

The **Principles and Parameters (P&P)** approach to syntax seeks to describe **principles** that appear to be invariant across languages -- and which are hence, by hypothesis, innate (Chomsky 1981; 1995) -- and to characterize in a precise manner the **parameters** of possible variation among languages (Baker 2002). P&P is thus an attempt at a theory both of U[niversal] G[rammar] and of the structure of particular grammars. [See Formal Grammar.] For example, one parameter of variation among languages concerns whether a question like *What did Mary read?* involves movement of a WH-word to initial position, as in English or Vata, or retains the word order characteristic of declarative sentences, as in Japanese or Lakhota. In both types of languages, however, we find certain identical restrictions on the structural configurations in which various WH-words may occur [see Subjacency]. These restrictions are taken to reflect the contribution of principles of UG.

1. Style of Explanation. Many of the principles developed in P&P are highly abstract, and do not correspond in any direct way to familiar notions from earlier syntactic theories like 'construction' (e.g. 'the Passive construction') or 'rule' (e.g. 'the Passive rule'). Instead, each principle of grammar may affect the well-formedness of a wide variety of structures. This property of P&P has an important impact on the shape of the theory as a whole.

To give a concrete example: the subject of a passive sentence is often a phrase that has been MOVED from a subject or object position elsewhere in the sentence. There are restrictions on this movement, however. For the movement to be acceptable, it must be the case that failure to move would have resulted in ungrammaticality. (This is the so called ECONOMY or LAST RESORT property of the construction.) The phrase *the student* in (1b) has moved from subject position of the embedded infinitival clause. (Its original position is marked with an underscore.) This movement is acceptable because failure to move would have resulted in ungrammaticality, as seen in (1a). Conversely, the fact that *the student* is unacceptable as the subject of the passive verb in (2b) is due to the fact that failure to move in this case would *not* have resulted in ungrammaticality, as seen in (2a).

(1a) *It is said [*the student* to be happy].

(1b) *The student* is said [to be happy].

(2a) It is said [*the student* was happy].

(2b) **The student* is said [was happy].

Crucially, this Economy property is not limited to passive constructions. A general property of indirect questions in English requires a *wh*-phrase at the left periphery of the question. If the only *wh*-phrase in the indirect question is located somewhere else, as in (3a), it can and must move, as seen in the contrast between (3a) and (3b). On the other hand, if a second *wh*-phrase already occupies the left periphery of the embedded question, as *who* does in (4a), no additional movement is needed. Since no additional movement is needed, no additional movement is possible, as seen by the contrast between (4a) and (4b):

(3a) *I wonder [Mary drank *how much*].

(3b) I wonder [*how much* Mary drank]

- (4a) I wonder [who drank *how much*]
(4b) *I wonder [*how much* who drank ___]

In (1)-(4), a single grammatical principle, Economy, seems to play a role in two superficially distinct 'constructions'. Noting that very many properties of individual constructions can be explained by principles that also apply to other constructions, P&P syntax suggests that all properties of individual constructions may have this character. The grammar thus contains no notion like 'Passive construction', nor any explicit 'Passive rule'. Instead, the grammar characterizes as well-formed any syntactic structure that does not violate any of the various principles. Among the syntactic structures that do not violate any grammatical principles in English happen to be passive sentences, but the notion 'Passive construction' has no place whatsoever in the grammar.

As a consequence, the grammar contains only the most general rules governing phrase structure ('Merge') and movement ('Move'). The burden of grammatical explanation falls instead on the interaction of principles that cross-cut the traditional division of syntax into specialized constructions. Thus, on a P&P approach, the explanation for any particular datum is very likely to involve several quite distinct principles drawn from different MODULES of the grammar. (This style of explanation is thus often called 'modular'.) It is argued that though explanations of individual phenomena are more complex than those offered by traditional grammar, the overall picture of language that emerges is simpler, and more revealing.

Variation among languages is limited to aspects of individual constructions left open by the principles of UG. In Bulgarian, for example, a *wh*-phrase normally moves the left periphery of an interrogative clause, even if the clause contains other *wh*-phrases. (The normal word order of Bulgarian is subject-verb-object.)

