Theorien der Morphologie 11

Modul 006-1006: Grammatiktheorie, SoSe 2019

Di, 11:15–12:45, HSG, HS 20

Optimality-Theoretic Approaches

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Refs.:
Grimshaw (2001), Trommer (2001; 2003; 2006; 2008), Wunderlich (1999; 2001a;b; 2004), Don & Blom (2006), Ortmann (2002; 2004), Stiebels (2000; 2002; 2006).

Unrefs.:
Xu & Aronoff (2008), Xu (2007; 2011), Müller (2011): no underspecification
Müller (2002; 2013) Carstairs-McCarthy (2008): radically amorphematic

1. Disjunctive Blocking

1.1. *Disjunctive Blocking in Distributed Morphology*

(1) *Determiner inflection in German*:

dies	MASC.SG	NEUT.SG	FEM.SG	PL
NOM	dies-r	dies-s	dies-e	dies-e
ACC	dies-n	dies-s	dies-e	dies-e
DAT	dies-m	dies-m	dies-r	dies-n
GEN	dies-s	dies-s	dies-r	dies-r

(2) *Subset Principle* (Halle (1997)):
A vocabulary item V is inserted into a functional morpheme M iff (a) and (b) hold:
a. *Compatibility*:
The morpho-syntactic features of V are a subset of the morpho-syntactic features of M.
b. *Specificity*:
V is the most specific vocabulary item that satisfies (a).

(3) *Specificity of vocabulary items*
A vocabulary item V_i is more specific than a vocabulary item V_j iff there is a class of features $\mathbb{F}$ such that (i) and (ii) hold.
(i) V_i bears more features belonging to $\mathbb{F}$ than V_j does.
(ii) There is no higher-ranked class of features $\mathbb{F}'$ such that V_i and V_j have a different number of features in $\mathbb{F}'$.

(4) *Feature Decomposition*:

Case		*Gender/Number*	
NOM:	[–obl,–gov]	MASC:	[+masc,–fem]
ACC:	[–obl,+gov]	FEM:	[–masc,+fem]
DAT:	[+obl,+gov]	NEUT:	[+masc,+fem]
GEN:	[+obl,–gov]	PL:	[–masc,–fem]

(5) *Underspecified exponents*:

a. /m/^{1} ↔ [+masc,+obl,+gov] (DAT.MASC.SG./NEUT.SG.)
b. /s/^{2} ↔ [+masc,+obl] (GEN.MASC.SG./NEUT.SG.)
c. /s/^{3} ↔ [+masc,+fem] (NOM./ACC.NEUT.SG.)
d. /n/^{4} ↔ [+masc,+gov] (ACC.MASC.SG.)
e. /r/^{5} ↔ [+masc] (NOM.MASC.SG.)
f. /r/^{6} ↔ [+obl,+fem] (DAT./GEN.FEM.SG.)
g. /n/^{7} ↔ [+obl,+gov] (DAT.PL.)
h. /r/^{8} ↔ [+obl] (GEN.PL.)
i. /e/^{9} ↔ [ ] (NOM./ACC.FEM.SG./PL.)

(6) *Feature Hierarchy*:
[+masc] > [+obl] > [+fem] > [+gov].

(7) *Competition of exponents*:

dies	Masc.Sg.	Neut.Sg.	Fem.Sg.	Pl.
Nom	$\underline{\text{r}}^5$, e^9	$\underline{\text{s}}^3$, r^5, e^9	$\underline{\text{e}}^9$	$\underline{\text{e}}^9$
Acc	$\underline{\text{n}}^4$, r^5, e^9	$\underline{\text{s}}^3$, n^4, r^5, e^9	$\underline{\text{e}}^9$	$\underline{\text{e}}^9$
Dat	$\underline{\text{m}}^1$, s^2, n^4, r^5, n^7, r^8, e^9	$\underline{\text{m}}^1$, s^2, s^3, n^4, r^5, r^6, n^7, r^8, e^9	$\underline{\text{r}}^6$, n^7, r^8, e^9	$\underline{\text{n}}^7$, r^8, e^9
Gen	$\underline{\text{s}}^2$, r^5, r^8, e^9	$\underline{\text{s}}^2$, s^3, r^5, r^6, r^8, e^9	$\underline{\text{r}}^6$, r^8, e^9	$\underline{\text{r}}^8$, e^9

