

**CASE AND GRAMMATICAL FUNCTIONS IN  
IMBABURA QUECHUA: AN LFG APPROACH**

Beatriz Willgohs and Patrick Farrell

University of California, Davis

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## Abstract

In Imbabura Quechua, accusative case occurs on core arguments that are patient-like to some degree, including patient, theme, causee, goal, and experiencer. There are double-accusative causative and transfer-of-possession constructions that have the kind of typical asymmetrical object properties that are handled straightforwardly in Lexical-Functional Grammar (LFG) by the distinction between primary object (OBJ) and secondary object (OBJ<sub>θ</sub>). The accusative case marker can be analyzed as going on both kinds of object because it is constrained to occur on NPs with the GF feature specification [+o]. In addition, there is a desiderative construction that can have no apparent subject and the experiencer argument realized with accusative case, possibly in addition to another patient-like accusative argument. In this case, the more patient-like accusative argument behaves like an OBJ<sub>θ</sub> and the experiencer like an OBJ in some ways and like a subject in others. In earlier analyses (Jake 1985, Hermon 1985), the experiencer is analyzed as an object *at some level* and a subject at another. The properties of this construction can be accounted for in LFG by analyzing the experiencer as OBJ and attributing its subject-like properties to its status as pivot (PIV) in the sense of Falk (2006).

## 1 Basic Case System

Imbabura Quechua (IQ) is an SOV language with flexible word order and a mixture of head-marking and dependent-marking properties, in the sense of Nichols (1986). As illustrated by the following examples (adapted from Jake 1985),<sup>1</sup> subjects and oblique agents are not case-marked; other dependents are marked with a variety of case suffixes, including accusative, dative, benefactive, ablative, locative, and instrumental; verbs show agreement with subjects and optionally with a 1<sup>st</sup> singular object; and pronominal subjects and objects can be pro-dropped.

- (1) a. kan-ga kuchillu-wan (ñuka-ta) kuchu-wa-rka-ngui  
2-TOP knife-INSTR 1SG-ACC cut-1SG.OBJ-PST-2SBJ  
'You cut me with a knife.'
- b. quitsa jari-man aswa-ta kara-rka-mi  
girl man-DAT beer-ACC serve-3SBJ.PST-VAL  
'The girl served beer to the man.'

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<sup>1</sup> Unless otherwise noted, example sentences in this paper are taken from Jake (1985), with some differences in spelling and glossing. Abbreviations in glosses include 1/2 = 1<sup>st</sup>/2<sup>nd</sup> person, ABL = ablative, ACC = accusative, AN = animate, CISLOC = cislocative, CREF = not disjoint reference, DAT = dative, DESID = desiderative, FUT = future, INAN = inanimate, INCH = inchoative, INSTR = instrumental, NEG = negation, OBJ = non-subject argument, NOM = nominalization, PASS = passive participle, PERF = perfective, PL = plural, PROG = progressive, Q = question, SBJ = subject, SWR = not coreference, SG = singular, TOP = topic, VAL = validator, WH = 'wh'.

- c. chugri-manda-ka mana trabaja-sha-chu  
wound-ABL-TOP NEG work-1SBJ.FUT-NEG  
‘I won’t work because of the wound.’
- d. alku-kuna ñuka-nchi-ka kani-shka-mi ka-rka-nchi  
dog-PL 1-PL-TOP bite-PASS-VAL be-PST-1PL.SBJ  
‘We were bitten by the dogs.’

The topic marker *-ka* (with phonetically-conditioned allomorph *-ga*) typically appears on the clausal subject, but need not appear at all, as illustrated by (1b), and may appear on non-subjects, as illustrated by (1c). Passive clauses generally have a copular auxiliary inflected to agree with a non-agent argument, the main verb in a participial form, and both the subject and the oblique agent without morphological case, as shown by (1d).

In this paper, we take the view that agreement morphology on the verb and case marking on dependents are morphological reflexes of grammatical function (GF) categories, like subject and object, or a combination of GF and semantic role categories, like goal and instrument. We assume that the GFs of arguments are defined in terms of the binary features [ $\pm r$ ] (restricted) and [ $\pm o$ ] (object), as in standard LFG mapping theory (e.g., Bresnan & Kanerva 1989, Bresnan & Moshi 1990):

(2) *Argument GF features*

	[-r]	[+r]
[-o]	SUBJ	OBL <sub>θ</sub>
[+o]	OBJ	OBJ <sub>θ</sub>

In addition, there are various other GFs, including ADJ (adjunct), TOP (topic), FOC (focus), and PIV (pivot) (Falk 2001, Falk 2006). The overlay/discourse GFs, including TOP and PIV, are associated with dependents that also bear argument or ADJ GFs. The argument GFs are each associated with one and only one argument of a given predicate, as dictated by a principle of Function-Argument Biuniqueness (Bresnan 1982), with the understanding that OBL<sub>GOAL</sub> and OBL<sub>INSTR</sub>, for example, are distinct GFs. The topic marker in IQ, in general, marks discourse topics, following a grammar that we make no attempt to elucidate here.

An overt manifestation of subject agreement appears on a tensed verb or auxiliary when there is a 1<sup>st</sup> or 2<sup>nd</sup> person SUBJ. Otherwise, the verb is in a default or 3<sup>rd</sup> person SUBJ agreement form, which usually means that there is a tense affix that can be interpreted as also marking 3<sup>rd</sup> person by virtue of the absence of 1<sup>st</sup> or 2<sup>nd</sup> person morphology, as in (1b). Dependents with GF OBL<sub>θ</sub> or ADJ (adjunct) are marked with a case that is related to a semantic role. OBJ and OBJ<sub>θ</sub> are marked with accusative case. Elsewhere, case is not expressed. The case marking conventions need to ensure that the “semantic” cases are restricted to obliques and adjuncts, since an instrument, for exam-

ple, that happens to have the subject GF cannot be marked with instrumental case, as in the following passive example:

- (3) SUBJ            OBL<sub>AGENT</sub>  
 pala-ka        ñuka alla-shka ka-rka  
 shovel-TOP 1SG dig-PASS be-3SBJ.PST  
 ‘The shovel was dug with by me.’

