Second Language Knowledge of
[±Past] vs. [±Finite]
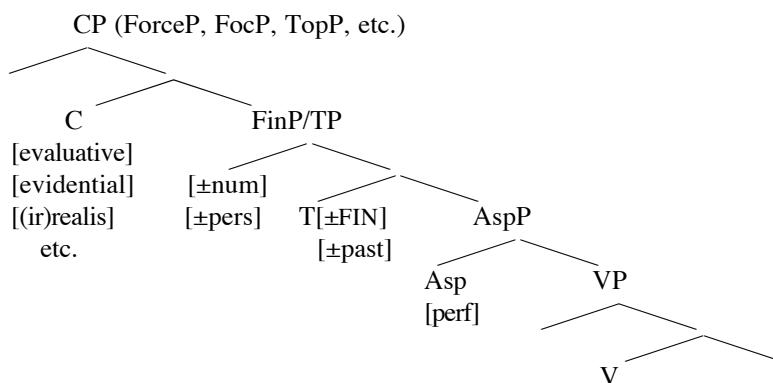
Donna Lardiere
Georgetown University

1. Introduction

In this paper I would like to consider some of the factors that have been proposed to account for variability in past tense marking, take a look at what goes into the (second language) acquisition of past tense marking in English, and ultimately attempt to examine the formal nature of the feature [±past] itself. Since each one of these goals would take us roaming all over the linguistic universe, I will focus my inquiry by addressing a particular recent perspective of the feature [±past], using data from Patty, a native Chinese speaker who has been the subject of an ongoing case study in second language acquisition (see Lardiere (1998a, forthcoming) for biographical details and information about the data collection.)

The phrase marker in (1) shows one widely accepted representation of the location of [±past] in the phrase structure (of English). (Although I am making no particular commitment to the structure or categories of the left-periphery (CP), I have included some possible CP features for reasons that will become clearer in section 4.)

(1)

```
        CP (ForceP, FocP, TopP, etc.)
        /              \
       C               FinP/TP
  [evaluative]         /      \
  [evidential]    [±num]
  [(ir)realis]    [±pers]   T[±FIN]      AspP
     etc.                   [±past]      /    \
                                      Asp      VP
                                     [perf]    /  \
                                             V
```

As a point of departure, let us turn to one characterization of [±past], that of Hawkins (2000), who writes:

"One view of [±past] is that it is not an intrinsic feature of T, as [±finite] might be, but is parametrised, with some languages selecting it and some not. Chinese, in contrast to English, appears not to have selected [±past], although it does have syntactic reflexes of a [±finite] feature (Li, 1990:18) …
The [±past] contrast of English is an interpretable feature of T. … In the absence of this feature, there is no requirement for an inflected verb form." (p. 78)

Thus, one answer to the question 'What does it take to acquire past tense in English?' is, according to Hawkins, *parameter-(re)setting*. Moreover, under this view we should not expect to find verbs inflected for past tense in the L2 if the L1 parameter value is unselected for [±past] and has not been reset in the course of acquiring the L2.

Hawkins supports this argument with data showing that native speakers of Chinese, a language which is presumably set to the no-past- feature value, do not attain as high a rate of past tense marking

in acquiring English as do native speakers of Japanese and German, whose native grammars presumably do have this feature. The relevant English past marking data for high-proficiency speakers whose native languages are Chinese, Japanese, or German, are shown in Table 1, with the percentage for SX, a native speaker of Chinese, in bold:

Table 1. (From Hawkins & Liszka (2000)'s Table 2). Proportion of inflected simple past tense verb forms out of tokens of verbs used in unambiguous past tense contexts in spontaneous speech, compared with final consonant cluster retention in monomorphemes and inflected participles (based on Bayley, 1996; Liszka, 2000).

Informant	L1	Proficiency	Inflected past tense	Monomorphemic cluster retention	Inflected participles
Bayley (1996)	CHI	high & low (combined)	44%	65%	74%
SX	CHI	high	**77.1**% (74/96)	100% (27/27)	100% (8/8)
HF	JAP	high	89% (137/154)	100% (29/29)	100% (10/10)
MK	GER	high	94.5% (103/109)	100% (20/20)	100% (26/26)

These findings are claimed to support the Failed Functional Features Hypothesis (FFH) (Hawkins & Chan 1997), according to which parameterized features not selected in pre-critical-period language acquisition subsequently become unavailable in later language acquisition. Table 1 shows that, in accordance with the FFH, SX provides a significantly lower proportion of past tense marking than HF and MK, two of the Japanese and German native speakers in this study.

Note, however, that neither the FFH nor Hawkins' proposed parameter-setting account for the acquisition of [±past] can easily account for why SX's past tense marking is as high as it is — at around 77% suppliance, presumably significantly higher than chance. Rather than attempting to explain away 77% of the contexts for past tense marking, it would seem to make more sense to conclude that SX does indeed have some knowledge of [past] and manages to apply its morphological reflexes most of the time;[1] the problem then is to try to figure out possible reasons for why such marking appears to be less than categorical.

The significantly higher rate of omission of past tense marking demonstrated by the native Chinese speakers in Hawkins' study is echoed by previously reported findings for Patty, a native Chinese speaker who has been immersed in a native English-speaking environment in the U.S. for many years (Lardiere 1998a). The data support Hawkins' claim that [±past] is "not an intrinsic feature of T, as [±finite] might be", and in fact I agree with this claim, as I hope to make clear.

