

# The Development of English Word Order: A Minimalist Approach

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## **Introduction**

This paper is devoted to examining the variety of word ordering found in the English data. In §1.1 I present two rather different accounts of variable Word Orders found at the proposed prefunctional stage of language acquisition: (i) Tsimpli (1992), and (ii) a weakened version of Kayne (1995). The main thrust behind the two proposals leads me to conclude that at the very earliest stage of language development, there seems to be some evidence to suggest that some aspects of language principles (typically those associated with LAD) might be subject to maturation (§1.2). In §1.3 I examine the data.

(*Preview*) Following Kayne's LCA, I come to the conclusion that Word Order is indeed a universal hierarchical property of a Spec>Head>Comp relation. However, this, in itself, is not enough to account for the wide array of word order errors found in the early data. Adopting Kayne's *Head Medial Principle*, I consequently devise a two-pronged model for dealing with the variable word order patterns found at this initial Two-Word phase of development--referred to here as SAS=Single Argument Strings (viz., the phase at which children's speech chiefly consists of one argument; cf. Bowerman 1990). The core assumptions underlying this model are the following. First, that all Heads must be base-generated in medial position. Second, that there exists a *Complement Parameter* which endeavors to set the Object--here, interpreted as being initially hosted within a non-agreeing Spec position (cf. Larson)--either leftward or rightward of the Head. As a result, this parameter leads to the eventual correct positioning of the *agreeing* Specifier that must then enter into an agreement relation with V within a given DAS structure. I subsequently conclude that it is the onset of the DAS (=Double Argument String) phase which triggers not only Kayne's weakened version of LCA, but, more theoretically, establishes the (Larsonian) VP-shell which provides important A'-bar positions to movement. In one sense, the core of the SAS-phase could be considered as the lexical-thematic stage *par excellence*.

## 1.1 Word Order

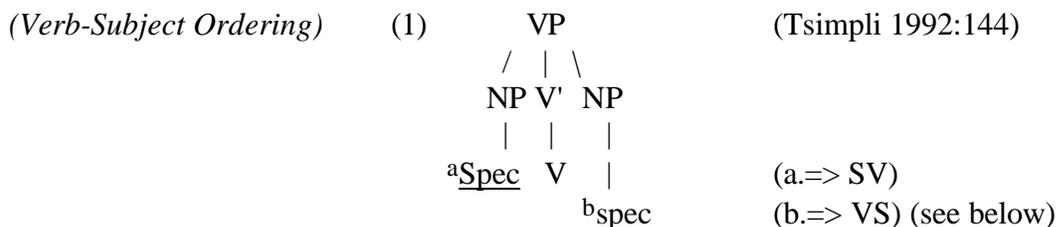
Most children pass through what seems to be a *two-word phase*. What makes this phase interesting is the observation that rarely more than a maximum of two words (Head and Argument) ever appear to project within any given utterance: viz, both transitive and di-transitive verbs (e.g., *kiss, give, put*) appear at surface syntax without one (or more) of their required internal arguments.<sup>1</sup> A number of researchers (notably L. Bloom 1970, Braine 1976, Bowerman 1973, 1990, and Hickey 1992) have claimed that a correlation seems to hold between the onset of the Verb's second argument and the advent of fixed target word order. With respect to these claims, the following sections proceed to examine Word Order at the *two* and *three* word phases of development.

Recall that in the syntactic framework being adopted here the Subject of the target syntax is assumed to raise into Spec of IP (a functional projection) where it proceeds to check both T(ense) and Agr(eement) features along with its Nom(inative) Case feature. This checking is done via a local Spec-Head relation in IP: (In English) the features of the Head-Verb raise *covertly* from the Spec-VP (at LF) while the Spec-Subject raises *overtly* (at PF). The Object(s), on the other hand, is assumed to remain *in-situ* within the Complement of V' where it receives its inherent  $\Theta$ -role assignment along with its Objective Case via the lexical Verb. In this way, movement operations can be defined as being associated with Functional Categorial/INFL projections: within the *Structure-Building* model being proposed here, such operations should therefore be excluded at the Pre-functional/Non-INFL-stage. It follows then that at the prefunctional stage any variation of word ordering (found in corpora of child language acquisition) should represent *base-generated* orderings.

The following two analyses offer formal accounts of observed word order variation found at the lexical stage, and accordingly, serve as theoretical foundations for how I later account for my own Data presented below.

### 1.1.1 Word order variation at the VP-Stage: Tsimpli

(*Proposal I*) Tsimpli (1992) assumes an early Prefunctional/Non-IP structure as in (1) below (irrelevant details omitted) characterized by free word order at the Lexical-Thematic VP stage. Specifically, SV(O) and V(O)S are seen as possible patterns, while other orderings (e.g., VSO and OSV) are, in principle, ruled out as being base-generated (for reasons having to do with UG requirements on predication which stipulate (*inter alia*) that the Subject cannot intervene between the Head and its Complement).<sup>ii</sup> The data below present only the variant VS, OV ordering (taking correct SV, VO for granted):



(1)	<u>English VS</u> (Bowerman 1990)	<u>French VS</u> (Pierce 1989)
	a. ride Christy [-Finite]	h. lit mama [+Finite]
	b. write Sissy	(reads mommy)
	c. drink mama	i. travaille papa
	d. open Christy	(works daddy)
	e. fall mommy	j. ranger moi [-Finite]
	f. cut boy	(arrange me)
	g. going daddy	k. tomber pap
		(fall daddy)
		l. dormir bébé
		(sleep baby)

The structure in (1) (with token declarative examples of VS in (1-prime) above) permits the subject to be base-generated--receiving its external  $\Theta$ -role--either to the left or right of the V'. This assumption of a free word order at the VP-stage is based on the notion that only functional categories are responsible for Directionality setting (via FPH). In the above sense, a specific directionality for  $\Theta$ -marking is not universal and, therefore, must be set via parameterization.<sup>iii</sup> Since only (non-parameterized) substantive Lexical categories appear at the VP-stage, it then follows that there should be, in theory, no Directionality restrictions. Moreover, in assuming that the VP-stage can host only thematic argument positions (cf. Radford 1990), there are then, in principle, no non-thematic argument positions to serve as potential landing sites for a moved argument (cf.  $\Theta$ -Criterion). Therefore, the structure in (1) is consistent with the notion that Verb and Subject raising would be inoperative at the Lexical Thematic VP-stage. Again, this amounts to saying that any word order pattern observed at the VP-stage would, by definition, involve a base-generated pattern. However, Tsimpli adds an appropriate caveat here, noting that such a 'permissive' word order stage doesn't necessarily result in all possible word combinations being equally attested at the VP-stage.

Tsimpli goes on to look at a range of language acquisition data--all of which seem to permit free word orders at the VP-stage--in support of the structure given in (1). An interesting note here is that in her examination of French (Pierce 1989), she seems to find no correlation between the usage of correct ordering and the emergence of the Verb's Finiteness feature (a traditional functional feature). In other words, both SV and VS word orders are attested within finite structures. However, the notion of a Finiteness feature projecting an extended Functional Phrase (=FP) above VP at this early stage--deriving a VS pattern via verb raising--is ruled out on the basis that the frequent occurrence of postverbal Subjects would then be unaccounted for. (E.g., why would only Verbs raise leaving Subjects *in-situ*?) It had been assumed earlier that Word Order was indeed determined by such a functional category--the question to ask here is then the following: why doesn't the functional category associated with the Finiteness feature determine word order here? In answering, Tsimpli claims (Tsimpli et al. 1995) that the early emergence of strong morphological Agreement features does not necessarily correspond to a full projection of X-bar structure. She remarks:

Early data from Greek and Spanish show that agreement morphology is available from the earliest appearance of verbal forms. Similarly, aspectual distinctions in Greek, Spanish, Irish, German and English appear to be marked in a way similar to the corresponding adult grammars. From this, however, it does not follow that the corresponding syntactic categories have matured in the sense that they are able to project the relevant X-bar structure (op.cit: 25).<sup>iv</sup>

The above observation is consistent with a *Structure-building* account of language acquisition in the following manner: viz., if the acquisition of functional categories is based on an innate, maturational program, then morphological triggering alone might not be a sufficient account of how the child comes to acquire the relevant extended phrase structures. Tsimpli also takes into account the problem of how to define morphologically rich vs. impoverished morphology.<sup>v</sup>

In this next subsection, we look to how Tsimpli examines the syntax of Object-Verb strings within the same configuration that was used to discuss the above Subject-Verb Strings. Hence, following Tsimpli, I draw the same tree twice for two different constructs (noting that now NP (=Object) is positioned V' internally):

(Object-Verb Ordering)	(2)	VP   V' /   \ NP V NP     <sup>a</sup> Obj     <sup>b</sup> obj	(Tsimpli 1992:161)
			(a. => OV) (see below)
			(b. => VO)
(2')	<u>English OV</u>	(Bowerman)	<u>French/Spanish OV</u>
	a. horsie ride		h. chapeau chercher (Clark 1985)
	b. daddy see		(hat look-for)
	c. dolly hold		i. let li
	d. bottle find		(letter read)
	e. salt pour		j. agua beber (Pina 1984)
	f. milk drink		(water drink)
	g. grass cut		k. sillon abre
			(chair open)

The structure presented in (2) similarly assumes the Object to be base-generated in one of two positions where it can receive its  $\Theta$ -role assignment via the Verb. Such a structure permits both OV and VO patterns. Tsimpli, citing a variety of literature on the instability of early Head-Complement ordering for target SVO languages, reports that VO/OV patterns are not only widely attested at the two word stage, but that a correlation seems to exist between such instability and the omission of Subjects. In other words, (citing Bowerman

1973, Braine 1976), when Subjects and Objects simultaneously enter into a projection, the SVO pattern often predominates (while acknowledging that there may be a transitional period--give or take a few weeks between the SAS and DAS phases--where variable orderings may persist).<sup>vi</sup> Tsimplici goes on to cite Bowerman's (1990) observation that a correlation is found between variable orderings and the Single Argument String (=SAS) phase (e.g., OV/VO, SV/VS) (NB. Bowerman gives no mention of a possible *two-word* (DAS) phase yielding SO/OS structures. This might mean that the verb plays an essential role in word order (though see note 1)).

