

Tense, Aspect, and Evidentiality in Okinawan

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Overview: Okinawan (Northern Ryukyuan, Japonic) exhibits a three-way evidential contrast in its tense-aspect system, as illustrated by the example in (1), based on examples found in Kudo et al. (2007). The example has one of three verb forms: the simple past (a), the witnessed past (b), and the present resultative (c), all of which can be translated into English using the simple past tense:

- (1) *taruu=ga hasiru* (a) *aki-ta-n* (b) *aki-i-ta-n* (c) *aki-tee-n*
 Taro=NOM rain.shutter open-PST-IND open-WIT-PST-IND open-RES.PRS-IND

“Taro opened the rain shutters.”

While each form of the verb entails a past event of Taro opening a door, they have different pragmatic import. The simple past form (a) is often described as pragmatically ‘neutral’, although I call this characterization into question below. The witnessed past (b) acts as a kind of direct evidential, describing events that the speaker witnessed. For the example at hand, the use of (b) requires that the speaker actually saw Taro open the rain shutters. The present resultative form (c), by contrast, is typically used to describe past events that the speaker did *not* witness, acting as a kind of inferential evidential.

I argue for the basic Okinawan TAM paradigm sketched in Figure 1, built primarily on the analyses of Miyara (2002), Kudo et al. (2007), and Arakaki (2015). The evidential properties of the Okinawan tense-aspect forms in (1) are argued to follow from the way that the constituent morphology relates the event described by the verbal root to a topic situation (aspect), and the way that these eventualities are related to the utterance situation (tense). The witnessed past is argued to derive direct evidential semantics by acting as a kind of spatial tense marker (Faller 2004), requiring that the spatiotemporal coordinates of the verbal event coincide at least partially with those of the speaker’s perceptual field. The present resultative is argued to generate an implicature that the verbal event’s spatiotemporal coordinates did *not* overlap with those of the speaker’s perceptual field, and thus that the speaker did not witness the event.

| ASP | HON1 | HON2 | TNS1 | TNS2 | MOOD |
|----------------------|------------------------|----------------------|-------------------------------|---------------------|--------------------|
| <i>-too-</i> PROG | <i>-mishee-</i> HON | <i>-yabi-</i> POL | <i>-u/-i-</i> IMPF/ WIT | ∅ PRS | <i>-n</i> IND |
| <i>-tee-</i> RES | | | | <i>-ta-</i> PST | <i>-ra</i> DUB |
| ↓ | | | | <i>-tee-</i> MIR | <i>-ru</i> EMPH |
| <i>-tee-</i> INF | | | | | ⋮ |

Figure 1: Okinawan TAM System

The present resultative is argued to generate an implicature that the verbal event’s spatiotemporal coordinates did *not* overlap with those of the speaker’s perceptual field, and thus that the speaker did not witness the event.

The Imperfective/Witnessed Past: The tense suffix *u/i* spells out one of two contextually conditioned alloemes (cf. Marantz 2013). The alloeme WIT can appear between non-stative verb roots and past tense, giving rise to the witnessed past tense form. The witnessed past requires that the speaker directly witnessed at least some part of the event described by the verb. To model this, I follow Faller (2004) in defining the *e-trace* of an event, which gives the spatiotemporal coordinates of the event, and the *P-trace* function, which gives the spatiotemporal coordinates of the speaker’s perceptual field. The Okinawan witnessed past tense requires that some part of the event coincide with the speaker’s perceptual field. This I attribute to the semantics of WIT.

- (2) a. $\llbracket \text{WIT} \rrbracket = \lambda e. \exists \langle t, l \rangle \in e\text{-trace}(e) \cap P\text{-trace}(sp)$
 b. $\llbracket 1b \rrbracket = \lambda e. \text{open}(\text{Taro})(\text{shutters})(e) \wedge \tau(e) < t^* \wedge \exists \langle t, l \rangle \in e\text{-trace}(e) \cap P\text{-trace}(sp)$

Since only partial overlap is required, the speaker need only witness some subpart of the original event; in (1b), for example, the use of the witnessed past requires only that the speaker witness some part of Taro’s opening the door (for example, looking up to see Taro in the middle of opening the door, and looking down again before he finishes). It is insufficient, however, that the speaker have only *indirect* evidence for the event, for example, seeing the open door and inferring that Taro opened it.

Resultative Aspect: As the label suggests, the resultative morpheme *tee* is used to describe a situation resulting from the event described by the verb itself. As discussed in more detail below, it also generates an implicature that the speaker did not directly witness the verbal event itself. This is spelled out formally in (3), where $\text{RESULT}(e, e')$ is true just in case eventuality e is a result of (is caused by) eventuality e' .