For Patty, a perfect correlation was observed between clausal finiteness and the form of pronominal case-marking, demonstrating that she appears to have nativelike knowledge of the finite/nonfinite distinction in English. At the same time, however, as previously reported, other morphological correlates of finiteness (particularly lexical or thematic verbal affixation) are clearly non-nativelike in her grammar. As shown in Table 2, Patty's overall incidence of past tense-marking was observed to be fairly low — less than 35% overall in obligatory contexts over the entire period of spoken data collection.

---

[1] Unless, of course, its application appears to be completely random and indiscriminate (e.g. for nonpast contexts as well). Hawkins does not indicate that this is the case, however.

Table 2. Patty's knowledge of finiteness (NOM (subject) form chosen as pronominal subject of a finite clause) vs. past tense marking in obligatory past contexts (based on Lardiere 1998a).

Recording	NOM subj. pronouns / finite past contexts	%	Past tense marking/ finite past contexts	%
1	49 / 49	100	24 / 69	34.78
2	378 / 378	100	191 / 548	34.85
3	76 / 76	100	46 / 136	33.82

I will present below a more detailed picture of Patty's past tense-marking by verb type and discuss to what extent various factors that have been argued in the second language acquisition literature to play a role in the production and distribution of past tense-marking apply to her data. I will *not* argue that Patty's grammatical representation of past tense in English is completely identical to that of native speakers, because I have no evidence that could show that it is. Clearly, however, as I will show, Patty has acquired knowledge of at least some of the grammatical functions of past tense marking, perhaps to the same quantitative level as SX of Hawkins' study. Additionally, Patty's data provide rich grounds for reconsidering what it actually means to acquire 'past tense' in English, how the nature of this feature contrasts with that of 'finiteness', and whether we should view [±past] as a unitary interpretable feature and a 'parameterized option' in UG as Hawkins has claimed.

2. What does Patty typically mark for past tense?

Patty's past tense marking in her spoken production of English is, under certain conditions to be outlined below, even *less* nativelike than the overall figures in Table 2 suggest. Let us first turn to a look at Patty's past tense-marking by verb type, to see whether we can extract any generalizations from the data.

2.1 Apparent variability

The examples in (2) below show that even in closely proximate utterances (adjacent or nearly adjacent), the same verb type may be past-marked or not (either on the verb itself or with the auxiliary *be*):

(2) a. and also my mom also *speak* Mandarin
  yeah, they *spoke* uh, Mandarin also

  b. I *was applying* to college
  and uh, I *applying* mostly to junior college

  c. they *born* the same year
  because she *was born* in # in February
  and the other *was* in December

  d. and then he # he *gained* his sight
  yeah, Saul *gain* his sight

  e. and then I *said* 'Oh, so you're Jewish, huh?'
  and then I *say*, 'Well I have a girlfriend that I can introduce you to.'

Additionally, we find variability in past tense marking on the verbs in coordinated VPs within the same sentence:

(3) a. so I *wrote* and *speak* fluently
  b. even if I *buy* it and *left* it there until next year
  c. I *met* him and *go* out and...
  d. *went* to school and *learn* English

Upon closer examination, however, we can find tendencies in the (spoken) data for many verb types; even those types for which there is only one token in the data appear to conform to a few generalizations regarding the likelihood of being past-marked. These generalizations include the following:

- Although not all irregular verb types are typically past-marked where required (some never are), those verbs which are consistently past-marked are overwhelmingly irregular.
- Additionally, past tense-marking that would result in a final consonant cluster is nearly always omitted.
- The most frequent lexical main verb type, by far, is *have.* and it is never marked for past, nor is it marked when used in its semi-modal form *have to.*
- Phrasal verbs are typically not marked for past, even when they are irregular (e.g. *come across, fall asleep, find out, give up, hang out, look at, move in/move out, pick up, turn out*).

In sum, for Patty's spoken data, 'regular' past tense-suffixation on lexical main verbs is relatively rare, produced on only about 6% of regular verbs in past tense-marking contexts. This very low percentage is comparable to that for 3rd person singular *-s* affixation also previously reported (Lardiere 1998b). It appears that verbal affixal morphology is highly problematic for Patty. (For a detailed breakdown of past tense marking for every verb by type, see Lardiere (forthcoming)).

2.2 Written (e-mail) production

In addition to the findings for the spoken data summarized above, 21 e-mail samples collected from Patty over an additional five-year period were also analyzed for past tense marking. These provide quite a different picture. In contrast to her spoken data, her overall rate of past tense marking in the e-mail data is more than twice as high, at about 78% suppliance in obligatory contexts. Table 3 illustrates this difference:

Table 3. Spoken vs. written (e-mail) past tense marking in obligatory past contexts.

Recording	Suppliance / Contexts	%
1	24 / 69	34.78
2	191 / 548	34.85
3	46 / 136	33.82
E-mail:	120 / 154	**77.92**

The much higher rate of past tense marking in Patty's written data suggests that phonological factors are likely responsible for at least some of the omissions in her spoken data. In the next section let us turn to a look at this and other factors that have been argued in the literature to affect the rate and/or distribution of past tense marking in second language grammars.

3. Some possible factors affecting past tense marking
3.1 Phonological reduction

As mentioned above, Patty's past tense marking data suggest that she is much less likely to produce 'regular' past tense inflectional affixes on verbs than irregular past forms, at least in her spoken production. We can identify two phonological factors likely to play a role here: (i) learner-internal, involving transfer of an L1 constraint prohibiting final consonant clusters, and (ii) learner-external, involving the variable nature of the input with respect to final *-t/d* deletion among native speakers of (American) English.