There is no morphological case restricted specifically to SUBJ or OBJ. Although SUBJ is not case-marked, this is not a circumstance restricted to SUBJ or any particular GF. Although it might be possible to say that there is an abstract nominative case that is associated with SUBJ and that this case has no phonological manifestation, no benefit appears to accrue from this, as no aspect of the grammar is sensitive specifically to what would be designated nominative case (as opposed to SUBJ). We assume here that overt morphological case and its presence and absence are all that need to be accounted for. With this in mind, we use Butt’s (2006) general approach to case, without the assumption that there are default rules to assign (possibly abstract) case to SUBJ and OBJ. All case morphemes can be treated as lexical items that are constrained, by inside-out functional uncertainty, to occur on dependents with compatible GF and semantic role:<sup>2</sup>

(4) *Lexical entries for selected case-marking suffixes*

- man*:     (↑ CASE) = DAT  
               (GOAL ↑ *lc-str*)  
               (¬[-r] ↑)
- manda*: (↑ CASE) = ABL  
               (SOURCE ↑ *lc-str*)  
               (¬[-r] ↑)
- wan*:     (↑ CASE) = INSTR  
               (INSTRUMENT ↑ *lc-str*)  
               (¬[-r] ↑)
- ta*:        (↑ CASE) = ACC  
               ([+o] ↑)

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<sup>2</sup> Role labels such as GOAL, SOURCE, INSTRUMENT, and THEME are thought of in this paper as generalized semantic roles that are derived from lexical conceptual structure (*lc-str*) in some way. That is to say, SOURCE names a semantically complex role category that includes both origin of a change of place, as in (5), and cause, as in (1c) (like the category associated with *from* in English). GOAL includes at least recipient, addressee, and destination (like the category associated with *to* in English). INSTRUMENT includes at least instrument and accompanier (like the category associated with *with* in English). THEME includes patient (what/who something is done to), theme *stricto sensu* (what/who changes location), and object of perception or cognition.

The GF notation  $\neg[-r]$  simply precludes the semantic cases from occurring on SUBJ or OBJ, while allowing them to occur where they do, i.e., on either ADJ or OBL. Ability to be used with both oblique arguments and adjuncts is characteristic of semantic cases in IQ and other languages. The ablative case marker, for example, occurs on an adjunct in (1c). But, this morpheme can also be used on an oblique argument:

- (5) OBL<sub>SOURCE</sub>            SUBJ  
 urku-manda-ka    supai-kuna shamu-nga-chari  
 mountain-ABL-TOP devil-PL    come-3SBJ.FUT-DUB  
 ‘Maybe the devils will come from the mountains.’

The accusative suffix is constrained to appear on members of the class of GFs specified by the feature [+o].<sup>3</sup> This accounts for the fact that it occurs on both OBJ and OBJ<sub>θ</sub>, as in the following example.

- (6)                    OBJ            OBJ<sub>THEME</sub>  
 quitsa jari-ta    aswa-ta kara-rka-mi  
 girl    man-ACC    beer-ACC    serve-3SBJ.PST-VAL  
 ‘The girl served the man beer.’

Just in case a semantic goal has the GF OBJ (or SUBJ), the dative case marker is not used, since it is incompatible with a  $[-r]$  GF specification.

The standard idea that a Case Filter requires all NPs to bear case is not useful for IQ (under the assumption that overt morphological case is what is at issue), since even leaving aside the case of SUBJ and OBL<sub>AGENT</sub>, there are conditions under which case morphology need not occur (Jake 1985:21-23). For example, the locative case suffix is optional on dependents that are interpreted as being temporally rather than spatially locative:

- (7)            ADJ<sub>LOC</sub>  
 Lunis(-pi)    ri-sha-mi  
 Monday-LOC    go-1SBJ.FUT-VAL  
 ‘I’ll go (on) Monday.’

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<sup>3</sup> The natural class OBJ and OBJ<sub>θ</sub> is identified as the class of acting 2s in Relational Grammar (final 2 or 2 *chômeur*), which is appealed to for cases of double-accusative clauses, which occur in various languages, including Latin (Perlmutter 1982), Korean (Lee 1991), and Yaqui (Guerrero & Van Valin 2004). LFG can specify this natural class with the feature [+o], which only OBJ and OBJ<sub>θ</sub> have. This is an improvement over the Relational Grammar approach, which requires a disjunctive definition. In Alsina’s (1996:19) alternative LFG system of GF features, the class in question would simply be OBJ ([-subj], [-obl]). How to account for the differences between primary and secondary objects, both of which are accusative in IQ, would be a challenge for this approach.

Similarly, instrumental case is not required in cases where the interpretation is comitative. Preceding a nominalized embedded verb, accusative case marking is also optional. Still, in most cases, a case suffix must appear if it is lexically licensed. A set of language-specific well-formedness conditions such as the following, which spell out the default or elsewhere condition and the exceptions, can be assumed to account for the appearance of case morphology, in conjunction with the lexical specifications of the case suffixes.

(8) *Well-formedness conditions on morphological case in IQ*

- a. Locative case may be omitted on temporally locative adjuncts.
- b. Instrumental case may be omitted on comitatively instrumental adjuncts.
- c. Accusative case may be omitted on a dependent preceding a nominalized verb.
- ...
- n.* Elsewhere, nominal phrases that are compatible with a lexical case must be case-marked.

This set of conditions and the non-existence of case suffixes for SUBJ and OBL<sub>AGENT</sub> account for the necessary absence of case morphology in sentences such as (3).

The main concern of this paper is the analysis of the following accusative experiencer construction (Hermon 1985:1).

- (9) ñuka-ta aycha-ta miku-naya-wa-n-mi  
 1SG-ACC meat-ACC eat-DESID-1SG.OBJ-3SBJ-VAL  
 ‘I want to eat meat.’