Similarly, Hickey (1992:11) shows that frequent incorrect \*SV orders for early Irish fall away with the onset of DASs (The *Eoin Data* reports n.=86 VS compared to 14 \*SV frequency counts within Finite SAS constructs as compared to a n.=0 \*SVO count.) Such findings could suggest that correct word order seems to emerge just after the onset of the Double Argument String (DAS) phase. Tsimplici suggests that the correlation might have something to do with the idea that universal semantic relations, expressed by fully-fledged Thematic Roles at the DAS phase, determine positional patterns. This would therefore suggest that the DAS phase represents what could be considered as the parameterized stage. (NB. A word of caution here is in order--up until now, the functional parameterized stage has never been clearly associated with the DAS phase.) Regarding the hypothesized unparameterized SAS phase, Tsimplici's claim is further enhanced by the unlikelihood that directionality or linearisation of  $\Theta$ -marking ever acts in a universal manner. Thus, in assuming that the direction of theta-role assignment varies from language to language, there is no reason to assume a universal directionality of argument structure for e.g., *Put* to be [*Put: agent <theme, location>*] in that order. Likewise, I see no inherent reason why e.g., an *external* argument should require to be projected to the left of the Verb. In this sense, the directionality of Theta role assignment indeed does come under parameterization (at the DAS phase) (but see Radford (1990:45) for a different view which proposes an inherently fixed word order at the lexical-unparameterized stage). Whatever the case, the correlation stated above suggests that it is the simultaneous projection of both SPEC and COMP that bring about  $\Theta$ -Directionality.

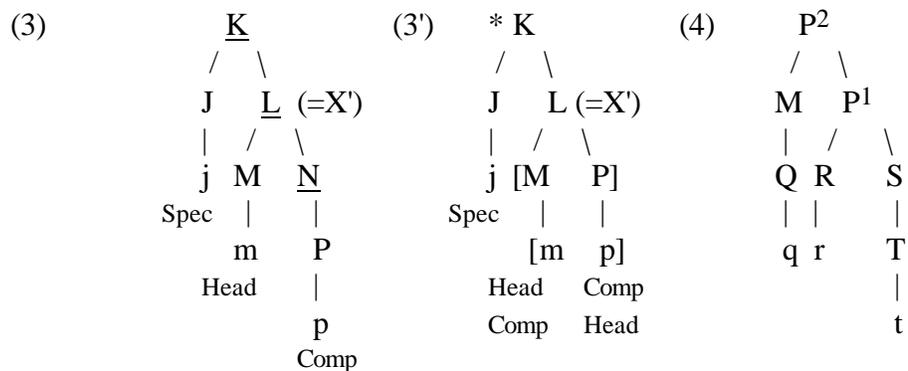
In assuming the two structures presented in (1) and (2), *un-parameterized principles* of UG permit the following array of base-generated word orders: SV, SVO; VO, VOS; OV, SOV, OVS. However, as deduced from (1) & (2), VSO and OSV orders--where the Subject is seen as intervening between the Complement and the Head--are unavailable as base-generations. As we shall see in the following section (§1.2), the number of possible UG base-generated patterns becomes further reduced--an outcome much sought after for *Learnability's sake*.

### 1.1.2 Word order variation at the SAS-Phase: Kayne

*Proposal II* Before turning to my Data on Word Order variation found among Single Argument Strings (SASs), let us take a moment to consider briefly how such variable orderings might be accounted for within more recent interpretations of Chomsky's *Minimalist Program* (Chomsky 1995). In Kayne (1994), attempts are made to strengthen X-bar Theory in such a way that a Universal base-generated ordering of *Specifier-Head-Complement* (SVO) is maintained--all other word orderings being derived

via *movement*. (NB. Chomsky endorses Kayne's modification of  $\bar{X}$ -bar (1995:334-340) albeit with some refinements having to do with Bare-Phrase Structure. See §1.4). It seems that such a tightly restricted theory would undoubtedly encounter empirical problems regarding the protracted nature of language acquisition. More specifically, how might Kayne's model handle apparent word order errors found at the very earliest *SAS Non-INFL* Stage-1; a stage where (Argument/Head)-movement operations and, arguably, A-bar positions are not yet available?

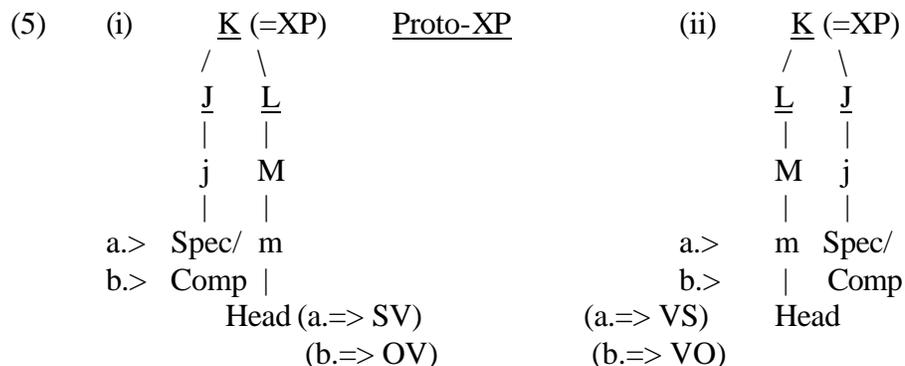
In Kayne's model, the Complement position plays a central role in determining order (via hierarchy): i.e., within the *Head-Comp* configuration, it is solely due to the Complement's maximal projection that strict linearisation--imposed by the LCA--is maintained. The bases of Kayne's model bare some resemblance to traditional distinctions between the Specifier-Head relation--being an *external* argument relation--and the Head-Complement relation--being an *internal* relation. Such distinctions, stemming from traditional Case and  $\Theta$ -Theory, basically state that a natural asymmetry holds between the *Subject* (which gets  $\Theta$ -role assignment from within the VP, then, via movement into Spec of IP, checks its Case in a Structural relation with INFL outside VP's maximal projection), and the *Object* (which inherently receives Case and  $\Theta$ -role assignment via a sisterhood relation with V directly, and inside the VP maximal projection). This traditional Spec-Comp asymmetry is even more pronounced given Kayne's recent interpretation that redefines all proto-type Specifier positions as Adjuncts. Presenting straightaway Kayne's model, let's consider (3), (3-prime) and (4) below (1994:7,16):



In (3), it is precisely the insertion of a maximal-projecting  $\underline{N}$  node of the Complement that breaks the symmetry of  $L [M,P;m,p]$  found in (3') resulting in an antisymmetric hierarchy. (Without going into further detail here, one property of the linear order found in (3) is based upon The *Linear Correspondence Axiom* (LCA).<sup>vii</sup> In short, the axiom states that an asymmetric c-command relation (=ACC) imposes a linear and hierarchical ordering of terminal elements (from left-to-right): e.g., terminals  $\underline{K}$ ,  $\underline{L}$ ,  $\underline{N}$  as seen in (3). The central workings of ACC lie within the Head-Complement relation, and for that reason alone an additional (VP-internal) maximal projecting node  $\underline{N}$  of the Complement is required--bringing about an asymmetric left-to-right hierarchical structure. In other words, the external Specifier seems to play little role in determining the subsequent asymmetry in (3). However, the Specifier structure in (3) does pose linearisation problems for Kayne (e.g., regarding multiple Specifiers, etc.) and, as a consequence, gets refined (in the way

shown in (4)). In short, the SPEC problem is resolved by restricting c-command to categories only, thus forbidding segments such as Spec-Adjunct from entering into c-command relations. Hence in (4), the Specifier (P<sup>2</sup>) becomes redefined as an (segmental) Adjunct position (from P<sup>1</sup>), thus saving LCA. (An additional stipulation is made which states that Adjuncts must exclusively adjoin leftward, thus eliminating potential problems regarding Spec-final structures.)

