Lecture note 2.2 Development of learner language

■ Introduction

I. Interlanguage

- Definition: intermediate states (interim grammars) of a learner's language as it moves toward the target L2; a system of learner language which is at least partially independent of L1 and L2

- Factors involved:

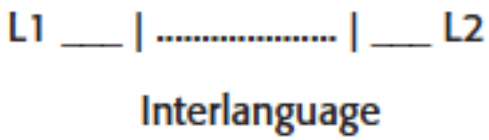
A creative process, involving inner forces; interaction with environmental factors; influenced by L1 and by input from L2

- Characteristics of IL

1) systematic: not arbitrary; rule governed;
2) dynamic: succession of interim grammars as discontinuous progression "from stable plateau to stable plateau" (Selinker 1992: 226)
3) variable: different in context result in different patterns of language use
4) reduced system both in form and function: less complex grammatical structures

II. Development of IL

Scope of IL



Beginning of IL: when a learner first attempt to convey meaning in the L2
End of IL: when development permanently stops

- L2 developmental pattern

Data needed: Planned language use and unplanned language use
Because L2ers can use explicit L2 knowledge of grammatical rules

Developmental pattern based on unplanned language use

(1) The early stages

- THE SILENT PERIOD

Many learners, esp. children, opt for the silent stage
Not all learners go through a silent period

Contribution of a silent period

- FORMULAIC SEQUENCE

"expressions which are learnt as unanalyzable wholes and employed on particular occasion"(Lyons 1968)

Vs. creative speech: speech that has been constructed by stringing together individual lexical items, often by drawing on underlying abstract patterns or rules

'to what extent do these routines and patterns facilitate or hinder the acquisition of TL grammar?'
One suggestion: formulaic speech serves as the basis for subsequent creative speech when the learner comes to realize that utterances initially understood and used as wholes consist of discrete constituents which can be combined with other constituents in a variety of rule bound ways.
Clark 1974; Wong Fillmore 1976; Myles 2004

A different view: Krashen and Scarcella 1978; Bohn 1986; Granger 1998: learners do not unpackage the linguistic information contained in formulaic sequence but internalized L2 rules independently through attending to input

Comment
Not easy to choose between these two interpretations

- STRUCTURAL AND SEMANTIC SIMPLIFICATION

Definition:

are taking place. Structural simplification is evident in the omission of grammatical functors such as auxiliary verbs, articles and bound morphemes like plural –s and past tense –ed. Semantic simplification involves the omission of content words—nouns, verbs, adjectives and adverbs—which would normally occur in native-speaker speech. (See Ellis 1982.) Both structural and semantic

Significance

occur in native-speaker speech. (See Ellis 1982.) Both structural and semantic simplification may occur either because learners have not yet acquired the necessary linguistic forms or because they are unable to access them in the production of specific utterances. In other words, they may reflect processes of language acquisition or of language production.[4]

- Fossilization

Definition: A stable state in SLA where learners cease their interlanguage development before they reach target norms despite continuing L2 input and passage of time.

Identification of fossilization is controversial

III. Morpheme Order studies
Relevant to development of IL
Key question: is there a natural order or universal sequence in the grammatical development of L2 learners?
Significance of this issue: shed lights on transfer; implications for acquisition processes (L1, L2, ...)

- Representative work

Roger Brown (1973): L1 English
Heidi Dulay and Marina Burt (1974): L2 English = L1 English

3.2 English L1 and L2 Morphene Acquisition Order			
English L1	Morpheme	Example	English L2
1	Progressive *-ing*	He is talk*ing*.	3
2	Plural *-s*	There are two cats.	4
3	Past irregular	We *ate*.	7
4	Possessive *-s*	The child*'s* toy	8
5	Articles *a/the*	*The* cat/*A* sunny day	1
6	Past regular *-ed*	They talk*ed*.	6
7	Third person *-s*	He sings.	9
8	Copula *be*	He*'s* tall.	2
9	Auxiliary *be*	She*'s* singing.	5