This is a syntactically monoclausal construction with a complex verb consisting of a verb stem,<sup>4</sup> the desiderative suffix *-naya*, and the appropriate inflectional morphemes that occur on all verbs. We assume here that the semantic argument of *-naya* binds the most prominent semantic argument of the verb stem (as in Farrell 1995) at the level of lexical conceptual structure and that GF linking treats the semantically complex “experiencer” dependent as a single element in argument structure, functional structure, and constituent structure. The problem, in a nutshell, is that this experiencer argument has both various object properties and some subject properties. Previous analyses in Relational Grammar and Government-Binding Theory (Jake 1985, Hermon 1985) treat the experiencer as the object of a complex predicate *at some level* and the subject of the same predicate at another. Moreover, the argument in question is generally characterized as a non-canonical subject, i.e., basically a subject with unexpected object marking (Cole & Jake 1978, Cole & Hermon 1991, Hermon 2001). Our goal here is to show that the accusative experi-

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<sup>4</sup> Actually, a noun stem can also host the desiderative suffix, such that *yaku-naya*, for example, can mean ‘want water’ (Jake 1985:204).

encer may be better characterized as a non-canonical object. Consistent with the principle of Function-Argument Biuniqueness, it bears only the OBJ GF of the complex predicate. However, whereas most languages require an alignment of SUBJ with the overlay GF PIV (Falk 2006), which is what some “subject-sensitive” phenomena in some languages are keyed to, IQ aligns the PIV function with the OBJ in the construction type in question.

## 2 Double-Object Constructions

The main observation underlying the proposed analysis of the desiderative construction is that, abstracting away from the absence of an agent subject, its syntactic properties closely parallel those of other double-accusative constructions:<sup>5</sup>

- (10) DOUBLE-ACCUSATIVE CAUSATIVE CONSTRUCTION
- a. taita-ka churi-ta ruwana-ta awa-chi-rka-mi  
 father-TOP son-ACC poncho-ACC weave-CAUS-3SBJ.PST-VAL  
 ‘The father made his son weave a poncho.’
- DOUBLE-ACCUSATIVE TRANSFER-OF-POSSESSION CONSTRUCTION
- b. warmi-ka jari-ta aswa-ta ku-rka-chu  
 woman-TOP man-ACC beer-ACC give-3PST-Q  
 ‘Did the woman give the man beer?’
- DOUBLE-ACCUSATIVE DESIDERATIVE CONSTRUCTION
- c. jari-ta-ka aswa-ta ufya-naya-n  
 man-ACC-TOP beer-ACC drink-DESID-3SBJ  
 ‘The man wants to drink beer.’

To begin with, all three constructions are systematically related to an alternative construction with only a single accusative dependent; and in all three cases the lone accusative dependent is the theme:

- (11) a. taita-ka churi-man ruwana-ta awa-chi-rka-mi  
 father-TOP son-DAT poncho-ACC weave-CAUS-3PST-VAL  
 ‘The father let his son weave a poncho.’
- b. warmi-ka jari-man aswa-ta ku-rka-chu  
 woman-TOP man-DAT beer-ACC give-3SBJ.PST-Q  
 ‘Did the woman give beer to the man?’

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<sup>5</sup> Varieties of Quechua vary considerably in how they handle transfer-of-possession and related constructions (Wunderlich & Lakämper 2001, Willgoths 2009). The variety of IQ described in Cole (1982) is said to generally require dative case on goal arguments. The variety portrayed in Jake (1985), which provides the primary foundation for our summary here, has a dative/accusative alternation for the goal argument.

- c. jari-ka aswa-ta ufya-naya-n  
 man-TOP beer-ACC drink-DESID-3SBJ  
 ‘The man wants to drink beer.’

In the case of the causative, the choice between the alternative constructions is correlated with a semantic distinction, i.e., coercive vs. permissive causation. There may be a semantic difference between (10b) and (11b)—perhaps something along the same lines as whatever difference there may be in the English glosses. It is also unclear whether (10c) has a slightly different meaning than (11c),<sup>6</sup> possibly corresponding to a more literal (but unavailable) English gloss such as ‘It wants to the man to drink beer’.

In any case, the hypothesis to be entertained is that, since accusative case marking indicates objecthood of some kind, as shown in the proposed lexical entry for *-ta* in (4), and there can be only one OBJ in any given clause, there is both an OBJ and an OBJ<sub>θ</sub> in all of the examples in (10) and the semantic argument that is realized as OBJ<sub>θ</sub> in (10) is realized as the single OBJ in the examples in (11). Initial support for this hypothesis comes from the way these constructions interact with passive. There is a passive version of each of the single-accusative constructions and, in each case, the semantic argument that is marked accusative in the construction types illustrated by (11) is the SUBJ in the passive clause and the other argument *cannot* be marked accusative:

- (12) a. ruwana-ka taita churi-man/\*ta awa-chi-shka ka-rka  
 poncho-TOP father son-DAT/ACC weave-CAUS-PASS be-3SBJ.PST  
 ‘The poncho was let/\*made to be woven by his son by the father.’  
 b. aswa-ka jari-man/\*ta quitsa kara-shka-mi ka-rka  
 beer-TOP man-DAT/ACC girl serve-PASS-VAL be-3SBJ.PST  
 ‘The beer was served \*(to) the man by the girl.’  
 c. wawa-ka ñuka(\*-ta) wajta-naya-shka ka-rka  
 child-TOP 1SG-ACC hit-DESID-PRES be-3SBJ.PST  
 ‘I wanted to hit the child.’  
 (literally: ‘The child was wanted-to-be-hit by me’)

It is also possible to have the causee, goal, or experiencer realized as SUBJ in a passive clause, in which case the other argument, if expressed, is marked accusative:<sup>7</sup>

<sup>6</sup> As noted by Jake (1985:281), there is dialectal variation concerning examples such as (11c). Some speakers, including those on which the analysis in Hermon (1985) is based, would have the causative suffix *-chi* (without a causative interpretation) following *-naya*.

