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3. Towards a Psycho-Grammatical Description of the English Language

Jean-Rémi Lapaire and Wilfrid Rotgé

Abstract

This paper describes a framework in which sentences are treated as 'constructions' involving 'workings of the mind' or *psycho-grammatical operations*. Operations are intrinsically dynamic and reflect not only the speaker's linguistic competence but also the way in which the mind functions in a given environment. The paper warns of the dangers of a purely descriptive and 'mimetic' conception of language which confuses word and world and denies the relative autonomy of grammar. Finally, key concepts are surveyed which play a leading role in textual analysis such as contextualization, short, medium and long term memory, and discourse strategy. These points are illustrated primarily using grammar points which often cause students problems.

Founding principles of the psycho-grammatical method

Texts are observable linguistic productions, made up of verbal signs¹ which are strung together according to strict *rules of syntax*². As the French linguist Guillaume established as early as 1919 in a challenging theory called *psycho-systemics*³ and as Chomsky later contended in *Aspects of the Theory of Syntax* (1965), sentences are surface structures that originate in the depths of the speaker's mind. The utterances we hear or read are not preassembled constructions that come out of nowhere, but are stretches of discourse that are generated in a given speech situation with specific communicative aims. Sentences may be compared to the finished product coming out on a conveyor belt after an extremely short but complex manufacturing process involving the speaker's mental capacities.

When native speakers produce sentences - or more generally utterances⁴ - they unconsciously perform various *operations*⁵ like 'noun phrase determination,' 'quantification,' 'predication,' 'extraposition,' 'embedding,' and 'compounding.' Although they may be forced to pay attention to style and wording when circumstances require some degree of formality, speakers are usually unaware of the innumerable *mental operations* involved in the construction of the most trivial sentences⁶. Such *mental operations* are part of their grammatical subconsciousness

and may be called *psycho-grammatical* in so far as they imply workings of the mind (*psycho-*) aimed at generating linguistic structures (*-grammatical*).

As Jakobson established in his study of aphasia⁷, the most elementary *operations* performed by any speaker in any language are 'selection' (i.e. choosing the words which are appropriate to the context and which convey the intended meaning of the message) and 'combination' (i.e. placing the words in the adequate sentence or clausal 'slots' and using the right grammatical inflections to mark the relationships between them). *Psycho-grammatical operations*, which are by definition abstract and invisible to the naked eye, may leave concrete 'marks' in discourse. Indeed, most of the 'function words' (e.g. the demonstratives *this & that*, the articles *a & the*; the auxiliaries *be, have, do*; the relative pronouns *which, who, that*) and all the 'grammatical inflections' may be seen as the codification of *operations*. This is a major shift in perspective which opens up new horizons in syntax, semantics and pragmatics.⁸ Grammatical morphemes are no longer treated as mere 'forms' or 'implements' but as markers that signal workings of the mind. A good illustration of this is provided by *TH*-items.

Standard grammatical accounts of *TH*-items tend to focus on the distinctive 'uses' and 'meanings' of *The, This, That, Then, There, Though, and Thus*. The various functional and semantic realizations of these 'function words' are discussed in great detail, but scarce attention is ever paid to the conspicuous presence of *TH-*, which may be regarded as their common denominator:

TH-e/-is/-at/-en/-ere

The reason why this striking similarity is traditionally overlooked is that *TH*- appears to be little more than a 'mindless morph' deprived of any real significance.

Yet, historical linguistics defines *TH-* as a 'demonstrative stem,' which would suggest that, not so long ago, *TH-* possessed specific grammatical features and was not a meaningless form at all. Have these features evaporated with time?

It is our firm belief that there is no such thing as 'amnesia' in the evolution of languages. Through a metaphorical shift which can be easily formalized and accounted for, *TH-* has come to denote an invariant mental process which may be diagrammed as follows:

previous workings... ← back-pointing movement — *TH-* (summative / recapitulatory)
of the mind

All **TH-** items are retrospective or, more technically, mentally anaphoric: they necessarily 'point back in thought.' **TH-** presupposes that 'something has gone before.' For example, you cannot say *Then he laughed* or *Why did he do it then?* without making reference to some previous statement or event. You cannot say *She's over there* if you have not initially established your own position as being *here*.

The retrospectiveness of **TH-**items owes much to the primitive physical concept of 'pointing.'