Dulay & Burt 1974

- Methodological issues in acquisition sequence studies

Two ways to identify developmental pattern
(1). Whether learners errors change over time
(2). Examine samples of learner language collected over a period of time in order to identify when specific linguistic features emerge

One common method for identifying and describing developmental patterns: OBLIGATORY OCCASION ANALYSIS
(1). Procedure: collect naturally occurring learner language samples→identify obligatory occasions→Calculate percentage of accurate use (common level: 80-90%)
A problem: taking no account of when a learner uses a feature in a context for which it is not obligatory in the TL, because acquisition indicates mastering not only when to use it but also when not to use it

Later, another method: TARGET-LIKE USE (to take account of overuse and misuse)

OBLIGATORY OCCASION ANALYSIS & TARGET-LIKE USE
Target language based/similar to EA
Reflecting Comparative Fallacy (Bley-Vroman 1983): ignoring the fact that learners create their own unique rule systems in the process of learning

Frequency ANALYSIS OR INTERLANGUAE ANALYSIS
Catalogue the various linguistic devices that learners use to express a particular grammatical structure and then to calculate the frequency with which each device is used at different points in the learners' development.
Show the vertical variation in learners' development

Points of summary

- This chapter focuses on the study of learner language from the perspective of interlanguage studies, a tradition that emphasizes general cognitive explanations for the development of L2 morphology and syntax and draws on evidence from both experimental and free production data.

- 'Interlanguage', a term coined by Selinker in 1972, is the language system that each learner constructs at any given point in development; it is a natural language characterized by systematicity and variability; and it is more than the sum of the target input and the L1 influence.

- A family of usage-based and emergentist theories offers promising explanations for language learning and posits that: (a) language learning is driven by experience and induction of generalizations; (b) important influences on development arise from frequency and salience in the input and from attention and categorization processes in the learner; (c) variability is central to development; and (d) language learning must be explained by the simultaneous interaction of multiple forces.

- According to usage-based accounts, rules emerge from experience as follows. Learners register frequently encountered form–meaning pairings and implicitly tally their frequencies, distributions and contexts; upon repeated encounters, memorized formulas eventually give way to the abstracting of low-scope patterns; given sufficient experience and favourable conditions, low-scope patterns can give rise to abstract constructions.

- Aided by memory and experience, four interlanguage processes are at work as the internal grammar develops: simplification, overgeneralization, restructuring and U-shaped behaviour. Ge's acquisition of the English article the (Huebner, 1983) offers a good illustration of all four processes.

- Interlanguage change is always systematic (a matter of development), but also non-linear (a matter of accuracy) and unevenly paced (a matter of rate). All three dimensions of development, accuracy and rate are necessary to jointly characterize interlanguage change over time. Jorge's acquisition of English negation (Cancino et al., 1978; Stauble, 1978) illustrates the three dimensions at work.

- Within a year and a half of immersion in the L2 environment, most naturalistic adult learners will develop a rudimentary but systematic and fully communicative system, called the Basic Variety by Klein and Perdue (1997). After some more time, and probably pushed by the need to communicate complex messages, many but not all of them will grammaticalize resources and develop morphology and subordination.

- We know that a set of English morphemes is mastered at 80 per cent or 90 per cent accuracy levels in a predictable order, which is at least in good part explained by the combined frequency and salience of these morphemes in the input.

- We know that in English, Spanish and many other target languages, the emergence of tense and aspect morphology is patterned and strongly shaped by the semantics of the verb. The details of how this happens have been spelled out in the Aspect

Hypothesis (Andersen and Shirai, 1996) and supported in many studies and across many L2s.

- Relativization is another area in which development has proved to be systematic rather than random. Learners of a wide number of target languages are seen to be able to relativize in more frequent and less marked positions (e.g. subject, direct object) before they can do so in less frequent and more marked positions (e.g. object of preposition).