- (5) Koj na kogo kakvo dade?
who to whom what gave
'Who gave what to whom'

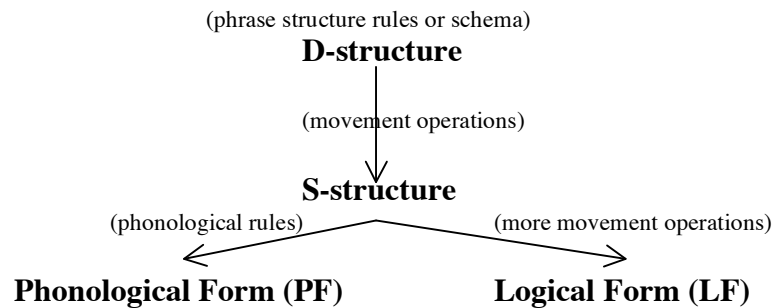
The acceptability of (5) in Bulgarian, contrasted with the unacceptability of (4b) in English, does not mean that principles of Economy are inactive in Bulgarian. Ample other evidence shows that this is not the case. What is different about Bulgarian is its 'setting' of the parameter relevant to the syntax of *wh*-questions, an aspect of the grammar left open by the overall system of principles.

2. P&P Models.

The P&P approach stems in large part from the ideas and results reported in Chomsky 1981. During next decade, though the name P&P was in use, the approach was more commonly called GOVERNMENT-BINDING (GB) THEORY. This term (derived from the title of Chomsky 1981) reflected the particularly important role played by BINDING (see Anaphora and Binding) and GOVERNMENT in early instantiations of the approach. 'Government', roughly speaking, is the relation that holds between two syntactic positions when no structural barrier intervenes between them, e.g. the relation that holds between a verb and its object. By the late 1980s, it was widely agreed that the notion 'government' was probably not a fundamental, unified concept after all, and

that the class of effects attributed to the presence or absence of a government relation had a variety of simpler explanations. Consequently, the term **GB** fell out of common use as the name for the overall approach, and the term P&P was more commonly adopted. Chomsky's **Minimalist Program** (Chomsky 1995) represents one prominent strand of current P&P work.

P&P models of the GB period (see above) often presupposed or argued for a number of levels of representation (see Levels of Representation; Grammatical Meaning), where general rules mapped each level to the next. Figure 1 shows the 'classical' or 'T' model of Chomsky 1981.



More recently, it has also been realized that many of the central achievements of the P&P approach depended less on the details of this model than had been previously supposed, and there has been lively debate about the architecture of the grammar as a whole. In some work within the Minimalist Program, syntactic structures are built in 'bottom up' fashion, starting with the Merger of lexical items, and continuing in a derivation that intersperses basic structure building with movement. In other variants (Brody 1995), the notion of derivation itself is discarded in favor of global principles of well-formedness that characterize the properties of entire representations. In both architectures, there is no level of D-structure, and the interaction of syntax with semantics is characterized in a variety of ways.

Among the principles that figured prominently in GB work of the 1980s were principles of X-BAR THEORY (see Phrase Structure), BOUNDING THEORY (see SUBJACENCY), GOVERNMENT THEORY, THETA-THEORY (where 'theta' is intended to suggest 'Thematic roles' like Agent or Goal; see Lexicon; Subcategorization and Selection), the theory of BINDING (see Anaphora and Binding), CASE THEORY [q.v. and see Filters], and the theory of CONTROL [q.v.]. In more recent work, some of the role played by Binding in the syntax has been attributed instead to principles of Economy like those sketched above, and the role of X-bar theory has been greatly reduced, but other details remain similar.

3. Comparison with other Syntactic Theories. P&P syntax has in common with much work in G[eneralized] P[hrase] S[tructure] G[rammar] (q.v.) and L[exical]-F[unctional] G[rammar] (q.v.) the modular style of explanation and the abstract nature of the principles assumed. P&P analyses often differ at a technical level from GPSG in the 'common ground' of principles assumed, and typically invoke properties that are less construction-bound than those most common in the GPSG and LFG traditions. P&P theory has borrowed a number of specific analyses first proposed within Relational Grammar (q.v.), which have been incorporated within P&P's 'common ground' of

assumptions. P&P work shares with Relational Grammar and LFG a particular concern with cross-linguistic variation and with the development of a substantive theory of UG.

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