Directing a person's attention toward something is not as simple and spontaneous as it seems. We must first use our sense organs and our brains to detect a particular object or phenomenon, collect information and perform some instant 'data-processing.' Only then can we make a pointing gesture. Previous workings of the mind are thus involved, whatever their degree of complexity and variability. What **TH-** has retained of its demonstrative origin is precisely this: the existence of earlier mental operations that may be safely relied upon. The precise nature of the mental operations involved depends both on the situational context and on the other morpheme that **TH-** combines with (e.g. **-EN** in **TH-EN**). Since a whole spectrum of operations is crammed into a single morpheme, **TH-** appears as a highly 'compressive' morpheme.

Not only does our psycho-grammatical account of **TH-** indicate the systematicness of morphological rules (combinations are never random), but it also enables us:

[a] to discriminate effectively between superficially synonymous constructions (e.g. **WH-** relative clauses vs **TH-AT** relative clauses. See below)

[b] to explain why **TH-EN** - when it can be paraphrased by 'after that' (e.g. *We spent a week in Rome and then went to Naples*) - is both forward and back-pointing, and expresses completion ('once event 1 was **over**, event 2 ensued'). *Then* is less of a 'continuer' than *next*, which is truly 'additive' and forward-pointing.

[c] to distinguish between some parallel uses of the so-called 'definite' and 'zero' articles (e.g. *Would you fancy her as a little secretary reading **the/φ** fashion magazines? **The** stresses typicality and conveys a derogatory judgement: 'Of course you know what those magazines are like'*).

[d] to provide a more sophisticated account of the purely textual uses of *This* and *That*, when both items 'take up' information that is retrievable from earlier sentences (e.g. '*He's going to kill himself. Don't you know that?*'). As we demonstrated in 'The rhetorics of 'this and 'that' in fiction':

If a given topic is treated as an /open case/file/, then the chances are that *This* will be selected. Conversely, if the topic under consideration is presented as a /closed case/ or as a /settled matter/, *That* is more than likely to be used.

Our corpus-based study suggests that *This* is frequently associated with contexts where the speaker's mind /unseals/, /opens/, /reopens/, or /keeps open/ one of its /files/. In that respect, *This* may be called mentally imperfective.⁹ The most striking cases include:

- freshly imparted information (whose content may be too complex, problematic, incongruous or surprising to be assimilated instantly)
- obsessive ideas, topics, facts
- the reappraisal of past happenings
- exploratory or introductory strategies.

The same corpus-based study reveals the intrinsic /terminativeness/ or /conclusiveness/ of *That* (cf. the idioms *that's that*; *that's all*; *that's it*). Matters that are over and done with, quickly understood, self-explanatory, obvious, predictable or logical tend to be handled like a /closed file/ that is easily labeled, referred to and stored away. *That* may accordingly be termed mentally perfective¹⁰ and should be regarded as a sign of mental closure. (Lapaire and Rotgé, 1993:84)

Thought processes and mental pathways

When the world-famous American choreographer George Balanchine died, the *New York Times* published an obituary that read:

[1] George Balanchine was the foremost exponent of 'abstract' or plotless ballet. [...] But ballet *that* told no story did not always win favor with the public.

The reporter could well have written *ballet which told no story...* without the

slightest difference in meaning. Yet, the choice of *which* would have codified a different psycho-grammatical strategy. Whereas *that* clearly marks the relative clause for presupposition (*Ballet that told no story* is a rewording of 'abstract or plotless ballet' already expressed in the text), *which* does not treat the information as given. Using *which*, the journalist would have 'refreshed the reader's memory' (Bolinger, 1977) or 'gone back to square one' (Lapaire and Rotgé, 1991). *Which* has an explanatory, fact-providing role. *That*, on the other hand, indicates that the speaker regards the postmodification as legitimately pre-established (although it might not be so).

Using the 'source-path-goal' image schema studied by Lakoff and Johnson (1987),¹¹ *which* and *that* may be said to indicate two distinct 'mental pathways' leading to the same 'semantic destination.' What makes the difference is not the 'referential goal' that is eventually reached but the 'journey.' One track is smooth and easy (*that*); the other is slower and a little rougher (*which*). Using *that* amounts to getting in the 'fast lane.'