1.2. *Disjunctive Blocking in Optimality Theory*

Observation:
The compatibility and specificity requirements that need to be stipulated in virtually all other approaches actually come for free in optimality theory.

(8) a. IDENT-F:
Morpho-syntactic features of input and output cannot have different values.
b. MAX(MASC):
[masc] of the input is realized on the exponent in the output.
c. MAX(OBL):
[obl] of the input is realized on the exponent in the output.
d. MAX(FEM):
[fem] of the input is realized on the exponent in the output.
e. MAX(GOV):
[gov] of the input is realized on the exponent in the output.

(9) IDENT-F ≫ MAX(MASC) ≫ MAX(OBL) ≫ MAX(FEM) ≫ MAX(GOV)

(10) *Dative masculine singular contexts* (standard parallel optimality theory):

I_1: *dies*, [+masc,–fem,+obl,+gov]	ID-F	MAX(MASC)	MAX(OBL)	MAX(FEM)	MAX(GOV)
☞O_{11}: /m/^{1} ↔ [+masc,+obl,+gov]				*	
O_{12}: /s/^{2} ↔ [+masc,+obl]				*	*!
O_{13}: /s/^{3} ↔ [+masc,+fem]	*!		*		*
O_{14}: /n/^{4} ↔ [+masc,+gov]			*!	*	
O_{15}: /r/^{5} ↔ [+masc]			*!	*	*
O_{16}: /r/^{6} ↔ [+obl,+fem]	*!	*			*
O_{17}: /n/^{7} ↔ [+obl,+gov]		*!		*	
O_{18}: /r/^{8} ↔ [+obl]		*!		*	*
O_{19}: /e/^{9} ↔ [ ]		*!	*	*	*

(11) *Nominative feminine singular contexts* (standard parallel optimality theory):

I_1: [–masc,+fem,–obl,–gov]	ID-F	MAX(MASC)	MAX(OBL)	MAX(FEM)	MAX(GOV)
O_{11}: /m/^{1} ↔ [+masc,+obl,+gov]	*!**			*	
O_{12}: /s/^{2} ↔ [+masc,+obl]	*!*			*	*
O_{13}: /s/^{3} ↔ [+masc,+fem]	*!		*		*
O_{14}: /n/^{4} ↔ [+masc,+gov]	*!*		*	*	
O_{15}: /r/^{5} ↔ [+masc]	*!		*	*	*
O_{16}: /r/^{6} ↔ [+obl,+fem]	*!	*			*
O_{17}: /n/^{7} ↔ [+obl,+gov]	*!*	*		*	
O_{18}: /r/^{8} ↔ [+obl]	*!	*		*	*
☞O_{19}: /e/^{9} ↔ [ ]		*	*	*	*

(12) *Accusative neuter singular contexts*:

I_1: [+masc,+fem,–obl,+gov]	ID-F	MAX(MASC)	MAX(OBL)	MAX(FEM)	MAX(GOV)
O_{11}: /m/^{1} ↔ [+masc,+obl,+gov]	*!			*	
O_{12}: /s/^{2} ↔ [+masc,+obl]	*!			*	*
☞O_{13}: /s/^{3} ↔ [+masc,+fem]				*	*
O_{14}: /n/^{4} ↔ [+masc,+gov]			*!	*	
O_{15}: /r/^{5} ↔ [+masc]			*!	*	*
O_{16}: /r/^{6} ↔ [+obl,+fem]	*!	*			*
O_{17}: /n/^{7} ↔ [+obl,+gov]	*!	*		*	
O_{18}: /r/^{8} ↔ [+obl]	*!	*		*	*
O_{19}: /e/^{9} ↔ [ ]		*!	*	*	*