- (3) $\llbracket \text{RES} \rrbracket = \lambda P \lambda e. \exists e' [P(e') \ \& \ \text{RESULT}(e, e')]$
 Implicature: $\neg \exists \langle t, l \rangle \in e\text{-trace}(e') \cap P\text{-trace}(sp)$

The connection between the verbal event and the result state expressed by resultative *tee* is made in terms of causality, rather than temporal precedence or containedness. Nevertheless, given that causation is temporally asymmetric, we can derive that the verbal eventuality e' must precede the topic eventuality e in time:

- (4) General Principle: $\text{RESULT}(e, e') \Rightarrow \tau(e') < \tau(e)$

The use of a present resultative like that in (1c) entails (given the above principle) that the opening event e' took place before the utterance time. It thus acts, in effect, as a kind of past tense, similar to the present perfect in languages like English.

The difference between the present resultative and a simple past tense is that the resultative introduces an additional eventuality, the result state. Given that one could have reported on the past verbal event using either a simple past or a witnessed past, I argue that the use of the resultative triggers an implicature to the effect that the speaker did not directly witness the verbal event, which is spelled out in (3) as the non-existence of any overlap between the verbal *e-trace* and the speaker’s *P-trace*.

Further Details: In the full talk, I provide additional discussion of the link between aspectual categories and evidentiality, showing that the evidential implicature associated with resultative aspect has undergone partial pragmaticalization, resulting in a homophonous inferential evidential morpheme *INF* that entails the non-existence of direct evidence on the part of the speaker for the verbal event. I then show how additional reanalysis has resulted in a homophonous mirative morpheme that occupies the tense slot in the Okinawan verbal paradigm, reflecting the cross-linguistic tendency of inferential evidentials to give rise to mirative interpretations (Rett and Murray 2013). I also show how competition has led to additional evidential implicatures associated with the simple past form, which seems to come with a preference for first-person subjects, and may trigger a reportative evidential implicature when occurring with third person subjects as in (1c) (cf. Miyara 2002).

English r-sandhi: models and corpora

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The purpose of this paper is to offer a defence of corpus phonology (Durand, Gut and Kristoffersen 2014) with special reference to the phenomenon of English r-sandhi. The term r-sandhi is used here to refer to what are often called ‘linking r’ (*bette[r]* and *better*) and ‘intrusive r’ (*India[r]* and *Africa*) in non-rhotic varieties of English. As the distinction between ‘linking’ and ‘intrusive r’ has roots in a prescriptive tradition based on spelling and has been questioned by some specialists, it is useful to have a neutral term to refer to the phenomena involved, even if a distinction between two types of behaviour can be supported in some varieties of English.

R'-sandhi is one of the most discussed phenomena in the phonological study of non-rhotic varieties of English. Over the past fifty years, linguists have exploited advances in all major theoretical frameworks to propose new ways of modeling this phenomenon. Proposals have been formulated in standard generative phonology (Wells 1982, Scobbie 1992, Vennemann 1972, Johansson 1973, McMahon 1994, *inter alia*) and its most recent development Optimality Theory (McCarthy 1993, Uffmann 2007), as well as in frameworks such as Government Phonology (Harris 1994) or Particle Phonology (Broadbent 1991) using unary primitives. However, the main focus of these treatments has too often been limited to explanatory power and formal elegance, while empirical research (although existent, e.g. Foulkes 1997) has remained insufficient. We present here a French research programme (PAC) on varieties of English (Carr et al. 2004, Durand & Przewozny 2013), within which we have chosen to approach ‘r'-sandhi by first contributing to a renewal of the data. We have devised a coding system (Navarro 2013, Viollain 2014, Durand et al. 2014) which allows us to analyze ‘r'-sandhi in an explicit qualitative and quantitative way and to reconsider theoretical treatments in the light of recent data. With this coding system we have explored a number of non-rhotic systems in Lancashire, Boston and New Zealand.

In this presentation, starting from the study of the survey points just mentioned we will focus on some of the theoretical issues relating to ‘r'-sandhi. We notably want to show that the insertion of [ɹ] as an optimal hiatus breaker in English (a contention supported by a number of Optimality Theory specialists (McCarthy 1993, Uffmann 2007)) is demonstrably not as phonologically natural and motivated as it is argued to be. We also wish to present evidence which refutes the idea that the emergence of [ɹ] as a sandhi segment is a case of glide formation in which the phonological features which are inherently present in the preceding vowel spread to a melodically empty onset (Broadbent 1991, 1999, Backley 2011). Our argument is that /r/ can be shown to be characterized by an element of centrality |@| (Jakobson *et al.* 1952, Harris 1994, Giegerich 1999, Navarro 2013) rather than an element of aperture |A| as typically supported by Broadbent. Moreover, recent observations by a number of authorities (Cruttenden 2008) suggest that the centering diphthong of NEAR /ɪə/ would increasingly become realized as a long lax monophthong [ɪ:] (whose representation is not compatible with |A|) without affecting the realization of sandhi-‘r’. Finally, we will briefly

compare French liaison and English 'r'-sandhi. The theoretical treatments of French liaison and r-sandhi have been practically identical and yet we can show on the basis of extensive studies of the French data (Durand & Lyche 2008, Durand et al. 2011, Durand 2014) that the behaviour of the linking consonants in these two systems is quite different in crucial respects. We argue that more attention to usage-based patterns is a way of making progress as too many debates in modern phonology have been based on data that are second-hand and sometimes inherited from the prescriptive tradition, or even spurious data repeated from article to article, which thus acquire an unjustified air of authenticity (Morin 1987, Laks 2008, Durand 2009).