The 'link schema' may also be applied to explain where the difference lies. *Which* and *that* denote varying degrees of 'compactness' between the relative clause and its antecedent. With *that*, the clause is 'tightly fastened' to the antecedent. With *which*, a much lower degree of compactness is achieved and the clause is more loosely tied to the antecedent.

Language and discourse: Looking for general rules and stable principles behind the fluctuations of individual usage

Well before Chomsky spoke of the 'infinite' number of 'well-formed sentences' that could be generated with 'finite means,' Guillaume suggested that the principles governing syntax and meaning are restricted in number. He argued that grammatical morphemes like determiners, auxiliaries, verb inflections, conjunctions, prepositions, etc. hold stable properties in language, despite the various functional and semantic realizations they may have in discourse.

Rather than merely list and exemplify the central and peripheral 'uses' of a given form or structure, linguists who follow Guillaume in his search for 'core values' (Fr. *valeurs centrales*) and 'stable properties' (Fr. *invariants*) try to discover the deep unifying principles that govern all the surface realizations of grammatical markers. They posit that unity and stability can be found at the more general level of language, despite the proliferation of contextual meanings attached to a particular form in discourse.

The English modals provide a case in point. The syntax of English modals is quite simple, but their semantics is an endless source of confusion to learners because:

[a] different modal auxiliaries are said to have the same meaning. In *May/Can I ring again?*, *Can* and *May* are both used to ask the addressee's 'permission' to perform a specific action. In *Students must vacate their rooms by the end of week 9*, *must* expresses 'obligation,' as would have *shall* or *should*.

[b] the same modal auxiliary may have different meanings. Depending on such variables as the sentential context, stress and intonation patterns, *must* can express 'self-admonishment' (*I must change my ways*); 'external obligation' (*You must produce proper identification*); 'enthusiastic advice' (*You must read this!*); 'resentment' (*Yes he's gay and unlikely to marry her - if you must know*); 'exasperation' ([For goodness' sake] *Must you shout so much?*); 'logical necessity' or 'inference' ([In all likelihood] *He must have been mad*).

Point [a] raises the important issue of grammatical synonymy (Can different forms really convey the same meaning?), while point [b] raises the even more crucial issue of grammatical homonymy.¹² Should one consider that *must* denoting 'obligation' is a distinct item not to be confused with *must* expressing 'exasperation' or 'logical necessity,' in which case one would have to acknowledge the existence of deceptively identical verbs *must*1, *must*2, *must*3...? Or should the myriad meanings dutifully recorded by grammarians and lexicographers be treated as the possible semantic realizations (Fr. *effets de sens*) of a single auxiliary *must*? The 'common denominator' we would then be looking for is certainly elusive, since it lies deep inside the 'grammatical subconsciousness' of each native speaker. Yet, we may hypothesize that the stable psycho-grammatical features that can be ascribed to each modal auxiliary are small bundles of semantic and syntactic features. By 'semantic features' we mean notions such as those expressed by the traditional concepts of *necessity* (for *must*), *ability* (for *can* and *may*), *probability* (for *shall* and *will*), although these are polysemous and leave much to be desired. By 'syntactic features' we mean the relationship between the subject (S) and the predicate (P). The combination of the stable semantic features with variations of syntactic features can provide various surface meanings. The syntactic features can be in:

Perfect agreement (judging by what the speaker knows of the situation, ‘S and P go together well,’ ‘nothing is [was or should be] there to block the undertaking of P by S’). Such is the case with *Will/Would* and *Can/Could*, which we call ‘modals of congruence.’¹³

You **can** leave now.

I **could** see the lights in the distance.

He’s clever and **will** assume control of things.

She **would** get up early.

The reason why *can* is seen as ‘less polite’ than *may* in requests (*Can I use your phone?*) is that the speaker anticipates assent on the part of the addressee (‘nothing should stand in the way of my using your phone’).

When *must* denotes logical necessity, it also bears the feature [+ congruence]:

You **must** be hungry/He **must** have known all along.

Imperfect agreement or potential disagreement (‘S and P do not go well together,’ ‘something might get in the way of the execution of P by S’; ‘P has to be forced on S’). Such is the case with *shall/should* and *may/might*, which we call ‘modals of incongruence.’