1.2.1. Further Case Studies

1.2.1.1. Italian Object Clitics

(13) *Italian Clitics*

	1.SG	2.SG	3.SG	1.PL	2.PL	3.PL
ACC	mi	ti	lo/la	ci	vi	li/le
DAT	mi	ti	gli/le	ci	vi	–
ACC-REF	mi	ti	si	ci	vi	si
DAT-REF	mi	ti	si	ci	vi	si

(14) *Fully specified and underspecified lexical entries*:

a. (i) /lo/ ↔ [–refl,–1,–2,–pl,+masc,–obl,+gov] (him/it)
(ii) /la/ ↔ [–refl,–1,–2,–pl,+fem,–obl,+gov] (her/it)
(iii) /li/ ↔ [–refl,–1,–2,+pl,+masc,–obl,+gov] (them (masc))
(iv) /le/^{1} ↔ [–refl,–1,–2,+pl,+fem,–obl,+gov] (them (fem))
(v) /gli/ ↔ [–refl,–1,–2,+pl,+masc,+obl,+gov] (to them (masc))
(vi) /le/^{2} ↔ [–refl,–1,–2,+pl,+fem,+obl,+gov] (to them (fem))

b. (i) /mi/ ↔ [+1,–2,–pl] ((to) me(self))
(ii) /ti/ ↔ [–1,+2,–pl] ((to) you(self))
(iii) /ci/ ↔ [+1,–2,+pl] ((to) us(self))
(iv) /vi/ ↔ [–1,+2,+pl] ((to) you(self))
(v) /si/ ↔ [+refl] ((to) self)

(15) *First and second-person reflexive inputs* (standard parallel optimality theory)

I_1: [+refl,–1,+2,+pl,+masc,–obl,+gov]	IDENT-F	MAX PERS	MAX REFL	MAX NUM	MAX GEN	MAX CASE
O_{11}: /si/ ↔ [+refl]		*!		*	*	*
☞O_{12}: /vi/ ↔ [–1,+2,+pl]			*		*	*
O_{13}: /li/ ↔ [–refl,–1,–2,+pl,+masc,–obl,+gov]	*!*	*				
O_{14}: /ti/ ↔ [–1,+2,–pl]	*!		*		*	*

(16) *Third person reflexive inputs* (standard parallel optimality theory)

I_1: [+refl,–1,–2,+pl,+masc,–obl,+gov]	IDENT-F	MAX PERS	MAX REFL	MAX NUM	MAX GEN	MAX CASE
☞O_{11}: /si/ ↔ [+refl]		*		*	*	*
O_{12}: /vi/ ↔ [–1,+2,+pl]	*!		*		*	*
O_{13}: /li/ ↔ [–refl,–1,–2,+pl,+masc,–obl,+gov]	*!					
O_{14}: /ti/ ↔ [–1,+2,–pl]	*!*		*		*	*

1.2.1.2. Agent Focus Markers in Mayan

(17) a. *Maktxel max-ach s-laq'-a' ?
who ASP-2.SG.ABS 3.SG.ERG-hug-TV
'Who hugged you?'

b. Maktxel max-ach laq'-on i?
who ASP-2.SG.ABS hug-AF-ITV
'Who hugged you?'

(18) a. *I-kolta-on tzeb li Xun-e
COMPL-help-AF girl the Juan-ENC
'Juan helped the girl.'
b?*A li Xun-e, I-kolta-o li tzeb-e
FOC the Juan-ENC COMPL-help-AF the girl-ENC
'The girl helped JUAN.'

