

'Driving' towards Simplicity: In (Partial) Defense of the 'Armchair Linguist'*

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Abstract

This paper argues that the stereotyped 'armchair linguist's research methodology based on limited introspected data and argumentation by the simplicity measure can be defended as long as the findings reveal insights into language. We first demonstrate that a simple and elegant 'Universal Grammar' for the side of the road to drive on can be achieved with just such a methodology. We then demonstrate the same point by contrasting the conventional lexical mapping theory (LMT) with a simplified version proposed in Her (2003). Finally, we demonstrate that the simplest, strictest interpretation of the Unified Mapping Principle or the θ -Criterion, as proposed in Her (2004), in fact better accounts for Mandarin resultative inversion than a relaxed but more complicated interpretation.

1. Introduction

Within the tradition of generative grammar, especially in the particular vein advocated by Chomsky, theoretical advances and syntactic argumentation are often motivated, and evaluated, by a measure of simplicity. The constant drive for simplicity indeed has been one of the most significant motivations for the successive evolution of the earliest Transformation Grammar to the Standard Theory, to the Government and Binding framework, to the Principles and Parameters Theory, and finally to the current Minimalist Program. The general X-bar scheme that replaced the stipulated phrase structure rules and the single operation of *Move- α* generalized from the various construction-specific transformations are two excellent examples. In certain versions the Minimalist Program, even these two are further simplified as *Merge* and *Agree*, the only two syntactic operations. The goal of linguistic research is to reveal insights into the nature of the Universal Grammar (UG). Another stereotypical characterization of the generative grammar is the use of limited introspected data based on grammaticality judgment of native speakers, often the linguist him/herself. A linguist that conducts linguistic research based on such a methodology is sometimes called an 'armchair

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linguist', usually with disapproval or perhaps with jest, but never with admiration. The 'armchair linguist' is 'someone attempting scientific claims from the exceedingly weak empirical base of just one subject or informant—himself', laments Hanson (2003: 66). Fillmore (1992: 35) paints this somewhat comic picture:

Armchair linguistics does not have a good name in some linguistic circles. The caricature of the armchair linguist is something like this. He sits in a deep soft comfortable armchair, with his eyes closed and his hands clasped behind his head. Once in a while he opens his eyes, sits up abruptly shouting, 'Wow, what a neat fact!', grabs his pencil, and writes something down. Then he paces around for a few hours in the excitement of having come still closer to knowing what language is really like. (There isn't anybody exactly like this, but there are some approximations.)

Such depiction does not necessarily reflect the true picture of working generative grammarians as there is nothing inherent in the generative program that precludes the use of corpora and in reality many of the generativists do explore the richness of natural-occurring data. Nonetheless, such depiction is the stereotyped view. In recent years, the simplicity measure, the use of introspected data, and thus the armchair linguist have been under increasingly harsh criticism and attack, with the resurgent functionalist linguistics and a number of approaches that likewise place emphasis on language use rather than grammatical competence, such as cognitive linguistics and stochastic implementations of the Optimality Theory. All these anti-generative grammar approaches have in common in their research methodologies the use of linguistic corpus of a wide range of authentic data. Indeed the landscape of the field of linguistics is today very different from the 70's and the 80's, the heydays of the armchair linguists. Statistical models have swept the fields of computational linguistics and natural language processing in particular (e.g., Manning 2002: 441), and the majority of psycholinguists no longer accept the competence-performance dichotomy (e.g., Newmeyer 2003: 683). Even some generative syntacticians have cast doubt on the simplicity measure and adopted some of the ideas advocated by the usage-based models. Joan Bresnan, the chief theorist of the Lexical-Functional Grammar, for example, now supports a 'functional' Optimality Theory for the 'modeling of substantive functional/typological theories of linguistic structure, and integrating variation and change into the general theory' (Bresnan and Aissen, to appear). Most 'armchair linguists', being the way they typically are, tend to ignore the criticism thrown at them. Newmeyer (2003), however, suggests a number of, in my

mind, convincing, arguments defending the classical generative view and thus justifying the distinction between grammar and usage.