- *You may go now*
(My will is a potential obstacle to your freedom of movement. I have the authority of detaining you.)
- *You may be right*
(I cannot say you are right for sure because new evidence might testify to the contrary.)
- *May he rest in peace*
(Who can know for certain that there isn’t anything preventing his soul from resting in peace.)
- *We shall overcome.*
(However difficult it is bound to be.)
- *Really, I should stop harassing him!*
(Despite my reluctance to do so.).

Disagreement: Obligational *Must* bears the feature [- congruence]:

Racism in the police force must be eradicated once and for all.
(‘Many obstacles are likely to get in the way of reform.’)

Grammatical structures have a core of stable properties governing the multiple semantic and functional realizations found in discourse. Although it is undoubtedly difficult to identify these core values, a purely taxonomic (‘classificatory’) approach to grammar yields descriptive accounts of mammoth proportions with limited explanatory force.¹⁴

Word and world: Describing the internal mechanism of language or describing external reality

Traditional grammatical labels give the impression that grammatical morphemes function very much like common lexical items: they are linguistic signs that denote extra linguistic notions, entities or processes. According to this view, the main purpose of grammar is to determine the type of spatial, temporal, modal or conceptual information that is typically conveyed by determiners, proforms, verb inflections, auxiliary constructions, prepositions, particles, etc. This leads students to believe that everything in language is subservient to the description of the extra-linguistic reality.

Yet, students who regard language as a carbon copy of reality often overlook the fact that syntax is, to a large extent, a world of its own which is governed by internal laws. Unfortunately, much of the common vocabulary of grammatical description gives precedence to meaning over syntax and describes specific grammatical phenomena in terms of real-world events. This makes it extremely difficult for students of English to understand:

- why the ‘present continuous’ may refer to a happening that is not ‘unfolding at the present moment’ (e.g. *I’m having a party tonight.*) or denote an action that has not started yet (e.g. *If we’re going to town, let’s get moving.*)
- why the ‘past tense’ can be used with ‘present time reference’ (e.g. *I wondered if you knew where he is/was*)
- why ‘pointing signals’ expressing ‘near’ (*this*) or ‘not near’ (*that*)

reference in a spatio-temporal (e.g. *This here boy is ma son.*) or emotional sense (e.g. *That man, she thought, that man took.*) can act as purely linguistic substitutes, regardless of distance (e.g. *She always said the Dark One wanted me most of all, and I believed this.*).

- why *it*, which is centrally defined as a ‘pronoun used to refer to animals or objects,’ can have no real-world referent as such and function as a purely syntactic device. Such is the case of the ‘anticipatory *it*’ of, *It was nice meeting you*, and the ‘empty *it*’ found in cleft sentences like, *It was my daughter she wanted to see*. Both denote intra-linguistic - as opposed to extra-linguistic - processes: extraposition of a clausal subject (*Meeting you was nice* → *It was nice meeting you*) and positional highlighting of a sentence constituent (*She wanted to see my daughter.* → *It was my daughter she wanted to see.*). Extraposition and positional highlighting are ‘syntactic events,’ not ‘real-world happenings.’

Yet, many language instructors feel that a description of syntax per se is beyond the reach of the average student and that traditional labels like ‘demonstrative,’ ‘progressive,’ ‘past’ should be maintained at all costs. They also believe that the ‘concrete’ uses of ‘function words’ should be mastered before students are exposed to more ‘abstract’ uses of grammatical morphemes, which are viewed as idiomatic constructions that defy understanding. But since even the simplest sentences of ordinary language are full of non-progressive uses of progressive tenses or non-pronominal uses of pronouns, the teacher cannot easily limit students’ exposure to these ‘exceptions.’ Moreover the allegedly ‘concrete’ uses of grammatical forms are more ‘abstract’ than one is usually inclined to think.

Let us consider, by way of illustration, some of the ways in which *there* can be used. In spontaneous conversation we do indeed come across locative and semi-locative occurrences of *there*, which may seem rather ‘concrete’ and ‘referential’ since they are meant to draw the addressee’s attention to a place or an element in the ‘real world’:

[1] *Look! Tim is just over there!*

[2] *There goes the bell for dinner!*

In fact, such ‘down-to-earth’ uses of *there* already involve psycho-grammatical

operations of a relatively abstract kind. Failure to acknowledge this is prejudicial to a thorough understanding of more problematic yet equally frequent realizations of *there*. As briefly explained earlier, *TH-* signals that some basic information has already been processed by the speaker's brain. *TH-* also indicates that the speaker believes that the information should be known to the addressee. If not, it should be easily recoverable or inferable from the situational or general context. The ending *-ERE* codifies either direct location in space or refers more loosely to the situation. The psycho-grammatical processes involved are paraphrased by:

