Interpreting Experience:  
Clues from the Study of Language Acquisition

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1. The frequency factor

All three of the disciplines represented at this conference are deeply and intimately concerned with experience: language allows us to express it, literature helps us interpret it, and culture offers ways to organize and institutionalize it. This in turn leads to the following fundamental question, which also happens to be a central concern of cognitive science: how does the mind make sense of experience, not only in the formative early years, but also throughout life?

It’s not clear that this question can or should be approached in the same way in the study of language as it is in the study of literature or the study of culture. However, it is perhaps not unrealistic to hope for parallels in the way in which the question might be investigated. At the very least, the study of how the mind responds to experience in one domain may yield findings that can be contrasted and compared with those obtained from the investigation of other domains. With that in mind, I propose to explore this question from a linguistic point of view, offering suggestions that will, presumably, be of greatest interest to those working in the fields of linguistics and applied linguistics, but may nonetheless raise questions (or objections) of interest to scholars in literary and cultural studies.

A very central question in the study of language and its relationship to experience has to do with the role of frequency in shaping and explaining the character of linguistic phenomena. Put simply, to what extent does the frequency with which particular forms and patterns are encountered affect their properties, including the rate at which they are acquired?

For several decades, the linguistic mainstream has been deeply skeptical about the relevance of frequency to explanatory work on language. The roots of this skepticism can be traced to Noam Chomsky’s seminal work, *Syntactic Structures* (1957:16), in which he observed that ‘…one’s ability to produce and recognize grammatical utterances is not based on notions of statistical approximation and the like.’

More recently, however, it is has become evident that frequency has quite fundamental effects on various aspects of language. Here are a few examples:

- Frequent forms, by virtue of being used and heard so often, tend to maintain any irregularity that they have. For example, the most enduring irregular past tense forms in English occur with high-frequency verbs such as *be*, *go*, *come*, and so forth (e.g., Pinker 1999:125). In contrast, less frequent verbs such as *heave* and *thrive* have lost their irregular past tense forms (*hove* and *throve*, respectively).
Frequent forms tend to develop special ‘shortened’ pronunciations. For instance, the final ‘t’ or ‘d’ is more likely to be deleted in high-frequency words such as just (‘He jes left’), went (‘I wen there yesterday’) and don’t (‘don do it’) than in low-frequency words such as innocent, interest, or attract. Similarly, an unstressed vowel is more likely to be deleted in the middle of a high-frequency word such as every than in a low-frequency word such as summery. Mid-frequency words such as memory and family permit variation. (Bybee & McClelland 2005:390).

Almost all of the full forms currently involved in contraction in English (don’t, I’m, wanna, they’re, there’s, etc.) come from among the 150 most frequent words in the language (Krug 1998:294).

The internal structure of affixed words reflects the relative frequency of the word compared to that of its stem. Because adequate is more frequent than the affixed form inadequate, its presence in the derived word is relatively salient, leading to a high native speaker rating for structural complexity. In contrast, because audible is less frequent (and therefore less salient) than inaudible, the affixed form receives a low rating for structural complexity. (Hay 2003)

Words such as swiftly (which is more frequent that swift and therefore has a relatively weak internal morpheme boundary) are pronounced with less of a stem-final [t] than words such as softly, which is less frequent than soft and therefore has a relatively strong internal morpheme boundary. (Hay 2003)

More frequently occurring patterns are processed more quickly and more successfully than infrequently occurring patterns (e.g., active sentences vs. passives; see Townsend & Bever 2001 and Dick et al. 2001).

There is a strong inverse correlation between length and frequency: more frequent forms tend to be shorter (e.g., Haspelmath 2006:43 and the references cited there). For additional examples and discussion, see Bybee & McClelland (2005), Bybee & Hopper (2001), Ferreira (2003), Croft (2003:110ff), and Haspelmath (to appear).

Frequency, by itself or interacting with factors such as phonetic salience, affects the developmental order of ‘grammatical morphemes’ (Brown 1973, Goldschneider & deKeyser 2005). For example, plural -s (as in two dogs), which is acquired before the homophonous verbal -s suffix (as in He works hard), occurs more frequently overall and more frequently in the salient utterance-final position (Li, Leonard & Swanson 1999).

1 For more on this see, Jurafsky et al.. (2000), who note that that likelihood of a final t/d being deleted increases with the word’s frequency, regardless of whether it is a content word or a function word.