Against the background described above, this paper has a very modest and humble goal: to (partially) justify the method of syntactic research based on limited data (of introspection) and driven by the motivation of simplicity, i.e., the methodology employed by the stereotyped 'armchair linguist'. I will demonstrate with three examples that such a methodology can lead to insights, which may or may not be revealed in a usage-based model. It does not, however, endorse simplicity and elegance over empirical adequacy or linguistic insights. It thus also does not constitute an attack on, or refusal of, other methodologies based on language use.

The paper is organized as follows. Section 2 argues for the simplest formulation of 'Universal Grammar' for the side of the road to drive on. I then demonstrate, in section 3, that a simplified version of the lexical mapping theory (LMT) is more consistent and coherent than the conventional formulation. In section 4, I demonstrate that the simplest and strictest interpretation of the Unified Mapping Principle or the θ -Criterion in fact better accounts for Mandarin resultative inversion than a relaxed but more complicated interpretation. All three examples illustrate that the simplicity measure encourages, if not forces, a solution that is more insightful. Section 5 consists of some concluding remarks on grammar vs. usage and armchair linguistics vs. corpus linguistics.

2. Universal Grammar for the Side of the Road to Drive on

Cars are to drive on one side of the road only. In some countries they must drive on the right while in the others it is the left. The choice, though seemingly arbitrary, is almost always stated explicitly as part of the law. For most drivers, especially those that do not travel to places where the side to drive on is different, this knowledge is also undoubtedly part of the internalized competence, or the psychology, of driving. However, if one wishes to come up with a universal description of the side of the road to drive, what are the possible approaches? The most obvious way is, of course, to come up with a full list of countries and their respective side of the road to drive. The Australian Automobile Association, for example, provides its members applying for an international driver's license a small handbook, where a fairly comprehensive list is available. We might reasonably call this the corpus approach.

(1) UG for the side of road to drive on (corpus approach):

Country	Side
Australia	left
China	right
Japan	left
Singapore	left
Taiwan	right
USA	right
etc.	

This listing approach has the clear advantage that it is fully compatible with the legal reality and to a great extent reveals the psychological reality as well. However, from a theoretical point of view, such a corpus is of course seriously lacking in that each item is a stipulation in itself. We do not know whether a third option, besides left and right, is available, whether an (existing or future) country might allow both sides, or whether driving can be restricted to the center of the road. As ridiculous as these options may seem, this list does not rule them out. In other words, it has no predictive power. So, let's try to approach this from the *P&P* (Principle and Parameters) view and postulate the following straightforward 'universal grammar'.

(2) UG for the side of road to drive on (*P&P* approach):

Principle: drive on *x* side of the road only within a country.

Parameter: *x* = left/right

Country	Side
Australia	<i>x</i> = left
China	<i>x</i> = right
Japan	<i>x</i> = left
Singapore	<i>x</i> = left
Taiwan	<i>x</i> = right
USA	<i>x</i> = right
etc.	

A parameter is by definition a disjunction and thus always a concession in the predictive power of a theory; thus, the arbitrary nature of parameter setting in (2), a better theory can certainly do without. Now, note that driving necessarily involves an automobile, the implicit object of the verb 'drive' in (1) and (2). In any country, the side of the road to drive on is not only consistent but it is also consistently the opposite of the driver side in an automobile. In other words, if the driver's side is on the right, then the side of the road to drive on is always the left, and vice versa. With this observation, a 'UG' can now be formulated with a single principle.

- (3) UG for the side of road to drive on (*P-only* approach, 1st attempt):
Principle: drive on *x* side of the road only, *x* the opposite of the driver side in the automobile.

