Second Language Acquisition

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week 6 – chapter 8 & 9

- what 2 nativist approaches do you know
 - general nativism there is no specific mechanism designed for language learning
 - special nativism unique principals designed for language learning → UG

- why is L1 learnability so fascinating?
 - all children acquire an L1
 - all children acquire an L1 to the same degree
 - all children acquire an L1 in the same time
 - no child is exposed to sufficient input
 - no child is taught systematically
 - no child receives systematic feedback

- what is Universal Grammar
 - a theory of the initial state of the human language faculty
 - a theory of what all languages in the world have in common
 - a theory based on universal principles and parameters
 - a theory defining the extent to which languages can vary
 - a theory of possible languages

- in how far does UG contain lexical and functional categories?
 - we are born with a notion of content words (N, V, Adj, ...)
 - we are born with a notion of function words (articles, possessives, ...)
 - we are born with a notion of grammatical categories (morphemes)

- what does the Fundamental Difference Hypothesis say?
 - different initial states
 - different ultimate attainments
 - different access to strategies and world-knowledge
 - motivation and attitude toward the target language
 - equipotentiality
 - adults construct pseudo-UG through their L1

- What is the role of the L1 and L2 in
 - Full Transfer / Full Access Hypothesis L1 ≠ L2
 - Full Access / No Transfer L1 = L2

- name and explain three UG principles
 - structure dependence
 - adjacency
 - empty category
- explain in how far clusters of parameters could be transferred

• What is the difference between the following two graphs?





- what is the difference between verification and falsification?
 - verification: a scientific hypothesis is confirmable through empirical investigation
 - falsification: an idea is put into a theoretical postulate which is assumed to be a candidate for truth; it must be capable of being falsified.

- In how far does Optimality Theory differ from other descriptions of human language?
 - post-war: dichotomous, deterministic thinking of grammar
 - post-war: computer metaphor for grammar models
 - post-war: information processing paradigm
 - OT: Universal Grammar = a set of violable constraints
 - OT: different languages = different constraint rankings
 - OT: ranks universal, innate, and violable constraints



• What are the three main ingredients of OT?



• Explain the following table

	coffee	constraint 1 has caffeine	constraint 2 cheap	constraint 3 easy	constraint 4 good
1	don't bother	*!			
2	instant				***
3	brew own			**!	
4	Indie café	**!	**!	**	
5	Starbucks	*!	*!	*	*
6	corner store				**

Chapter 8 Looking at interlanguage processing

reading homework 5

- emergent models
- processability theory
- information processing
- input processing
- acquisition vs learning
- declarative & procedural knowledge

implicit & explicit
knowledge
interface hypotheses
working memory
interlanguage variation
social contexts
interlanguage pragmatics



Section 8 – Interlanguage



Section 8 – Interlanguage



Section 8 – Interlanguage

- SLA processing mechanisms
 - connectionist / emergentist approaches
 - processability theory
 - information processing
 - types of knowledge
 - working memory
 - U-shaped learning

- emergent systems
- emergent knowledge **arises** out of fundamental entities
- emergent knowledge is more than the **sum** of the system's parts

PDP

AML

- innate faculty (UG) is irrelevant
 - connectionism
 - instance based learner models TiMBL
 - analogical learner models
 - probabilistic models



- emergent systems
- emergent knowledge **arises** out of fundamental entities
- emergent knowledge is more than the **sum** of the system's parts
- innate faculty (UG) is irrelevant
 - learners extract regularities deductively
 - learners make associations between form, function, and meaning
 - associations come through exposure to repeated patterns
 - learners are sensitive to frequency in their input
 - frequent patterns are extracted easily and strengthened

- emergent systems
- emergent knowledge **arises** out of fundamental entities
- emergent knowledge is more than the **sum** of the system's parts
- innate faculty (UG) is irrelevant

"comprehension is determined by the listeners' vast amount of statistical information about the behavior of lexical items in their language."

• Ellis, 2002, p. 144

- connectionist computer models
 - artificial neural networks Parallel Distributed Processing
 - knowledge is represented in a network of nodes
 - language learning is strengthening and inhibiting of the node's connections
 - there are no abstract or symbolic rules in the mind
 - L2 acquisition is the interplay of two networks
- instance based computer models, analogical computer models
 - information is stored in a huge data base full of exemplars
 - learning means comparing new input to existing input in the data base
 - massive storage, simple computation
 - there are no abstract or symbolic rules in the mind
 - L2 acquisition is the interplay of two instance based or analogical algorithms





• *k*-nearest neighbour algorithm





- what is an algorithm
- unambiguous specification of how to solve a class of problems; algorithms can perform calculation, data processing, automated reasoning, and other tasks
- ③ <u>https://www.youtube.com/watch?v=k0xgjUhEG3U</u>

- how does the 3^{rd} person -s rule get into our mind?
- how does the past tense morpheme get into our mind?