- Fossilization is a technical term used to refer to cases when L2 development comes to a seemingly permanent stop. For some researchers, fossilization is the inevitable end result of all L2 learning; for other researchers, fossilization is a premature cessation of learning that affects some learners but not others. There are several studies of learners who allegedly fossilized (e.g. Alberto, Patty, Geng and Fong, and quite a few others not mentioned in this chapter). However, conceptual and methodological difficulties make fossilization a contested construct that must be regarded with caution.

1. Two approaches to the study of learner language: general cognitive and formal linguistic

- Background of general cognitive approach

Beginning: Selinker (1977) interlanguage
They began analysing the actual language samples that learners produced when they attempted to use their L2.

- Background of formal linguistic approach

Early 1980s
the school of Chomskyan linguistics finally made substantive inroads into SLA.

researchers began to take seriously the possibility that an innate Universal Grammar (UG) would constrain L2 acquisition, as it was believed to constrain L1 acquisition. Since then, SLA researchers with training in formal linguistics have also pursued the study of the mental representations of grammar that learners build, with the aim to describe the universal and innate bounds of such knowledge (White, 2003).

- Underlying tenets of formalist approach——domain-specific nativism

Nativism: humans as a species are biologically endowed with the basics of grammar knowledge prior to any experience with language

Domain-specificity/modularity: the human mind has a language-dedicated module (i.e. separate from other mind functions), where language learning and language use are handled.

This approach emphasizes competence over development
Favoured evidence: learner language via experimental elicitation, [articularly the methodology of grammaticality judgments (participants are asked to judge how grammatical or acceptable sentences are, in their estimation. This is because these researchers value evidence about learners' tacit intuitions of language, especially when the intuitions speak to abstract UG phenomena that are unlikely to be known from exposure to L2 input alone, from knowledge of the L1 or from explicit instruction (Schwartz and Sprouse, 2000))

- Underlying tenets of general cognitive approach

Tenet: the same general cognitive learning mechanisms that help humans learn and process any other type of information help them extract regularities and rules from the linguistic data available in the surrounding environment.

emphasize development over competence
favored evidence: rely equally on experimental elicitation of evidence and on free production data

2. interlanguages: more than the sum of target input and first language

- look at some examples of learner language
  (1) she...runned away
  (2) ...he falls a piece of note into dough by mistake.

(3) It [a wall] was falled down in order to get a bigger green house.

What generalizations can you get?
L2 learners end up building mental representations that are different from what the target input in their surrounding environment (be it the classroom or the wider society) looks like
different from the grammar representations available in their first language
many of the same developmental solutions are attested in the speech of young children who are learning their mother tongue, e.g. (4) I'm going to fall this on her

a question to consider:
If interlanguage solutions are often shared by first and second language acquirers, and if neither the target input nor the L1 influence can entirely explain them, then what can?

3. cognitive explanations for the development of learner language

- universal operating principles in L1 acquisition:

Slobin (1973)
a list of 40 statements that described what children seemed to 'look for' in the input data in order to learn the L1 grammar. These statements included maxims such as 'Pay Attention to the End of Words' (which helps explain why children learn suffixes earlier than prefixes in words) and 'Avoid Exceptions' (which is consistent with many overregularization phenomena.

Cognitive explanations in L2 acquisition

- OP in L2 (Anderson, 1984)
- Input Processing theory (VanPatten, 2002)
- Usage-based emergentist theories (emergentism and dynamic systems theory but also cognitive linguistics, corpus linguistics, probabilistic and frequency-based theories, and connectionist and rational models of language)
  Tenets shared by proposals in this camp:
  (1) grammar learning is not rule-based or deductive, but driven by experience or inductive in L1 and L2 acquisition (Robinson and Ellis, 2008).
  (2) frequency and salience in the input, and cognitive processes of attention and categorization in the learner, as explanatory cornerstones of language learning (Ellis, 2006).
  (3) the contemporary cognitivist-emergentist perspectives afford variability an unprecedented importance, as variability is thought to be a major property of systems and a manifestation of development (Verspoor et al., 2008)
  (4) learner language development cannot be explained by recourse to isolated causes or back to a single force (Larsen-Freeman and Cameron, 2008).