This simple grammar eliminates not only the parameter but also the list of countries entirely, a vast improvement indeed. Can it be made even simpler? Notice that there are two variables in this universal principle, the two sides of the road and the two sides in the car. If we can reduce the number of variables that would certainly make the rule even simpler. Closer examination of the relation between the driver side and the road would reveal that the driver must always stay closer to the center (i.e., the dividing line between the two sides of the road), in relation to the passenger side. With the center of the road now a constant, it is indeed possible to make an even simpler statement. Pay close attention to the relation between the driver and the center of the road in the following two illustrations.

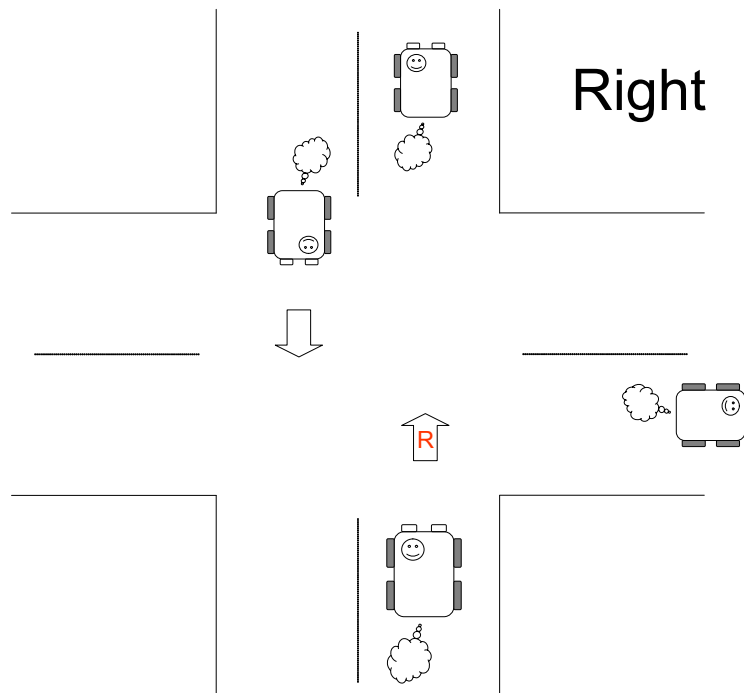


Fig. 1. Driving on the right side of the road

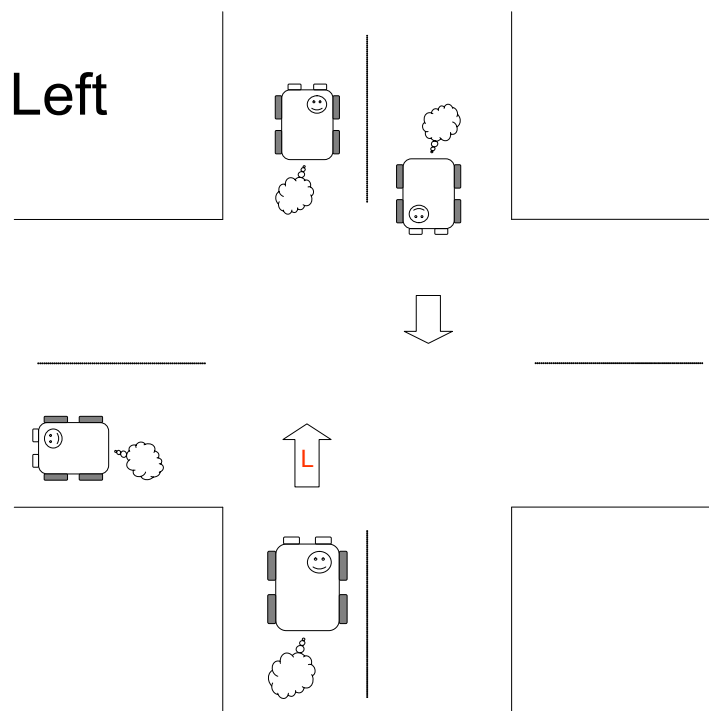


Fig. 2. Driving on the left side of the road

(4) UG for the side of road to drive on (*P-only* approach, final version):

Principle: be closer to the center of the road than the passenger side is.