- [1] 'We are both standing in a place which you and I would agree to define as *Here*. I wish to direct your attention to another spot which is clearly not-*Here* and where I can see Tim' = *There*
- [2] 'I have heard a noise that makes sense to me in the situation (*-ere*) and my bet is that you have as well (*Th-*). (Compare *There goes the bell* with *Here goes the bell.*)

When one's chief concern is no longer the referential meaning of morphemes, the supposedly 'abstract' realizations of *There* in existential constructions (see [3] & [4] below) and in numerous idioms ([5], [6], [7]) no longer look completely different from the 'concrete' ones discussed above:

- [3] *There isn't a single wall standing in the entire town.*
- [4] *Through my window there wasn't much to see - dirt and dead snow.*
- [5] *There's gratitude for you!* [ironical]
- [6] *There you are.* [Used when giving somebody something they have asked for or to show how easy something is]
- [7] *There he goes again!* [Used to criticize a person's predictable behavior]

From our perspective, the psycho-grammatical features that were shown to be active in the concrete, locative uses of *there* remain unchanged, in spite of the obvious differences in stress pattern and syntactic arrangement (which will not be

discussed in this chapter). Suffice it to say that existential constructions involve the prior acquisition (*TH-*) of situational knowledge (*-ERE*) by the speaker. The idioms listed above are also tied to a given situation (*-ERE*) and earlier observation, experience or reflection (*TH-*).

In short, we recommend paying less attention to meaning and reference ('what sentences describe') and focusing more on psycho-grammatical phenomena. The following recommendations might be made to language teachers:

- [a] avoid restrictive and misleading labels like 'progressive' or 'demonstrative,' which lead students to believe that 'incompleteness' and 'pointing' are the defining features of *be + -ing* or *this/that*. All other uses of these morphemes come to be viewed as 'odd,' 'peripheral' or even 'deviant.' It is safer to allow morphology to speak for itself. By using the symbols *be+ing*, for instance, teachers open up the possibility of numerous interpretations ('duration,' 'incompleteness,' 'prediction,' 'strong assertion').
- [b] try to link the various semantic and functional realizations of a given marker.
- [c] make full use of already-existing distinctions such as between extra-linguistic time and grammatical tense or biological sex and socio-cultural/linguistic gender to show that language has its own way of reprocessing concepts.

Grammar in context

As pragmatics and sociolinguists have clearly established, contextual factors have a significant impact on the way words are chosen and put together. Therefore, it is always advisable to use authentic examples extracted from a genuine corpus of spoken or written English. Printed texts borrowed from fiction and drama provide excellent, inexpensive language material. Not only are all examples attested, but they afford priceless insights into the 'inner life' of speakers:

What may be lost in freedom and authenticity through the conventions of fiction may be gained in psychological depth and understanding of pragmatic issues: speakers are seen expressing themselves in a variety

of emotional and social contexts, and soon correlations between a specific frame of mind and the selection of a particular word or structure emerge. (Lapaire & Rotgé, 1993: 85-86)

For instance, the distribution of *A(N)* in connected narrative or dialogue indicates that the so-called 'indefinite article' is intrinsically addressee-oriented and has an expository ('presentative') or explanatory function:

1. (The female narrator brings to the reader's knowledge situational information that she deems relevant.)

Her cell was the quietest. There was a crude straw mattress, a tiny book-case with a picture of Saint Francis hanging over it, a ragged palm, a stool for sitting on, a crucifix. (Louise Erdrich, *Love Medicine* 55)

The use of *A(N)* depends on the *mental representation* the speaker forms of the addressees, together with the *mental images* drawn of the contextual environment. In the above example, the narrator assumes that the reader is ignorant of certain details regarding the cell of a nun called Sister Leopolda. *A(N)* is thus informative ('fact-providing').