Some crucial questions to pose here are the following. First, how might we apply such a seemingly stringent X-bar mechanism for dealing with very early Single Argument Strings (SAS) that appear to contradict claims of universality of innate ordering?<sup>viii</sup> Second, if we assume that the Lexical-Thematic stage is without Functional projections and movement operations (cf. Radford 1990), how might we save Kayne's model? Well, suppose that the child initially starts off with just a proto-type Thematic Argument+Head configuration as place-holders within K (=XP) (as in (3)) for the Single Argument String, yielding typical SV/OV ordering (order irrelevant here). In addition, assume that the N terminal node that is traditionally seen to host the Comp is not yet projected. In this sense, a potential Specifier/Subject is not yet considered as an Adjunction position, but rather is seen as an external argument position of the verb's first argument. We might wish to re-think this anomalous proto-argument slot in (5) below as either hosting a Specifier or Complement (Comp=Object in superficial Subject position)--replacing (for the time being) traditional distinctions laid out between external Specifier-Subject and internal Complement-Object positions, with the notion that it is a *Unique* Specifier slot of the Verb which projects from out of this proto-argument placeholder. (Note that this account may also share some similarity to current trends in Minimalism that claim that Objects indeed enter into the (second) Specifier position of a *Larsonian* VP-shell--picking up appropriate theta-roles along the way *en route* to Spec-AgrO.<sup>ix</sup>). Consider the reduced trees in (5) (cf. 3) where the Spec/Comp is now "reorganized" and fused as the only potential external argument:<sup>x</sup>



Not only would such a configuration yield SV and OV, but likewise (mirrored) VS and VO orderings--a much needed configuration for dealing with the present data. (It is interesting to note that such word order variability is likewise restricted to the Head+Proto-Spec Argument relation in Tsimpl'i's model above--i.e., arguments can either precede or follow the Verb).

In (5), two crucial aspects of Kayne's asymmetry are broken down for the following

reasons. First, due to the absence of a maximal-projecting  $\bar{N}$  node Complement position (c-commanded by L), the sole potential argument slot does not need to be defined in terms of Adjunction for reasons alluded to in (4). This enables the child to treat both Subjects and Objects now as one sole Lexical proto-argument which is, in turn,  $\Theta$ -marked by L: recalling the intuitive assumption that, at the lexical-thematic stage, all Specifier-Head-Complement positions are thematic (and furthermore, share strict sisterhood relations with V/V'). In example (5), the Spec/Comp may assume the same syntactic role--where only a fundamental thematic sisterhood relation holds. The spirit of this proposal closely follows similar lines previously taken in Radford (1990), who likewise assumes that in Lexical-Thematic OV structures, the preverbal Subjectless slot of the Specifier could, in fact, be filled-in by a preverbal Object. Radford later goes on to clarify that whenever a subject and object simultaneously enter into a projection, the object always positions postverbally (with the preverbal subject) yielding correct SVO. Consider the token examples in (5') below (Radford 1990:232 citing Bowerman 1973):

- (5') Preverbal Objects Base-Generated at SAS-Stage
- a. Doggie sew (=sew doggie)
  - b. Kimmy kick (=kick Kimmy)
  - c. Kendall pick-up (=pick-up Kendall)
  - d. Doggie look-at (=look at doggie)

A number of problems however arise from such a Proto-XP scheme. First, how would we analyze potential pro-subject elements within OV/VO structures? Since the sole argument-slot is already occupied, there seems to be no place-holder for a pro element to enter into. One way around this dilemma might be to stipulate (extending Rizzi's analysis) that at this thematic SAS phase, all missing arguments/predicates (such as *pro*) are potentially *lexically saturated* (cf. Rizzi 1986:508) and thus *implicit*--i.e., their  $\Theta$ -role assignment may not require a (lexically overt) syntactic projection. (This would predict that all predicates, among SASs, could allow null arguments.) Their reference may be determined, and subsequently handled, purely on pragmatic grounds that do not affect ordering constraints. In other words, any argument at the SAS phase could, in principle, occupy the proto argument-slot without syntactically impeding upon a given *pro*. A second problem however has to do with more fundamental notions of  $\Theta$ -role assignment. Traditional assumptions pin the thematic assignment e.g., *Agent/Patient* to the Subject, via an *externalizing* mapping role: i.e., as mentioned above, Subjects are distinct from Objects in that Subjects reside exclusively outside the positions of the V-bar (Objects remaining within the direct sister relation of V-Head). In the proto XP tree (as presented here in (5)), there is no distinction between external and internal arguments: i.e., both Subject and Object are analogously projected.<sup>x1</sup> This presents classic *Discontinuity* as well as *Learnability* problems for the child. More specifically, (i) how might the child determine the correct theta role assignment under such sparse conditions; and (ii) how then might the child "Delearn" this strategy once the proper fully fledged binary branching structure is achieved? One suggestion that has been proposed in the literature has to do with the notion that some *visibility mechanism* must first be achieved by the child before any assignment of  $\Theta$ -role can be determined. Radford (1990:245) suggests that an additional *externalization mechanism* is required (i.e., must await parameterization) in order to determine which

theta-marked argument of a predicate will be projected in the syntax as an external subject (in Specifier position).<sup>xii</sup> Accordingly, we take the standard view (e.g., Williams 1981) that the Subject/Specifier is unique in that it exclusively selects the external argument position--however, with the exception (being proposed here) that this *uniqueness* property only holds with respect to Double Argument String environments (i.e., Subjects acquire this inherent externalization mapping only via their opposition to a given Object). This amounts to saying that a hierarchy of  $\Theta$ -role visibility exists: (i) the first argument of a verb is given a proto external argument position, (ii) once a second argument of the verb is syntactically projected (catapulting the full-fledged XP), both externalization/internalization mechanisms become operational forcing the Subject/Specifier now to solely occupy the external position--leaving the Object to insert under the Complement. Such a hierarchy seems to be consistent within Minimalist assumptions where the Head-Complement relation is not only "more local" but also more fundamental--associated with thematic relations, and where the Specifier-Head relation is considered to be an *elsewhere* category (Chomsky 1995:172). In one sense, this seems to match what we are saying. First, the proto-argument slot here is rather syntactically undeveloped and does not seem to adhere to the full range of syntactic relations as expressed above. Furthermore, since this structure involves the thematic stage anyway, theta-roles will be expressed in any event (irrespective of the *more local* relation of Head-Comp as defined above). Second, the emergence of Object (second argument) as distinct only from the Complement position now establishes the kind of relations mentioned above: namely, where the Head-Comp is seen as being fundamental (the cornerstone of thematic relations) and where the Spec can now be defined as the elsewhere category. Hence, the basic intuitions along these lines are as follows. (i) The notion that the internal Complement acts in a fundamental way--fulfilling its *epistemological priority* role and taking precedence over an external position--holds only for DASs; where the full-fledged dual-argument projections of XP are developed. (ii) It is only when a verb's second argument overtly enters into a syntactic projection that the Subject/Specifier becomes distinguished as the legitimate external argument. This view is consistent with Radford (1984) who claimed for a *Uniform Bar Expansion Hypothesis*--whereby the first stage in the production of any category was to project only a Head X; then to add a single argument projecting X into X-bar; and finally adding a further argument projecting X-bar into XP. What I am saying here is similar, though arrived at via a different route.

In sum, the basic claim presented thus far is that very early child two-word SAS utterances are to be analyzed in terms of *Predicate-Argument* XP constructs only--where the Predicate is seen as a Proto-Head, and the Argument as either a Proto-Specifier or Proto-Complement (both occupying the external argument position). Hence, in the earliest SAS phase, there is continued support toward maintaining those primitives of X-bar Theory (albeit a reduced XP in the sense that the internal argument doesn't project), which pertain to distinctions of Headness and External argument (Non-headness). However, no support (at the SAS phase) is gained towards the notion of an innately given fully *expressed* XP hierarchy.<sup>xiii</sup> The refinement of Kayne's model would then predict that at the very earliest two-word SAS phase, children make salient a variety of base-generated configurations. Such a model (based on LCA) would go on to predict that once Double Argument Strings (DAS) emerge, a strict SVO pattern would develop. This is generally

borne out on both Theoretical and Empirical grounds. Theoretically speaking, once ordinal Specifiers and Complements simultaneously enter into a projection, two crucial things happen. First, in order to save Kayne's hierarchical ordering, the Complement is stipulated to have an asymmetrical maximal projecting terminal node (**N**) breaking the symmetry of L in (1). Second, since the Complement projects, the Specifier must now be redefined as an Adjunct both in order to save ACC and to prevent unwanted Spec-final outcomes. Both conditions are now in place yielding Kayne's Universal SVO ordering (OVS are theoretically ruled out by Kayne on rather abstract reasonings--however, see (§1.2) on OVS as a potential Universal ordering).

Empirically, this seems to be what one finds for English. Citing a number of data, a correlation seems to exist between fixed word orderings and DAS constructions (cf. L. Bloom 1970, Braine 1976, Bowerman 1973, 1990, Deuchar 1993, among others). Radford (op.cit:232) (citing Bowerman 1973) demonstrates that though we indeed find alternations between SV/VS and VO/OV orderings, we rarely find instances of SOV for English at the thematic stage (being an ordering derived via movement).<sup>xiv</sup> (Tsimpli (1992), on the other hand, does find such orderings though in a limited way compared to the vast variability found among SASs (see note 6)). Once a base-generated Subject/Object syntactically projects, the Subject/Object is always forced to remain in its respective Spec/Comp position. (This is also evident from early Wh-Question CP>VP constructions (without Do-insertion or Aux-inversion), where the Wh-element is assumed to raise (via O-movement) from out of the Complement of VP into Spec-CP. Word Order errors within the VP therefore would be predicted not to occur within Wh-constructions.