Considering the case of phonological transfer from the L1, we note that no variety of Chinese permits final consonant clusters. Thus, we can reliably predict that an affixation process that causes

words to end in such a cluster will clash with a powerful native language constraint that prohibits them, discouraging their formation.

In addition to native language influence, another conspiring factor, the possibility of variable *-t/d* deletion by native English speakers for monomorphemic words, might have an effect on how the learner perceives the input. This factor was investigated for English L2 acquisition among native Chinese speakers by Bayley (1991, 1996), who found that degree of verb 'salience' (the extent to which the past form differs from the nonpast form, e.g. 'regular' vs. 'irregular' verbs) and sensitivity to the phonological environment (with deletion more likely following obstruents or nasals than liquids or vowels) were significant variables contributing to final *-t/d* deletion.

Bayley found that, whereas native English speakers were much more likely to preserve final *-t/d* in affixal past-marking contexts (e.g. *packed*) than in monomorphemic contexts (e.g. *pact*), Chinese-speaking English learners were somewhat more likely to delete *-t/d* in past-marking contexts than monomorphemic ones. Examining this result more carefully, he also found that the more interaction his subjects had with native English speakers, the more likely they were to reduce all final clusters across the board. He concluded that deletion in this case was primarily phonological rather than morphosyntactic. Putting it another way, we might say that for advanced Chinese learners of English who have extensive interaction with native English speakers, when the morphological rule ('add a past tense suffix') clashes with a phonological rule ('delete final *-t/d*'), the morphological rule wins out for the native English speakers, while the phonological one does for the native Chinese speakers.

Does Patty's past tense marking conform to this generalization? There are at least two predictions we could derive from Bayley's hypothesis: (i) if omission of past tense marking is primarily phonological, then we should find much higher rates of past tense marking for written rather than spoken contexts; and (ii) since Patty's interaction with native English speakers is so extensive, we might expect to find extensive final *-t/d* deletion in monomorphemic contexts as well. As we have already seen from Table 3 above, the first prediction is borne out to a considerable extent. Let us turn to the second.

An analysis of monomorphemic word types and tokens taken from the longest of Patty's recordings (recording 2) shows that *-t/d* deletion for such words is extremely consistent, with deletion in 205/211 tokens, for a deletion rate of over 97%.[2] (For a detailed breakdown of deletion by word type, see Lardiere (forthcoming).) Given her across-the-board deletion in both monomorphemic and past-tense contexts, it seems possible that Patty has yet to acquire "a system of constraints to limit morpheme deletion across internal morphological boundaries" (Bayley 1991, 110) similar to that observed among native English speakers.

3.2 The role of aspect

Another finding that has been widely reported throughout the literature in relation to past tense marking is that learners in early stages of language development may use past tense marking to reflect the aspectual rather than temporal properties of predicates. According to the *Aspect Hypothesis* (Andersen 1991; Andersen & Shirai 1996; Bardovi-Harlig & Reynolds 1995; Robison 1990, 1995), telic predicates, such as achievement and accomplishment verbs in the Vendler (1967) classification system, are initially more likely to be past tense marked than atelic predicates, such as activities and states.

It is not at all clear that we should expect this hypothesis to apply to an endstate learner like Patty, although Bayley (1991) found a significant effect for grammatical aspect on past tense marking of English among even the more advanced native Chinese speakers he studied. Thus it is possible that, in cases like Patty's in which production of past tense marking has apparently fossilized, we may be

---

[2] Patty's deletion rate in monomorphemic words contrasts sharply with similar spontaneous speech data provided by Hawkins (2000) for SX, an advanced Chinese learner of English mentioned earlier. Whereas Patty virtually always omits *-t/d* in final clusters in monomorphemic contexts, SX apparently never does. Perhaps the difference stems from the variety of English each informant has been exposed to (American vs. British), or the manner in which that variety was acquired. It looks as if phonological factors do not play much of a role in SX's past tense marking in English.

seeing the reflection of an earlier 'arrested' developmental stage, and/or the persistence of L1 influence, since Chinese is claimed to grammatically mark aspect rather than tense (Li & Thompson 1981). Patty's data were therefore analyzed to see if there was any relation between past tense marking and aspectual telicity. The results, summarized in Tables 4a-b below for both the spoken and written data, respectively, show that there is no significant contingency between telic aspect and past tense marking.

Table 4a. Past-tense marking as a function of aspectual telicity (spoken data).

	% Past-marked		% Not past-marked	
Telic	40.43	(112/277)	59.57	(165/277)
Atelic	35.04	(130/371)	64.96	(241/371)

(χ^2 (1) = 1.97, p = .16, n.s.)

Table 4b. Past-tense marking as a function of aspectual telicity (written data).

	% Past-marked		% Not past-marked	
Telic	83.33	(55/66)	16.67	(11/66)
Atelic	78.75	(63/80)	21.25	(17/80)

(χ^2 (1) = 0.49, p = .48, n.s.

In sum, Patty uses past tense marking in roughly the same (limited) proportions for both telic and atelic predicates, which is not that surprising given that the Aspect Hypothesis was intended to account for past tense marking in early rather than later stages of development.

Although we do not find evidence for the Aspect Hypothesis in Patty's data, a rather striking finding nonetheless emerges which is fairly worrisome from a methodological standpoint: we cannot be sure if for Patty the lexical semantics of English verbs match those of English native speakers, and in some cases, there seems to be considerable divergence. These discrepancies may be serious enough to cast some doubt on analyses of lexical aspect that are (necessarily) based on native speaker intuitions about which aspectual or other semantic features are associated with particular verbs occurring in particular grammatical and extra-grammatical contexts. Some examples are provided below in (4) to illustrate the point. The first line in each pair is Patty's actual utterance, the second is the approximate intended meaning (either clear from the context or confirmed with her in subsequent queries).