The, on the other hand, signals that the speaker assumes prior knowledge of some basic information on the part of the addressee. The speaker may be wrong in this, but the supposedly known 'facts' can always be explained later, unless they come to be regarded as self-evident. Even in the midst of heated argument, *The* is an intimacy-creating device. The 'definite article' promotes speaker-hearer solidarity by setting up a 'bond of knowledge' (*Of course you know - or at least can imagine - what I'm talking about*):

2. You were never anything but a hard-working drummer who landed in **the ash-can** like all the rest of them!' (Arthur Miller, *Death of a Salesman*: 105)
3. I have come to New York because it is **the most forlorn of places, the most abject. The brokenness** is everywhere, **the disarray** is universal. You have only to open your eyes to see it. **The broken people, the broken things, the broken thoughts.** (Paul Auster, *The New York Trilogy* 78)

In example 2 Biff is telling his father Willy - a tired sales representative - that he is now old and worthless in a society that values efficiency and metaphorically dumps people into **the ash-can**. Willy is supposed to grasp the metaphor and is forced into accepting its existential implications. In example 3 superlative constructions are first used by the narrator to impose a ready-made judgement on the reader. This process can be paraphrased by 'I have drawn comparisons with other places and come to the conclusion that...' *Th*- indicates prior mental activity: *I have looked around, summed up and judged* - as well as the established nature of the 'facts' under consideration. The truth-value of the statement is beyond discussion and the addressee is pressured into agreeing, i.e. sharing the narrator's views. *The* is later used to impose on the reader a vision of New York streets that he or she should find no difficulty accepting. Compare *the brokenness, the disarray, the broken people*, etc. with the more 'neutral' ϕ *brokenness... \phi**disarray... \phi**broken people* obtained by substituting the zero article for *the*.

Whereas context-free examples often lead to endless speculation about the intended meaning of an anonymous speaker talking to a faceless addressee, stretches of discourse extracted from novels or plays are immediately placed in a specific context. All grammatical distinctions are, by definition, context-sensitive, so students should become used to answering such basic questions as *Who is talking to whom under which circumstances?, What relevant pieces of information have already been supplied?, What do we know of the speaker's communicative intentions and mental make-up?* Trite as this may sound, there is no better place for studying grammar in context than in texts.

The textual activation of memory

In their landmark study of *Cohesion in English* (1976) M.A.K. Halliday and R. Hasan contrast texts to 'collections of unrelated sentences.' Anaphora, substitution, co-reference, ellipsis, and conjunction, they claim, create 'cohesive ties,' i.e. structural and semantic links that unite words across sentence boundaries and foster an impression of overall unity:

Suppose we find the following instructions in the cookery book:
Wash and core six cooking apples. Put them into a fireproof dish.

It is clear that *them* in the second sentence refers back to (is ***anaphoric*** to) the six cooking apples in the first sentence. This ***anaphoric*** function of *them* gives cohesion to the two sentences, so

that we interpret them as a whole; the two sentences together constitute a text. (Halliday and Hasan, 1976: 2)

What the authors fail to discuss in their book, however, is the key role played by memory. Anaphora and substitution are not spatial but mental processes: anaphoric items and substitutes do not point back to the before-text or replace textual units but call back to memory information that has already been supplied verbally and recorded by the brain. It is only because we remember hearing or reading *Wash and core six cooking apples*, that we can actually make sense of them in *Put them into a fireproof dish*. Third person pronouns like *he*, *she*, *it* and *them* activate our short-term memory of what has gone before in the text. They do not 'take up' words but recall data. Interestingly, they are briefly filled up with information, then emptied to accommodate another set of recollections.

[1] Biff: *His eyes are going.*

Happy: *No, I've driven with him. He sees all right. He just doesn't keep his mind on it. I drove into the city with him last week. He stops at a green light and then it turns red and he goes.* (Death of a Salesman: 14)

Both Biff and Happy are talking about their father and use the same pronoun *he* to conjure up his image. The interpretation of *he*, *him*, *his* in this excerpt has a certain stability, whereas *it* undergoes what might be called 'semantic fueling, defueling and refueling.' The first *it* is interpretable by reference to what Happy has just said about driving in the car with his father. Then comes the second *it*, which is of course identical in form but different in content. The old meaning evaporates instantly, and new meaning takes its place (*It*₂ = *the green light*).