Who do you want to win the race? Who do you wanna win the race?

Where does the information about the oddity of sentence 2 come from?

- connectionist and instant-based learner models have produced very good learning simulations in L1
- not so much available in L2
- disregard MacWhinney's Competition Model

Section 8.3 – processing approaches

- Processability Theory Pienemann, 1999, 2007
 - SLA learning depends on our linguistic processor
 - the processor governs developmental paths
 - the processor predicts learning paths or hierarchies
 - steps within a hierarchy cannot be omitted
 - you can only learn what you are cognitively ready for
 - the processor's architecture is universal to some degree
 - developmental paths can be universal



" at any stage of development the learner can produce and comprehend only those L2 linguistic forms which the current state of the language processor can handle. It is therefore crucial to understand the architecture of the language processor and the way in which it handles a second language. This enables one to predict the course of development of L2 linguistic forms in language production and comprehension across languages. "

Keßler 2008



Stufe	Strukturen	Beispiele
6	Cancel Aux-2nd	I wonder what he wants.
5	Neg/Aux-2nd-?	Why didn't you tell me? Why can't she come?
	Aux-2nd -?	Why did she eat that? What will you do?
	3sg-s -	Peter likes bananas.
4	Copula S (x)	Is she at home?
	Wh-copula S (x)	Where is she?
	V-Particle	Turn it off!
3	Do-SV(O)-?	Do he live here?
	Aux SV(O)-?	Can I go home?
	Wh-SV(O)-?	Where she went? What you want?
	Adverb-First	Today he stay here.
	Poss (Pronoun)	I show you my garden. This is your pencil.
	Object (Pronoun)	Mary called him.
2	S neg V(O)	Me no live here. / I don't live here.
	SVO	Me live here.
	SVO-Question	You live here?
	-ed	John played.
	-ing	Jane going.
	Plural -s (Noun)	I like cats.
	Poss –s (Noun)	Pat's cat is fat.
1	Words	Hello, Five Dock, Central
	Formulae	How are you? Where is X? What's your name?



Rapid Profile: Samples & Stages



Section 8.3 – information processing

- SLA = information processing
- information processing capacities are limited
- card trick video (3") <u>https://www.youtube.com/watch?v=v3iPrBrGSJM</u>
- for SLA processing, we need to manage:
 - automaticity & routinization
 - restructuring organisation of new learning McLaughlin 1990



Section 8.3 – information processing

• automaticity = fast, unconscious, and effortless processing

Speaker 1: Hi. Speaker 2: Hi, how are you? Speaker 1: Fine, and you? Speaker 2: Fine.

Speaker 1: Hi, Sue. Speaker 2: Good morning, Julie. Speaker 1: Fine, and you?

Section 8.3 – information processing

- Prime Minister Mori (Japan) meets Bill Clinton
- Mori's instructor

When you shake hands with President Clinton, please say 'how are you'. Then Mr. Clinton will say, 'I am fine, and you?' Now then you should say 'me too'.

- Mori: "Who are you?"
- Clinton: "Well, I'm Hillary's husband, ha-ha..."
- Mori: "Me too, ha-ha…"
- what is automaticity good for?
- controlled language use \rightarrow automatic language use / practice & routines
- explicit knowledge \rightarrow implicit / practice and routines
- how do control / automaticity interact with attention

Table 8.2 Possible second language performance as a function of informationprocessing procedures and attention to formal properties of language

	Information processing		
properties of language	Controlled	Automatic	
Focal	(Cell A) Performance based on formal rule learning	(Cell B) Performance in a test situation	
Peripheral	(Cell C) Performance based on implicit learning or analogic learning	(Cell D) Performance in communication situations	

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• Evidence for restructuring

Time 1	Time 2	Time 3	Time 4
I am no go.	I am no go.	I am no go.	I am no go.
No look.	No look.	Don't look.	Don't go.
I am no run.	I am don't run.	I am don't run.	I am no run.
No run.	Don't run.	Don't run.	Don't run.

Table 8.3 Evidence of restructuring

Source: From Understanding Second Language Acquisition, by R. Ellis, 1985a. Oxford: Oxford University Press. Reprinted by permission of Oxford University Press.

- Grammaticality judgment on syntax
- beginners treated the following sentences the same Gass 1987

(8-15) The judge told the lawyer his decision.(8-16) *The judge informed the lawyer his decision.