4. Formula-based learning: the stuff of acquisition

Memorized formulas under different theoretical lights

- 1970s and 1980s: L2 users' initial reliance on memorized formulas was thought to be spurred by communicative and strategic motives that happened to promote learning

case study: Wong Fillmore's (1979)

Nora's use of *How do you do dese* over a school year

Time	Formulaic part …	… Slot variation part
Second school quarter	*How do you do dese*	
Third school quarter	*How do you do dese …*	*… September por la mañana*
		… flower power
		… little tortillas
		… in English
Fourth school quarter	*How do you …*	*… like to be a cookie cutter*
		… make the flower
	How …	*… did dese work*
		… do cut it
		… does this color is

Note: Data reported and discussed in Wong Fillmore (1979, pp. 212–15)

- More contemporary usage-based theories of L2 learning
  - the process of formula-based analysis is not only a springboard to communication and grammatical analysis at beginning stages, but the stuff of acquisition, in that it guides the majority of the acquisitional task (N. Ellis, 2008).
  - In this view, language acquisition proceeds bottom up, from formulas to low-scope patterns, to constructions, in an implicit and inductive process that is only peripherally intentional or strategic
  - Steps

Step 1 registration of formulas (also called items or exemplars);
The first step is the registration of formulas (also called items or exemplars), defined as the pairing of a form and a meaning that is experienced in a particular language use event. As part of the processing of meaningful input, all experienced material is mandatorily tallied, and information about the frequencies, distributions and contexts of exemplars is implicitly encoded in memory upon each new encounter. Learners will encounter some items repeatedly and in contexts of meaning that are relevant to them; if the form–meaning pairings are frequent enough, and the formal and functional cues to how they work salient enough, they will extract information that cumulatively leads to generalizations from such experiences.

Step 2 abstracting of low-scope patterns;
low-scope patterns are often extracted around a single high-frequency word or chunk that is prototypical of the pattern, or an 'island' that helps learners get a quick fix on some generalization at first (e.g. *Nora's how do you do dese*).

Step 3 gradual abstraction of the pattern into a construction or schema
Mechanisms of bootstrapping, or induction by categorization and generalization, enable the third step of gradual abstraction of the pattern into a construction or schema. As Lieven and Tomasello put it, 'distributional analysis based on the relation between a form and (child-identified [or learner-identified]) functions, leads to linguistic representations developing internal structure' and makes the inductive analysis progressively 'less item-based and more schematic' (p. 169).

5. Four interlanguage processes

- Simplification

when messages must be conveyed with little language. It is particularly pervasive at very early stages of L2 development and among naturalistic learners
Sugaya and Shirai (2007):
the Japanese marker *te i-ru*: progressive and resultative meanings.
L2 learners of Japanese at first use it to express progressive meaning only

- Overgeneralization

the application of a form or rule not only to contexts where it applies, but also to other contexts where it does not apply. Overgeneralization has been particularly well documented with morphology.
Schmidt (1983): overgeneralization in naturalistic settings
I don't know why people always talking me
so yesterday I didn't painting

Pica (1985): overgeneralization in classroom setting
I like to studying English
I was study languages all last year

An important case: systematic overgeneralization in morphology involves overregularization (e.g. see Clahsen, 2006, for L1; and Leung, 2006, for L2).
-ed

- Restructuring

the process of self-reorganization of grammar knowledge representations.
McLaughlin and Heredia (1996): restructuring covers a range of processes by which existing knowledge schemata may be quite radically modified, or a new organization may be imposed on already stored knowledge structures so as to accommodate smaller-scale knowledge changes that may have occurred previously.