Proforms are not alone in involving memory. All *TH*-items, as already stated earlier, are mentally retrospective. The article *the*, for instance, indicates that the head noun it determines cannot be interpreted properly without knowledge that has been acquired:

- in the immediately preceding text (short-term memory)
- somewhere else in the before-text (medium term memory)
- in other circumstances or in the broader cultural context (long term memory)

For example, in the following sentences, *the bus ticket* and *the reservation* make overt reference to what has been told before by the narrator. Failure to remember the fact that *a young Indian woman*, who lives on *a reservation*, has purchased a bus ticket and is about to leave would make the passage rather cryptic:

The bus ticket would stay good, maybe forever. They weren't expecting her home on the reservation. She didn't even have a man there, except the one she'd divorced. (Louise Erdrich, *Love Medicine* 3)

Students should be made aware of the decisive role played by memory in language. Not only does language-acquisition depend on the safe 'storage' of forms inside our brains, but successful verbal interaction requires our ability to memorize countless pieces of information. All sorts of linguistic games can be played in class, like reading an excerpt from a book or article, clipping out a sentence containing proforms (i.e. 'substitutes,' 'replacive units' such as *it*, *this*, *that*, *so*) and asking students, on the following day, to see if they can still understand what is being said.

Conclusion

The complexities of language call for flexible frameworks of analysis that transcend the artificial division of grammar into 'syntax,' 'semantics,' and 'pragmatics.' Grammatical description has much to gain by going beyond the purely taxonomic categorization of items, meanings and structures. Cognitive and mental processes should become essential components of common explanatory procedures, even if the neurological mysteries of the 'black box,' where words mate and sentences spring to life - remain to be solved.

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Notes:

1. Non-verbal signs (facial expressions, body movements, etc.) are an essential part of the business of communication. For want of space,

body language will not be dealt with in this paper.

2. Syntax - based on the Greek prefix *sun* 'together' and the verb *tassein* 'to arrange' - means quite literally 'to arrange [words/lexemes morphemes/signs] together in order.' In English, as in most analytic languages, speakers have limited syntactic choice and must go by the 'do's and don't's' of an extremely coercive word-order.
3. *Psychosystématique* or *psychomécanique du langage* in French. Throughout the 40's and 50's, Guillaume (1883-1960) gave weekly lectures at the Ecole des Hautes Etudes in Paris. A transcription has been published jointly by Les Presses Universitaires de Lille (France) and Les Presses de l'Université Laval (Quebec). Volume 8 (1947-48) is probably the best. An English translation of selected excerpts is also available: *Foundations for a Science of Language*. 1984, Amsterdam/Philadelphia: John Benjamins.
4. Some French grammarians have suggested using *utterance* (Fr. *énoncé*) as a generic term which denotes any autonomous sequence of words conveying an identifiable message, irrespective of form and structure.
5. *Operation* is derived from the Latin verb *operari*, which means 'to work.' Speech-production is an intrinsically dynamic process which requires intense neurophysical activity and involves various 'manipulations' of signs and concepts.
6. This partly accounts for the fact that native speakers are usually at a loss when asked to teach grammar. The syntactic and semantic rules they instinctively apply in spontaneous conversation or informal writing remain covert and are not available for direct examination.
7. *Aphasia* is a disorder of the nervous system characterized by the partial or total loss of the ability to communicate in speech or writing.
8. Syntax, semantics, and pragmatics are conventionally treated as separate subjects. In our view, this separation is detrimental to grammatical inquiry, which has much to gain by showing their interconnectedness.
9. /not completed in the mind/, /not over yet/, /still being processed/.
10. /brought to completion (in the mind)/, /processed/.
11. In more recent works *Women, Fire and dangerous Things* (Lakoff, 1987) and *The Body in the Mind* (Johnson, 1987) - Lakoff and Johnson have come to explore the way in which we conceptualize mental

processes in terms of *paths*, *goals*, *forces*, and *obstacles*. For example, the act of understanding is metaphorically associated with vision (*Do you see what I mean?*; *This is how the situation is viewed by the Pentagon*) and motion (*Do you follow me?*, *Are you with me?*; *No, I'm afraid I'm lost*; *I've just come across interesting facts*; *We hit several snags at the planning stage*; *I'm getting out of my depth*; *I don't know which way we should go now*).

12. Homonyms are different words that are spelled and pronounced alike.
13. *Congruence* comes from Latin *congruere* 'to meet together,' 'to agree.'
14. No learner of English as a second language can ever hope to memorize R. Quirk *et al.*'s *Comprehensive Grammar of the English Language*, which is a better reference book than teaching aid because it fails to provide a coherent and synthetic vision of English syntax.