

SUMMER READING GROUP ON THE MINIMALIST PROGRAM

A Minimalist Model and its Rationales

📌 Some complaints and misunderstandings:

- “MP (the minimalist program) is too abstract!”
- “MP is too difficult to follow!”
- “GB is much better than MP!”
- “Why does Chomsky keep changing the framework?”
- “MP can’t solve a ___ problem in Chinese!”
- “MP is not applicable to Chinese syntax!”

📌 Some meaningful questions

- What is the goal of the principles-and-parameters approach?
- In the study of syntax, are we all satisfied with the so-called solutions proposed in the literature? Are they real solutions or just some ad hoc stipulations?
- Since GB, have we discovered or uncovered the nature of human language?

📖 The development of MP

Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In Robert Freidin, ed., *Principles and parameters in comparative grammar*. 417-454. Cambridge, Mass.: The MIT Press.
(=Chapter 2 in Chomsky 1995)

“... written in 1988, is largely based on lectures in Tokyo and Kyoto in 1987 and MIT lecture-seminars from fall 1986.” (Chomsky 1995:9)

Chomsky, Noam, and Howard Lasnik. 1993. The theory of principles and parameters. In Joachim Jacobs, et al. eds., *Syntax: an international handbook of contemporary research*. Berlin and New York: Walter de Gruyter.
(=Chapter 1 in Chomsky 1995)

“... is a general introduction to the P&P approach, as we understood it in 1991.” (Chomsky 1995:9)

Chomsky, Noam. 1993. A minimalist program for linguistic theory. In Kenneth Hale and Samuel Jay Keyser, eds., *The view from Building 20: essays in linguistics in honor of Sylvain Bromberger*, 1-52. Cambridge, Mass.: The MIT Press.
(=Chapter 3 in Chomsky 1995)

“... written in 1992, is based on the fall 1991 lecture-seminars.” (Chomsky 1995:9)

Chomsky, Noam. 1994. Bare phrase structure. *MIT Occasional Papers in Linguistics*

5. Cambridge, Mass.: MIT Working Papers in Linguistics.

(also in *Government and Binding Theory and the Minimalist Program*, ed. Gert Webelhuth, 385-439. Oxford and Cambridge: Blackwell. 1995)

“... based on the fall 1993 lecture-seminars, revises this picture and extends it to different aspects of language. It provides much of the basis for chapter 4 [i.e. Chomsky 1995], ...” (Chomsky 1995:9)

Chomsky, Noam. 1995. Categories and transformation. In *The Minimalist Program*. 219-394. Cambridge, Mass.: The MIT Press.

“... is a more far-reaching departure, taking much more seriously the conceptual framework of a minimalist approach and attempting to keep to its leading ideas in a more principled way; and in the course of so doing, revises substantially the approach developed in Chomsky [1994] and [Chomsky 1991, 1993, and Chomsky and Lasnik 1993].” (Chomsky 1995:10)

Chomsky, Noam. 1998a. Some observations on economy in generative grammar. In *Is the best good enough? Optimality and competition in syntax*, eds. Pilar Barbosa et al., 115-127. Cambridge, Mass.: The MIT Press and MITWPL.

Chomsky, Noam. 1998b. Minimalist inquiries: the framework. *MIT Occasional Papers in Linguistics 15*. Cambridge, Mass.: MITWPL.

(also in *Step by step: essays on minimalist syntax in honor of Howard Lasnik*, eds. Roger Martin, David Michaels, and Juan Uriagereka, 89-155. Cambridge, Mass.: The MIT Press. 2000)

“What appears here is the first part of an unfinished manuscript. Here, I will keep to general considerations, rethinking the issues and concerns that motivate the program and attempting to give a clearer account and further development of them from one point of view, taking as a starting point the final sections of Chomsky 1995b.”

Chomsky, Noam. 1999. Derivation by phase. *MIT Occasional Papers in Linguistics 18*. Cambridge, Mass.: MITWPL.

“What follows extends and revises an earlier paper (Minimalist Inquiries, MI), which outlines a framework for pursuit of the so-called ‘minimalist program,’ one of a number of alternatives that are currently being explored.”

‘GB’ and some conceptual issues

- Early generative grammar faced two problems: **descriptive adequacy** (to find a way to account for the phenomena of particular languages) and **explanatory adequacy** (to explain how knowledge of these facts arises in the mind of the speaker-hearer).
- The principles-and-parameters (P&P) approach: to discover the nature of the language faculty and its state in particular cases.
- The P&P approach is a ‘bold speculation’ rather than a ‘specific hypothesis’.