(4) a. even I just *wear* it, it's not hurt
   a'. [speaking about new shoes:] 'even though I've just put them on/started wearing them for the first time, they don't hurt'

   b. a year after I # I *wrote* my journal
   b'. 'a year after I started writing in/keeping my journal'

   c. and then suddenly, on the third hour, I think, they all *speak* in tongue
   c'. 'they all began to speak in tongues'

   d. so when I *knew* Adam, I already stop working at Benihana
   d'. 'so by the time I met/started getting to know Adam, I had already stopped working at B.'

   e. no, you just # you just *laugh* around
   e'. 'no, you were just joking around'

   f. and I *hear* it so many time
   f'. 'and I listened to it so many times'

   g. because I cannot *hear* anything they say
   g'. 'because I couldn't understand anything they said'

h.   which *struck* me more than a week now
h'.   'which struck more than a week ago and has continued to affect me since then'

In examples (4a–d) above, the intended meanings include an aspectually punctual inchoative sense that is likely absent from native speakers' semantic representations of the verbs in question, and which clashes with adverbial modification elsewhere in the sentence (although that modification provides important clues to the intended meaning). In example (4a), moreover, Patty's usage of *wear* suggests that for her its representation in English bears some resemblance to its Chinese counterpart (*chuan*), which is ambiguous between 'to wear' (atelic) and 'to put on' (telic). On the other side of the same coin, looking at example (4h), we see that the aspectual characteristics of the verb *struck*, which would likely be punctual and telic (i.e. an achievement verb in the Vendler system) for native speakers, appear to include the possibility of incorporating an additional atelic component for Patty in which the resultant state is still ongoing at the time of writing.

In addition to the interesting implications for L1 transfer, the data suggest that the coding for lexical aspect among second language learners may, if based solely on native speaker intuitions and target language diagnostic constructions, lead to the problem dubbed the *comparative fallacy* by Bley-Vroman (1983). This is even more likely to be so if, unlike Patty, the learners in question are still in the early stages of acquisition, with more limited lexical resources at their disposal. (See Lardiere (2003) for additional discussion.)

3.3 The role of discourse foregrounding/backgrounding

Another way to approach Patty's data is to consider SLA studies which have found that past tense morphology is sometimes used to mark foregrounded events in narratives, in support of what has come to be known as the Discourse Hypothesis (Bardovi-Harlig 1994, 1995, 1998). As with the Aspect Hypothesis, it was articulated not with respect to endstate acquirers such as Patty, but rather in reference to early-stage learners. According to Bardovi-Harlig, "the discourse hypothesis for interlanguage development states that learners use *emerging* verbal morphology to distinguish foreground from background in narratives" (1994, p. 43, emphasis added). Therefore, we should not necessarily expect to find evidence for the hypothesis in Patty's data; again, however, if we did find such evidence then it could potentially advance our knowledge of the theoretical construct of fossilization.

Five narratives were excerpted from Patty's spoken production data, three from the first recording and two from the third recording. (There were not enough narrative data in her e-mail production to analyze.) Within each narrative, every utterance that constituted an obligatory past context was coded both for foregrounding (sequentially ordered events that make up and advance the story line) vs. backgrounding (scene-setting, elaboration or evaluation of the foregrounded events) and for past tense marking. (See Lardiere (2003) for an example from the narrative data.)

The results indicate, perhaps unsurprisingly, that there is no significant contingency between past tense marking and discourse grounding, as shown in Table 5 below.

Table 5. Past-tense marking as a function of narrative grounding (spoken data, five narratives).

	% Past-marked		% Not past-marked	
Foreground	31.71	(13/41)	68.29	(28/41)
Background	29.95	(11/38)	71.05	(27/38)

(χ^2 (1) =.07, p = .79, n.s.)

Despite the lack of an effect for discourse grounding on past tense marking, Patty's narrative data show that her management of temporal devices can be quite sophisticated, including her use of adverbial modification and reverse-order sequences. Although there are not enough contexts to generalize from, she appears to quite reliably use past tense marking to indicate temporal anteriority, i.e. in contexts where native English speakers might be more likely to use past perfect. (Patty never uses the past perfect form.) Some examples are shown below:

(5) a.   so I *invite* Adam to # to the party
          and then meanwhile there's # I *was dating* uh, a man
          that I *met* in a club previous week,
          so he *was waiting* for me all this night ...
          so by the time Adam and I uh, *arrive*
          he *left* already

     b.   the first year in junior college I already *took*, uh, eight credit

     c.   M. was # *was left* even before that

The examples above also show that tense is distinguished from aspect (for example, via appropriate use of the progressive forms in (5a) above). In sum, the available data seem to indicate that Patty does know that past tense marking grammatically signals a kind of temporal relation.

3.4 The declarative/procedural model

A different sort of explanation for past tense marking in second language acquisition has recently been proposed, which we will briefly consider here. The Declarative/Procedural model (Ullman 2001), following earlier dual-mechanism models such as that of Pinker & Prince (1988), posits two distinct systems for the learning and processing of language. The first is an associative memory component that underlies stored knowledge about memorized words and associations between them, such as the pairing between a 'strong' verb and its associated irregular past form. The second is a computational component associated with sequential grammar, motor, and cognitive skills that subserves the implicit learning and use of a symbol-manipulating grammar, such as the 'procedure' used to compute the past tense for regular verbs. That is, in short, for *native* language speakers, regular inflection is considered procedural and irregular declarative.