This is, I believe, the simplest universal statement one can make regarding the side of the road to drive on. It eliminates the need for a corpus, and, more crucially, it has replaced the side-of-the-road parameter with one single constant: center of the road. Between (3) and (4), the latter is also more desirable from a 'functionalist' point of view, (not that the 'armchair linguist' would give a damn). In (3), the choice of x and thus also the opposite of it are random and therefore without a functional motivation. It is purely a formal statement. The statement is (4), on the other hand, other than being the simplest, reveals a crucial insight into the functionality of this universal design: the driver's position closer to the center of the road affords the best range of vision ahead with the least physical strain, as the illustration below shows.

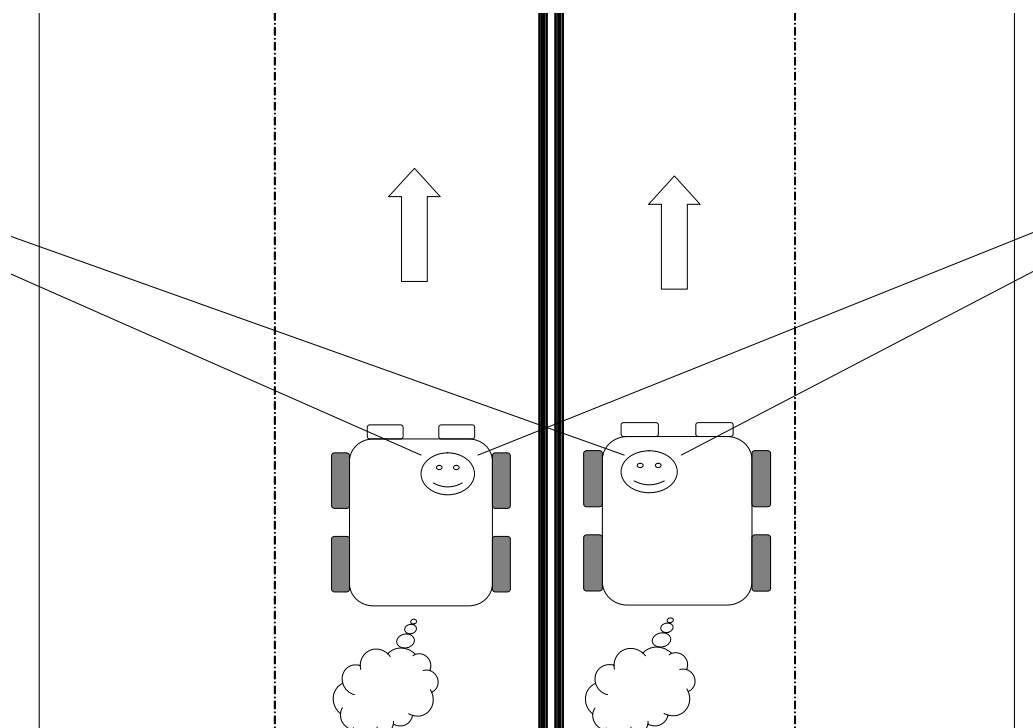


Fig. 3. Functional motivation for staying close to center of road

However, contrary to the gratitude and appreciation I was expecting, I have often been challenged with 'counter evidence' when I shared this insight into driving with my (non-linguist!) friends. Among the most commonly raised are one-way streets, one-lane bridges, and lawless regions such as the Golden Triangle. But the U-turn by-passes (such as the ones along Jianguo South/North Road under the Jianguo Overpass in Taipei) that a friend once mentioned are probably the most interesting because they require driving on exactly the opposite side of the officially sanctioned right side. These objections are perhaps not surprising given the fact that it usually takes some time for one to adjust to driving in a different country that requires driving on the opposite side. The left/right parameter is thus psychologically deep-rooted and for an experienced driver a list of countries in this regard takes years to accumulate. The simple rule in (4) thus must seem, and probably is, psychologically unreal to the greatest majority of drivers, unless of course one unlearns the previous rules and acquires this new one. In any regard, none of the objections poses any real threat to this simple rule. But, how might Chomsky, the demigod of all armchair linguists, respond to these objections? The following quote from Sells (1986: 27) gives us a nice clue.

