Untangling IPP word order restrictions

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1. Introduction

(1) *Past participle morphology (Dutch)*

a. Ik heb ge-werk-t
I have GE-work-D
'I have worked.'

b. Ik ben ge-kom-en
I am GE-come-N
'I have come.'

c. *Ablaut*
Ik heb ge-zong-en (< zingen)
I have GE-sing$_{ABL}$-N
'I have sung.'

d. *suppletion*
Ik ben ge-wees-t (< zijn)
I am GE-be$_{SUPPL}$-N
'I have gone.'

(2) *Infinitivus pro participio (IPP) (Dutch)*

a. * Ik heb ge-wil-d werk-en
I have GE-want-D work-INF

b. Ik heb **will-en** werk-en
I have want-INF work-INF
'I wanted to work.'

c. * Ik heb hem ge-zie-n werk-en
I have him GE-see-N work-INF

d. Ik heb hem **zie-n** werk-en
I have him see-INF work-INF
'I saw him work.'

e. * Ik heb ge-staa-n werk-en
I have GE-stand-N work-inf

f. Ik heb **staa-n** werk-en
I have stand-INF work-INF
'I was working for a while.'

(3) *IPP with suppletive form (Dutch)*
Ik ben **wez-en** zwemm-en
I am be$_{SUPPL}$-INF swim-INF
'I went for a swim.'

2. Word order generalizations

(4) IPP requires: 1-2-3 auxiliary$_1$ →participle$_2$ →infinitive$_3$ (Dutch)

(5) No IPP with: 3-2-1 infinitive$_3$ ←participle$_2$ ←auxiliary$_1$ (Frisian, Stellingwerfs)

(6) *Stellingwerfs* (Bloemhoff 1977)
..dat Jan dat doe-n **kun-d** had (*kunn-en) (3-2-1)
that John that do-INF can-D had
'..that John could have done that.'

(7) But: cases of optional IPP with 3-2-1:

a. *Achterhoeks* (Blom & Hoekstra 1996)
..dat ik schriev-m {**will-n** , **e-wil-d** } had (3-2-1)
that I write-INF want-INF GE-want-D had
'..that I had wanted to write.'

b. *Swabian* (Steil 1989), among other orders
..daß d Anna ons bsuach-a **well-a** had (3-2-1)
that the Anna us visit-INF want-INF has
'..that Anna wanted to visit us.'

c. *Austrian Bavarian* (Wurmbrand 2004): 3-2-1 with IPP acceptable in judgment task

(8) IPP in optional orders

a. *Standard German* (Wurmbrand 2004)
..daß er es hat **lös-en** könn-en (1-3-2)
that he it has solve-INF can-INF
'..that he was able to solve it.'

b. *West Flemish* (Haegeman 1994)
..da Valère nie nor us **will-en** kom-en eet (2-3-1)
that Valery not to house want-INF come-INF has
'..that Valery did not want to come home.'

c. *Austrian Bavarian* (Patocka 1997)
..da ma wås lean-a hettn **soi-n** (3-1-2)
that we something learn-INF had shall-INF
'..that we should have learned something.'

(9) *New generalization*
IPP in 2-3 clusters occurs without exception:
1-2-3 Dutch
2-3-1 West Flemish
2-1-3 does not occur

3. 2-3 without IPP

(10) *Samatimeric* (Mileck 1997)
a. iə hed si **g-seːŋ** fuəd-fɔa-n ([1]-2-3)
you:PL have them GE-see-N away-go-INF
'You saw them drive off.'

b. ɛə hɔd **k-holf-n** ʊmgrɔːm ([1]-2-3)
he has GE-help$_{ABL}$-N dig:INF
'He helped shovel.'

(11) *Luxemburgisch* (Bruch 1973)
a. Hoffentlich huet keen dech **ge-si** go-en ([1]-2-3)
hopefully has noone you GE-see go-INF
'Hopefully noone saw you leave.'

b. Ech hun dat **ge-spier-t** komm-en ([1]-2-3)
I have that GE-see-D come-INF
'I saw that coming.'