- In so-called ‘GB’, the variety of language-specific properties is reduced and simpler and more natural theories are proposed, contributing to explanatory adequacy.
E.g. *wh* movement, NP movement ... \Rightarrow Move α .
E.g. constraints on movement
- Major features of GB (Epstein and Hornstein 1999:x)
 - (i) GB is modular.
 - (ii) GB contains a very unconstrained transformational component: Move α .
 - (iii) GB has four levels: DS, SS, LF, and PF.
 - (iv) The central grammatical relation in GB is ‘government’.
- Some features of GB seem to be subsumed under some general principles (Marantz 1995).
 - (i) Locality principles seem to have a ‘least effort’ flavor to them. E.g. NP movement and *wh* movement.
 - (ii) Operations seem to be ‘last resort’, applicable only when other options are prohibited. E.g. *do* support.
- ‘Least effort’ and ‘last resort’ suggest a striving for the *cheapest* or *minimal* way of satisfying principles.
- DS and SS wellformedness have no corresponding concreteness. If ungrammatical derivations could be ruled out by interface conditions at PF and LF, the grammar itself might be simplified.
- Eliminate redundant principles, with overlapping empirical coverage. Try to get simpler and more natural theories.

The nature of MP

- MP is a research program, not a theory.

“... it is a program, not a theory, even less so than the P&P approach. There are minimalist questions, but no specific minimalist answers. The answers are whatever is found by carrying out the program. ...” (Chomsky 1988:119-120)

“... The program presupposes the common goal of all inquiry into language- to discover the right theory- and asks further why language is that way. More narrowly, it seeks to discover to what extent minimal conditions of adequacy suffice to determine the nature of the right theory. ... The Minimalist Program helps to focus attention on such issues, and perhaps to address them by showing that elimination of descriptive technology yields empirical results that are as good as, possibly even better than, before.” (Chomsky 2000:92-93)

“It is misunderstanding to contrast ‘minimalism and X,’ where X is some theoretical conception (Optimality Theory, Lexicalism, etc.). X may be pursued

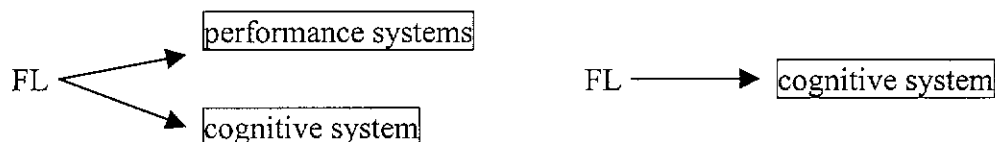
within minimalist goals, or not.” (Chomsky 2000:fn13)

- MP is motivated by two related questions (Chomsky 1995:1):
 - (i) What are the general conditions that the human language faculty should be expected to satisfy?
 - (ii) To what extent is the language faculty determined by these conditions, without special structure that lies beyond them?
- Two types of economy considerations are deployed in MP (Epstein and Hornstein 1999:xi):
 - (i) Methodological economy: All things being equal, two primitive relations are worse than one; two levels are better than four; ... more is worse; fewer is better.
 - (ii) Linguistic economy: Grammars are organized economically to maximize resources. E.g. no superfluous steps in derivations (*Least Effort, Minimal Link Condition*); no superfluous elements in representations (*Full Interpretation*); no additional novel entities (*Inclusiveness Condition*)

Minimalist assumptions

(Chomsky 2000:§1-2, 4, 1999:1-2)

- The **faculty of language** (FL or ‘language organ’): a component of the human mind/brain that is specifically dedicated to knowledge and use of language.
- **Language** (L or ‘I-language’): a state of the language faculty. It is a step-by-step procedure for constructing expressions Exps. Assumptions of this nature constitute a *derivational approach* to L.
- The language faculty includes a **cognitive system** that stores information (information about sound, meaning, and structural organization), making it available to performance systems that access it in language use.
- In addition to the cognitive system, the language faculty also has **performance systems** that access the information stored in the cognitive system and use it in various ways (Chomsky 1995:2). The performance systems are specifically dedicated to language, they too belong to the language faculty (Chomsky 1998). Performance systems are external to FL (Chomsky 2000).¹



- The performance systems do not vary in the manner of the cognitive system, as

¹ Read Chomsky 2000:fn7 for an interesting discussion.

linguistic environments vary. Language variation is restricted to the cognitive system (Chomsky 1995:2). They are fixed and invariant; they do not undergo state changes (Chomsky 1998).

- Study of language should be guided by the **uniformity principle**:

Uniformity Principle

In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances. (Chomsky 1999 (1))

- The language L is a generative procedure that provides its ‘instructions’ to the performance systems in the form of linguistic expressions that it generates: Exp = <Phon, Sem>.
- Phon provides the ‘instructions’ for **sensorimotor systems** (with temporal order, prosodic and syllable structure, certain phonetic properties and relations). The features provide information in the form required for the sensorimotor systems to function in language-independent ways.
- Sem provides the ‘instructions’ for **systems of thought** (certain arrays of semantic features, event and quantificational structure).²
 - The information is presented in the form of linguistic levels. Each expression generated by the language is a pair: π a PF representation and λ an LF representation (Chomsky 1995, 1998)
- The performance systems access the **interface levels** IL. The two kinds of performance systems are *unitary* and *distinct*: all sensorimotor systems access one interface level, and all systems of thought access a distinct interface level.
- A computation of an expression Exp **converges** at an interface level IL if it is legible at IL, consisting solely of elements that provide instructions to the external systems at IL and arranged so that these systems can make use of them; otherwise, it **crashes** at IL. The computation converges if it converges at all interfaces.
- A convergent expression may be complete gibberish, or unusable by performance systems for various reasons, and performance systems typically assign interpretation to nonconvergent expressions (Chomsky 2000:fn18).
 - ☞ convergent, usable, grammatical ...
- The language faculty must satisfy certain minimal requirements to be usable at all. Some of the expressions generated by a language must be legible to the external systems at the interface between FL and external systems: **bare output conditions** (BOC) (Chomsky 1995, 1998) or **legibility conditions** (Chomsky