Numeral Classifiers in Japanese and Movement to the Nominal Periphery

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Numeral classifiers (henceforth NC) in Japanese are known to appear in various syntactic environments: prenominally (1a), postnominally (1b), and ‘floating’ away from the host noun (1c).

- (1) a. Taro-wa roku-wa-no kotori-o mita. (Prenominal)
 Taro-TOP six-CL-GEN small bird-ACC saw
 ‘Taro saw six small birds.’
- b. Taro-wa kotori roku-wa-o mita. (Postnominal)
 Taro-TOP small bird six-CL-ACC saw
 ‘Taro saw six small birds.’
- c. Taro-wa kotori-o (kinoo) roku-wa mita. (Floating)
 Taro-TOP small bird-ACC yesterday six-CL saw
 ‘Taro saw six small birds (yesterday).’

A substantial amount of work is available in the literature addressing the issue of whether these NC constructions should be given a unified syntactic treatment. Huang and Ochi (henceforth H&O) (2014) pursue a (partially) non-uniform approach to those NC constructions. They follow Saito et al. (2008) and Miyamoto (2009) and analyze Prenominal NC as an NP-level modifier (or an adjunct), as shown in (2a). Based on Watanabe’s (2006) insight, they also propose that Postnominal NC is, in essence, headed by a classifier (CL) that selects an NP and a numeral as its complement and specifier, respectively. Crucially, this NP undergoes obligatory movement in Japanese (but not in Chinese), yielding Postnominal NC when it ends up in the edge of an extended nominal domain (2b), and Floating NC when it moves out of a nominal domain and ends up in a clausal domain (e.g., (VP etc.), as shown in (3).

- (2) a. [_{NP} six-CL-gen [_{NP} bird]]
- b. [_{XP} bird_i [_{X'} [_{CLP} six [_{CL} t_i CL]] X]] (where X may be filled by *-o* ‘Acc’)
- ↑
- (3) [_{VP} bird_i [_{VP} yesterday [_{CLP} six [_{CL} t_i CL]] saw]]
- ↑

I attempt to support this line of analysis by seeking evidence for the nominal-internal NP-movement depicted in (2b). The discussion will be based on an investigation of some negative polarity items (NPIs) consisting of ‘one’ + classifier, a noun, and the focus particle *-mo*. Following Nakanishi (in prep.), I will refer to such NPIs as *one*-NPIs.

- (4) a. Taro-wa kinoo ichi-wa-no kotori *(-mo) mi-nakat-ta.
 Taro-TOP yesterday one-CL-GEN small bird MO see-Neg-PAST
 ‘Taro didn’t see any small bird yesterday.’
- b. Taro-wa kinoo kotori ichi’-wa (??-mo) mi-nakat-ta.
 Taro-TOP yestrday bird one-CL MO see-Neg-PAST
 ‘Taro didn’t see any small bird yesterday.’

- c. Taro-wa kotori-o kinoo ichi-wa *(-mo) mi-nakat-ta.
 Taro-TOP small bird-ACC yesterday one-CL MO see-Neg-PAST
 ‘Taro didn’t see any small bird yesterday.’ (* with the NPI-reading)

In light of the observation that Prenominal *one*-NPI (4a) and Floating *one*-NPI (4c) require *-mo* while Postnominal *one*-NPI does not (see (4b)), I propose that (i) *one*-NPIs are headed by a focus (Foc) particle that may be phonetically realized (e.g., *-mo*) or null (see Nakanishi (in prep.)), and (ii) the distribution of the null Foc head is regulated by a condition similar to the one for the distribution of null complementizers in English (Stowell 1981, Pesetsky 1992, and Bošković and Lasnik 2003 etc.). In particular, adopting An’s (2007) idea that a clause in a non-canonical position must have some overt material in its periphery (see (5a, b) vs. (5c) below) and applying it to *one*-NPIs in Japanese, I propose that the null Foc head is allowed in the Postnominal *one*-NPI construction because the spec of FocP is filled in this case by an NP that has moved there (see (6b)).

- (5) a. [CP \emptyset that [TP he likes linguistics]] is widely believed.
 b. [CP what \emptyset [TP he likes t_i]] is apples.
 c. *[CP $\emptyset \emptyset$ [TP he likes linguistics]] is widely believed.
- (6) a. *[FocP \emptyset [Foc’ [NP one-CL-Gen bird] \emptyset_{FOC}]] (Prenominal *one*-NPI)
 b. [FocP bird_i [Foc’ [CLP one [CL’ t_i CL]] \emptyset_{FOC}]] (Postnominal *one*-NPI)
 c. *bird_i [FocP t_i [Foc’ [CLP one [CL’ t_i CL]] \emptyset_{FOC}]] ... (Floating *one*-NPI)

I will also explore some consequences of this line of analysis by investigating several distributional and interpretive differences that are found among the three types of *one*-NPIs.

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