(12) *Austrian Bavarian* (Patocka 1997)
a. bin i aa dei **gång** fråg-n ([1]-2-3)
am I also DEMGE:go$_{SUPPL}$:nask-INF
'So I went and asked them too.'

b. nåchdem håt des Gårn **miaß-t** g-wåsch-n wead-n ([1]-2-4-3)
afterwards has the net must-D GE-wash-N become-INF
'Afterwards the net must be washed.'

(13) *Siberian Mennonite Plautdiitsch* (Jedig 1969)

a. äm kunt[a] haud-st **kun-t** ne:m[e] ([1]-2-3)
the Walachian had-2SG can-D take:INF
'You could have taken the Walachian [a horse].'

b. däi ha:ft **j[e]-śpi:[e]-t** äm prodaväts ko:m[e] ([1]-2-3)
DEMhas GE-see-D the merchant come:INF
'He saw the merchant come.'

(14) *Zimbrian* (Schweitzer 1939)

a. de pruoder dahuame henn-en nixt **ga-sex-t** kxenn-j ([1]-2-3)
the brothers at.home have-him not GE-see-D come-INF
'The brothers at home did not see him come.'

b. alora inj hêrre hêt-ar **ga-wou-t** faŋg-an wänte ([1]-2-3)
then the man has-he GE-want-D take-INFrocks
'Then the man wanted to pick up rocks.'

(15) *Afrikaans* (Du P. Scholtz 1963)
..dat ek **ge-kom** werk het (2-3-1)
that I GE-come work:INF have

(16) Yiddish, Middle High German, Middle Dutch

4. Status of the V3 infinitive

(17) Funny aspects about the [2-3] orders without IPP:

a. V3 infinitive must be final, yielding the 2-1-3 order found **only with extraposition** elsewhere (18)
b. the relevant dialects generally have descending (3-2-1) orders (19)
c. there is a 3-2 alternative with IPP (20)
d. the infinitive may be 'satzwertig' (21)

(18) V3 infinitive must be final (*d.n.a.* to Afrikaans, Zimbrian, Yiddish)

a. *Luxemburgish* (Bruch 1973)
ob-s de holländesch **ge-léier-t** hues schwätz-en (2-1-3!!)
whether-2SG you Dutch GE-learn-D have speak-INF
'whether you learned to speak Dutch.'

b. *Zurich Swiss German* (Lötscher 1978)
..wil er en **ghöör-t** hät choo (2-1-3!!)
because he him hear-D has come:INF
'..because he heard him come.'

[Note: Zurich Swiss German has IPP with [1]-2-3, but Lötscher notes that there is a tendency for participles to appear where infinitives are expected, suggesting another case of 2-3 without IPP]

(19) temporal auxiliary follows the participle in embedded clauses

Siberian Mennonite Plautdiitsch (Jedig 1969)
van mo[a] de mut[a] niç j[e]-śtorv[e] ve:[a] (2-1)
if only the mother not GE-die:N were
'If only mother hadn't died.'

(20) competition with IPP-variant

a. *Siberian Mennonite Plautdiitsch* (Jedig 1969)
ji: haud **t'e:n**^{e} hä:v^{e} ([1]-2-3)
you:PL had can:INF mow:INF
'You could have mown.'

b. *Samatimeric* (Mileck 1997)
iə hed si fuəd-fɔa-n **sɛ:-ŋ** ([1]-3-2)
you:PL have them away-go-INF see-INF
'You saw them drive off.'

c. *Luxemburgish* (Bruch 1973)
wa keen dech hätt **héier-e** komm-en (1-2-3)
when noone you had hear-INF come-INF
'..when noone would have heard you come.'

d. *Austrian Bavarian* (Patocka 1997)
wiar i mit knecht und dian håun åabat-n **miass-n** (1-3-2)
how I with servant and maid have work-INF must-INF
'how I had to work with servants and maids.'

e. *Zurich Swiss German* (Lötscher 1978)
..wil er en **ghöör-e** choo hät (2-3-1)
because he him hear-INF come:INF has
'..because he heard him come.'