<sup>7</sup> Cole (1982:112) claims that sentences like (13c) instantiate resultative aspect rather than passive. We follow Jake’s (1985:219) interpretation of this kind of sentence as passive. It is unclear what the semantic difference between resultative aspect and passive might be in the case of a stative verb like this (i.e., ‘I was in the state of want-



- (13) a. ñuka-ka Maria papa-ta yanu-chi-shka ka-rka-ni  
 1SG-TOP Maria potato-ACC cook-CAUS-PASS be-PST-1SG.SBJ  
 ‘I was made to cook potatoes by Maria.’
- b. quitsa-ka mishqui-ta mama kara-shka-mi ka-rka  
 girl-TOP candy-ACC mother serve-PASS-VAL be-3SBJ.PST  
 ‘The girl was served candy by her mother.’
- c. ñuka-ka mishqui-ta miku-naya-shka ka-rka-ni  
 1SG-TOP candy-ACC eat-DESID-PASS be-PST-1SG.SBJ  
 ‘I wanted to eat candy.’  
 (literally: ‘I was wanted-to-be-eaten candy (by it)’)

The standard way to handle facts like these in LFG mapping theory is to treat the possibility of alternation as a reflex of different inherent GF classifications of specified semantic arguments. The causee, goal, and experiencer can either be inherently [-r], and therefore active OBJ and passive SUBJ, or not. We assume here a version of mapping theory like that articulated in Kibort (2004). Specifically, argument structure consists of a set of ranked arguments (aligned with generalized semantic roles in ways that can vary across and within languages). These are constrained to have only certain inherent GF classifications and to map to GFs by a general mapping principle:

- (14) *Argument structure and inherent GF classifications*

arg<sub>1</sub> arg<sub>2</sub> arg<sub>3</sub> arg<sub>4</sub> ... arg<sub>n</sub>  
 [-o] or [-r] [-r] [+o] [-o] [-o]

*Mapping Principle*

Arguments are mapped onto the highest (i.e., least marked) compatible function on the markedness hierarchy.

*GF Markedness Hierarchy*

[-o, -r]=SUBJ > [-r, +o]=OBJ > [-o, +r]=OBL<sub>θ</sub> > [+o, +r]=OBJ<sub>θ</sub>

The way that this works for transfer-of-possession predicates in the active voice is as follows.

- (15) DOUBLE-OBJECT CONSTRUCTION, as in (10b)

<i>lc-str:</i>	AGENT	GOAL	THEME
<i>arg-str:</i>	arg <sub>1</sub>	arg <sub>2</sub>	arg <sub>3</sub>
	[-o]	[-r]	[+o]
<i>GFs:</i>	SUBJ	OBJ	OBJ <sub>θ</sub>
<i>case:</i>		ACC	ACC

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ing to eat candy’ = ‘I wanted to eat candy’). More importantly, as Jake notes, a 1<sup>st</sup> person non-accusative experiencer subject of an active voice desiderative clause has the exceptional property of *not* triggering subject agreement. The agreement shown in (13c) is therefore unexpected on the resultative analysis, but not on the passive analysis.

SINGLE-OBJECT CONSTRUCTION, as in (11b)

<i>lc-str:</i>	AGENT	THEME	GOAL
<i>arg-str:</i>	arg <sub>1</sub>	arg <sub>2</sub>	arg <sub>4</sub>
	[-o]	[-r]	[-o]
<i>GFs:</i>	SUBJ	OBJ	OBL <sub>θ</sub>
<i>case:</i>		ACC	DAT

Passive voice is the outcome of an override of the default mapping of arg<sub>1</sub>, such that it maps to OBL<sub>θ</sub>, rather than SUBJ, which gives rise to a mapping to SUBJ of the least-marked remaining choice among arguments that are inherently [-r] or [-o]. Given this, the only possible passive realization for the argument structure underlying (10b) is (13b), with the goal argument as SUBJ and the patient as OBJ<sub>θ</sub>, and the only possible passive realization for the argument structure underlying (11b) is (12b), with the patient as SUBJ and the goal as OBL<sub>θ</sub>:

(16) PASSIVE OF DOUBLE-OBJECT CONSTRUCTION, as in (13b)

<i>lc-str:</i>	AGENT	GOAL	THEME
<i>arg-str:</i>	arg <sub>1</sub>	arg <sub>2</sub>	arg <sub>3</sub>
	[-o]	[-r]	[+o]
<i>passive:</i>	[+r]		
<i>GFs:</i>	OBL <sub>θ</sub>	SUBJ	OBJ <sub>θ</sub>
<i>case:</i>			ACC

PASSIVE OF SINGLE-OBJECT CONSTRUCTION, as in (12b)

<i>lc-str:</i>	AGENT	THEME	GOAL
<i>arg-str:</i>	arg <sub>1</sub>	arg <sub>2</sub>	arg <sub>4</sub>
	[-o]	[-r]	[-o]
<i>passive:</i>	[+r]		
<i>GFs:</i>	OBL <sub>θ</sub>	SUBJ	OBL <sub>θ</sub>
<i>case:</i>			DAT

In essence, the goal alternates between the arg<sub>2</sub> and the arg<sub>4</sub> positions, with the patient alternating correlatively with the arg<sub>3</sub> and arg<sub>2</sub> positions. This is a common pattern across languages and is, of course, found in English. The general schema is that semantic arguments with sufficient patient-like properties vie for the arg<sub>2</sub> slot and only if it loses out for this, a theme is necessarily an arg<sub>3</sub>, and therefore OBJ<sub>θ</sub>. The causative construction has essentially the same analysis, with the causee being treated like the goal. With the desiderative construction, the key difference, we propose, is that the experiencer, which is patient-like enough to have a [-r] inherent classification, alternates between the arg<sub>1</sub> and arg<sub>2</sub> positions, rather than the arg<sub>4</sub> and arg<sub>2</sub> positions. The reason for this, plausibly, is that an experiencer argument is both agent-like and patient-like and can therefore alternate between arg<sub>1</sub> and arg<sub>2</sub> across and within languages. The related effects of this alternation on a theme argument, if present, are the same as with the transfer-of-possession construc-

tion. In order to get the mapping to GFs to work according to the schema outlined in (14), we assume that when the experiencer is in the  $arg_2$  position, the  $arg_1$  is a null expletive, i.e., it is a syntactic argument with a GF that corresponds to no role at all in lexical conceptual structure. Abstracting away from the effects of the dative alternation, to be discussed below, the mappings for the active-voice alternative desiderative constructions are as follows, beginning with the construction in which the experiencer is realized as OBJ.