(19) *Agent focus marking in movement contexts* (standard parallel optimality theory)

I_1: [–obl,+gov]^1,[–1,–2,–pl]^1,[+foc]^1	IDENT-F	MAX ERG	MAX FOC	MAX ϕ
O_{11}: V-3.SG.ERG ↔ [–obl,+gov],[–1,–2,–pl]			*!	
☞O_{12}: V-AF ↔ [–obl,+gov],[+foc]				*
O_{13}: V		*!	*	*

(20) *Ergative marking without movement* (standard parallel optimality theory)

I_1: [–obl,+gov]^1,[–1,–2,–pl]^1,[–foc]^1	IDENT-F	MAX ERG	MAX FOC	MAX ϕ
☞O_{11}: V-3.SG.ERG ↔ [–obl,+gov],[–1,–2,–pl]			*	
O_{12}: V-AF ↔ [–obl,+gov],[+foc]	*!			*
O_{13}: V		*!	*	*

1.3. Alternatives

Side remark:
Deriving syncretism by (feature decomposition and) underspecification is a well-established research strategy. However, there are also other theoretical approaches to syncretism, including those in (21) (none of these alternative approaches is inherently incompatible with underspecification).

(21) *Alternative approaches*:

a. *Paradigm geometry*
Refs.: Johnston (1996), McCreight & Chvany (1991), Plank (1991), Postma (1998), Gallmann (2004).
The main idea is that syncretism are derivable from an appropriate placement of the various paradigm cells (e.g., adjacency of paradigm cells in appropriately revised, or designed, paradigms).

b. *Rules of referral*
Refs.: Zwicky (1985), Corbett & Fraser (1993), Stump (2001)
Rules of referral state the identity of markers but make no further attempt to actually derive it.

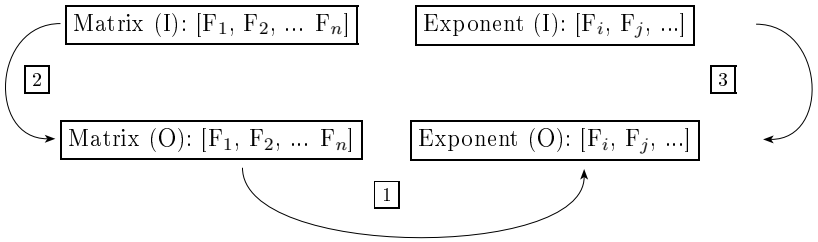
2. Impoverishment

2.1. Impoverishment in Distributed Morphology

We already know a lot about this.

2.2. Impoverishment in Optimality Theory

(22) *Features on matrix and exponents*



Note:
"Matrix" stands for the fully specified feature specification with which underspecified morphological exponents are matched (syntactic node/syntactic context/paradigm cell/fully enriched stem/etc.)

Two ways to implement impoverishment:

- [1]: Markedness constraints make certain features of Matrix (0) inaccessible for morphological exponence → optimal faithfulness violations in [1]:
Trommer (2003), Don & Blom (2006), Wunderlich (2004), also Grimshaw (2001), Kiparsky (2001), Trommer (2001; 2006), Wunderlich (2004), Lahne (2007), Opitz (2007)

- [2]: Markedness constraints lead to deletion of certain features in Matrix (0), so they are unavailable for morphological exponence → optimal faithfulness violations in [2]:
Aissen (2003), Keine & Müller (2011; 2014), Müller & Thomas (2017)

2.2.1. Faithfulness Violations in 1

2.2.2. Impoverishment Effects in Trommer (2003)

(23) PARTICIPANT UNIQUENESS (PU):
For two adjacent [–3] agreement heads in the input, number should not be expressed in the output.