- automatizing \rightarrow deliberate practice (Ericsson) \rightarrow expertise
- how about you?
- " experts restructure the elements of a learning task into abstract schemata that are not available to novices. " McLaughlin & Heridia 1996



stage 1 formulaic expression correct
stage 2 unwarranted analogies, unanalysed applications wrong
stage 3 re-analysis, re-structuring correct

- Input Processing VanPatten 2007
- human principle of meaning-making
- conscious attempt to link form and meaning and find patterns and regularities
- Primacy of Meaning (including 6 hypotheses)
- First Noun Principle (including 3 hypotheses)
- meaning \rightarrow form

- our hunt for meaning is relentless 😳
 - the horse raced past the barn fell
 - children makes delicious snacks
 - stolen painting found by tree
 - ban on nude dancing on governor's desk
 - red tape holds up new bridge
 - Blair wins on budget, more lies ahead
 - local high school dropouts cut in half
 - patient at death's door doctors pull him through
 - in America a woman has a baby every 15 minutes

Lexical ambiguity	
For a chronically absent employee	A man like him is hard to find.
For a dishonest employee	He's an unbelievable worker.
For a lazy employee	You would indeed be fortunate to get this person to work for you.
For the office drunk	Every hour with him was a happy hour.
Structural ambiguity	
For a chronically absent employee	It seemed her career was just taking off.
For a dishonest employee	Her true ability was deceiving.
For a stupid employee	I most enthusiastically recommend this candidate with no qualifications whatsoever.
For the office drunk	He generally found him loaded with work to do.
Scope ambiguity	
For an employee who is not worth further consideration as a job candidate	All in all, I cannot say enough good things about this candidate or recommend him too highly.
For an employee who is so unproductive that the job is better left unfilled	I can assure you that no person would be better for the job.
Other	
For a lazy employee	He could not care less about the number of hours he has to put in.
For an employee who is not worth further consideration as a job candidate	I would urge you to waste no time in making this candidate an offer of employment.
For a stupid employee	There is nothing you can teach a man like him.

• Input Processing



	দ্ব	11 25 27
1.	il gatto dorme.	
2.	il cane dorme.	
3.	il cane sta dormendo.	
4.	il gatto sta dormendo.	

il gatto dorme il gatto sta dormendo il gatto dormiva

the cat sleeps the cat is sleeping the cat slept

il cane dorme il cane sta dormendo il cane ha dormito the dog sleeps the dog is sleeping the dog slept

- alternatives to VanPatten's Input Processing
- Structural / Computational Complexity
- Autonomous Induction Theory
- Shallow Structure Hypothesis

O'Grady 2003 Carroll 2001

Clahsen & Felser 2006

- knowledge types
- Monitor Model

Krashen 1982



The Input Hypothesis Model of L2 learning and production (adapted from Krashen, 1982, pp. 16 and 32; and Gregg, 1984)



Figure 8.3 Acquisition and learning in second language production. Source: From Principles and Practice in Second Language Acquisition by S. Krashen 1982, Pergamon. Reprinted by permission of the author.

- 5 Hypotheses
- Acquisition-learning hypothesis
- Natural order hypothesis
- Monitor hypothesis
- Input hypothesis
- Affective filter hypothesis

We will use the term "learning" henceforth to refer to conscious knowledge of a second language, knowing the rules, being aware of them, and being able to talk about them. In nontechnical terms, learning is "knowing about" a language, known to most people as "grammar", or "rules". Some synonyms include formal knowledge of a language or explicit learning. Krashen 1982

- declarative and procedural knowledge
- declarative knowledge
 - word knowledge, facts, information units
 - accessible to conscious awareness
- procedural knowledge
 - motor and cognitive skills
 - processing
 - stringing words together to form and interpret sentences
 - relatively inaccessible

Shiffrin and Schneider 1977

- declarative knowledge & procedural knowledge
- implicit & explicit
- past tenses of

baked

g0

- declarative knowledge & procedural knowledge
- implicit & explicit
- past tenses of

lie lay

- implicit and explicit knowledge
- implicit learning = natural, unconscious acquisition of underlying structures
- explicit learning = conscious operation where the individual makes and tests hypotheses in a search for structure

Ellis 1994

• explicit \rightarrow awareness \rightarrow implicit

representation and control

Bialystok and Sharwood Smith 1985

- knowledge representation (what)
- knowledge control (how)
- better meta-knowledge ≠ better TL performance
- better meta-knowledge ≠ greater conscious awareness

(lie, lay)

• prefabricated patterns

(8-19) Lookit, like that.(8-20) Looky, chicken.(8-21) Lookit gas.(8-22) Lookit four.