- U-shaped behavior

Progress doesn't always translate into accuracy
As part of restructuring
Sharwood Smith and Kellerman (1989) as 'the appearance of correct, or nativelike, forms at an early stage of development which then undergo a process of attrition, only to be reestablished at a later stage' (p. 220).

in U-shaped learning curves, the linguistic products of the final phase cannot be distinguished from those of the first phase, as both are seemingly error-free. However, the underlying representations at the two times are qualitatively different. In the first phase, accuracy is purely coincidental, because it lacks the full representation of target-like functions and meanings that underlies the final phase.

6. Interlanguage processes at work: Ge's da

Huebner (1983) described how Ge initially used the (or da, as he pronounced it) to mark nouns as specific and known to the hearer but not the current topic, to use a non-technical description.

- Development stages

Ge's initial analysis of the functions of da: a large proportion of nouns are used with the in English precisely when they are specific and known to the hearer
A month and a half: began using da to mark between 80 and 90 per cent of all noun contexts he produced, mostly where the referent was specific, regardless of assumed hearer knowledge. (restructuring; overgeneralization)
over five months: oversuppliance of da disappeared from first-mention contexts
reaching month seven: da began to retreat from other non-target-like indefinite contexts, giving way to a restructured rule that yielded stable target-like suppliance of da at 80 to 90 per cent levels for the rest of the observation period

what do we learn from Ge's case?
interlanguage development is not haphazard but instead changes in predictable, systematic ways (a matter of development). At the same time, and just as all natural languages are, so is interlanguage simultaneously characterized by systematicity and variability. In other words, albeit systematic, interlanguage change is always non-linear (a matter of accuracy) and unevenly paced (a matter of rate).

7. Development as variability-in-systematicity: the case of Jorge's negation

Cancino et al. (1978) and also by Stauble (1978).

Jorge's development of English negation

Stage	Time (recording)	Attested L2 examples	Developmental description
1. Pre-verbal negation with *no/not*	Months 1–2 (tapes 1–4)	No *saw* him [I didn't see him]	Pre-verbal negation; preferred negation functor is non-target-like *no*
2. Pre-verbal negation with *don't*	Month 3 (tapes 5–6)	I don't *saw* him [I didn't see him]	Pre-verbal negation; use of unanalysed but more target-like negation functor *don't* intensifies
3. Post-verbal negation in restricted contexts (COP/AUX + *not/don't*)	Month 4 (tapes 7–8)	*I will don't see you tomorrow* [I will not see you tomorrow]	Onset of post-verbal negation; by the beginning of month 4 (tape 7) *no* declines; *don't* begins to be applied post-verbally but only in copula/auxiliary contexts
4. Post-verbal negation in all contexts	Months 5–6 (tapes 9–12)	*I didn't went to Costa Rica* [I didn't go to Costa Rica] *Not at the ranch*	Evidence of incipient analysis of *don't*, which consolidates over time; consolidation of target-like negation with copula/auxiliary; by month 6 (tape 12), *no* completely disappears and negation of phrases is done with target-like functor *not*
	Months 7–10 (tapes 13–20)	*They didn't see nobody* [They didn't see anybody]	Post-verbal negation is complete; analysis of *don't* into carrier of tense and negation is complete; however, instances of unanalysed *don't* still co-exist with analysed *don't/didn't* in production

Note: All illustrations are reported in Stauble (1978). The verb which the negation functor modifies is underlined in each example.

8. Interlanguage before grammaticalization: the basic variety of naturalistic learners

Perdue, 1982; Klein and Perdue, 1997
developing a rudimentary but systematic and fully communicative interlanguage system that was called the Basic Variety by Klein and Perdue (1997).

In a nutshell, the Basic Variety can be described by recourse to a few simple principles for how utterances must be structured (i.e. phrasal constraints) and how constituents must be ordered and information organized along pragmatic and lexical resources (i.e.

semantic and pragmatic constraints). The Basic Variety shows no evidence of grammaticalization of resources, that is, it makes little use of morphology or subordination.