Ullman extends the model's predictions to second language acquisition by later learners exposed to the L2 after late childhood or puberty. He hypothesizes that morphologically complex forms presumed to be compositionally computed by the procedural system in L1 acquisition are instead largely dependent on the declarative/lexical memory system, i.e., are simply memorized in their entirety in L2 acquisition, or perhaps constructed by explicit rules learned in declarative memory in a pedagogic environment, the nature of which "could in principle differ radically from the implicitly learned grammatical rules of L1"(p. 109). Reliance on the declarative system is predicted to be especially likely for high-frequency items because "higher levels of exposure should increase the likelihood of memorization" (p. 109). This shift to a greater reliance on declarative memory is posited to increase with increasing age of exposure to the L2. There is a possible complication, however, that is certainly relevant in Patty's case: greater experience and practice with the L2 is predicted to improve *procedural* computation.

In Patty's case, these two hypotheses — relatively late age of exposure to the L2 leading to reliance on declarative memory vs. high amount of exposure and practice leading to reliance on procedural computation — potentially cancel each other out in a way that makes predictions difficult to generate. The model appears to predict that irregular past verbs as well as highly frequent regular past verbs are more likely to be marked, as these would be stored in memory. The model is vague regarding how much exposure and practice is enough to effect a shift 'back' to procedural computation, but it is probably a safe bet that Patty more than meets the criterion. It is also not clear why, if reliance on

procedural memory is subject to a critical period as suggested by Ullman (based on the results of rodent studies, pp. 108-109), it should be recoverable in later life as a function of exposure.

The findings for Patty's spoken and written data analyzed for past tense marking with respect to verb 'regularity' are shown in Tables 6a-b (spoken data) and 7a-b (written). Let us turn to the spoken data first.

Table 6a. Rate of past tense marking on regular vs. irregular verbs, spoken data (lexical main verbs only).

Verb Type	% Past-marked	% Not past-marked
Regular	5.80 (8/138)	94.20 (130/138)
Irregular	46.08 (135/293)	53.92 (158/293)

(χ^2 (1) = 68.648, p < .001)

Table 6b. Rate of past tense marking on regular vs. irregular verbs, spoken data (*all* verbs including copula/auxiliaries/modals).

Verb Type	% Past-marked	% Not past-marked
Regular	5.80 (8/138)	94.20 (130/138)
Irregular	41.30 (254/615)	58.70 (361/615)

(χ^2 (1) = 62.62, p < .001)

In the spoken data, contrary to what we'd expect if Patty were relying primarily on declarative memory, there do not appear to be frequency effects for the regular verb forms; that is, the most frequent regular verbs are not more likely to be inflected than infrequent ones in Patty's spoken production. From all the regular verbs produced by Patty in her spoken data, the top ten with respect to frequency are listed in (6) below (based on frequency data from Francis & Kučera 1982). These are the regular verbs we would expect to be more consistently past tense marked under the Declarative/Procedural Model. However, the data show that only 2 out of 48, or about 4%, are inflected. This rate is similar to or even slightly less than her overall past tense marking rate for all regular verbs regardless of frequency.

(6)   look   (0/3)
       ask   (1/5)
       want   (0/9)
       call   (0/3)
       start   (0/15)
       move   (0/8)
       show   (0/1)
       use   (0/1)
       try   (1/2)
       appear   (0/1)

       Total   (2/48) = 4.17%

Moreover, we have already seen that the most highly frequent lexical verb produced both by Patty and her interlocutors is the irregular verb *have*, which she never marks for past. Thus it appears that the Declarative/Procedural model fails to accurately capture Patty's past tense marking production. On the one hand, high-frequency regular verbs appear no more likely to be tense-marked than lower-frequency ones, and at least one very highly frequent irregular verb is also never marked. (Similarly, the irregular verbs *can*, *give*, *hear*, *make*, *read*, *say* and *sit*, which are also highly frequent, are usually not past-marked.) On the other hand, Patty's previous lengthy exposure to and extensive practice in her L2 have not led to any noticeable improvement over the 8-year course of the recordings in the

application of regular past tense marking by a procedural grammar rule. As we have seen, however, these results could be complicated by phonological factors.

Turning to Patty's written data, we see quite a different picture emerge regarding regular vs. irregular past tense marking: the advantage for past tense marking on irregular verbs is essentially wiped out, with very little difference between regular and irregular.

Table 7a. Rate of past tense marking on regular vs. irregular verbs, written e-mail data (lexical main verbs only).

Verb Type	% Past-marked		% Not past-marked	
Regular	76.92	(30/39)	23.08	(9/39)
Irregular	70.49	(43/61)	29.51	(18/61)

(χ^2 (1) = .4992, p = .48 n.s.)

Table 7b. Rate of past tense marking on regular vs. irregular verbs, written e-mail data (*all* verbs including copula/auxiliaries/modals).

Verb Type	% Past-marked		% Not past-marked	
Regular	76.92	(30/39)	23.08	(9/39)
Irregular	78.26	(90/115)	21.74	(25/115)

(χ^2 (1) = .0303, p = .86 n.s.)

In the written data, moreover, even relatively infrequent regular verbs are inflected, such as *implanted*, *published*, *coded* [i.e. 'quoted'], *survived* and *valued*. (However, the highly frequent irregular verb *have* is still never past-marked, even in the written data.)