Chomsky once said in a class lecture (I am sure he'd said it many times) that it would be a mistake to come up with a grammar of English full of lots of rules and little riders that got all the facts right, down to every detail. The reason it

would be wrong is not that it would not be an honorable scientific endeavor, but rather that you'd be so bogged down in little details that you'd find nothing of sufficient generality that would lead you to make hypotheses about UG..

A reasonable person would agree such objections miss the forest for the trees, and it *would* be a shame to miss the forest. While a comprehensive list that gets all the little facts right would hamper the search for the simplest generalization, notice that, to the credit of the armchair linguist, the simple statement in (4) can be just as easily observed in the driving in *one* country, or two at the most with different 'typology', if one is convinced that such simple statements exist and sets out looking for them.

The example given here is reminiscent of Kayen's (1995) antisymmetry proposal that the x-bar structure in fact follows a strict universal spec-head-complement order and that there is no distinction between adjuncts and specifiers. In the next section, I will give an example in syntactic theorizing that involves argumentation purely based on the simplicity measure and involves no linguistic data. Again, the point I am trying to make is that, if the findings reveal some insight into language, so what it is derived from an armchair linguist's methodology.

3. A Simplified Lexical Mapping Theory

The lexical mapping theory (LMT) is a sub-theory in the Lexical-Functional Grammar (LFG) that constrains the correspondence between theta roles and argument functions. The most widely-accepted formulation of LMT is found in Bresnan (2001). The theory consists of two components: the Theory of A-structure and Mapping Principles. The former determines the (single) syntactic feature each and every theta role carries, while the later constrains the role-function correspondence.

3.1 The Theory of A-Structure

Central to the theory are two prominence scales: a universal hierarchy of theta roles and a markedness hierarchy of grammatical functions (GFs). The thematic hierarchy assumes an order of prominence among theta roles, descending from *ag* to *loc* (cf., Bresnan and Kanerva 1992). Among GFs, SUBJ is ranked the highest, i.e., the most prominent and the least marked, and OBJ_θ the lowest and the most marked. This markedness hierarchy is based on a

classification of GFs in terms of two binary features: *r* (thematically restricted) and *o* (objective). Minus features are assumed to be the unmarked values.

(5) Thematic Hierarchy:

ag > *ben* > *go/exp* > *inst* > *pt/th* > *loc*

(6) Markedness Hierarchy of GFs:

SUBJ(-*r* -*o*) > OBJ(-*r* +*o*)/OBL_θ(+*r* -*o*) > OBJ_θ(+*r* +*o*)

Bresnan (2001) further assumes that the underlying lexical semantics of the argument roles determines their choice of syntactic features and proposes the following universal feature assignment.

(7) Semantic Classification of A-Structure Roles for Function:

a. patientlike roles: $\theta \rightarrow [-r]$

b. secondary patientlike roles: $\theta \rightarrow [+o]$

c. other semantic roles: $\theta \rightarrow [-o]$

Cross-language variation in the syntactic assignment of a-structure roles is thus limited by the above universal constraints and parameters. Patientlike roles are canonically associated with either SUBJ or OBJ and classified as [-*r*]. Secondary patientlike roles are classified [+*o*] and thus map to object functions only, i.e., OBJ or OBJ_θ. All other roles, *ag* included, are mapped to [-*o*] GFs. Under these assumptions, every role in an a-structure is underspecified with one, and only one, syntactic feature.