In sum, the following abstracts of the two phases correspond to earlier cited data (cf. (1) & (2)--Bowerman, Bloom, Braine, Tsimpli, *ibid*) regarding variable ordering at the (Non-IP) SAS phase as opposed to the DAS phase:

Abstract-Summary of SAS vs. DAS (Bowerman 1990)

SAS Phase

1. 60% of SAS strings with proto-typical agent-patient verbs were mis-ordered.
2. Both OV and VS orderings of proto-typical agent-patient verbs occur.
3. Postverbal subjects appear with transitive, intransitive and unaccusative verbs.
4. It is concluded that both pre/post-verbal subjects are base-generated--not derived.

*Summary: word order is unstable for single argument strings--yielding SV/VS, VO/OV.*

DAS Phase

5. There is a 'transitional' period lasting a few weeks where DAS permit variable orderings. After this period, (at approx. 2 years of age), the order of DASs become fixed to target SVO
6. Among DAS utterances, 22 tokens of correctly ordered VO strings were found--not one single token of incorrect OV order.

*Summary: word order becomes fixed (after a brief transitional period) to target SVO with the onset of double argument strings.*

## 1.2 SVO and OVS

Much of Kayne's model of a Universal Hierarchy hinges on theory internal stipulations. For instance, Kayne (op.cit:35-38) recognizes that a potential OVS ordering could be consistent with LCA: e.g., Kayne here is further required to explain why  $\langle x, y \rangle$  is interpreted as 'x precedes y' rather than as 'x follows y'. Kayne's methods of argumentation here seem rather abstract and circular, relying on an assumption that universal temporal orderings flow from left-to-right. For the sake of argument, let's suppose that Kayne fails to convince us of this *one point* and that SVO and/or OVS (its mirror image) constitute potential UG orderings.<sup>xv</sup> Samuel Epstein (cited in Chomsky 1994a:fn.32, p.437) is equally unconvinced and notes that *Kayne's abstract formulation allows very free temporal orderings even if LCA is satisfied. Thus, if a class of phrase markers satisfies LCA, so will any interchange of sisters.* Thus, we are unavoidably faced with any arrangement of orderings within the Head-Complement relation (e.g., *read-books* or *books-read* freely). Kayne himself remarks that though both Head-Complement and Complement-Head orders are widely attested among the world's languages (as it is with language acquisition), once the Specifier projects, a much more visible asymmetric SVO ordering occurs (op.cit: 35). Notwithstanding such uncertainties involved, one interesting note to keep in mind here is that a persistent necessity holds throughout for the Head to position itself medially--i.e., *Specifiers and Complements must project from opposite sides of the Head, all other possible configurations being derived via movement.*<sup>xvi</sup> The above weakening of Kayne's UG hierarchy has important implications for Child Language Acquisition cross-linguistically. For instance, in the event that both SVO and OVS orderings were potentially licensed by UG, this might allow us access to a much more straightforward account of base orders for verb-final languages such as e.g., Japanese: languages that would otherwise (under the SVO account) be forced into making a number of unparsimonious movement operations. Moreover, the SVO/OVS UG ordering has much in common with what is being proposed here concerning the SAS phase. Namely, if we assume that the Specifier slot is an anomaly, representing the sole argument position at the SAS phase--the Subject/Object being reorganized within the Proto-Argument placeholder--then, only a *dual-variable* of word orders ever project: (i) between argument-final VS/VO structures (yielding potential target OVS, SVO grammars respectively) and (ii) between argument-initial SV/OV structures (yielding the same potential target SVO, OVS grammars respectively).

Furthermore, we might wish to adopt Kayne's initial observation that the Head be required to position medially (a fact which seemingly falls directly out of LCA) and perhaps claim it as an even more fundamental principle of syntax:<sup>xvii</sup>

(6) Head-Medial Principle =  $\langle x, y / y, x \rangle$ . (Kayne 1994:35)

That is, in more concrete terms, the Head  $\langle x \rangle$  can project (universally) either in an initial or final surface position in relation to the Complement  $\langle y \rangle$  prior to the onset of the Specifier  $\langle z \rangle$ . Such a principle could be reduced to saying that once the fully-fledged (external) *Agreeing-Specifier* projects, it maintains the option of either projecting to the left or to the right of the head  $\langle x \rangle$  (where it then enters into a proper agreement relation) depending where in the input the Comp(lement) positions itself: thus yielding either SVO (if Comp projects rightward) or OVS (if Comp projects leftward). Recall in (6) that Kayne

stipulates that <x> must remain within a medial base-generated position. In the light of our refinement of Kayne's mechanism for universal word order, how then might we eventually set the Specifier position? Well, although Kayne wishes somewhat to distance himself on the matter of Word-Order/Directionality via Parameterization, we may, however, opt to keep traditional notions based on *Principles and Parameters*. We might suggest that the *Directionality Parameter* depends upon the placement of the *Complement*. Hence, Directionality is set via the following parameterization: [Comp-initial/Comp-final], and thus Spec positions itself accordingly--keeping to the Head-Medial Principle as stated above. (We can now dispense with all notions of Head and Specifier Directionality Parameterizations since, in the model proposed here, their directionalities naturally fall out from the placement of Comp.)

To make matters more concrete, e.g., languages that show a strong tendency toward SOV--where Complements are observed in the child's input to appear to the left of the Head--the base-generated OVS order might be selected. This would result in forcing the Subject to raise to the outermost Spec position. Such an approach for Japanese has recently been suggested (see Tonoike 1993, 1995).<sup>xviii</sup> In languages, such as Irish and Welsh, with a strong tendency toward VSO (where Complements are generally observed in the child's input to appear to the right of the Head) SVO might be selected with leftward movement of the verb. (The possibility that Irish selects SVO as a base-generated order, deriving VSO via V-movement, has been suggested by McKenna & Wall 1986, as well as Bobaljik and Carnie 1995). These orderings naturally are derived via the *Head-Medial Principle* in the following manner. Again, suppose in the child's input the Complement tends to be placed to the left of the verb, then, under Kayne's Head-Medial Principle, the base-generated word ordering requires the Specifier to be placed to the right of the Head-Verb--yielding OVS.<sup>xix</sup> In sum, we now can maintain the following two predicted base-generated orders: (i) SVO and (ii) OVS--with all other orderings being a derived (from the two) via movement.

*(FPH Revisited)* Let us recall a major theoretical premise that has been discussed in previous chapters, summarized here in the following manner. Given the absence of parameterization at the early Non-INFL grammatical stage (assuming FPH to be correct), a number of variables, governed only by UG, should remain open to the child. In accordance with the FPH, one might think that such a highly permissive stage would yield a significant amount of variability. However, such a claim is too strong and doesn't appropriately compensate for e.g. frequency of input, individual variation, and so forth. More specifically, theoretical availability may not have the last say in the matter and *nonlinguistic* motivations for building-up language strategies might over-ride more linguistic motivations--though a seemingly similar path (on the surface) might be seen as developing in both events, producing more-or-less the same outcomes. Such an idea regarding (word order) linearization is summed-up rather nicely by Martin Atkinson and, I think, is worthy here of full quotation (below):

[C]onsider the fact that the child is surrounded by utterances in which the subject precedes the predicate. Of course, for the adult...the order is linguistically motivated via parameterization of direction of nominative

Case-assignment from I(nfl). By assumption, the child has no I(nfl) yet, so this linguistic motivation is not available to him/her. But I can see no reason why such a child should not use the language he or she hears to effect the linearization strategy....[W]hen I enters the child's system enabling the appropriate parameter to be set, a word order which has been used continues to be used but is now linguistically motivated. A fundamental change in the internal system of representation has no overt consequences for this aspect of the child's linguistic behavior (1992:266).

### 1.3 The Data

(*Subjects*) Early word orders in my English data seem to follow two patterns of acquisition. In the first 12 files (1;10-2;6) there seem to be even distributions between the rates of SV and VS (SAS) structures. This symmetry peaks at around file 10 where a 17-to-16 frequency count (VS-to-SV) is found--where the relative frequency of multi-constituent DAS to two-constituent SAS-structures is around 3-to-1. At file 13 however, a greater shift towards the usage of multi-constituency DAS-structures occurs, resulting in the dominant use of the target SVO word order. At first glance it seems that the correct setting of SVX ordering at this stage is indeed mostly due to the emergence of multi-constituent strings--notably, either the Object or the Adverbial element--whereas a steep decline in non-target VS orderings results as a consequence. Certain characteristics of VS structures however pose analytical problems: i.e. one such marked feature of the VS word order stage is the domineering presence of either the Copula Verb 'Be', or the Bare Past-Participle (=BPP--Bare in the sense that no Aux surfaces) in many of the constructions. Examples of these two marked-VS constructions are given in (7):

- (7) a. all gone Truck (file 2: 1;10)            e. is A car (file 5: 2;0)  
       b. all gone Bottle (file 6: 2;2)            f. is A duck (file 4: 2;0)  
       c/d. all done The car/Me (files 7/16)    g. (Cat), is A cat (file 3: 1;11)

It is not entirely clear whether or not these constructions constitute true VS orderings, as the grammatical-categorical status of the Noun and participle can be questioned. For instance, in examples (a-d), the participle might be reinterpreted as having Adjectival properties, while the Copula in examples (e-g) somewhat complicates matters--i.e., their argument structures may be analyzed as pseudo unaccusative verbs (without Subject raising), or that assumptions might be made regarding a phonologically reduced subject via a consonant cluster simplification (as in e.g., *It is a car*, its>is>iz--SVO)<sup>xx</sup> etc.