(24) a. eci-un-kore
2-O1p-give
"You (pl) give us"
b. e-en-kore
2sg-O1s-give
"You (sg.) give me"

(25) a. *ku-e ("I-you(sg)")
b. *ku-eci ("I-you(pl)")
c. *ci-e ("we-you(sg)")
d. *ci-eci ("we-you(pl)")

e. eci (for all these contexts)

(26) *Relativized Parse constraints schema*:
If A_1 ... A_n are distinct from B_1 ... B_n, and $A_{\geq}B_i$ on a scale S_i ($1 \leq i \leq n$), then there is a constraint PARSE[Agr]$_{[A_1 \ldots A_n]/[B_1 \ldots B_n]}$.

(27) *2→1 contexts: no participant reduction*

I: [+nom+2–pl]$_1$, [+acc,+1–pl]$_2$	MAX (Per)$_{[+2]/[+1]}$	L⇐ [+nom]	L⇐ [+2]	MAX (Num)$_{[+1]/[+2]}$	MAX(Num) $_{[+2+h]/[+1+l]}$	P U	MAX [F]
O_1: eci:[+2]$_1$ en:[+1+acc–pl]$_2$					*!	*	**
☞O_2: e:[+2–pl]$_1$ en:[+1+acc–pl]$_2$						**	*
O_3: en:[+1+acc–pl]$_1$ eci:[+2]$_2$			*!		*	*	**
O_4: en:[+1+acc–pl]$_1$ e:[+2–pl]$_2$			*!			**	*
O_5: en:[+1+acc–pl]$_1$	*!				*	*	***
O_6: eci:[+2]$_2$				*!	*		*****
O_7: e:[+2–pl]$_2$				*!		*	****

(28) *1→2 contexts: participant reduction* (standard parallel optimality theory)

I: [+nom+1+pl]$_1$, [+acc,+2+pl]$_2$	MAX (Per)$_{[+2]/[+1]}$	L⇐ [+nom]	L⇐ [+2]	MAX (Num)$_{[+1]/[+2]}$	MAX(Num) $_{[+2+h]/[+1+l]}$	P U	MAX [F]
O_1: e:[+2–pl]$_2$ ci:[+1+nom+pl]$_1$		*!				**	**
O_2: eci:[+2]$_2$ ci:[+1+nom+pl]$_1$		*!				*	**
O_3: ci:[+1+nom+pl]$_1$ eci:[+2]$_2$			*!			*	**
O_4: ci:[+1+nom+pl]$_1$ e:[+2–pl]$_2$			*!			*	**
O_5: ci:[+1+nom+pl]$_1$	*!					*	**
☞O_6: eci:[+2]$_2$				*			**
O_7: e:[+2–pl]$_2$				*		*!	**

2.2.3. Impoverishment Effects in Don & Blom (2006)

(29) *Verb inflection in Dutch* (present tense)

present tense	noem ('call')	loop ('walk')	zijn ('be')
1.sg	noem	loop	ben
2.sg.	noem-t	loop-t	ben-t
3.sg.	noem-t	loop-t	is
1.pl.	noem-en	loop-en	zijn
2.pl.	noem-en	loop-en	zijn
3.pl.	noem-en	loop-en	zijn

(30) *Verb inflection in Dutch* (past tense)

past tense	noem ('call')	loop ('walk')	zijn ('be')
1.sg	noem-de	liep	was
2.sg	noem-de	liep	was
3.sg	noem-de	liep	was
1.pl.	noem-de-en	liep-en	war-en
2.pl.	noem-de-en	liep-en	war-en
3.pl.	noem-de-en	liep-en	war-en

(31) a. MAX([PLURAL]):
Realize a [plural] feature in the input by a [plural] exponent in the output.
b. MAX([PAST]):
Realize a [past] feature in the input by a [past] exponent in the output.
c. *COMPLEX:
Avoid complex affixes.
d. MAX([αPERSON]): Realize an [αperson] feature in the input by an [αperson] exponent in the output.
e. *AF-TO-AF:
Do not add affixes to affixed stems.