3.2 Mapping Principles

Each argument role is freely mapped onto any and all syntactic functions, subject to the Mapping Principles and Well-formed Conditions (Bresnan 2001: 311). (The most prominent role in an a-structure, the logical subject, is designated $\hat{\theta}$, pronounced 'theta-hat'.)

(10) Mapping Principles:

a. Subject roles:

(i) $\hat{\theta}[-o]$ is mapped onto SUBJ when initial in the a-structure; otherwise,

(ii) $\theta[-r]$ is mapped onto SUBJ.

b. All the roles are mapped onto the *lowest* compatible function in the markedness hierarchy, (6).

(11) Well-formedness Conditions :

a. Function-Argument Biuniqueness:

Each a-structure role must be associated with a unique function,
and conversely.

b. The Subject Condition:

Every predicator must have a subject.

The mapping principle for the so-called subject roles stipulates the mapping for an initial $\hat{\theta}[-o]$ role to SUBJ, and if no such roles are available in the a-structure, then a role with $[-r]$ is mapped to SUBJ. An artificial dichotomy is thus created: SUBJ mapping is stipulated while non-SUBJ mapping follows a more general constraint. Likewise, an asymmetry between SUBJ and non-SUBJ roles exists: the mapping principle (10a) maps a role to the *highest*, or the most prominent, compatible function, i.e., SUBJ, principle (10b) does exactly the opposite and maps each non-subject role to the *lowest*, or the least prominent, compatible function.

The Function-Argument Biuniqueness Condition, similar to the θ -Criterion, ensures a strictly one-to-one mapping relation between roles and functions. The Subject Condition, similar to the extension in the Extended Projection Principle, stipulates that one role in a-structure must be mapped to SUBJ.

3.3 A Simplified LMT

The simplified LMT in Her (2003) differs from the conventional formulation in several respects. First of all, it has a simpler intrinsic classification of theta roles, where non-patientlike roles are all left unspecified.

(12) Simplified Classification of A-Structure Roles (SC):

- a. patient/theme: $\theta \rightarrow [-r]$
b. secondary patient/theme: $\theta \rightarrow [+o]$

Note that the conventional LMT classifies all non-patient/theme roles as $[-o]$, as in (7c). This classification, universally barring non-patient/theme roles from mapping to OBJ, is inconsistent with the unrestricted ($[-r]$) nature of OBJ. In the simplified LMT, non-patient/theme roles are unspecified; this allows the (empirical) advantage of mapping such roles to the entire range of argument functions, including OBJ. For example, locative in Chinese may be linked to SUBJ, OBL_{θ} , as well as OBJ_{θ} (cf., Huang and Her 1998), and the English passive goal also allows the same range of functions (cf., Her 1999). I also propose a

default morphosyntactic operation that assigns the default feature [+r] to all roles in an a-structure other than the logical subject, $\hat{\theta}$, alike.

(13) Default Morphosyntactic Operation (DM):

$$\theta \neq \hat{\theta}, \theta \rightarrow [+r]$$

This default operation, together with the classification of a-structure roles (13), captures the generalization that the logical subject, $\hat{\theta}$, is canonically mapped to an unrestricted function, i.e., SUBJ or OBJ, and so is a patient/theme role, but the other roles alternate between OBL_{θ} and OBJ_{θ} , the two [+r] functions.

Most significantly, I propose a unified mapping principle. Dissatisfied with the strict ordering of the two mapping principles (10a, i-ii) for SUBJ roles, the SUBJ versus non-SUBJ mapping asymmetries, and the stipulations of the subject mapping principles and the subject condition, Her (2003) consolidated all four constraints, i.e., the two mapping principles and the two well-formedness conditions, into a unified mapping principle, one that is consistent for all syntactic assignments, SUBJ and non-SUBJ roles alike, and thematic and non-thematic roles alike.