In sum, Patty's spoken data do not appear to support the Declarative/Procedural Model. For the written data, given the higher rate of past tense marking we find across the board, including on low-frequency regular verbs, we might conclude that she is able to procedurally compute past tense marking. In that case, however, one might well ask what prevents the 'procedure' from applying more categorically — say in the 90-98% rather than 70-78% range of consistent application. Given the model's vague appeal to an unspecified amount of exposure and practice to account for 'improved' past tense marking (pretty much true for nearly everyone's theory), the written data are not incompatible with this weaker claim, but until the model is further developed and more tightly constrained for SLA, it is not really clear what would count as a good test of it.

4. So, what does past tense marking (PTM) in English mark?

The diversity of approaches to the acquisition of past tense marking offers a glimpse into the range of features associated (or potentially associated) with it in SLA. Unlike the more purely formal feature [±finite], knowledge of which seems to be quite easily acquired even by native speakers of languages which don't overtly grammatically mark it, the acquisition of [±past] seems more complicated, its functions more gradated. Although an exhaustive examination of the formal morphosyntactic (e.g., as in agreement), semantic, and pragmatic features and/or functions encoded by past tense marking are well beyond the scope of this study, its complexity suggests that we are not dealing with the acquisition of a simple unitary feature.

In this section I would like to briefly examine more closely the main theoretical premise underlying Hawkins' study — namely, that [±past] is a parameterized morphosyntactic feature selected by some languages but not others, the parametric status of which is reflected in direct fashion by obligatory past tense marking in the data. To do this, let us look briefly at some of the functions

associated with *past tense marking* (henceforth, PTM), that illustrate that in fact there is a many-to-one[3] function-form pairing in English which complicates the acquisition picture.

4.1 PTM as an expression of eventive perfective aspect

Tense is typically distinguished from aspect as a matter of locating an event on a temporal dimension (e.g. prior to the moment of speech) as opposed to characterizing its internal temporal structure (e.g. as completed or ongoing). Particularly in the case of events, however (as opposed to states), there is in English near-identity between the morphological expression of the completion or culmination (i.e. 'perfectivity') of events, and the temporal situating of an event prior to the time of speech. In a recent work on the semantics of tense (from which I quote liberally here), Ludlow (1999) writes:

> "In most non-IE languages the so-called past is generally just some form of aspectual marker. Is the same true for IE languages? The case is certainly good for English, in which our so-called past tense morphemes are dead ringers for perfect aspectual markers. (A prime example is the '-ed' morpheme, which is taken to show that the event in question has culminated.)" (p. 160)

Therefore, in eventive sentences like *Paul walked the dog* or *We ate lunch in the cafeteria* the input with respect to morphological marking is ambiguous between past tense and perfective aspect. Another way to put this is that PTM would be morphologically compatible with both of these functions. The same sort of form-function 'mismatch' can also be observed for perfective compound tense forms in, say, French or German, where such forms are used to indicate 'past tense'.

4.2 PTM as an expression of counterfactuality or hypotheticality

The particular morphological form used to indicate past tense for any given verb is identical to that used to set up an irrealis context. Again, to quote Ludlow:

> "It is a notorious fact that past tense does not behave like past tense in counterfactuals (e.g. if I had a million dollars…) … there is a sense that some deeper third element underlies both tense and counterfactual modality — that tense can't simply be a primitive element that refers to the past." (p. 161)

There is some evidence from Patty's data that this particular function poses morphological difficulty for her, whose utterances include ones like the following:

(7) even if he *stay* over Eliotville, he will give me a call
     even if I *buy* it and *left* it there until next year…

4.3 PTM as a means of signaling a pragmatic implicature

In sentences like *Patty's first husband was Vietnamese*, the use of *was* does not mean that the individual-level predication of her first husband, in this case, BE VIETNAMESE, held (only) prior to speech time. Rather it implies that he is no longer her husband at speech time. In case he is still alive, he is still Vietnamese.

4.4 PTM as an expression of an uninterpretable feature (in T?) of stative subordinate clauses: Sequence of Tense.

In sentences like *Roger said that he disagreed with her analysis*, one interpretation is that 'he still does disagree'; i.e. his disagreement is ongoing. Although morphologically marked for past tense, this

---

[3] Given the different forms of past marking among the class of all verbs (e.g. irregular verbs), this function is actually many-to-many. But I would like to retain the intuition that for almost any given verb, the very same morphological form that we refer to as 'past' can be used to express several different functions.

instance of PTM is in fact "tenseless" or "not semantically active" (Kuhn & Portner, 2002). Almost all of these types of subordinate clauses in Patty's data are unmarked for past. Some examples from the data are given in (8):

(8)   we did not expect it *will* be so fast
        I thought we *have* a special deal
        they did not know whether or not she *will* be back
        I knew that I *want* to come to United State
        they thought that *I'm* from north
but: he took me to lunch the other day and told me he *valued* me very much

4.5 PTM as an expression of evidentiality?

Klein (2000) ties temporality to evidentiality with the observation that PTM can be used to indicate "the time for which an assertion is made", i.e. his *topic-time* rather than speech-time. An utterance such as *John was thinking of starting up a dot-com company* is ambiguous between a 'past' interpretation in which we believe that John was thinking about it and then stopped thinking about it (e.g. the dot-com economy crashed) and one in which maybe he is still thinking about it but that's the latest information about him the speaker can vouch for.