2 Ferreira reports (p. 194) that a processing model with two ‘fast and frugal heuristics’ (the NVN strategy and a semantic association heuristic—animates tend to be agents; inanimates tend to be themes) can account for a large amount of data involving the relative processing difficulty of canonical and non-canonical sentences.
Relative frequency of two -s suffixes in parental speech sample
(Li et al, p. 537)

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<th></th>
<th>all positions combined</th>
<th>end of the sentence</th>
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<tr>
<td>plural -s</td>
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<td>148</td>
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<td>verbal -s</td>
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<td>9</td>
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- Children are relatively quick at figuring out the right past tense form for frequently heard irregular verbs like *go* and *see*, but that they often take much longer to master the irregular past tense form of less common verbs such as *sink* or *win*. Maratsos (2000) estimates that it may take several hundred exposures to the correct form of a verb before all over-regularizations are eliminated.

- Children’s early production of direct objects reflects properties of the input. Thus children tend to use a direct object with verbs such as *get* and *like*, which are almost always used transitively by their parents, but often drop direct objects with verbs such as *eat*, which are frequently used intransitively in parental speech (Ingham 1993/1994, Theakston, Lieven, Pine & Rowland 2001).

But to what extent are such examples typical of language acquisition in general? Absolutely typical, according to some. For instance, Ellis (2006:1) has gone so far as to suggest that language acquisition is ‘contingency learning, that is the gathering of information about the relative frequency of form-function mappings.’

At first glance, this seems unlikely since there appear to be obvious examples of phenomena that are manifested with a high degree of frequency in the input yet very difficult to acquire. The English articles *the* and *a* are a case in point. For the sake of exposition, let us focus just on the *the*.

*The* is the most frequent word in the English language, yet it is a relatively late acquisition. This is obviously the case for second language learners, who find the English article system notoriously difficult and very often fail to attain native-like mastery of its use even after many years of instruction and practice. It is even true, although obviously to a much lesser extent, for child first language learners: Brown (1973:358) reports that use of the articles *the* and *a* attains 90% accuracy considerably later than several less frequent morphemes, including the progressive marker *-ing*, the plural suffix *-s*, the possessive morpheme *-'s*, and irregular past tense. How can we reconcile such facts with the idea that frequency has a major role in shaping the language acquisition process?

There is, I think, a potentially satisfying answer to this question that comes from one of the few real points of consensus in the field of linguistics, namely that language offers its users a way to map meaning onto form and vice versa. That is, we use words and sentences to express meaning to others, and we extract meaning from the words and sentences that others direct toward us.
If this is right, then the language acquisition process is devoted in large part to uncovering the particular mapping between form and meaning that is employed by the language to which the learner (child or adult) is exposed. This in turn suggests that to the extent that frequency is important to language acquisition, what counts is not how many times learners hear a particular form—it is how many times they encounter particular *mappings* between form and meaning.

Returning now to the problem of the acquisition of English articles, the crucial question isn’t whether language learners hear *the* more than any other word, it is how often they encounter instances of that particular form being used with an unequivocal meaning. There is reason to believe that this happens far less frequently than one might suspect. Two observations are crucial.

First, as observed by Ellis (2006b:171) grammatical functors in general can be identified based on ‘bottom-up’ (purely acoustic) evidence as little as half the time by adult native speakers (Herron & Bates 1997).3

Second, in the case of determiners, the meaning side of the form-meaning mapping is quite opaque and difficult to discern. As Ionin, Zubizaretta & Maldonado (2007) observe, at least two factors are potentially relevant to article systems in languages of the world:

- **Definiteness**: whether prior discourse, world knowledge, and so on establish the existence and uniqueness of the referent for the hearer as well the speaker
- **Specificity**: whether the speaker intends to refer to a particular referent, which has some property that makes it noteworthy from his/her point of view.

It turns out that the English article system is used primarily to encode definiteness, whereas the system employed in Samoan (for instance) is focused on specificity.

This creates two sorts of problems for language learners. First, the contrast between definiteness on the one hand and specificity on the other is a subtle one, since it presupposes access to the attitude and intentions of the speaker and the hearer—something which is often not fully available, of course. Matters are further complicated by the fact that definites are often specific, as in the following example from Ionin et al.:

(1) [+definite, +specific]

I want to talk to the owner of this store—she is my neighbor, and I have an urgent message for her.