However, alongside such problematic constructions lie a considerable number of straightforward VS constructions containing main verbs. The following token examples of VS structures are given in (8) below with analysis in (8-prime). (Note that these examples span the range of ages from 2;6-3;2--demonstrating that word order variance seems to solely rely on the number of arguments which project and no other criteria such as e.g. the functional IP-stage. Hence, such a diverse range of SAS VS projections suggests that the SAS vs. DAS distinction, as laid out here, functions rather in an isolated manner, quite untypical of 'benchmark' criterion which aid in establishing the child's overall stage of

development.

(NB. This gives the flavor of saying that any talk of "stages"--noting that by file 14 we have surely entered into the IP-stage--simply doesn't adequately describe the nature of the word order variance being produced here, and that we must reconsider the overall notion of an SAS-phase overlapping onto an otherwise functional IP-stage).

- |     |                                     |                              |
|-----|-------------------------------------|------------------------------|
| (8) | a. kick baby (file 14: 2;7)         | h. kick me (file 15: 2;8)    |
|     | b. run baby (file 14: 2;7)          | i. eat me (file 17: 2;8)     |
|     | c. all break My bike (file 22: 3;0) | j. work bike (file 22: 3;0)  |
|     | d. open me (file 19: 2;10)          | k. broke tree (file 23: 3;0) |
|     | e. eat baby (file 12: 2;6)          | l. want me (file 18: 2;9)    |
|     | f. cook daddy (file 15: 2;8)        | m. hurt car (file 16: 2;8)   |
|     | g. help me (file 23: 3;2)           | n. go plane (file 17: 2;8)   |

- (8') VS structures with SASs (cf. 5ii)      Token counts of VS SASs

	VP				
	/ \				
	V'	Spec			
	V				
b.'	run	baby			
f.'	cook	daddy			
j.'	work	bike			
n.'	go	plane			

<u>Token counts</u>	<u>SV</u>	<u>VS</u>	<u>SVO</u>	<u>Other (xyz)</u>
(files 8-16): n.	87	78	290	15

One interesting observation here concerning such (single argument) VS structures has to do with Case assignment. Most verbs found within VS utterances seem to have Accusative Subjects. This observation becomes rather significant when coupled with other data showing correct Nominative Case usage at the same stages of development (see (9) and (11) below). In other words, the data seem to demonstrate that when VS order is used, Subjects get Accusative Case and never Nominative Case. (NB. The notion that such orders are the result of *Dislocations* has been largely discredited by negation initial construction: e.g., *Neg-V-S/Neg-O-V* (see §1.3.1)). In fact, not one VS construction yielded a Nominative Subject. (The fact that Nominative case appears at roughly the same stage may indicate some sort of optional Nominative/Infl stage). However, regarding Case assignment to DP, there does seem to be strong evidence that Genitive Case is unaffected by variable word order. In fact, the Determiner system emerges fairly early on in the data and is found in a variety of environments (not to mention within Language Mixing). The following examples in (9) show correct Case assignment and Word Order patterns for the same developmental periods as was shown in examples (7) and (8) above (ex. a, b are arguably formulaic):



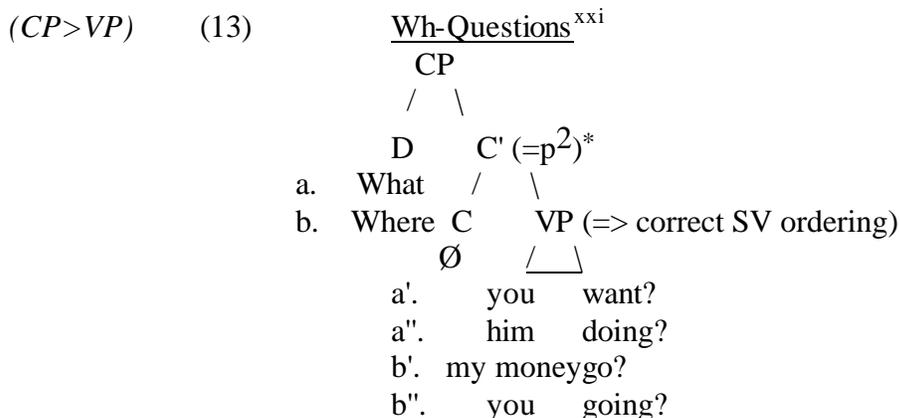
used as argumentation in favor of Kayne's linearization analysis. The arguments might proceed as follows:

(12)

(a). In the event that a (base-generated) Wh-element raises, occupying a fronted position, the environment for free word order collapses--recalling earlier that the structure in (5) is restricted to involving a thematic sisterhood relation prohibiting any A-bar or Adjunction positions. Thus, either a full-blown VP or CP>VP structure would project.

(b). Since there would, in principle, be no room for a second argument (an element other than the Subject and Verb) to position itself, a raised Wh-element would then be forced to occupy either an external Spec-CP or possible Adjunction position: both being A-bar positions--in accordance with the  $\Theta$ -criterion--hence, violating stipulations placed on (5) (further assuming that any Adjunction to VP would be driven by some sort of movement operation creating the chain  $h \dots t$ ). Again, either a full-blown VP or CP>VP would project.

(One possible analysis for the following Wh-constructions is to suggest that they are Truncated CP>VP structures as proposed by Radford 1990, 1994, and Roeper and Rohrbacher 1994.)



(\* C'=Adjunction p<sup>2</sup> as in Kayne's structure in (4). Simplified by not showing the trace of the Wh-Operator).

An important implication here is that no variable ordering is allowed within the VP of a CP>VP structure for reasons discussed in (12)--the Data bear this out.<sup>xxii</sup> Moreover, a crucial link becomes available now between the Functional stage (made apparent via O-movement) and stable word order (within the VP). However noting that INFL (Agr/Tns) errors still could appear within such structures--as is evident from (13a'')--since IP is altogether missing from the structure (as indicated by the absence of Nom case: *him doing?*).

(*Early DP-Projections*) A further observation has to do with the fact that word order errors seem also to correspond with the absence of the specification associated with the *Head* of DP: (possessive 'S). It is observed in the data that the first attempts to project a Possessive construction (DP) (within a non-head DAS) fail to realize the target order. Consider the following examples in (14), where the Head Possessive 'S is unspecified:

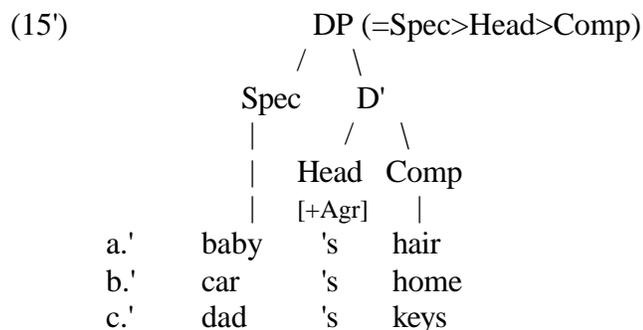
- |      |   |  |
|------|---|--|
| (14) | <u>Spec-(H)-Comp</u><br>a. daddy $\emptyset$ truck (file: 3)<br>b. baby $\emptyset$ car (file: 11)<br>c. baby $\emptyset$ bottle (file: 12) | <u>Comp-(H)-Spec</u><br>d. bottle $\emptyset$ baby (file: 12)<br>e. key $\emptyset$ mama (file: 10)<br>f. hair $\emptyset$ me (=my (file: 20)) |
|------|---|--|

The variable word orders cited in (14) could be schematized in the following ways:

- |       |  |   |
|-------|--|---|
| (14') | <p style="text-align: center;">DP (=Comp Initial)</p> <pre>       /  \      D'  Spec     /  \      Comp Head         [-Agr]          Ø        d.' bottle  baby (=baby's bottle)   e.' key     mama   f.' hair    me           </pre> | <p style="text-align: center;">DP (=Comp Final)</p> <pre>       /  \      Spec D'        /  \       Head Comp       [-Agr]          Ø        a.' daddy  truck   b.' baby   car   c.' baby   bottle           </pre> |
|-------|--|---|