    Additionally, Ludlow (1999) writes:

> "Ideally, what we would like to say about so-called past tense morphology is that it is really telling us something about the kind of evidence that we currently have for our claims … what we are taking to be tense morphemes or aspectual markers might actually be evidentials. There is a real grammatical phenomenon (or class of phenomena) that we sloppily call tense and which we suppose to be connected to temporal reference. What we really have on our hands is most likely not a single phenomenon but a mixture of modality and evidentiality" (pp. 161-163).

    Note that if anything like what Ludlow suggests is true, the morphosyntactic feature [±past] in English is possibly somewhat of an artifact of linguistic description (as he points out) — an amalgam of more primitive features clumped together and realized in a particular morphological way for a particular language. Klein makes a similar point for the German Perfekt (which in fact functionally overlaps considerably though not completely with the English Past):

> "Traditional categories such as Perfekt or Passiv are not primitive notions of linguistic theory; they turn out to be nothing but *gross ways of clustering semantic and syntactic properties of their components*."(p. 381, emphasis added).
> [These components are:] "temporal relations, temporal intervals, the characterization of these intervals by the lexical content of simple and complex expressions, the distinction between finite and nonfinite expressions, and finally, the notion of assertion (in the case of declarative clauses)" (p. 381).

4.6 Summary

In sum, unless the same features or properties are always clumped in exactly the same way crosslinguistically such that they are uniformly realized by the same (PTM) morphological means in that language — which does not appear to be the case — it is doubtful we can speak of that amalgamated feature as being *parameterized* in the sense intended by Hawkins, such that some languages have it and some don't. In other words, given the range of application of PTM in English, i.e. a many-to-one mapping between function and form, it is not clear what sort of coherent argument can be made that an interpretable feature F [±past] is parametrically not selected by Chinese just because there isn't a single overt morphological reflex that encodes or divides up exactly the same bunch of stuff — some interpretable, some not — in exactly the same way English does.

To whatever extent there is overlap among the features encoded by different kinds of morphological exponence (e.g. 'tense' or 'aspect' or 'evidentiality') across languages, it would be difficult to characterize those associated features as parameterized in a binary ('all or nothing') way for an individual language. The acquisition situation for any given language seems far more complex; for English, working 'backwards' from decoding PTM in the input, the array of functions it expresses appears to range over the entire extended functional phrase structure, from CP down through AspP. Moreover, given the semantic, pragmatic and (in the case of sequence of tense agreement) grammatical complexity of what we consider [±past], it is understandable why it would be more difficult to acquire than [±finite], since the latter seems to be a more fundamental grammatical distinction, with greater consequences in the syntax (e.g. affecting verb raising, determination of case, etc.).

5.   Conclusion

Is there any way we can account for the apparent discrepancy Hawkins observed between Chinese speakers on the one hand, and German and Japanese speakers on the other, with respect to the former's higher rate of omission of past tense marking in his study? We are now in a better position to discuss aspects of possible L1 influence that do not necessarily involve the resetting of a [±past] 'parameter'.

First, it seems obvious that, at least in Patty's data, there is a robust phonological constraint against final consonant clusters. There also appears to be in her English idiolect a morphophonological constraint disfavoring verbal inflectional affixation (perhaps more amenable to an OT-type analysis).

Second, we have observed the possibility that lexical semantic features of L1 verbs have transferred and persist in their L2-equivalents.

Finally, we should at least consider the possibility that differential tendencies among learners' L1s to omit elements which are recoverable from the discourse context (or elsewhere in an utterance) might distinguish Chinese learners from, say, German learners of English. Li & Thompson (1981), for example, point out that in Chinese, "Often the conditions for the use of perfective *le* would appear to be satisfied, and yet no *le* appears" (p. 205). They observe that *le* is not required if an event already contains another "perfectivizing expression" (p. 206), or might be required on only the first event in a sequence of events (pp. 198ff). Li & Thompson also note that individual native speaker judgments may vary regarding the obligatoriness of *le* — depending on the extent to which the event is judged by the individual speaker to be bounded (pp. 191-192).

Now consider the input available to the Chinese-speaking learner of English. Even among native English speakers, there are commonly occurring conversational conditions under which the selection of [+past] is warranted but not truly obligatory, as in the use of politeness marking, sequence of tense agreement, and most strikingly, the so-called historical present. The widespread (constrained) use of historical present by native English speakers presents linguistic information to the learner that even native English speakers' use of PTM may be variable and not always obligatory. It may be difficult for the learner to determine precisely those conditions under which it is obligatory, especially for speakers whose L1 apparently provides considerable latitude with respect to omitting recoverable or redundant elements. The overall point I would like to make here is that the degree of obligatoriness in expressing the morphological reflexes of certain features depends on conditions that may be rather more flexible and underspecified among the speakers of one language than for those of another. This is also a type of L1 influence.

None of these factors, however, should be taken as evidence that some kind of English-like [past] feature is not in principle acquirable or representable by Patty or the Chinese participants in Hawkins' study. Indeed, the data all around suggest that it is, although its morphological application may be non-obligatory or inconsistent. This more indirect type of L1 influence would appear to better account for the data than a parametric explanation, since the latter incorrectly predicts either random or no past tense marking, contrary to what we find.

References

Andersen, R.W. (1991) Developmental sequences: The emergence of aspect marking in second language acquisition. In T. Huebner & C. A. Ferguson (eds.), *Crosscurrents in second language acquisition and linguistic theories*. Amsterdam: John Benjamins.

Andersen, R.W. & Shirai, Y. (1996) The primacy of aspect in first and second language acquisition: The pidgin-creole connection. In W.C. Ritchie & T.K. Bhatia (eds.) *Handbook of second language acquisition*. San Diego, CA: Academic Press.