Even assuming that a learner listening in on this conversation could infer the state of mind of both speaker and hearer, it would not be evident why *the* is used. Is it

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3 In the Herron & Bates studies, subjects had to identify semi-homophonic function words and content words (the pronoun *I* and the noun *eye*, the auxiliary verb *will* and the noun *will*, and so on) that had been spliced into various contexts—some neutral, some appropriate for just the content word, and some appropriate for just the function word.
because of definiteness—the speaker is referring to someone whose existence and uniqueness are established by general world knowledge (typically a store has a unique owner)? Or is it because of specificity—the speaker intends to refer to someone with a noteworthy property (she is a neighbor for whom she has an urgent message)? There is basically no way to tell, which means there is not an unequivocal mapping between the form *the* and its meaning in this case and in many others, as Ionin et al. note (p. 20).

That is not to say that the function of the definite article is never clear. Here is one such context, also from Ionin et al.

(2) [+definite, -specific]
I want to talk to the owner of this store, whoever that is. I am going to complain about the quality of the produce!

In this case, the speaker’s comment to the effect that she does not have in mind a specific referent allows the learner to infer that *the* is licensed by the existence of a unique (if unknown) referent—i.e., by definiteness. Crucially, however, it is unlikely that contexts in which the meaning of *the* is so unequivocally clear will be very numerous. As Ionin et al. note (p. 20):

> Given the subtlety of the discourse triggers related to speaker and hearer knowledge, generalizing from them is likely to be a fairly long and difficult process.

> In the final analysis, then, although the form *the* may indeed occur very frequently, mappings between the form and its meaning are far, far less frequent. Indeed, they may even be downright infrequent. The late acquisition of the English article system therefore need not count against the idea that frequency has a crucial role to play in shaping language acquisition.

### 2. Why frequency is not enough

Thus far, I have been defending the idea that there are genuine frequency effects in language acquisition. I have even tried to make more precise what type of frequency might be of greatest relevance to language learners, suggesting that we need to focus on the rates of occurrence of particular form–meaning mappings, rather than on just the occurrence of particular forms.

Nonetheless, I remain deeply skeptical about whether frequency effects will really turn out to be *central* to our understanding of language acquisition and use. Recall that the general problem we are considering has to do with the interpretation of experience—in particular, the question of the particular properties of experience that the mind cares about the most. Experience does not leave its imprint directly on
the mind—it passes through a processor that filters out certain things and focuses on others. For example, phonological processing focuses on just those features of sound that are linguistically relevant, setting to the side a wide range of extraneous factors ranging from background noise, to a foreign accent, to symptoms of a cold.

So the question really comes down to this: what type of processors do we have? Are they sensitive primarily to how often particular types of experience (e.g., particular structural patterns) are encountered, or are they guided by other considerations? My own recent work (e.g., O’Grady 2005) places a great deal of emphasis on this particular question since I take as my starting point the idea that the processor lies at the heart of the human language faculty and that a proper understanding of its functioning can contribute in major ways to understanding how language works and how it is acquired.

The standard view within linguistics is that the processor is at the service of a (largely innate system of) grammatical rules that determine which sentences of a language are well formed, what they can and cannot mean, and so on. My view is quite different. I have grave doubts about whether grammatical rules exist, or at least whether they exist in the form in which they are traditionally conceived. And I believe that the primary goal of the processor is simply to minimize the burden on working memory—the pool of resources that not only holds representations but also supports operations on those representations (e.g., structure building, interpretation, and so forth; see O’Grady 2005:6).

Let’s consider some examples, beginning with the familiar contrast between reflexive pronouns and plain pronouns.

2.1 Pronouns

At some point, every language learner (and every language teacher) has to confront the distinction between reflexive pronouns such as *himself* and *herself* on the one hand and plain pronouns such as *him* and *her* on the other. Both types of pronoun introduce a referential dependency—roughly speaking, they require the search for an ‘antecedent’ that can identify their referent. But different sorts of referential dependencies are evidently involved since the two types of pronouns are not in general interchangeable. (I’ll use subscripts to indicate a pronoun-antecedent pair.)

(3)a. Jerry\(_i\) admires himself\(_i\).
    b. Jerry\(_i\) admires him\(_j\).