For example:
A good case in point is the expression of temporality, which in the absence of morphology needs to rely on pragmatic and lexical resources

Temporality	• Tense and aspect are marked pragmatically and lexically, not grammatically (an invariant form or 'base form' of each verb is used: the bare stem, an infinitive, sometimes *–ing* form for English) • The pragmatic marking is realized through the principle of chronological order: 'recount events in the order they occur' (e.g. *I went home and had dinner* versus *I had dinner and went home*) • The lexical marking is realized through a rich repertoire of adverbs • Calendric (*Sunday*) and anaphoric (*after, before*) adverbials are abundant • Anaphoric (*yesterday*), frequency (*always*) and durational (*two hours*) adverbs are less developed • Adverbs denoting two reference points (*again*) are absent

a question to ask:
what, if anything, may make naturalistic learners move beyond the Basic Variety, that is, beyond the reliance on pragmatic and lexical principles and towards the grammaticalization of language resources?

it may be the increasingly more pressing need to express complex thoughts and the challenge of putting ideas into words when the concepts involve conflicting semantic and pragmatic conditions.

9. Patterned attainment of morphological accuracy: the case of L2 English morphemes

many (both naturalistic and instructed), but not all, will indeed do so. For them, morphology, particularly inflectional morphology associated with verbs and nouns, will deploy slowly and non-linearly, but surely.

Order of acquisition of inflectional morphemes based on accuracy (80 or 90%)

This order relatively similar for both young and adult L2 learners, for both naturalistic and instructed learners, and regardless of L1 background or whether the data are collected orally or via writing

Morpheme accuracy order, from earliest to latest mastery

Morpheme	Illustration
–ing	*the girl is watching shop window with the food*
Plural *–s*	*Chaplin give away a lot of cigars and chocolate to the kids*
Be copula	*she is the one*
Be auxiliary	*the girl is watching shop window with the food*
a/the	*she steals a bread … he took the bread*
Irregular past	*the police misunderstood*
Regular past *–ed*	*she crashed with a man*
Third person *–s*	*she steals a bread*
Possessive *–'s*	*the bread shop's owner*

Note: Illustrations are from L2 oral narratives produced by college-level learners of English in Japan after watching *Alone and Hungry*, a short video clip from Charlie Chaplin's *Modern Times*; unpublished author data © Ortega, Iwashita, Rabie and Norris.

three qualifications for this order:
(1) Grammar tests vs real-time use of L2
(2) This order not be equated with linear progression from inaccurate to accurate use of the L2 in a form-by-form, piecemeal fashion
(3) May have slightly different ranks for structures within a given box

10. More on the development of L2 morphology: concept-driven emergence of tense and aspect

Another approach to L2 morphology acquisition: functional perspective that is known as the concept-oriented approach
Key tenet:
This approach places meaning making at the heart of language acquisition and posits that 'an L2 system can more adequately be described if the content to be expressed is taken as the starting point of the analysis' (von Stutterheim, 1991, p. 141).

Case study: temporality
three broad phases, each characterized by reliance on a different set of resources that help them express temporality: pragmatic means, lexical means and morphological means (see review in Bardovi-Harlig, 2000)

Three broad developmental phases in the expression of temporality

Phase 1	**Pragmatic means:** *she steal bread / and run away from the shop*
Phase 2	**Lexical means added:** *then the car of police come / so he ride on this car / next the woman ride too*
Phase 3	**Morphological means added:** *and suddenly she cried / and later she tried to run away*

Note: Illustrations are from L2 oral narratives produced by college-level learners of English in Japan after watching *Alone and Hungry*; unpublished author data © Ortega, Iwashita, Rabie and Norris.

- third phase

(1) not all forms emerge at once
(2) only one function or meaning is expressed by a given form initially, as posited by Andersen (1984a) in the One to One Principle
(3) some form–meaning pairings are more basic or earlier acquired than others.

For example, in English, L2 users learn to use the present and past contrasts in the following progression: present progressive > simple past > past progressive> present perfect > past perfect (Bardovi-Harlig, 2000).