(14) The Unified Mapping Principle (UMP):

Each argument role in an a-structure with no higher role available*
is mapped onto the highest compatible function available.

(*A role is *available* iff it is not linked to a function, and conversely.)

A higher role in an a-structure is always the one on the left, and therefore also a role higher on the thematic hierarchy. The highest compatible function is of course the least marked compatible function on the markedness hierarchy of argument functions (6). Thus, a more prominent function is *consistently* preferred in mapping all roles. The spirit of the subject condition is also maintained, less rigidly, because SUBJ is the most prominent function of all.

I maintain that this revised formulation of the LMT is more insightful than the conventional version in its consistent alignment between the two prominence hierarchies and that its single constraint is far more simpler and gets rid of the subject stipulation. It has eliminated the two disjunctions in the previous mapping principles: the disjunction in subject role assignment and the disjunction in subject roles vs. non-subject roles. Its simplicity and consistency make it more preferable than the conventional formulation, even when no linguistic data has been

(16) Zhangsān zhui-lei-le Lisi.
 John chase-tired-ASP Lee
 ↑ ↑
 SUBJ OBJ

a. 'John chased Lee and Lee got tired.'
 <ag pt-th> (argument roles)
 S O (syntactic assignment)
 John Lee

b. 'John chased Lee and (John) got tired.'
 <ag-th pt>
 S O
 John Lee

c. *'Lee chased John and John got tired.'
 <ag pt-th>
 O S
 Lee John

d. 'Lee chased John and (Lee) got tired.'
 <ag-th pt>
 O S
 Lee John

The account proposed in Li (1995) has two important features. One, it allows a composite theta role, formed by the morpholexical binding of two theta roles, to be assigned to a single argument position, thus indirectly allowing a more relaxed interpretation of the θ -Criterion advocated by Carrier and Randall (1992: 180): an XP can bear at most one θ -role *assigned by a head*. Thus, as long as each θ -role is assigned by a different head, an XP can indeed bear more than one role. The second most significant feature in Li's account is the creation of a causative hierarchy (Cause > Causee) that overrides the thematic hierarchy.

Armed with Ockham's Razor, Her (2004) argues that a much simpler explanation exists and that the causative hierarchy is entirely unnecessary, and likewise the relaxation of the θ -Criterion. The simplest, strictest interpretation of the Unified Mapping Principle (or the θ -Criterion) in fact 'coerces' the suppression of one composing role in the syntactic assignment

this kind stuff will eat-die you
 Eating this kind of stuff will kill you.
 <ag-th pt>
 O S
 you stuff

of the composite role. Crucially, however, this suppressed composing role can still be *indirectly* linked to a syntactic function, much like the suppressed, or 'absorbed' in GB terms, external role in passivization.

(17) **Passive:** < θ ... >
 ↓
 ∅

(18) John was chased (by Lee).

The standard LFG formulation of passive is given in (17). In (17), the suppressed *ag* role is semantically linked to the *by*-phrase and thus obtains *indirect* syntactic assignment (cf., Bresnan 1994:81). Even without the overt expression of a *by*-phrase, agent is still implicit. Thus, a suppressed composing role, by 'piggy-backing' on its partner in the composite role, obtains semantic linking, and thus indirect syntactic assignment, to the grammatical function. This is close in spirit to the argument selection principle for composite predicates proposed in Huang (1992). Given passivization and other morpholexical operations that suppress argument roles, this interpretation of linking is independently motivated. Thus, generalizing it to the linking of composite roles simplifies, not complicates, the grammar. We now re-examine the data in (16) in this new light.

(19) a. John chased Lee and Lee got tired.

<ag	pt-th	
SC	-r	
	S/O/...	S/O
UMP	S	O
	John	Lee

<ag	pt-th	
SC	-r	
	S/O/...	S/O
UMP	S	O
	John	Lee

b. *Lee chased John and John got tired.