(8-26) I wanted him to come.(8-27) I persuaded him to come.

Later, the learner produces:

(8-28) I enjoyed talking to my teacher.(8-29) I stopped sending packages to my friend.

• interfaces

 no interface (Krashen): 	explicit		implicit	?
two different systems			· · · · · · · · · · ·	C
 weak interface (Ellis): 	explicit	>	implicit	ţ,
dissociable but cooperative				
 strong interface (DeKeyser): 	explicit	\rightarrow	implicit	?
natural path: decl. → proc. → aut. DeKeyser 1997: declarative knowledge (rule presenta	ition) followe	dhunraci	tice led to h	oct
ueciululive knowledge (luie presenta	lion jonower	a by prace		231

proceduralization and automaticity

attention

- alertness, orientation, and detection
- noticing hypothesis
- combination of Tomlin and Schmidt
- apperceived input

Tomlin & Villa 1994 Schmidt 1990

mind the gap!

Robinson 1995

Gass 1988

• There can be learning / acquisition without awareness !

- working memory
- short-term memory = storage
- working memory = storage and processing
 - articulatory loop + visuo-spatial sketch pad + central executive + episodic buffer Baddeley, 2003
 - domain-specific storage + domain-general executive attention

Conway, Kane, Bunting, Hambrick, Wilhelm, & Engle 2005

Figure. 1 The Multiple-component Working Memory Model (reproduced from Baddeley, 2012)



digit-span task

Digit-Span Test

- 1.590
- 2.4861
- 3.73094
- 4. 249658
- 5. 1468245
- 6.39215760
- 7. 625739184
- 8. 0638941725



Figure 1. Examples of the backward digit span task (**A**) and the operation span task (**B**).

- interesting results
 - phonological short-term memory \rightarrow vocabulary learning
 - phonological short-term memory \rightarrow learning of grammar
 - working memory seems to be *the* most important component for language aptitude

Questions ?

-

-

- IL's variability > L1's variability
- what is the source of variability?
- variationist perspective on language
 - correlations of social facts and linguistic form
 - the influence of linguistic forms on one another
- da kann ich nichts für
- *it's the government's decision*
- one would think that this is impossible
- I have never played tennis before

- dafür kann ich nichts
 - it's the decision of the government
 - you'd think this is impossible
 - I never played tennis before





Figure 9.1 A Level I psycholinguistic model of interlanguage variation (Preston, 2000). Reprinted by permission.



Figure 9.2 A Level II psycholinguistic model (Preston, 2000). Reprinted by permission.

systematic variation due to the languages' linguistics



variation conditioned by the phonological environment

Variants of /r/ by Japanese learners of English

- [ð] voiced nonretroflexed flap
- [Ĭ] voiced lateral flap
- voiced lateral
- [ř] voiced retroflexed flap
- [r] voiced retroflexed semiconsonant

Figure 9.4 Pronunciation of English /r/ in three different linguistic environments. Source: From "Interlanguage phonology: current research and future directions" by L. Dickerson and W. Dickerson 1977. In S. Corder and E. Roulet (Eds.), The Notions of Simplification, Interlanguages and Pidgins and Their Relation to Second Language Learning, Actes du 5ème Colloque de Linguistique Appliquée de Neuchâtel, pp. 18–29, AIMAV/Didier. Reprinted by permission.
• systematic variation due to social factors in the L1

Table 9.4 Mean scores for the θ -variable in English and Arabic for two gro	oups of
secondary students	

		6 learners Less educated	16 learners More educated
Arabic	Reading passage	8.66	45.63
	Word list	43.33	70.62
	Minimal pairs	68.33	78.75
English	Reading passage	19.66	60.25
	Word list	40.00	86.25
	Minimal pairs	53.33	79.38

Source: Adapted from Schmidt (1977).

- systematic variation due to situation and topic
- Speech Accommodation Theory Giles and Smith 1979
- an IL system is a variable one, changing with the environment

Tarone 1979

• Interlanguage as Chameleon vernacular style vs. superordinate style



Figure 9.5 Pronunciation of /r/ as a function of task.

Source: From, "Interlanguage phonology: current research and future directions" by L. Dickerson and W. Dickerson, 1977. In S. P. Corder and E. Roulet (Eds.), *The Notions of Simplification, Interlanguages and Pidgins and Their Relation to Second language learning*, Actes du 5ème Colloque de Linguistique Appliquée de Neuchâtel, pp. 18–29, AIMAV/Didier. Reprinted by permission.



f = form
m = meaning
'context' refers to both situational and linguistic contexts

Figure 9.6 The role of free and systematic variation.