Bardovi-Harlig, K. (1994) Anecdote or evidence? Evaluating support for hypotheses concerning the development of tense and aspect. In E. Tarone, S. Gass & A. Cohen (eds.), *Research methodology in second language acquisition*. Mahwah, NJ: Lawrence Erlbaum.

Bardovi-Harlig, K. (1995) A narrative perspective on the development of the tense/aspect system in second language acquisition. *SSLA* 17, 263-291.

Bardovi-Harlig, K. (1998) Narrative structure and lexical aspect: Conspiring factors in second language acquisition of tense-aspect morphology. *SSLA* 20, 471-508.

Bardovi-Harlig, K. & Reynolds, D.W. (1995) The role of lexical aspect in the acquisition of tense and aspect. *TESOL Quarterly* 29, 107-131.

Bayley, R.J. (1991) *Variation theory and second language learning: Linguistics and social constraints on interlanguage tense marking*. PhD dissertation, Stanford University.

Bayley, R.J. (1996) Competing constraints on variation in the speech of adult Chinese learners of English. In R.J. Bayley & D. Preston (eds.), *Second language acquisition and linguistic variation*. Amsterdam: John Benjamins.

Bley-Vroman, R. (1983) The comparative fallacy in interlanguage studies: the case of systematicity. *Language Learning* 33, 1-17.

Francis, W.N. & Kučera, H. (1982) *Frequency analysis of English usage: Lexicon and grammar*. Boston: Houghton Mifflin.

Hawkins, R. (2000) Persistent selective fossilization in second language acquisition and the optimal design of the language faculty. *Essex Research Reports in Linguistics* 34, 75-90.

Hawkins, R. & Chan, C. (1997) The partial availability of Universal Grammar in second language acquisition: the 'failed functional features hypothesis'. *Second Language Research* 13, 187-226.

Hawkins, R. & Liszka, S. (2000) More on the source of defective L2 past tense morphology, Paper presented at GASLA, MIT, Mar/April 2000.

Klein, W. (2000) An analysis of the German Perfekt. *Language* 76, 358-382.

Kuhn, S. & Portner, P. (2002). Tense and time. In D. Gabbay & F. Guenther (eds.), *Handbook of philosophical logic*, vol. VI. Dordrecht: Reidel.

Lardiere, D. (1998a) Case and tense in the 'fossilized' steady state. *Second Language Research* 14, 1-26.

Lardiere, D. (1998b) Dissociating syntax from morphology in a divergent L2 end-state grammar. *Second Language Research* 14, 359-375.

Lardiere, D. (2003) Revisiting the comparative fallacy: a reply to Lakshmanan & Selinker (2001). To appear in *Second Language Research*.

Lardiere, D. (forthcoming) *The endstate grammar in second language acquisition: a case study*. (to be published by Lawrence Erlbaum).

Li, C.N. & Thompson, S. (1983) *Mandarin Chinese: A functional reference grammar*. Berkeley: Univ. of California Press.

Li, Y.-H. A. (1990) *Order and constituency in Mandarin Chinese*. Dordrecht: Kluwer.

Liszka, S. (2000) Explaining divergent tense marking in advanced L2 speakers. Ms., University of Essex.

Ludlow, P. (1999) *Semantics, tense and time: An essay in the metaphysics of natural language*. Cambridge, MA: MIT Press.

Pinker, S. & Prince, A. (1988) On language and connectionism: analysis of a parallel distributed processing model of language acquisition. *Cognition* 28, 73-193.

Robison, R.E. (1990) The primacy of aspect: Aspectual marking in English interlanguage. *SSLA* 12, 315-330.

Robison, R.E. (1995) The aspect hypothesis revisited: A cross-sectional study of tense and aspect marking in interlanguage. *Applied Linguistics* 16, 344-370.

Ullman, M.T. (2001) The neural basis of lexicon and grammar in first and second language: The declarative/procedural model. *Bilingualism: Language & Cognition* 4, 105-122.

Vendler, Z. (1967) Verbs and times. In Z. Vendler (ed.), *Linguistics and philosophy*. Ithaca, NY: Cornell University Press.

Proceedings of the 6th Generative Approaches to Second Language Acquisition Conference (GASLA 2002): L2 Links

edited by Juana M. Liceras,
Helmut Zobl, and Helen Goodluck

Cascadilla Proceedings Project   Somerville, MA   2003

Ordering information

Orders for the library binding edition are handled by Cascadilla Press.
To place an order, go to www.lingref.com or contact:

Cascadilla Press, P.O. Box 440355, Somerville, MA 02144, USA
phone: 1-617-776-2370, fax: 1-617-776-2271, e-mail: sales@cascadilla.com

Web access and citation information

This entire proceedings can also be viewed on the web at www.lingref.com. Each paper has a unique document #
which can be added to citations to facilitate access. The document # should not replace the full citation.

This paper can be cited as:

Lardiere, Donna. 2003. Second Language Knowledge of [+/–Past] vs. [+/–Finite]. In *Proceedings of the 6th
Generative Approaches to Second Language Acquisition Conference (GASLA 2002)*, ed. Juana M. Liceras et al.,
176-189. Somerville, MA: Cascadilla Proceedings Project.

or:

Lardiere, Donna. 2003. Second Language Knowledge of [+/–Past] vs. [+/–Finite]. In *Proceedings of the 6th
Generative Approaches to Second Language Acquisition Conference (GASLA 2002)*, ed. Juana M. Liceras et al.,
176-189. Somerville, MA: Cascadilla Proceedings Project. www.lingref.com, document #1042.