<ag	pt-th	
O	S	
Lee	John	

Within the composite role *pt-th*, the two composing roles share exactly the same syntactic classification; the suppression of either one thus leads to the only grammatical assignment. The syntactic assignment in (19c) is ruled out. Thus, the structure of *<ag-th pt>* must produce the other two readings.

(19) b. John chased Lee and (John) got tired.

<i><ag-th</i>	<i>pt></i>
SC	-r

S/O/...	S/O
UMP S	O
John	Lee

d. Lee chased John and (Lee) got tired.

<i><ag-th</i>	<i>pt></i>
SC	+o -r

O/OBJ _θ	S/O
UMP O	S
Lee	John

The two composing roles, *ag* and *th* have different syntactic classifications and thus different syntactic assignments. In (19b), with *th* suppressed, *ag* links to SUBJ. In (19d), the opposite takes place and the composite role links to OBJ, creating inversion. Note that in Chinese the non-patient theme is the secondary patient (Her 2003).² Note also that this LMT account applies equally well in GB terms of the thematic hierarchy and the θ -Criterion, another hint for its generality.

5. Conclusion

I have given three examples to demonstrate that even the stereotyped and somewhat debased form of the 'armchair linguist's research methodology based on limited data, argumentation driven by the simplicity measure, and search for universal generality can be defended. The

² This distinction between primary and secondary patient is best illustrated in the following example.

i. Wangmian si-le fuqin.	
Wangmian die-asp father	
Wangmian had (his) father died on him.	
<i><pt</i>	<i>th></i>
SC	-r +o

S/O	O/OBJ _θ
UMP S	O

first example is on driving and demonstrates that a simple universal grammar for the side of the road to drive on can be argued for based on very limited data. I then showed that the simplified lexical mapping theory can be argued for, based on its simplicity and consistent parallel correspondence between the two prominence scales of argument roles and grammatical functions, even when no data has been considered. Finally, based on data that consists of one single sentence involving resultative inversion, I demonstrated that the simplest interpretation of the United Mapping Principle or the conventional θ -Criterion also affords the simplest account.

The insights in the three examples cannot have been achieved without the quest for simplicity and theoretical elegance. However, I fully agree that simplicity and elegance should only be viewed as the means, and never as the end in itself. An 'armchair linguist' armed with *Ockham's razor* can be dangerous.³ I think Albert Einstein got it right: 'The best explanation is as simple as possible, but not simpler'. The simplest explanation with insight is far better than one that is simpler but without insight.

I hope I have achieved the very limited and humble goal of the paper: to provide some defense for the 'armchair linguist's research methodology. I have said nothing regarding whether this methodology can be improved upon, of course it can. I also have said nothing regarding whether the usage-based or performance-oriented methodologies are useful, of course they are. Torn between the 'armchair linguist' and the corpus linguist, Fillmore (1992: 35) concludes with this remark:

My conclusion is that the two kinds of linguists need each other. Or better, that the two kinds of linguists, wherever possible, should exist in the same body.

Few linguists today would disagree with that, especially when on the desk in front of the 'armchair' there is most likely a personal computer that connects to the Internet with a vast sea of linguistic data at ones finger tips. Charles Fillmore himself, as a self-proclaimed armchair linguist who refuses to give up his old ways of thinking about language (Fillmore 1992: 35), has in fact been a great role model in balancing theorizing and data. Still, I wish to

³ Ockham's Razor, also referred to as the 'law of economy' or the 'law of parsimony', is the principle proposed by William of Ockham in the 14th century: 'Pluralitas non est ponenda sine neccesitate', which translates as 'entities should not be multiplied unnecessarily'. In other words, a simpler statement is always preferred.

point out that linguistics is after all a science and science is at the end a collective endeavor. Thus, linguists who choose to focus on one specific, narrow area of study, or employ one particular scientific methodology, can indeed have their contribution and should be properly credited when they do.

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