In (14) above, Genitive Case assignment is assumed to involve a Spec-Head [+Agr(eement)] relation within DP (Radford: ms1997). The universal potential orderings of Spec-Comp/Comp-Spec however still manifest depending on which of the two universal XP schemata is being utilized.) Again, the crucial claim here relates to the above observation that variable word orders seem to appear within SAS or non-Headed DAS projections: it may be that all categories/(phrases) (Noun (NP), Det (DP), and Verb (VP) alike) are effected in the same way by the Comp parameter--in this sense, even though we are dealing with an apparent (Spec/Comp) DAS construct, the crucial point is that there is no overt Head projection in which to trigger the Comp parameter (cf. Kayne; ex. (6)). It is interesting to note that once the Head of DP overtly projects, word order becomes stable (there are no instances of mixed orders found among specified DP structures). Consider the counterpart structures in (15):

- |      |   |   |
|------|---|---|
| (15) | a. Baby's hair (file: 25)<br>b. Car's home (file: 25)<br>c. Dad's keys (file: 25) | d. It's [Zoe's bike] (diary)<br>e. Where is [Zoe's bottle?] (diary)<br>f. A boy's bed (diary) |
|------|---|---|



The structure in (15') draws attention to a possible link between the Functional Parameterization Hypothesis (FPH) via INFL, and the advent of stable word order (at the DAS phase). Namely, as briefly mentioned above, there seems to be some correlation between the onset of unstable word order at the SAS phase and the onset of fixed order at the (FPH) DAS phase. Namely, it is the use of English Possessive INFL(ection) 'S which signals that the child has now developed a specifically ENGLISH type of possessive structure (via INFL) (cf. 15), whereas earlier the child had a 'language-neutral' type of possessive structure (via Non-INFL) (cf. 14).

What the above data suggest is that it is the acquisition of the (language-specific) *Spec-Head Agreement* morphology that fixes word order. In other words, a Directionality/Linearisation Principle might say something along the following lines:

*Linearisation Principle for Spec-Initial Languages:* A Specifier is positioned to the left of a Head it agrees with. Non-Agreeing Specifiers (i.e., Adjuncts) may freely insert either before or after a given Head.

(*Bare Infinitives*) Finally, some interesting questions can be raised regarding a very small set of observed "contradictory" patterns within Bare Infinitive clauses. These utterances contradict both *proposals I and II* in the sense that they involve the overall Functional IP stage (contradicting the former proposal) and within (DAS) constructions (contradicting the latter). Consider the distribution of the following VO/OV word order examples found among (matrix clause) Nominative-Subjects with Bare Infinitives:

(16) OVs at IP-stage

- a. I going [a plane fly] (=to fly a plane)
- b. I want [mama see] (=to see mama)
- c. I want [pasta eat] (=to eat pasta)

(\* indicates incorrect VO)

VOs at IP-stage

- d. I want [stop the rain]
- e. She going [touch my man]
- \*f. I want [eat dog] (=dog to eat)
- \*g. I want [blow me] (=me to blow)
- \*h. I want [help me] (=me to help)

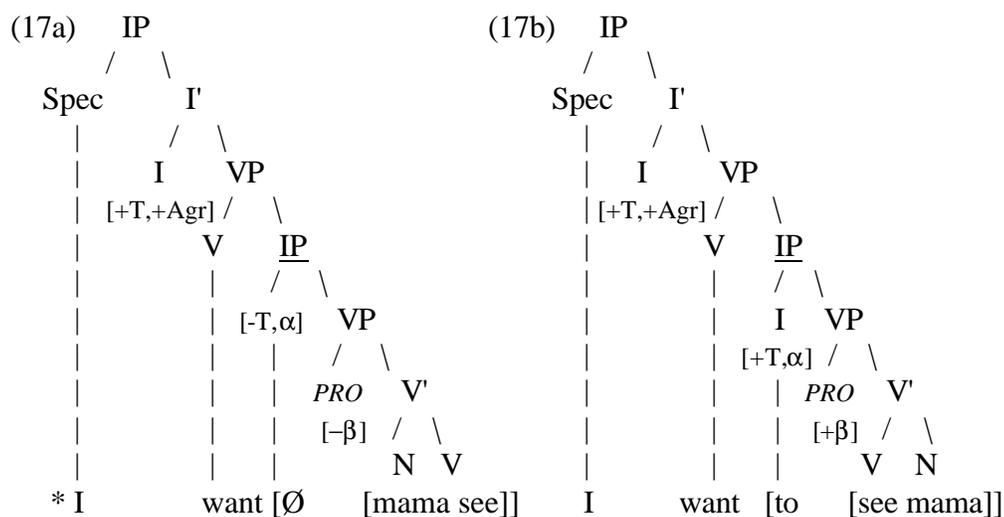
An interesting observation about the distribution of such word orders is that strict correlations seem to hold between: (i) *Bare Infinitives* and variable word orderings, and (ii) language-specific *To-Infinitives* and fixed orderings. In fact, I have no instances of word

order errors found within To-Infinitives: namely, sentences such as *e.g.*, *\*I want to [mama see (=OV)]*, or *\*I want to [come mama]*, are not found in the data. Such apparent overall IP constructions that permit variable word orderings (within the V-bar) might be accounted for in the following (highly speculative) manner.

Suppose that when language specific T(ense) and/or Agr(eement) remain non/under-specified, the properties relating to how they restrict Directionality become inert (cf. Tsimpli).

Suppose that such properties regulate directionalities only within their contained maximal (XP) projections.

Suppose that the Infinitive particle "to" carries some sort of (language-specific) anaphoric +Tense (binding) feature--similar to how *to* is anaphoric in *e.g.*, *He wants to go* where the particle (*to*) is bound and controlled by the Verb (*wants*) in the main clause. This might predict then that when (non-language-specific) Bare Infinitives appear (i.e., without the infinitive particle *to*), even within Nominative [+Agr] contexts, their Maximal projection VP contains no *anaphoric-bound* +Tense properties from INFL for determining Directionality. In such a case, this amounts to saying that there exists a split Functional/Lexical tree--with AGR, T projections involving the top of the tree only (cf. 17a). Under such a model, we might envisage utterances as (16) with erroneous OV orders as having the representation below:



What this binding between ( $\alpha, \beta$ ) attempts to illustrate is that the structures of the (lower) VP seem to share some sort of *anaphoric binding relation* with the Tense property of IP: *e.g.*, (iff  $\alpha$  is [+T], then  $\beta$  is [+T] (situated in Spec-VP)) and the correct directionality of V/N within V' is set (cf 17b)). It remains unclear exactly what type of mechanism we are talking about here regarding how the word order eventually becomes fixed. I can only add at this juncture that the spirit behind this proposal coincides with the notion discussed above--namely, that non-language-specific Bare Infinitives represent an earlier 'single system' (of complementation), and that the eventual use of the specific English morpheme TO signals the development of a separate English structure yielding English word order.

### 3.4 Final Remarks and Residual Problems

(*An Additional Grammatical Stage?*) In light of the discussion in the sections above, a slight refinement might now be proposed for how Developmental Linguists describe and assess the stages of child language acquisition. Before the emergence of the VP-stage, commonly referred to as the *Small Clause* stage (cf. Radford 1988b), an SAS-phase may exist permitting a maximum of two words (e.g., Proto-Argument/Predicate) with an unstable word ordering. The term *SAS-phase* here doesn't necessarily mean that three or more words can't project, but rather, that the majority of utterances found at this phase seem to comprise of predicate+argument strings only. Furthermore, there is no reason why such a defined SAS-phase could not, in fact, exist alongside a DAS-phase--not to mention the possibility that the phase may be skipped by the child altogether. (In the former case, the child immediately enters the DAS-stage.) The crucial difference then with our proposed SAS-phase, as opposed to a VP-stage, would be the added stipulation that *all positions* are exclusively *A-positions* which are in turn directly *Q-marked* by the Verb-Head within V-bar. Such a stipulation renders movement operations invalid (in adherence to the Theta-criterion--which states that a given argument can receive only one theta-role). The full range of XP expressions (viz., the internal argument V' position), though biologically predetermined to come on-line at the VP-stage, are somewhat suspended at the SAS-phase until specific properties of lexical items having to do with principles of X-bar syntax mature.<sup>xxiii</sup> (In this broader sense, we are talking about the Specifier-Complement asymmetric opposition at the (DAS) phase which triggers the Complement Directionality Parameter as mentioned earlier in (§1.2)). The above stated differences between SASs and DASs amounts to leaving open the question whether or not movement operations are allowed at the VP-stage.

(*Residual Problems under Minimalist Assumptions*) In recapping, one thing the two proposed models seem to have in common (cf. (i) Tsimpli, and (ii) a 'weakened' Kayne) is the fact that they both rely on traditional notions of X-bar syntax: notions that have generally been dispensed with within Bare Phrase Structure (Chomsky 1995: Ch.4). The following cited residual problems take into account more recent interpretations of Bare Phrase Structure regarding Word Order.

