PART I
Introducing and developing Processability Theory

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This initial part of the volume includes a presentation of PT's main tenets, which is designed first of all to highlight particular developments and proposals that have arisen since Pienemann (1998). Because much of the substantial progress in PT relies on developments in its two theoretical sources, in our exposition we give priority to Levelt's (1989) psycholinguistic Model and later developments (Bock & Levelt 1994; Levelt, Roelof & Meyer 1999; Levelt 2000) for language production, and to current LFG (Bresnan 2001; Dalrymple 2001; Dalrymple & Nikolaeva 2011; Falk 2001; Asudeh & Toivonen 2010) for language description, and allow them as much space as that reserved for the learner's developing path. Furthermore, this initial part is designed to give conceptual coherence and terminological consistency to the whole volume, thus avoiding repetitive introductions in each of the subsequent chapters. In this way, we hope to achieve two further aims: to illustrate PT's universal schedules of grammatical development and our 'prominence' proposal in a way that is consistent with its feeder disciplines, and also, crucially, to try to explain further the reasoning behind the schedules and the way they are connected, thus contributing to theory construction in SLA.

The progress in the two feeder disciplines that, in our view, bears most fruitful consequences for PT's developments and proposals concerns, on the one hand, (a) Levelt, Roelof & Meyer's (1999) Theory of Lexical Access, and (b) Bock & Levelt's (1994) specifications about the sequencing of the formulator's encoding procedures, with regard to language production; and on the other hand, (c) the formal representation of discourse functions (DFs from now on), and (d) the Lexical Mapping Theory in LFG's framework (Bresnan 2001; Dalrymple 2001; Dalrymple & Nikolaeva 2011; Falk 2001) with regard to linguistic knowledge. Consequently, in this part I, the main novelty in terms of contribution to theory construction derives from a coherent deployment of this progress in explaining the learner's developmental path by proposing our Prominence Hypothesis, as well as in attempting to solve incongruities deriving from Pienemann's continuing reliance on the older version of Levelt's Model, the earliest LFG, and derivational syntax (cf., Pienemann & Keßler 2011).

In relation to Levelt's Model, the Theory of Lexical Access has, crucially, introduced a third conceptual component to the original lemma-lexeme dichotomy. This development has its main application for PT in the Lexical Mapping Hypothesis by Pienemann, Di Biase & Kawaguchi (2005), whereby the (conceptual) lexical requirements of the verb contribute to driving the structural choices in the clause. Moreover, Bock & Levelt (1994) clearly show that, in the temporal course of language production, functional processing precedes positional processing. In PT terms this means that learners will first build up their syntactic frames and learn to assign grammatical functions (GFs from now on) to the retrieved lemmas, and only later will they relate morphological inflection to the constituents.

In LFG, the formalisation of the DFs, particularly Topic (TOP) and Focus (FOC) as syntacticised relations, has allowed for the development of a new dimension for PT, in so far as it can now formally represent promising areas – such as topicalisations, question formation, and other ways of attributing prominence – for investigating the learner's behaviour at the crucial intersection of syntax and discourse-driven choices. Furthermore, LFG's Lexical Mapping Theory contributes to explaining for PT how learners develop beyond rigid default mapping between thematic roles and GFs towards more flexible nondefault mapping in order to enhance expressivity and establish a different perspective or point of view on the event they intend to communicate. For instance, previous PT was silent on why learners who have acquired canonical word order may fail to produce passives despite their apparently pretty ordinary SV structure.

In presenting the learner's progress in developing their L2 grammar, we introduce several main innovations. The first is the separation of morphological development from syntactic development. This is different from Pienemann's own work (e.g., 1998, 2005, Pienemann & Keßler 2011) and much of PT work so far. The reason is that these two schedules appear to depend on two different sets of motivations. On the one hand, we have the original psycholinguistic procedures of Kempen & Hoenkamp (1987) assumed by Levelt (1989) and adopted by PT in Pienemann (1998), who shows how these processing procedures can be modelled in LFG by the mechanisms of feature unification. These procedures trace the developmental path of the learner's morphological marking beyond lexical learning over the hierarchical (phrasal, interphrasal and interclausal) levels of syntactic organisation (cf. ch. 1, § 4.1). On the other hand, the development of syntax depends on two different kinds of correspondences that formally relate three LFG parallel structures: argument structure, functional structure, and constituent structure (respectively a-structure, f-structure, and c-structure from now on). One set of these correspondences – that is, the mapping of c-structure elements (NP, VP, and so on) onto f-structure elements (SUBJ, OBJ, and so on) – describes the precedence relations of arguments according to the allocation of LFG's grammaticised DF, such as TOP and FOC (cf. ch. 1, § 4.2.1). The other set of correspondences

is guided by the principles of LFG's Lexical Mapping Theory, which accounts for the mapping of a-structure (a hierarchically organised set of semantic roles) to f-structure (a hierarchically organised set of GFs) (cf. ch. 1, § 4.2.2). Furthermore, by keeping morphological development separate from syntactic development, we are able to clarify and investigate issues involved in the interface between them (cf. ch. 1, § 4.3).

Other important innovations in chapter 1 concern the three hypotheses proposed in Pienemann, Di Biase & Kawaguchi's 2005 extension. In § 4.2, we abandon one of them, the Unmarked Alignment Hypothesis, and propose a reformulation of the other two, the Topic Hypothesis, and the Lexical Mapping Hypothesis. First, the Unmarked Alignment Hypothesis is abandoned because, at the initial grammatical stage, canonical word order and canonical (default) mapping between thematic roles and GFs do not necessarily entail each other. In fact, under pragmatically marked conditions a thematic role other than the highest in the hierarchy (e.g., the theme) may occupy the most prominent position in the string (i.e., the first). Secondly, in § 4.2.1, the original Topic Hypothesis is recast as Prominence Hypothesis, so that, parallel to the development of topicality in declarative sentences, it now explicitly includes the development of focality in interrogative sentences, thanks to the more general processing principle whereby any constituent can be made prominent by grammatical means. Among these means, together or separately, Levelt (1989) includes early appearance in the sentence (cf. 'linear precedence' in Sells (2001: 1), Choi's (2001) work on information structure, and Lee's (2001) work on word order), and mapping the role with the allocated prominence onto the highest-ranking GF (i.e., SUBJ) – as well as prosody, which however we do not treat because it clearly lays outside the scope of this volume. Thirdly, in § 4.2.2, our Lexical Mapping Hypothesis now includes an intermediate stage between the initial default mapping stage and the final nondefault mapping one. Thus our schedules for the development of syntax (based on the Prominence Hypothesis and the Lexical Mapping Hypothesis) now both hypothesise a middle stage which acts as a sort of lockpicker to open up their respective higher stage.

Finally, our presentation of PT in chapter 1 attempts to reflect more consistently a basic assumption about language development shared not only with many SLA researchers but also with L1 acquisition researchers and typologists. With Andersen (1984), Brown (1973), Keenan & Comrie (1977), Krashen (1982), and many others, PT assumes that the learner proceeds from least marked, feature-scant forms and structures towards more feature-rich, more specified and more marked forms and structures. Our contribution here, from a processability vantage point, attempts to throw some light on how learners proceed from obligatory defaults towards the skills needed to handle discourse-pragmatically induced and grammatically laden options in their L2 communication.

This path from obligatory grammar towards the deployment of a greater range of grammatical options is a characteristic that distinguishes the more advanced learners from beginner and intermediate learners, thus coming to terms with a perceived gap in PT, which has so far dealt more thoroughly with obligatory grammar in early interlanguage.