(17) EXPERIENCER-OBJECT DESIDERATIVE CONSTRUCTION, as in (10c)

		┌──────────┐		
<i>lc-str:</i>	∅	EXP [AGENT	(THEME)	... (X)]
<i>arg-str:</i>	$arg_1$	$arg_2$	$arg_3$	$arg_n$
	[-o]	[-r]	[+o]	[-o]
<i>GFs:</i>	SUBJ	OBJ	OBJ <sub>θ</sub>	OBL <sub>θ</sub>
<i>case:</i>		ACC	ACC	semantic

The embedded lexical conceptual structure of the stem to which the desiderative suffix attaches is indicated by bracketing. The assumption is that the experiencer argument of *-naya* binds the highest semantic role of the stem verb in lexical conceptual structure. Since the stem can have any number of arguments, the general schema has to allow for this. Parentheses indicate optional expression. In the case of (10c), the stem is monotransitive, with only agent and theme. (18a) and (18b) illustrate manifestations of the same construction built on an intransitive verb stem and on a transitive verb stem with an additional oblique argument.

(18) a. SUBJ OBJ

ñuka-ta-ka puñu-naya-rka  
it 1SG-ACC-TOP sleep-DESID-3SBJ.PST  
'I wanted to sleep.'

b. SUBJ OBJ OBL<sub>GOAL</sub> OBJ<sub>THEME</sub>

wawa-ta-ka kan-man parlu-ta villa-naya-n  
it child-ACC-TOP 2-DAT story-ACC tell-DESID-3SBJ  
'The child wants to tell a story to you.'

The construction with the experiencer as subject has the following mapping:

(19) EXPERIENCER-SUBJECT DESIDERATIVE CONSTRUCTION, as in (11c)

		┌──────────┐	
<i>lc-str:</i>	EXP [AGENT	(THEME)	... (X)]
<i>arg-str:</i>	$arg_1$	$arg_2$	$arg_n$
	[-o]	[-r]	[-o]
<i>GFs:</i>	SUBJ	OBJ	OBL <sub>θ</sub>
<i>case:</i>		ACC	semantic

Again, this general mapping schema can be employed with various stem types. (11c) is an example with a simple transitive stem.

As expected, each of desiderative constructions has a single passive voice realization. Passivization of the experiencer-object construction works as follows:

(20) PASSIVE OF EXPERIENCER-OBJECT DESIDERATIVE, as in (13c)

		┌──────────┐		
<i>lc-str:</i>	∅	EXP	[AGENT (THEME) ... (X)]	
<i>arg-str:</i>	arg <sub>1</sub>	arg <sub>2</sub>	arg <sub>3</sub>	arg <sub>n</sub>
	[-o]	[-r]	[+o]	[-o]
<i>passive:</i>	[+r]			
<i>GFs:</i>	OBL <sub>∅</sub>	SUBJ	OBJ <sub>∅</sub>	OBL <sub>∅</sub>
<i>case:</i>			ACC	semantic

(13c) exemplifies the passive of a desiderative built on a simple transitive stem. (21) illustrates the passive of (18a), i.e., a desiderative built on an intransitive stem.

(21) OBL<sub>∅</sub> SUBJ

ñuka-ta puñu-naya-shka ka-rka-ni  
 it 1SG-TOP sleep-DESID-PASS be-PST-1SG.SBJ  
 ‘I wanted to sleep.’ (literally: ‘I was wanted-to-be-slept (by it)’)

The passive version of the experiencer-subject desiderative construction employs the following mapping schema:

(22) PASSIVE OF EXPERIENCER-SUBJECT DESIDERATIVE, as in (12c)

		┌──────────┐	
<i>lc-str:</i>	EXP	[AGENT	THEME ... (X)]
<i>arg-str:</i>	arg <sub>1</sub>	arg <sub>2</sub>	arg <sub>n</sub>
	[-o]	[-r]	[-o]
<i>passive:</i>	[+r]		
<i>GFs:</i>	OBL <sub>∅</sub>	SUBJ	OBL <sub>∅</sub>
<i>case:</i>			semantic

We are aware, of course, that some theories of grammar avoid positing either or both null expletives and oblique expletives and that we posit both in the case of (21), for example. Without being committed to its ultimate correctness, we take this stance here for several reasons. First, the basic architecture of LFG mapping theory, as outlined in (14), makes it such that there must be an expletive arg<sub>1</sub> in a clause type in which the highest GF borne by any of the semantic arguments of the verb is OBJ. It is the presence of a null expletive SUBJ in (18b), for example, that makes it possible to account in a technically straightforward way for the fact that neither the experiencer nor the goal is mapped to SUBJ. Second, oblique expletives appear to exist as a natural language possibility, as in such cases as *You should see to it that*

*nothing happens* and *I'm not bothered by it that they're winning* (see Postal & Pullum 1988). Third, since the passive construction in IQ is otherwise characterized by a mapping to OBL of  $\text{arg}_1$ , which is what opens up the possibility of another argument mapping to SUBJ, there is no reason not to use this same characterization for a passive clause with a null expletive  $\text{arg}_1$ , although an analysis with suppression of GF-mapping for the null expletive in this case would also account for the facts.