(*Merger*) Before moving on to the residual problems, let's first briefly examine how the operation *Merge* itself might be broken down and analyzed into more fundamental components. Recall that the structure in (5) amounted to a Proto-Argument+Predicate construction. In order to derive the reduced tree in (5), aspects of Merge must also be capable of yielding a reduced tree. It is in this light that we conclude Merge to be formed by two rather independent operations:<sup>xxiv</sup>

(18)

(i) Primary Merger--Merge Head with Comp (zero level category takes complement)

Merge: X'  
/ \

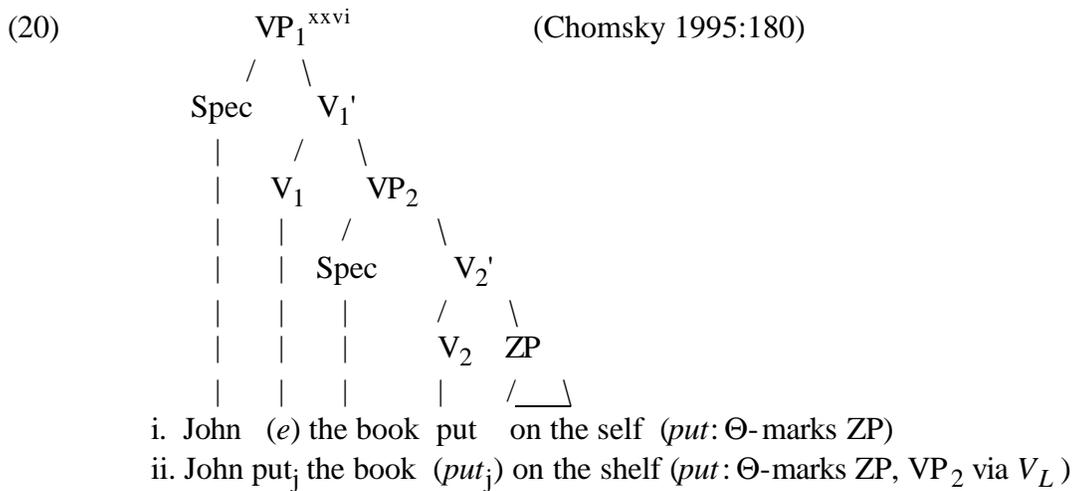
X'  
/ \



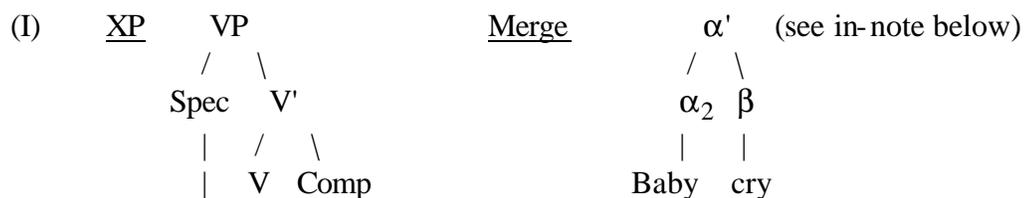
(*VP-Shell*) The Larsonian VP-shell, I believe, contains two essential ingredients for supporting the proposal at hand. They are as follows:

First, the original definition of Subjects and Objects as symmetric and mnemonic place holders (i.e., Agr-S/O respectively) stems directly from Pollock's (1989) theory which takes the Agreement relation--be it Subject or Objects--to be of a Spec-Head nature. This subsequently allows the Specifier position to be non-prejudicial in permitting an Object to project from out of a Spec position. This holds important consequences for how we, in turn, account for the structure in (5) restated above in terms of Merger Theory. Specifically, since the Spec position may now be seen, theoretically, to host the Object, we can now dispense (for the time being) with the Comp position since it needn't project at all for the early SAS phase. Moreover, the traditional idea claiming Head-Comp to be the "most local-relation" (i.e., thematic) needn't be jeopardized, since all arguments at the SAS phase are thematic, regardless of their relationships: e.g., the external Spec being  $\Theta$ -marked by its sister X'.

Second, the Larsonian VP-Shell further supports this notion by addressing the problems associated with the Theta-markings of multiple internal arguments, etc. Consider the underlying structure of a 3-place predicate sentence (e.g., *John put the book on the shelf*) where the Object *the book* is placed in Spec VP:



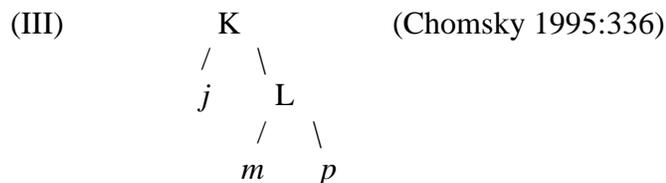
(*Proposal I*) One notable problem for Tsimpli's model has to do with the assumption of a fully-fledged VP structure at the two-word stage. For instance, consider the child's typical Single Argument String utterance in (I) where only a Specifier and Verb projects:





Atkinson's argument hints that a fixed (VP-stage) word order does not seem too unreasonable--since word order may not be dependent on functional categories, but rather on a relational property of Spec>Head>Comp. The obvious problem however with this is that (based on acquisition literature) we indeed find DAS word order errors at the *proper* VP-stage (albeit rarely). It is not clear what the reasons would be under Kayne's original account. I suppose however, that under Kayne's 'weakened' version (modified here), which takes a two-pronged Directionality model--coupling the *Head-Medial Principle* with that of the *Complement Parameter*--a feasible reason having to do with the nature of parameterization itself might be given. Namely, once the two arguments project, a certain amount of time is still required to correctly set the [Complement Directionality] parameter. Hence, a variety of SVO, OVS might briefly appear before the actual setting of correct word order (see note 6). Moreover, recapping the notion put forward regarding the Larsonian Shell, a rather different story could likewise be run suggesting that all word order variations--other than SVO, OVS--found at the DAS VP-stage are indeed actually derivations involving movement.

(*Proposal II*) The most outstanding problem for Kayne's approach to word order lies in his dependence on category-terminal distinctions. In Chomsky's Bare Phrase Structure, there is no such distinction. Thus a typical counterpart of (3) above would be the following:



The problem in (III) above is that  $(m, p)$  break asymmetrical c-command (ACC) since there is no hierarchical maximal projecting terminal node in the Complement position ( $p$ ). Chomsky however finds a way to save (ACC) by making a somewhat strong stipulation that either all Complement categories must be a Complex category (with both terminal/non-terminal nodes), or that all right branching structures must end in a trace. (I will not go into the complicated details here, suffice it to say here that such strong stipulations would undoubtedly have ramifications for language acquisition)

A second and perhaps more fundamental problem regards the final result--as predicted by Epstein (ibid)--that (LCA) would likewise make available OVS as a (UG) base-generated pattern. There is little evidence to suggest that this pattern actually occurs at all cross-linguistically. Joseph Greenberg (1963) notes regarding Universals that OVS occupies roughly (2%) of the world's languages--a major empirical hurdle to get around (see note 11). At best, it would have to be claimed that OVS is a base structure that simply doesn't survive without immediate morphologically driven movement (at PF)--for one reason or another. (Japanese as a potential OVS language might fall into this category: cf., Tonoike 1995).

In sum, this chapter on Word Order overall has demonstrated that indeed a Phase does exist in the acquisition of language where variable word orders are permitted: including

both SV/VS, VO/OV structures. The availability of such free orderings was seen to be predominately linked to the early two-word VP-stage (described as the SAS phase, although variant ordered SASs partially continued into the otherwise IP-stage). Utilizing a 'weakened' model of Kayne's LCA (which, in its original form, called for a Spec-Head-Comp universal hierarchy), we showed how the Comp Parameter could establish the correct word order. This finding supported Bowerman's claim that it is the emergence of both overt arguments (*viz.*, the Subject's *vs.* Object's competitive drive to secure a Spec-position) within a syntactic DAS structure that contributes to the correct setting of the Word Order Parameter. The findings in the data were also made consistent with Tsimpli's work that likewise gave evidence of free word order at the early VP stage. However, we differed with Tsimpli in a number of respects--namely, that free word order was not seen to involve Double Arguments Strings (DAS), and that the correct setting of word order was not seen as a sole consequence of Functional Parameterization, but rather as a result of the two-pronged condition placed on *(i)* the Head Medial Principle, as well as *(ii)* the Comp Parameter--in this sense, it was the placement of the Complement in opposition to the Specifier (creating an agreeing Spec) which brought about either universal word order setting: SVO or OVS. The notion that clauses start-off with a minimal VP-structure (a reduced XP), and thenceforth expand as required (once newly acquired structures project), is consistent with the overall Structure-Building model assumed here.

## Chapter 3 Notes

<sup>i</sup> It is now commonly suggested that missing arguments are present at (LF). Such missing arguments (by extension of Rizzi) may be labelled as *implicit* and are considered *lexically saturated* and need not project into surface syntax (cf. Rizzi 1986, Radford 1990). L. Bloom notes that Subject+Complement constructs also appear at this stage. (Such examples would have to be considered as DAS constructs.)

<sup>ii</sup> Following assumptions based on Predication, Tsimpli rules out the possibility that VSO is a base-generated order. Hence, Welsh and Irish word orderings (two such languages with strict VSO) must therefore be derived via Verb raising to a functional head.

<sup>iii</sup> Of course, Kayne's treatment of a universal Spec>Head>Comp ordering may counter this --see (\_3.1.2) below for discussion.

