific’ and in whether the relevant subjects are all subjects or a proper subset of subjects (e.g. in Chamorro, the subjects that are external arguments).

All this raises a question. In languages with slightly different specificity restrictions on the subject, are there corresponding differences in the types of DP’s that can end up as non-subjects in the existential construction? In other words, are there corresponding differences in the definiteness effect? We intend to investigate the issue in Chamorro at least.

More broadly, the following questions arise:

- Is the definiteness restriction unitary? Hendrick’s work (Hendrick (1996)) suggests that in Tongan existentials, the pivot can be any type of DP except a pronoun. Similarly, Bresnan and Kanerva’s work on locative inversion in the Bantu language Chichewa reveals that the theme of locative inversion—the argument corresponding to what we have been calling the pivot—can be any type of DP except a pronoun. The discourse-functional account given by Bresnan and Kanerva (1989: 34) for the Chichewa restriction, namely, that “anaphora is

pragmatically inconsistent with presentation,” can probably be generalized to Tongan. On the other hand, in Maori existentials, all types of DP except for narrow-scope indefinites headed by *he* are banned from the pivot. Do we have here a contrast between core versions of the definiteness effect, one pragmatically induced and the other semantically induced? How many other versions of the definiteness effect are there, and how, if at all, are they influenced by the larger considerations of a language’s discourse structure and the semantic typology of its DP’s?

- A related question arises with respect to the cluster of semantic-pragmatic properties listed above on p. 3: the pivot exhibits the definiteness effect, the pivot takes narrowest scope, the pivot introduces a new discourse referent, and the predicative constituent is stage-level. As we vary the syntax of the existential construction, does this clustering of semantic-pragmatic matters hold constant, or does it fracture? If it holds constant, we are justified in seeking a common source for the properties; if it fractures, we should seek different sources.

4.2. Syntax

Let us return to the two approaches to existential syntax with which we began—the *impersonal approach* and the *locative approach*. The first has its roots in research on well-studied European languages; the second has its origins in large-scale typological work. Both clearly capture a part of the truth. A reasonable question to ask is whether a unification of the two approaches is possible. At one level, unification would be almost trivial. The locative approach assumes an initial syntactic structure containing a small clause built around a locative predicate. The highest specifier of the clause is not an argument position and is therefore initially empty. That position could in principle be occupied by an expletive, ultimately producing the sort of structure assumed by the impersonal approach.

Implementing the program of unification, however, raises some challenging questions. Some have to do with the origin of the definiteness effect. Freeze’s (1992) contention that the definiteness effect arises when the locative PP raises to become the subject—more precisely, when the pivot does not raise to subject—is not consistent with some of the preliminary findings we presented above. The larger issues here are very close to those investigated in depth by Bresnan (1991), Bresnan (1994) for locative inversion. Given a sentence type in which a locative phrase *seems* to occupy subject position, it is often a subtle matter to determine whether the locative is the subject or instead a topic. If the latter option is available, then one can postulate a null expletive in subject position and the sorts of accounts that derive (some part of) the definiteness effect from a link between expletive and pivot become viable again. As mentioned at the beginning of this section, we hope to probe these matters, conceivably in a Bantu language.

Underlying all of this is the more basic question of whether there is a distinctive existential syntax. Of the languages we have looked at it so far, Chamorro and Irish show no evidence for any syntax peculiar to existentials. Rather, the freely available syntactic resources of these languages are exploited by lexical choices (an existential verb in Chamorro, an existential PP in Irish) in a thoroughly unexceptional way. We have no reason at present to believe that the design plan for natural language includes a special section for ‘existentials’, but the possibility that there might be such is one to which we remain open.

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