### 3 Supporting Evidence

The analysis of the experiencer-object desiderative construction summarized in (17) is supported by the fact that it accounts for its case marking and subject agreement properties straightforwardly by simply applying general principles for mapping arguments to GFs. The experiencer is marked with accusative case because it is OBJ and dependents with this GF are marked accusative in IQ. It does not trigger subject agreement because only SUBJ does this. The verb is necessarily in its default subject agreement form (not 1<sup>st</sup> or 2<sup>nd</sup> person) because there is a null expletive SUBJ. If there is a theme argument present, it is  $\text{OBJ}_\theta$  because, just as in the case of transfer-of-possession and causative constructions with goal or causee as primary object, the only possibility for a theme argument that cannot be  $\text{arg}_2$  is  $\text{arg}_3$ , which must map to  $\text{OBJ}_\theta$ . The theme is marked accusative because any kind of object (i.e., an argument mapped to a [+o] GF) bears accusative case in IQ. The way that passive voice works with the proposed argument structure follows without stipulation. The remainder of this section is devoted to providing additional supporting evidence for the analysis.

#### 3.1 Accusative Experiencer is not SUBJ

##### *Argument One: Object Agreement*

So-called object agreement in IQ is restricted to the optional 1<sup>st</sup> singular suffix *-wa*. It cross-references only the OBJ, as in (23a), or some range of human-referring  $\text{OBL}_\theta$  arguments (Jake 1985:30), as illustrated by (23b-c).

- (23) a. Maria-ka (ñuka-ta) maka-wa-rka-mi  
 Maria-TOP 1SG-ACC hit-1SG.OBJ-3SBJ.PST-VAL  
 'Maria hit me.'
- b. Maria-ka (ñuka-paj) trabaja-wa-rka-mi  
 Maria -TOP 1SG-BEN work-1SG.OBJ-3SBJ.PST-VAL  
 'Maria worked for me.'
- c. Maria-ka (ñuka-wan) parla-wa-rka-mi  
 Maria -TOP 1SG-INSTR talk-1SG.OBJ-3SBJ.PST-VAL  
 'Maria talked with me.'

If the accusative experiencer in the desiderative construction is OBJ and not SUBJ, it follows that it can determine object agreement, as shown in (9), since *-wa* is constrained to cross-reference only non-SUBJ 1<sup>st</sup> person arguments.

*Argument Two: Switch Reference*

There is switch reference morphology on the verb of an adverbial clause indicating the status of its subject vis-à-vis that of the main clause with respect to matters of coreference (Jake 1985:35). When the adverbial clause and the main clause do not have subjects with disjoint reference, the switch-reference marker is either *-shpa* (temporal) or *-ngapaj* (purposive) (glossed CREF); when they do not have coreferential subjects, the marker is *-jpi* or *-chun* (glossed SWR) as illustrated by the following examples.

- (24) a. [wasi-man ri-shpa/\*-jpi] miku-ngui-chu  
house-DAT go-CREF/-SWR eat-2SG.SBJ-Q  
‘When you go home, will you eat?’  
b. [mama tigra-mu-\*shpa/-jpi] miku-sha-mi  
mother return-CISLOC-CREF/-SWR eat-1SG.SBJ.FUT-VAL  
‘When mother returns, I’ll eat.’  
c. ñuka pani kaya-wa-rka [parla-wa-ngapaj/\*-chun]  
1SG sister call-1SG.OBJ-PST talk-1SG.OBJ-CREF/-SWR  
‘My sister called me to talk to me.’  
d. [chai jari kalpa-\*ngapaj/-chun] kaya-rka-ni-mi  
that man run-CREF/-SWR call-PST-1SG.SBJ-VAL  
‘I called for that man to run.’

When the verb of one or both of the clauses has an expletive subject or non-referential subject, as in the case of weather verbs, either switch-reference marker can appear:

- (25) a. [tamya-ju-shpa/-jpi] wawa-kuna mana shamu-nga-chu  
rain-PROG-CREF/-SWR child-PL NEG come-3SG.FUT-NEG  
‘If it’s raining, the children won’t come.’  
b. [tamya-gri-ngapaj/-chun] waira fuku-shka-mi  
rain-INCH-CREF/-SWR wind blow-PERF-VAL  
‘The wind blew (enough) for it to rain.’

When a weather verb is involved, both subjects with disjoint reference and subjects with coreference are lacking, which is consistent with the meanings of both kinds of switch-reference marking. Desiderative verbs with an object experiencer behave like weather verbs with respect to switch-reference marking (Hermon 2001:163-4):<sup>8</sup>

<sup>8</sup> According to Hermon (1985, 2001), the CREF markers are restricted to what is characterized as a control environment, i.e., an infinitival embedded phrase/clause in

- (26) a. [(ñuka-ka) trabaja-jpi-ka] miku-naya-wa-rka-mi  
 1SG-TOP work-SWR-TOP eat-DESID-1SG.OBJ-3SBJ.PST-VAL  
 ‘While I was working, I had a desire to eat.’  
 b. [trabaja-shpa-ka] miku-naya-wa-rka-mi  
 work-CREF-TOP eat-DESID-1SG.OBJ-3SBJ.PST-VAL  
 ‘While I was working, I had a desire to eat.’

If the experiencer in the main clause, which is registered by object agreement, is OBJ and there is no referential subject, the switch-reference marking is exactly as expected: *-shpa* is possible because there are not subjects with disjoint reference and *-jpi* is possible because there are not coreferential subjects. Under the proposed analysis, the non-referential expletive SUBJ in the object-experiencer desiderative construction guarantees both lack of coreference and lack of disjoint reference.

### 3.2 Accusative Experiencer is OBJ

#### *Argument One: Tough Movement*

OBJ<sub>θ</sub> only occurs in clauses in which there is an OBJ, as shown in section 2. In the double-object scenario, the OBJ has certain syntactic privileges that OBJ<sub>θ</sub> lacks. One of these is that the OBJ can be the target (i.e., elided argument) in the embedded clause of the *tough*-movement construction (Jake 1985:136-142), as illustrated by the following examples.