<sup>iv</sup> One potential problem with this remark, however, is that it presupposes an unwanted separation between morphology (be it in its rich or weak form) and syntax--subsequently raising questions regarding the nature and learnability of syntax.

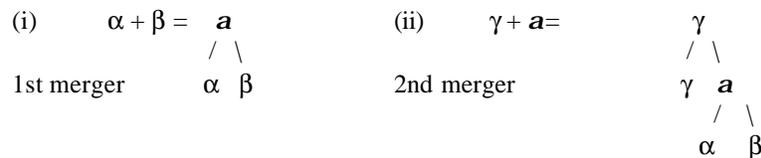
<sup>v</sup> The *Morphological Uniformity Hypothesis* which likens e.g., Chinese to Italian is a good example in this respect and demonstrates how problems can arise when defining a morphologically rich language (cf. Jaeggli, O & Hyams, N. 1988)

<sup>vi</sup> For Braine (1976) target word order was seen to be fixed immediately after the first onset of the verb's second argument projection. Tsimpli (cf. Bowerman 1990:1275) however reports that target SVO word order becomes fixed just 6-8 weeks into the first onset of the verb's second argument.

<sup>vii</sup> A linear ordering has three defining properties--only one of them is important to us here: *Linear ordering is total; that is, it must cover all the members of the set: for all distinct x,y, either xLy or yLx* (Kayne 1994:4). Thus the structure in (3 prime) is ruled out on the basis that the set [j,m,p] does not properly restrict the possible free ordering of the two terminals m and p within the set.

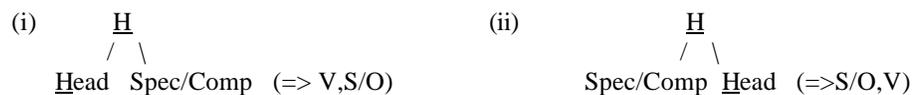
<sup>viii</sup> I assume here that no canonical ordering holds with respect to thematic argument structures (see Pinker 1984 and Bowerman 1990 for further discussion).

<sup>ix</sup> As later noted in (\_3.1.7), such constructions are in no way tidy and without problems. The very essence of a binary merger operation starting from the lexicon [ $\alpha + \beta$ ] and projected as a primary internal projection (=X') is put into jeopardy:



Secondly, it still remains rather unclear how two-place predicates with understood arguments would be maintained within such a proto-type XP. One possibility might be that all understood arguments missing from the syntax are lexically saturated and thus implicit (cf. Rizzi).

<sup>x</sup> Margaret Deuchar (ms. 1993) has recently proposed a radical alternative for a two word stage showing variable word orders. She claims that children's earliest X-bar syntax reflect the asymmetry of daughters, but not the existence of mothers (hence, only X'). In other words, the child merely utilizes an innately given Head vs. Non-Head distinction for hierarchical structure. Deuchar's X-bar syntax, at this two-word stage, would therefore only mark Head and non-Head presumably within a flat structure:



The major problem with the above reduced flat structure is twofold: (i) It proposes massive and irrecoverable Discontinuity with adult grammar. For this reason, the view is commonly held that XP hierarchy is innately

given to the child. (ii) Regarding my own data, though there indeed exists such a two-word (SAS) phase (with mixed orders), the phase however, at times, proceeds alongside a three-word phase (DAS) with fixed SVO order (found in slightly later files)--demonstrating the total hierarchical X-bar syntax (i.e., external argument--Spec, Head, and internal argument--Comp). We therefore conclude that if XP is fully 'functional' at this early DAS phase, it must at least be partially 'functional' at the slightly earlier SAS phase.

<sup>x<sub>i</sub></sup> There might be some similarities here with earlier suggestions that Agr<sub>O/S</sub> were strictly mnemonic as placeholders and contained no substantial differences--i.e., they both shared collective phi-features (cf. Chomsky 1995:121).

<sup>x<sub>ii</sub></sup> Also see Radford (1990), Atkinson (1992: 181) among others, for similar views which suggest that lexical items initially lack categorial labels entirely and thus, for the child, a much more primitive structure is engaged (e.g.,...[[ $\alpha$ ]] [[ $\beta$ ]]...). Such a structure poses problems for the assumption that X-bar principles are instantaneous at all levels.

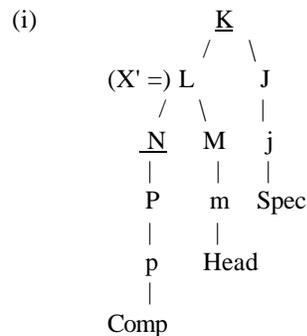
There seems to be some evidence that the mapping of argument projections do not follow a universal pattern. An example, the Australian language Warlpiri is given (a language which seems to map Agent-Theme, Agent-Patient according to Case rather than to external/internal argument positions within X-bar).

<sup>x<sub>iii</sub></sup> For similar findings see Deuchar (ms.1993). Though we differ with Deuchar in that we assume (following Stowell 1981: 70) that all Subjects appear as External arguments at the XP level--establishing the hierarchy between mother (XP) and daughter (X'). XP here is not fully *expressed* only in the sense that the internal argument Complement slot--normally occupied by the Object--does not project, subsequently forcing the Object to surface as a superficial subject within Spec.

See footnote 10.

<sup>x<sub>iv</sub></sup> This might demonstrate that early German grammars--which indeed show SOV--immediately project at least one Functional category for the Object to move into (see Clahsen 1994 for discussion) (Also see note 13.)

<sup>x<sub>v</sub></sup> Principles of X-bar structure remain consistent and a mirror image of SVO projects--adhering to the Head Medial Principle:



<sup>x<sub>vi</sub></sup> In the case of e.g., SOV, the subject might be viewed here as raising up to some SPEC position to the left of the Head--bypassing the Complement along its way.

<sup>x<sub>vii</sub></sup> Kayne argues that X-bar syntax should not be considered as the foremost primitive part of syntactic theory (i.e., of UG). What is primitive in UG are the properties derived via (LCA): (1) the need for a phrase to have a Head, (2) the impossibility for a phrase to have more than one Head, (3) the limitation to one Specifier per phrase, (4) the limitation to one sister Complement per Head, (5) the requirement that Complements not be a bare head (ibid: 131), and (6) the resulting requirement that Heads be placed Medially (ibid: 35).

<sup>x<sub>viii</sub></sup> This differs from Kayne's stricter account which claims that since (UG) only allows for SVO ordering, SOV must then be derived by SVO and the Complement (not the Subject) has raised to some Specifier position left of the Head (ibid:35).

<sup>x<sub>ix</sub></sup> A specific issue is raised here concerning the status of German base-generated word order. It would be argued that the child has considerable SOV input which would render the ordering similar to Japanese OVS. The main clause V-2 phenomena then would have to be considered as the driving input for German. In this

sense, German would have to be considered as a SVO base-generated language.

<sup>xx</sup> An implicit expletive subject here might be ruled out on the basis that the copula would most likely phonetically contract to *it's*: /ts/ > /s/ and not /z/.

<sup>xxi</sup> C in adult grammars are assumed to be strong--thus motivating movement in its requirement to be filled. In the child grammar, however, C might remain weak. See also chapter 5 for a more detailed discussion of CP.

<sup>xxii</sup> The data however could also be consistent with the view that when you have Wh-movement, full functional CP>IP>VP structures are in place.

<sup>xxiii</sup> See Atkinson (1992: 213) for an in-depth discussion of a maturational based language acquisition programme. (See also Borer et Wexler 1987). For recent accounts of the development of Broca's area regarding the maturation of *neural connectivity*, (see Simonds et Scheibel 1989, Greenfield 1991, Bickerton 1995, and Wakefield et Wilcox 1995). Bickerton (1992) suggests that the X-bar scheme itself reflects certain neural connectors in the brain which are prone to maturation.

<sup>xxiv</sup> The notion of a dual merger operation here is taken from Andrew Radford (pc).

<sup>xxv</sup> . Of course, it is feasible to consider, at this SAS phase, that the child starts-off with a flat structure--in which we have X and XP but not X-bar. This would have the flavor of saying that the child starts by projecting one flat structure until such a time when she comes across more data (DASs) which forces her to project a hierarchical structure. E.g., the need to integrate a third constituent somewhere into her scheme would then force her to provide a full XP. My proposal regarding a 'weakened Kayne' account could work within such a framework. This would match Radford's Uniform Bar Expansion Hypothesis .

<sup>xxvi</sup> An interesting note here regards the possibility that only a VP-shell (via movement) can break symmetric configurations/word orders that arise within certain small clauses ( where neither constituent dominates the other). Where e.g., [is [<sub>SC</sub>[the cause of the riot] [the picture on the wall]]] = (i) The cause of the riot t was the picture on the wall; or (ii) The picture on the wall was the cause of the riot t. Only via movement in the VP-shell is the symmetry broken and XP dominance restored (cf. Moro 1997).

\* Text taken out of J.A. Galasso (1999) 'The Acquisition of Functional Categories: A Case Study. (Ph.D. Diss. Essex University (Ch 3)). For references, see Galasso (1999/2003) (Essex/IULC Press).