Notice how, in this very simply example, *himself* necessarily refers to Jerry, while *him* necessarily refers to someone other than Jerry, presumably someone mentioned in the preceding context. A similar contrast, at least in monoclausal sentences exists in Malay (Cole & Hermon 2005:633-35).
Returning now to English, for which we have of course more information, there is good reason to believe that plain pronouns occur far more frequently than their reflexive counterparts. One indication of this comes from a search of maternal speech to Adam, Eve and Sarah that I conducted in the CHILDES data base. The search turned up 17 instances of *himself*, compared to 487 instances of *him*. There was an even sharper contrast between *themselves*, which occurred just once, and *them*, which appeared 717 times. All other things being equal, then, plain pronouns should be mastered before reflexives.

Interestingly, however, development runs in the opposite direction: the literature generally reports that whereas reflexive pronouns are mastered by age 3 or so, children continue to have significant difficulty with plain pronouns until around age 6. (See O’Grady 1997:226ff for a review.) Thus children who are asked whether ‘Mama Bear is touching her’ in a picture such as the one below will often answer ‘yes,’ treating *her* as if it meant *herself*.

![Figure 1: 'Is Mama Bear touching her?'](image)

Similar errors, although less well documented, have been reported for second language acquisition (Finer & Broselow 1986, Cook 1990, White 1998). Crucially, however, the reverse error (interpretation of a reflexive pronoun as if it were a plain pronoun) appears to occur only rarely, if at all, in either first or second language acquisition.

If frequency is not responsible for the development of the contrast between plain and reflexive pronouns, then what is? I explore one possibility in *Syntactic*...
Carpentry (O’Grady 2005:28ff). The key idea is that reflexive pronouns differ from plain pronouns in being immediately interpretable.

To see how this works, let us assume that sentence are formed and interpreted one word at a time from left to right, with all dependencies—including the referential dependencies introduced by pronouns—being resolved at the first opportunity. Then a sentence such as *John overestimates Bob* will be formed as follows. (I indicate that a nominal has satisfied one of a verb’s argument dependencies by copying its index into the grid of the verb.)

(5) a. Combination of the verb with its first argument, the NP *John*; the index of the nominal is copied into the verb’s argument grid:

\[ \text{[John}_i \text{ overestimates].} \]
\[ \langle N_i \text{ N} \rangle \]

b. Combination of the verb with its second argument, the NP *Bob*, whose index is then copied into the verb’s argument grid:

\[ \text{[John}_i \text{ [overestimates Bob}_j \text{]].} \]
\[ \langle N_i \text{ N}_j \rangle \]

Matters work essentially the same way when the sentence contains a reflexive pronoun, whose interpretation requires resolution of the referential dependency that it introduces. As shown below, the referential dependency can be instantly resolved by the index of *John* in the grid of the verb with which the pronoun combines.

(6) a. Combination of the verb with its first argument, the NP *John*; the index of the nominal is copied into the verb’s argument grid:

\[ \text{[John}_i \text{ overestimates].} \]
\[ \langle N_i \text{ N} \rangle \]

b. Combination of the verb with its second argument, the reflexive pronoun; resolution of the referential dependency:

\[ \text{[John}_i \text{ [overestimates himself}_x \text{]].} \]
\[ \langle N_i \text{ N}_x \rangle \]
\[ \downarrow \text{<resolution of the referential dependency>} \]

In contrast, a plain pronoun in the same position must be linked to a referent introduced at an earlier point in the discourse.
Independent experimental work by Piñango, Burkhardt, Brun & Avrutin (2001) and Sekerina, Stomswood & Hestvik (2004) confirms the increased processing difficulty associated with locating and identifying such referents. In Sekerina et al.’s eye movement study, for instance, children manifested a strong preference (as manifested in looks toward potential referents) for an antecedent in the same sentence for both the plain pronoun and the reflexive pronoun in patterns such as *The boy placed the box behind him/himself.*

If all of this is on the right track, then there is a simple but far-reaching lesson to draw: computational efficiency (the burden on the processor) is a better predictor of development than just frequency when the two are in conflict.

### 2.2 Relative clauses

For many years, relative clauses have provided revealing opportunities to further our understanding of the language acquisition process. Particularly instructive is the contrast between subject relative clauses such as (8a) and direct object relatives such as (8b).

(8) a. Subject relative clause:
   the student [who saw the woman]

   b. Direct object relative clause:
   the woman [who the student saw]

Based on a study of the speech of four mothers to their children, Diessel (2004) reports that direct object relatives are more frequent than subject relatives.