- (27) a. wawa-ka mana sinchi-chu ka-rka [mama mishki-ta  
 child-TOP NEG tough-NEG be-3SBJ.PST mother candy-ACC  
 kara-chun-ga]  
 serve-SWR-TOP  
 ‘The baby wasn’t difficult for the mother to give candy.’  
 b. \*libru-ka facil-mi ka-nga [ñuka kan-da apa-chun-ga]  
 book-TOP easy-VAL be-3SBJ.FUT 1SG 2-ACC carry-SWR-TOP  
 ‘The book will be easy for me to bring you.’

(27b) shows that the secondary accusative argument (the theme) in the double-accusative transfer-of possession construction cannot be the target in the *tough*-movement construction. The experiencer-object desiderative construction shows the same pattern, i.e., the theme argument cannot be a *tough*-movement target:

- (28) \*aswa-ka ali-mi [kan-da ufya-naya-chun]  
 beer-TOP good-VAL 2-ACC drink-DESID-SWR  
 ‘Beer is good for you to want to drink.’

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which there can be no overt expression of subject. The condition on control, which we discuss below, is a partially separate matter.

Since the theme argument of a verb such as ‘drink’ is otherwise an OBJ, its status as OBJ<sub>θ</sub> in the desiderative construction can only be attributed to the unavailability of the OBJ GF. Under the proposed analysis, the OBJ GF is unavailable for the theme because it is taken by the experiencer.

*Argument Two: Desiderative Transfer-of-Possession Verbs*

In a desiderative construction formed on a verb with a goal and theme, there cannot be three accusative arguments (Jake 1985:216):

- (29) \* jari-ta ñuka-ta kafi-ta kara-naya-rka-chu  
 man-ACC 1SG-ACC coffee-ACC serve-DESID-3SBJ.PST-Q  
 ‘Did the man want to serve me coffee?’

The ungrammaticality of this construction is explained on the proposed analysis as follows. The experiencer is marked accusative because arg<sub>1</sub> is a null expletive and the experiencer is, therefore, arg<sub>2</sub> (classified [-r] and realized as OBJ). No other argument can be OBJ. The only possibility for a theme that is not arg<sub>2</sub> is arg<sub>3</sub>, which must be mapped to OBJ<sub>θ</sub>. The inherent classifications for a goal are limited to [-r] (arg<sub>2</sub>) and [-o] (arg<sub>4</sub>). For an experiencer they are limited to [-r] (arg<sub>2</sub>) and [-o] (arg<sub>1</sub>). The triple-accusative desiderative construction is ruled out by the fact that there is only one available arg<sub>2</sub> slot and the experiencer and goal cannot both occupy it simultaneously. There are two repairs. One is to have the goal show up as a dative-marked oblique, by having the desiderative attach to a verb with an argument structure that yields an accusative + dative construction, as in the case of (30b), which is the (declarative) desiderative form of (30a).

- (30) a. wawa-ka kan-man parlu-ta villa-rka-chu  
 child-TOP 2-DAT story-ACC tell-3SBJ.PST-Q  
 ‘Did the child tell a story to you?’  
 b. wawa-ta-ka kan-man parlu-ta villa-naya-n = (18b)  
 child-ACC-TOP 2-DAT story-ACC tell-DESID-3SBJ  
 ‘The child wants to tell a story to you.’

The other repair is to have the experiencer show up as a subject, with no case marking, in the alternative desiderative construction:

- (31) jari ñuka-ta kafi-ta kara-naya-rka-chu  
 man 1SG-ACC coffee-ACC serve-DESID-3SBJ.PST-Q  
 ‘Did the man want to serve me coffee?’

The key point is that the ungrammaticality of (29) follows from the analysis of the accusative experiencer as OBJ. If it were an exceptionally marked SUBJ or OBL, nothing would preclude a goal and theme from being realized as OBJ and OBJ<sub>θ</sub>, respectively, and bearing accusative case.



## 4 “Subject” Properties of Accusative Experiencer

### *PIV-Sensitive Phenomena*

It is well known that the so-called *that*-trace effect in English, i.e., the ungrammaticality of subject extraction from an embedded clause headed by complementizer *that*, is a phenomenon that occurs in some way in many languages (Falk 2006). In IQ, it so happens that non-subjects, in general, can be extracted from an embedded clause (the verb of which is nominalized), but subjects cannot and in the experiencer-object desiderative construction, the accusative experiencer, unlike the accusative theme, behaves like a subject, as illustrated by the following examples (Cole & Hermon 1991:13-14).

- (32) a. \* pi-taj Maria kri-n [ \_\_ aicha-ta miku-shka-ta]  
 AN-WH Maria believe-3SBJ meat-ACC eat-PST.NOM-ACC  
 ‘Who does Maria think that ate the meat?’  
 b. ima-ta-taj Maria kri-n [Juzi \_\_ miku-shka-ta]  
 INAN-ACC-WH Maria believe-3SBJ Jose eat-PST.NOM-ACC  
 ‘What does Maria believe that Jose ate?’
- (33) a. pi-ta-taj Maria Juzi-man ni-rka [Juan-da  
 AN-ACC-WH Maria Jose-DAT say-3SBJ.PST Juan-ACC  
 \_\_ riku-naya-j-ta]  
 see-DESID-PRES.NOM-ACC  
 ‘Who did Maria say to Jose that Juan wants to see?’  
 b. \* pi-ta-taj Maria Juzi-man ni-rka  
 AN-ACC-WH Maria Jose-DAT say-3SBJ.PST  
 [ \_\_ miku-naya-j-ta]  
 eat-DESID-PRES.NOM-ACC  
 ‘Who did Maria say to Jose that wants to eat?’

The accusative experiencer in the desiderative construction also behaves like a subject with respect to control of adverbial clauses (Hermon 1985:124-125). As shown by the following examples, the SUBJ but not the OBJ of a typical main clause can be interpreted as the same as the missing (controlled) subject of the adverbial clause, represented here as *pro*, and yet the experiencer OBJ in the desiderative construction, which determines object agreement on the verb, can control like a subject.