(4) the patterned development of tense and aspect during the phase of morphological deployment is guided by the inherent aspect or lexical semantics of each verb to which morphology is attached—— Aspect Hypothesis

- Aspect Hypothesis

the Aspect Hypothesis predicts that the developmental pathway of emergence of tense and aspect will reflect prototypical pairings, that is, combinations where the semantics of the verb morphology is congruent with the semantics of the meaning of the verb to which the morphology is attached.

Evidence:
imperfective marking –ing, which carries a prototypical durative meaning, emerge in interlanguage in combination with verbs depicting events that imply duration, such as run, walk, sing or watch

simple past tense carries a prototypical punctual meaning, and it begins to be used appropriately first in combination with verbs that imply an action with a beginning and end, such as meet someone, catch something, see someone/something, recognize, find or bump into (called ‘achievements’).

Achievements and also verbal contexts denoting actions with an outcome, such as paint a picture or steal a bread (called 'accomplishments') also tend to invite new morphology involving perfective markers (have/had+participle).

Gradually, tense and aspect markers will pair with non-prototypical verbal meanings.

- Why there is such a prototypical pairing?

it is unclear whether this semantically constrained emergence of tense and aspect morphology is a case of the frequency in the input shaping acquisition (assuming that prototypical pairings are more frequent in the input than non-prototypical ones, something that awaits empirical confirmation with sufficiently large L1 corpora), or a case of the human perceptual and conceptual architecture shaping both how we use language and how we acquire it.

Usage-based SLA researchers (for example, most of the authors in Robinson and Ellis, 2008a) would say it is probably both.

11. Development of syntax: markedness and the acquisition of L2 relativization

Keenan and Comrie's (1977) proposal of a Noun Phrase Accessibility Hierarchy

Relative clauses in L2 German following Keenan and Comrie's (1977) Noun Phrase Accessibility Hierarchy

Clause type	L2 illustration	English equivalent translations
Subject	*Aber eine Frau, die auch daneben stand, hat ihn das gesagt*	'But a woman who was also there said that to him'
Direct Object	*Und geniessen sie zusammen die Freiheit, die sie sich gewonnen haben*	'And together they enjoy the freedom that they have won for themselves'
Indirect Object	*Charlie liebt das Mädchen, dem er seinen Hut gegeben hat*[a]	'Charlie loves the young woman to whom he gave his hat'
Object of Preposition	*Und der Mann, gegen den das Mädchen gestoßt hat, läßt sich von Polizisten verhaften*	'And the man whom the young woman bumped into gets himself arrested'
Genitive	*Aber eine Zuschauerin sagt dem Bäcker, dessen Wagen das war, woraus das Brot geklaut wurde 'nee, das ist eigentlich nicht Charlie, das ist die Frau gewesen'*	'But a bystander tells the baker whose truck was the one from which the bread was stolen "no, that is actually not Charlie, that was the woman"'
Object of Comparison	n.a.[b]	'The police arrested a suspect who the woman is more guilty than'[c]

[a] This example is invented here for the purposes of illustration, as no cases of Indirect Object relative clause were found in the corpus.

[b] n.a. = not attested in the L2 data and not allowed in German L1.

[c] The English example for Object of Comparison is invented.

- implications of this hierarchy

each lower (more marked) type is seen to be possible in a given language only if all other preceding (less marked) types are also possible. No matter how few or how

many possibilities for relativization a given language allows, it will do so following the pattern from highest to lowest in the hierarchy, without gaps.

- Evidence for this hierarchy

not only L2 English (e.g. Pavesi, 1986) but other target languages as varied as Chinese (Hu and Liu, 2007), German (Byrnes and Sinicrope, 2008), Swedish (Hyltenstam, 1984) and severalother L2s (Tarallo and Myhill, 1983; Shirai and Ozeki, 2007).