Source: From Second Language Acquisition in Context, by R. Ellis, 1987a, Prentice Hall. Reprinted by permission.

Table 9.10 Stages of IL Variation

Initial stage Free variation stage Systematic variation stage

Categorical use stage

no for all forms no/don't interchangeably don't/imperatives no and don't/indicatives don't/imperatives no/indicatives

- what is variable the competence or the performance?
- Chomsky: competence (IL knowledge) is stable, only performance varies
- Tarone: IL knowledge is variable
- to what extent can a psycholinguistic process be affected by social context?
- what is affected by social context the acquisition as such, or its use?



• SLA = independent discipline with strong ties to other disciplines



- language is a social phenomenon
- no child has ever learned an L1 without social interaction
- learning is not an intrapsychological process
- Inguistic code cannot be understood outside of its social context

- Conversation Analysis
- starting point for learning is the social activity
- learning is anchored in social practices
- evidence ?

- grammaticality judgments
- elicitation tasks
- psycholinguistic experiments
- computer models

- grammaticality judgments
- elicitation tasks
- psycholinguistic experiments
- computer models

• language in its natural environment is the only source !



- Lev Semionovich Vygotsky (1896-1934)
 - mediation
 - regulation
 - internalization,
 - Zone of Proximal Development
- human activity is mediated by the symbolic artefact of language

humans mediation through language language world



human language has the power to go beyond the immediate time and space



ZPD and scaffolding



- Sociocultural Theory \rightarrow SLA Lantolf and Thorne 2006
- private speech for regulation of task performance

- Communication strategies tube – 'Röhre'
 - approximation
 - literal translation
 - language switch
 - avoidance

... this kind of round thing ...

- ... this kind of ..., 'ne Tube, which ...
- ... this kind of pipe, Pfeife, na, net pipe, ...
- ... this round thingy ... (mumbles)

- communication strategies
 - problematicity I have a strategy to overcome potential problem
 - consciousness
 - intentionality -
- I'm trying to overcome the problem
 - I have control over various options
- hard to demonstrate



(9-22) C'est une petite machine avec des nombres."It's a small machine with numbers."

- interlanguage pragmatics
- one must also learn the appropriate way to use words and sentences in the second language
- A: "I'm sorry, the new passport is not finished yet."
- B: "When will I come and get it?"
- A: "Is Josh here? B: "Yes."

- Speech acts
 - complaining
 - thanking
 - apologizing
 - refusing
 - requesting
 - inviting
 - [...]
- the utterance is the act felicity conditions

• Speech acts

- (9-24) Context: You promised to return a textbook to your classmate within a day or two, after xeroxing a chapter. You held onto it for almost two weeks.
 - Classmate: I'm really upset about the book because I needed it to prepare for last week's class.
 - Response: I have nothing to say.

- Speech acts
- refusal

I'm sorry, I have theatre tickets that night. Maybe I could come by later for a drink.

• The order of formulas might vary between languages

• Speech acts



- Speech acts
- apology
- I'm sorry that I dropped the cake.
- I regret dropping the cake.
- I'm sorry that happened.
- I'm sorry.
- I apologise.



• I'm sorry – but it was really your fault, because you left some slippery ...

• SLA = independent discipline with strong ties to other disciplines



practice tasks

- The man killed the bear
- If you have learned French in a classroom and go to France, then it won't help you.
- A professors invites a student over for dinner
- S: Thank you for the invitation. I would be willing to come.

practice tasks

Time 1 No (imperative) No English ("I can't speak English")

- Time 2 No (answer to question) I can't speak English My husband not here Not raining
- Time 3 No (answer to question) I can't speak English My husband not here My husband not home Don't touch Don't touch it

Time 4 My husband not here Hani not sleeping I can't speak English No, I can't understand I don't know Don't eat No, this is . . . (answer to question)

practice tasks



Figure 9a.1 Effect of interlocutor on TLU accuracy of bound morphemes and progressive auxiliary.

final exam topics

Chapter 8 & 9

- a) connectionist models & instance-based models
- b) Processability Theory
- c) information processing, automaticity, routinization, and restructuring
- d) U-shaped learning
- e) input processing
- f) explicit implicit / declarative procedural knowledge and their interfaces
- g) working memory
- h) systematic interlanguage variation
- i) Socio-cultural Theory (mediation, regulation, internalization, Zone of Proximal Development
- j) communication strategies
- k) interlanguage pragmatics

homework 6

- read chapter 10
- try to understand
 - the role of input
 - comprehensible input
 - interaction & feedback
 - hypothesis testing
 - attention
 - metalinguistic awareness