(32) a. /en/ ↔ [plur]
b. /t(de)/ ↔ [past]
c. /Ø/ ↔ [1]
d. /t/ ↔ [ ]
e. /st/ ↔ [plur,2] (hypothetical)
f. /ot/ ↔ [2] (hypothetical)
g. /um/ ↔ [past,2] (hypothetical)

(33) *Person neutralization in the plural (present tense)* :

I: noem-[plur,2]	MAX([PLUR])	MAX([PAST])	*COMPL	*AF-TO-AF	MAX([PERS])
☞O_1: noem-en					*
O_2: noem-st			*!		
O_3: noem	*!				
O_4: noem-t	*!				
O_5: noem-ot	*!				
O_6: noem-en-ot				*!	

(34) *Person neutralization in the past (singular)* :

I: noem-[2,past]	MAX([PLUR])	MAX([PAST])	*COMPL	*AF-TO-AF	MAX([PERS])
O_1: noem-en		*!			*
O_2: noem-st		*!	*		
O_3: noem		*!			*
☞O_4: noem-de					*
O_5: noem-ot		*!			
O_6: noem-de-ot		*!		*	
O_7: noem-um			*!		

(35) *Person neutralization in the plural (past tense))* :

I: noem-[plur,2,past]	MAX([PLUR])	MAX([PAST])	*COMPL	*AF-TO-AF	MAX([PERS])
☞O_1: noem-de-en				*	*
O_2: noem-st		*	*		
O_3: noem	*!	*			*
O_4: noem-de	*!				*
O_5: noem-ot	*!	*			
O_6: noem-de-ot	*!			*	
O_7: noem-de-en-ot				**!*	
O_8: noem-um	*!		*		

2.2.4. Impoverishment Effects in Wunderlich (2004)

(36) *Inflection class I (Masc.) in Russian, Sg.*

	[–anim]	[+anim]	
	$zavod_m$ ('factory')	$student_m$ ('student')	$žitel_m$ ('inhabitant')
nom/sg	zavod-Ø	student-Ø	žitel'-Ø
acc/sg	zavod-Ø	student-a	žitel-ja
dat/sg	zavod-u	student-u	žitel-ju
gen/sg	zavod-a	student-a	žitel-ja
inst/sg	zavod-om	student-om	žitel-em
loc/sg	zavod-e	student-e	žitel-e

(37) a. *[+gov,–obl]/[–anim],[+v]
b. MAX([gov,obl])
c. *[+gov,–obl],[+v]

(38) *Accusative contexts, inanimate nouns, class I* (standard parallel optimality theory):

I: zavod: [+gov,–obl], [+v], [–anim], [class I]	*[+gov,–obl]/[–anim],[+v]	MAX([gov,obl])	*[+gov,–obl],[+v]
O_1: zavod-$a_{[+gov,-obl,clI]}$	*!		*
☞O_2: zavod-$Ø_{[\ ]}$		*	

(39) *Accusative contexts, animate nouns, class I* (standard parallel optimality theory):

I: student: [+gov,–obl], [+v], [+anim], [class I]	*[+gov,–obl]/[–anim],[+v]	MAX([gov,obl])	*[+gov,–obl],[+v]
☞O_1: student-$a_{[+gov,-obl,clI]}$			*
O_2: student-$Ø_{[\ ]}$		*!	

(40) *Accusative contexts, inanimate nouns, class II* (standard parallel optimality theory):

I: kart: [+gov,–obl], [+v], [–anim], [class II]	ID-F	MAX([gov,obl])/[clII]	*[+gov,–obl]/[–anim],[+v]	MAX([gov,obl])	*[+gov,–obl],[+v]
☞O_1: kart-$u_{[+gov,-obl,+v,clI]}$			*		*
O_2: kart-$Ø_{[\ ]}$		*!		*	
O_3: kart-$a_{[-gov,-obl,clII]}$	*!				

2.2.5. Faithfulness Violations in 2

See the previous handout.

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