The evidence is particularly robust for subject, direct object and object of preposition types, whereas evidence on the other three types is more scarce and difficult to interpret.

largely in accord with the facts reported for the development of relativization in L1 acquisition (Diessel and Tomasello, 2005).

concur not only for acquisitional patterns but also for patterns regarding use and processing (e.g. Fox and Thompson, 2007; Reali and Christiansen, 2007).

12.Fossilization, or when L2 development comes to a stop (but does it?)

- Observations:

No guarantee for native attainment

many L2 users may continue developing without aligning with the target representations, while many may stop along the way, perhaps permanently

- key term:

fossilization was coined by Selinker (1972) and is used to characterize cases of 'permanent lack of mastery of a target language (TL) despite continuous exposure to the TL input, adequate motivation to improve, and sufficient opportunity for practice' (Han, 2004, p. 4).

- Case studies:

Fossilization in naturalistic settings

One is Alberto, the 33-year-old immigrant worker from Costa Rica whose naturalistic acquisition of English was studied by Schumann (1976; see Chapter 4, section 4.2). He appeared to be unable to move beyond basic English. After ten months in Boston, Schumann noted that, in terms of morpheme accuracy (cf. Table 6.4), his suppliance of *–ing* and copula was relatively accurate but below conventional mastery levels of 80 per cent while his suppliance of *–ed* was virtually zero. In terms of questions (cf. Table 6.9), he only produced uninverted ones and thus remained at stage 3. With regard to negation (cf. Table 6.2), he remained at the pre-verbal first stage for the entire ten months of the study. Hoping he could destabilize what seemed to be an unusual lack of growth, Schumann delivered an intensive regime of one-on-one instruction about English negation to Alberto over seven additional months. This was to no avail. After 17 months in the L2 environment, of which seven months also included instruction, Schumann reports that Alberto remained in the pre-verbal stage of negation, at 20 per cent overall accuracy in this area, the same level he had exhibited before instruction.

fossilization in instructed settings

Not all learners who allegedly fossilize are naturalistic, and not all fossilization occurs at only incipient levels of development. The study of Patty by Lardiere (2007) is a well-known case of an instructed learner who achieved a very high level of competence in the L2 but nevertheless seems to have ceased developing in one specific area of the L2: bound verbal morphology, particularly *–ed* and third person singular *–s* (cf. Table 6.4). Patty, an L1 speaker of Hokkien and Mandarin, moved to the United States at age 22 and was 31 years old when Lardiere first interviewed her, nine years after that move. About nine years later, at age 40, she was interviewed again, and once again two months later. Over two decades of being surrounded by English in graduate school and later in her workplace, Patty developed advanced English abilities, including rather high levels of accurate article usage (84 per cent accuracy for *the* and 75.5 per cent for *a*), despite this being an area of great difficulty for many L2 users from no-article language backgrounds (as Mandarin and Hokkien are). But in interview data after a decade, and later, two decades, of residence in the L2 environment, Patty continued to supply two of the morphemes that are typically mastered last (cf. Table 6.4) at extremely low rates: about 35 per cent for regular past *–ed* and about five per cent for third person singular *–s*.

fossilizaiton among advanced learners

a seven-year study by Han (2000, 2006) of Geng and Fong, two male adults from Chinese L1 backgrounds who were otherwise extremely advanced users and had enjoyed optimal learning circumstances.

Oversuppliance of passives

(11) I do not know whether these problems have solved in the newest release
(written by Fong in 1996; Han, 2000, p. 89)

(12) What I can do for you is to give you a list of professors … The list will be sent to you later
(written by Fong in 1996; Han, 2000, p. 94)

unaccusativity

(13) Thanks to John's blocking the event were stopped after 3/7/03
(written by Geng in 2003; Han, 2006, p. 69)

(14) The action already stopped on 1/6 probably after receiving our mail
(written by Geng in 2003; Han, 2006, p. 69)

- pragmatic nature of the notion of fossilization

complete and permanent cessation of learning?

How to ascertain learners receive optimal learning conditions?

No consensus for the reasons of fossilization (if there is such a thing)