- (34) a. [pro<sub>i</sub>/\*<sub>j</sub> miku-ju-shpa] Juan<sub>j</sub>-da riku-rka-ni<sub>i</sub>  
 eat-PROG-CREF Juan-ACC saw-PST-1SG.SBJ  
 ‘I saw John, when eating.’ (NOT: when he was eating)  
 b. [pro<sub>i</sub> trabaja-shpa-ka] miku-naya-wa<sub>i</sub>-rka-mi  
 work-CREF-TOP eat-DESID-1SG.OBJ-3SBJ.PST-VAL  
 ‘While I was working, I had a desire to eat.’ (= (26b))

### *The Analysis*

It might be possible to account for the subject-like properties of the accusative experiencer by treating it as a SUBJ with exceptional (or “quirky”) case, i.e., an accusative subject in the sense of Icelandic, for example (Zaenen, Maling, & Thráinsson 1985, Van Valin 1991). However, not only would such an analysis lose the generalization about accusative case that the analysis proposed here makes possible (i.e., objects of any kind bear accusative case), but it would have to treat all the coding properties of the accusative-experiencer desiderative construction as exceptional and would not account for the facts discussed in section 3.2. Moreover, it is unclear how one might explain why, unlike in Icelandic, accusative case does not occur on the experiencer when it is “raised” to a higher clause (Hermon 1985:114):

- (35) kan-ga [puñu-naya-y] yari-ngui  
2-TOP sleep-DESID-INF seem-2SG.SBJ  
'You seem to want to sleep.'

With these things in mind, it is preferable to treat the accusative experiencer as a non-canonical OBJ. Its subject properties are, in fact, properties that are characteristic of dependents with the overlay GF PIV, in languages that provide evidence for factoring the traditional SUBJ GF into two potentially independent GFs: highest argument GF (= SUBJ in this paper) and PIV (Falk 2006). What is routine about IQ is that the conditions on the controller of adverbial clauses and on extraction, for example, are sensitive to the PIV GF. What is exceptional is only that, although the default scenario is SUBJ = PIV, in the experiencer-object desiderative construction OBJ = PIV. The generalization might be that in each clause the highest argument GF associated with a semantic role is aligned with the overlay function PIV.

### *Residual matters*

Hermon (1985, 2001) notes that there are a few other subject properties of the desiderative experiencer, including ability to be controlled and ability to raise to subject, as illustrated by (35). Since the relevant evidence comes from infinitival desideratives in which there is no overt coding of the GF of the experiencer, it is possible that these are actually SUBJ-sensitive phenomena and the infinitival clauses instantiate the experiencer-subject argument structure of desiderative verbs (see (17)). Evidence for this interpretation comes from the so-called lexical experiencer construction, which typically consists of a verb of physical experience with a single OBJ argument that does not have an alternative SUBJ realization and therefore necessarily bears accusative case when expressed as an NP. The experiencer in this construction generally has the same applicable properties as the experiencer in the experiencer-object desiderative construction. It differs, however, in not being able to be controlled and not being able to raise to subject (Hermon 1985:114):

- (36) \*kan-ga [yarja-y] yari-ngui  
 2-TOP hunger-INF seem-2SG.SBJ  
 ‘You seem to be hungry.’

Necessarily left unresolved here is the question of dialectal variation in the coding of the alternative desiderative constructions. The speakers whose variety of IQ the description in Hermon (1985) is based on are said to mark the *-naya*-suffixed verbs with the causative morpheme *-chi* (see footnote 6). The analysis suggested here entails that this morphological coding would have to be context-sensitive, such that it need not (perhaps could not) appear on infinitival verb forms, as in (35), for example. Whether this is a viable analysis is a question that requires further investigation and leads well beyond the scope of this paper.

## 5 Conclusion

We began with the observation that there seems to be a generalization concerning the occurrence of the accusative case suffix *-ta* in IQ, as it appears, in general, on what is clearly either a primary object (OBJ) or a secondary object (OBJ<sub>θ</sub>), as in the following typical double-accusative example:

- (37) PIV  
 SUBJ OBJ OBJ<sub>θ</sub>  
 quitsa jari-ta aswa-ta kara-rka-mi  
 girl man-ACC beer-ACC serve-3SBJ.PST-VAL  
 ‘The girl served the man beer.’

This generalization can be captured by lexically constraining *-ta* to occur on NPs in the category of GFs specified by the feature [+o]. For this approach to be viable, it has to be the case that the double-accusative desiderative construction has accusative OBJ and OBJ<sub>θ</sub> as well:

- (38) PIV  
 SUBJ OBJ OBJ<sub>θ</sub>  
 Ø ñuka-ta aycha-ta mkiu-naya-wa-n-mi  
 1SG-ACC meat-ACC eat-DESID-1SG.OBJ-3SBJ-VAL  
 ‘I want to eat meat.’

Such an analysis turns out to be well motivated. The claim that the experiencer is OBJ entails that a theme argument be mapped to OBJ<sub>θ</sub>. This is supported by parallels with the theme in (37). Neither can be the target of *tough*-movement or the passive SUBJ in a clause in which the goal or experiencer is marked accusative. Moreover, this analysis accounts for the impossibility of a triple-accusative clause, which might be expected when *-naya* is suffixed to a transfer-of-possession verb which itself has a double-object valence. The explanation is that there can only be one each of OBJ and OBJ<sub>θ</sub> in IQ, given the principle of Function-Argument Biuniqueness and the impossibility of a

mapping of goal to OBJ<sub>θ</sub>. The coding properties of the experiencer in this construction (case, lack of subject agreement, possibility of object agreement, and switch-reference marking) follow from the analysis of the experiencer as OBJ. The so-called subject properties that it has are actually properties that typify the PIV function cross-linguistically. The experiencer is a non-canonical OBJ by virtue of its alignment with PIV, which is otherwise constrained to align with SUBJ in IQ.

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