   Subject relatives: 35.6%
   Direct object relatives: 56.8%
   Other: 7.6%

From the point of view of frequency then, we would expect direct object relatives to be easier than subject relatives. But this is not what we find: rather, study after study has shown that subject relatives are mastered before direct object relatives, in the case of both first language acquisition (see O’Grady 1997: 226ff for a review) and second language acquisition (see Hamilton 1994 for a review). In addition, it is known that patients suffering from agrammatic aphasia find it far easier to understand subject relative clauses than direct object relatives (e.g., Grodzinsky, 1989).
Moreover, we know from experimental work by Roth (1984) that even with explicit training, three and four year olds maintain a strong preference for subject relatives over direct object relatives. As Caplan & Waters (2002:71) observe, ‘no amount of practice … seems to be able to make object-relative sentences as easy to process as subject-relative sentences.’

An additional fact, familiar to many of you, is also worth mentioning here: as documented by Keenan & Comrie (1977), subject relatives are typologically less marked than their direct object counterparts. Thus there are languages that permit subject relatives but not direct object relatives (but not vice versa). Indeed, as Wong (2002:64) observes, Malay is such a language. Thus the direct object relative in (9), which is more or less a direct translation of its English counterpart, is unacceptable to many speakers of standard Malay.

(9) *Doktor [yang John menolak _] ialah Dr. Tan.
   doctor that John push is Dr. Tan
   ‘The doctor [who John pushed _] is Dr. Tan.’

Instead, as Wong notes, the verb must be passivized, resulting in a subject relative clause.

(10) Doktor [yang _ ditolak oleh John] ialah Dr. Tan.
      doctor that PASS-push by John is Dr. Tan
      ‘The doctor [who _ was pushed by John] is Dr. Tan.’

Why should there be such a far-ranging asymmetry between subject and direct object relative clauses? The answer, I believe, lies in yet another long-standing finding: subject relatives are easier to process than their direct object counterparts (e.g., Wanner and Maratsos, 1978; Gibson, 1998; Caplan and Waters 2002), apparently because of a difference in the demands made on working memory in the course of forming the two types of structure. As illustrated below, a typical relative clause begins with a relative pronoun (e.g., who) that must be associated with a position in the verb’s argument grid—the first position in the case of the subject relative and the second position in the case of the direct object relative.

(11) a. Subject relative clause:
    the student [who\textsubscript{i} saw the woman\textsubscript{j}]
    \textsubscript{<N\textsubscript{i} N>}

    b. Direct object relative clause:
    the student [who\textsubscript{j} the woman\textsubscript{i} saw]
    \textsubscript{<N\textsubscript{j} N>}

A useful way to think about the relationship between the relative pronoun and the corresponding position in the verb’s argument grid is to assume that *wh* words introduce a ‘dependency’ that is resolved with the help of a previously open position in a verb’s argument grid (see O’Grady 2005:113ff for details).

Like referential dependencies, *wh* dependencies are easiest when resolved at the first opportunity. Crucially, as the contrast in (11) illustrates, that opportunity arises sooner in the case of subject relative clauses, in which the relative pronoun occurs next to the verb, than in direct object relatives, where the relative pronoun is separated from the verb by the intervening subject. This in turn suggests that object relative clauses may make comparatively greater demands on working memory. Evidence from processing studies offers striking support for this idea.

In a classic experiment, Wanner & Maratsos (1978) displayed sentences containing relative clauses on a screen one word a time, temporarily interrupting the presentation after the fourth word with a list of five names.

(12)a. Subject relative clause:
   The witch [*who despised sorcerers*] frightened little children.
   \[\uparrow\]
   interruption point [*Bob, Henry, Mary, Jean, Tom*]

b. Direct object relative clause:
   The witch [*who sorcerers despised*] frightened little children.
   \[\uparrow\]
   interruption point [*Bob, Henry, Mary, Jean, Tom*]

Recall of names and comprehension of the relative clauses were tested at the end of the sentence, and both were significantly poorer for the direct object relative clauses than for the subject relatives.

This is just what one would expect if establishing the link between the *wh* word and the verb taxes working memory. Because subject relative pronouns occur adjacent to the verb, the relationship can be established immediately, before the interruption point in (12a).