² ‘Sensorimotor’ was called ‘articulatory-perceptual’ (A-P) in Chomsky 1995. Chomsky (1998) points out that ‘one obvious error is the restriction to articulation and auditory perception, plainly incorrect, as the study of sign language has shown’. ‘Systems of thought’ was known as ‘conceptual-intentional systems (C-I)’ in Chomsky 1995, 1998.

1999, 2000).³

- FL has an ‘initial state’ S_0 that is an expression of the genes. S_0 is uniform for the species, apparently also biologically isolated in essential respects and a very recent evolutionary development.⁴
- Particular **grammars**: theories of attained states.
- **Universal Grammar (UG)**: a theory of the initial state S_0 of the language faculty.
- The **principles-and-parameters (P&P)** approach: the major problem is to discover the principles and parameters, and to show how a particular choice of parameter values and lexicon enters into fixing a language L.
- Language acquisition is the process of transition to L from S_0 . ‘Language acquisition device’ LAD is just S_0 , under a particular construal, including whatever properties of S_0 may manifest themselves in the course of development (Chomsky 2000:fn11).
- How well is FL designed?
“Here are the conditions that FL must satisfy; your task is to design a device that satisfies these conditions in some optimal manner (the solution might not be unique).”
 - ☞ What is ‘good design’?
 - ☞ What are the minimal design specifications for FL?
- *MP is the attempt to formulate and study such questions. E.g. How good a solution FL is to the legibility conditions.*
- Suppose that FL satisfying legibility conditions in an optimal way satisfies all other empirical conditions too: acquisition, processing, neurology, language change, and so on. Then the language organ is a perfect solution to minimal design specifications. A system that satisfies a very narrow subset of empirical conditions in an optimal way- those it must satisfy to be usable at all- turns out to satisfy all empirical conditions.

Strongest Minimalist Thesis SMT (Chomsky 2000:96): Language is an optimal solution to legibility conditions.

- FL provides no machinery beyond what is needed to satisfy minimal requirements of legibility. It functions in as simple a way as possible.
- The conceptual ‘good design’ conditions are based on the assumption that ‘less

³ ‘Output’ means that they are conditions on interface levels. ‘Bare’ is to distinguish the BOCs from filters, ranked constraints, and other devices that are part of the computational system itself (Chomsky 2000:fn16).

⁴ See references cited in Chomsky 2000:fn4.

machinery is better than more' (Chomsky 2000:fn60).

- (i) The only linguistically significant levels are the interface levels. (no DS and SS)
- (ii) The *Interpretability Condition*: LIs have no features other than those interpreted at the interfaces, properties of sound and meaning. (transparently false)
- (iii) The *Inclusiveness Condition*: No new features are introduced by C_{HL} . (rearrangement of LIs and of elements constructed in the course of derivation, and deletion of features of LI, no phrasal categories or bar levels, no X-bar theory, no introduction of traces, indices, λ -operators, ...)
- (iv) Relations that enter into C_{HL} either (a) are imposed by legibility conditions or (b) fall out in some natural way from the computational process. (no government, no stipulated properties of chain, no binding relations internal to language, no interactions of other kinds)

🌐 **Chinese translations of 'MP'**

最簡方案 (e.g. 程工、徐烈炯)

最簡語言理論模型 (e.g. 寧春岩)

精簡語法 (e.g. 宋國明)

極小主義程序 (e.g. 湯廷池)

[cf. 極小モデル (e.g. 福井直樹)]

微言主義 (e.g. 蔡維天)

- ☞ AN INTERESTING PROJECT: to have a standardized and accurate Chinese translation for all MP terms

Summary and preview

- There are ten key characteristics of MP (Epstein and Hornstein 1999:xii-xiv):
 - (i) There are only two levels: LF and PF.
 - (ii) Recursion is relegated to the transformational component.
 - (iii) The grammatical module is embedded in a wider array of cognitive modules.
 - (iv) There are two basic grammatical operations: Merge and Move.
 - (v) Move is a last resort operation.
 - (vi) There are different types of features: +Interpretable, -Interpretable, strong, weak, ...
 - (vii) Moves must be short
 - (viii) Features are checked in specifier-head or head-head configurations.

- (ix) Grammatical operations cannot add features.
- (x) The domain of thematic assignment and morphological checking are disjoint.

Topics for the next meeting

(7/12/2000, 2pm, QT502, PolyU)

- Different types of features
- From features to structures: Select, Merge, Agree, and Move

Reading materials: Chomsky 2000:§3-6, Chomsky 1999

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