(13) Subject relative clause:
   The witch [*who despised sorcerers*] frightened little children.
   \[\uparrow\]
   \[\uparrow\]
   *wh* dependency is resolved here
   interruption point

In contrast, the object relative pronoun in (12b) is more distant from the verb and establishment of the link between the two is impeded by the intervening interruption, with negative consequences both for recall of the intruding names and for interpretation of the sentence.
Here again, then, we see an instantiation of the general point also exemplified in the case of pronoun interpretation. Processing difficulty trumps frequency in determining the course of development.

2.3 The positioning of prepositional phrases

It is well known that English has a strong preference for a fixed canonical word order in its basic clauses. A very basic example of this involves the subject – verb – direct object – prepositional phrase order found in sentences such as (15).

Although this order is of course by far the most frequent one for sentences containing a subject, a direct object and a prepositional phrase, this is not enough to ensure its correct interpretation, at least in the case of second language acquisition.\textsuperscript{5} Suggestive data in this regard comes from a study that two colleagues and I did of the ability of college-level Japanese- and Korean-speaking learners of English to respond to simple commands such as the following (O’Grady, Yamashita & Lee 2005a,b):

There were two key findings:

- Learners did far better on the basic locative pattern than on the basic instrumental pattern, even though both employ exactly the same canonical word order.

\textsuperscript{5}Comparable problems have been reported for agrammatic (O’Grady & Lee 2005).
Learners did far better on the fronted instrumental pattern than on the basic instrumental pattern, even though the fronted pattern employs a rare non-canonical word order.

The explanation that we proposed for these results involved processing: sentences are easier to process if their word order aligns with the structure of the corresponding event (the Isomorphic Mapping Hypothesis). Consider in this regard the contrast between the two instrumental patterns—Tap the pencil with the chalk versus With the chalk, tap the pencil. In order to comply with either version of this request, one first has to pick up the chalk and then use it to touch the pencil—a sequence of events that better matches the non-canonical word order in the second pattern, where the chalk is mentioned first, than the canonical word order in the first sentence.

Figure 2: ‘With the chalk, tap the pencil.’
(vs: ‘Tap the pencil with the chalk.’)

No such anomaly arises in the case of a locative pattern such as Put the chalk on the pencil. In order to carry out this request, one first picks up the chalk (which is also mentioned first) and then places it on the pencil—the sequence of events matches the canonical word order.

Once again then, we see a conflict between frequency on the one hand (represented by the basic instrumental pattern) and ease of processing (instantiated by the fronted instrumental pattern, whose order aligns with the structure of the event). And once again we see that ease of processing wins out.6

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6Ferreira (2003:190) also observes that the base frequency of a ‘global syntactic form’ is not what determines how accurately people comprehend a sentence, noting that subject clefts (e.g., It was John that saw Mary) are no harder to understand than regular active sentences.
3. Conclusion

I believe that the phenomena we have been considering are typical and therefore instructive in a very general way. There are indeed frequency effects in language acquisition, as we saw in the first part of this paper. However, consideration of a broader range of examples suggests that such effects are quite weak and that they give way to more compelling demands of the processor. In particular, what really matters is not how frequent a particular pattern is, but rather how much burden it places on the processor. Patterns that are associated with a relatively high processing cost emerge more slowly in the course of language acquisition—hence the relative difficulty and delayed mastery of plain pronouns compared to reflexives, of object relatives compared to subject relatives, and of word orders that align with the structure of the event compared to those that do not.

The general lesson here is in fact a familiar one: experience does not leave its imprint directly on the mind. Rather, as I suggested earlier, its effects and impact are shaped by the mental mechanisms that perceive and analyze it. In the case of language, the most important of these mechanisms is a simple processor whose primary concern is minimizing the burden on working memory, as we have seen. Understanding this simple fact can provide valuable insights not only into how language works, but also into why it is acquired in the particular way that it is and perhaps even how, in the case of second language learning, we might go about developing pedagogical materials that target phenomena that are particularly difficult. (For remarks along different lines on the relevance of frequency information to grammar teaching, see Biber & Reppen 2002.)

In the longer term, it may even be feasible to pursue in more detail the possibility, raised at the outset, of uncovering meaningful cross-disciplinary parallels in the interpretation of experience. I don’t think that language is alone in relegating the frequency of particular types of experience to a peripheral role. The grand themes of literature for example do not correspond to the most frequent experiences of life—love and death make for more compelling literature than meal eating and hand washing. And, of course, the most enduring and dearly held cultural practices pertain to matters that are central to our view of the world, not necessarily those that we confront most frequently. Unfortunately, however, discussion of these questions will have to be left for another time.

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