(21) V3 infinitive may be 'satzwertig'

a. *Samatimeric* (Mileck 1997)
miə hɔm si **k-sɛ:-ŋ** [mid iən kɪnd ha:m gẽ:] ([1]-2-3)
we have her GE-see-N with her child home go:INF
'We saw her go home with her child.'

b. *Siberian Mennonite Plautdiitsch* (Jedig 1969)
däi ha:ft **j**^{e}**-śpi:**^{e}**-t** [äm prodaväts ko:m^{e}] ([1]-2-3)
DEM has GE-see-D the merchant come:INF
'He saw the merchant come.'

(22) *reminiscent of the 'third construction'*

a. *Dutch*
..dat hij het **ge-probeer-d** heeft [te lez-en] (2-1-3)
that he it GE-try-D has to read-INF
'..that he tried to read it.'

b. *Frisian* (Reuland 1990)
..dat er my dat boek **ferbea-n** hat [te lêz-en] (2-1-3)
that he me that book forbid-N has to read-INF
'..that he forbid me to read that book.'

(23) *Hypothesis*

a. 2 = IPP [1 - 2 - 3] (order irrelevant)
b. 2 = participle [1 - 2] 3 (order irrelevant within [cluster])

(24) 3-2 orders without IPP: intraposition

a. *Austrian Bavarian* (Patocka 1997)
wånn-st iawand såg-n hå-st **g-hea-t** (3-1-2)
when-2SG someone say-INF have-2SG GE-hear-D
'when you heard someone say'

b. *Samatimeric* (Mileck 1997)
ɛa hɔd mi kʊm-a **g-sɛ:-ŋ** ([1]-3-2)
he has me come-INF GE-see-N
'He saw me come.'

c. *Samatimeric* (Mileck 1997)
du hɔsdra kox-n **k-holf-n** ([1]-3-2)
you have.her cook-INF GE-help$_{ABL}$-N
'You helped her cook.'

d. *Luxemburgish* (Bruch 1973)
deen de leit moral priedig-en as **gaang** (3-1-2)
REL the people ethics preach-INF is ge:go$_{SUPPL}$
'who has gone preach ethics to the people'

e. *Luxemburgish* (Bruch 1973)
deen de leit moral priedig-e **gaang** as (3-1-2)
REL the people ethics preach-INF ge:go$_{SUPPL}$ is
'who has gone preach ethics to the people'

f. *Siberian Mennonite Plautdiitsch* (Jedig 1969)
ät' ha: äm ho:n sjri:-^{e} **j^{e}-hi^{e}-d** ([1]-3-2)
I have the cock crow-INF GE-hear-D
'I heard the cock crow.'

(25) 2 = participle 3 [1 - 2] (order within cluster irrelevant) (cf. (23))

(26) The IPP-effect occurs whenever a participle takes an infinitive in its complement domain (i.e. the infinitive is not 'extraposed').

(27) a. [V1 [V2 [V3]]] IPP

b. [[V1 [V2]] & [V3]] participle

5. Status of *ge*

(28) *History of* ge (Van Swaay 1899, Van Dijk 1998)

a. preverb meaning FULL, COMPLETE →
b. telicity inducing particle →
c. perfective marker →
d. relative tense marker →
e. (some dialects) simple past marker

(29) *Gothic* ga-mains ~ *Latin* com-munis
Dutch ge-zusters 'sisters of each other'

(30) *Gothic* lisan 'reap' ~ ga-lisan 'collect'
Dutch ge-knield 'kneeled down'

(31) *Dutch* ge-zeg-d-e 'what has been said' ~ *Latin* praedicatum 'predicate'
GE-say-D-NOM

(32) *Dutch*
Ik heb het ge-wet-en (state)
I have it GE-know-N
'I knew it.'

(33) *Zimbrian* (Schweitzer 1939:94)
un hat-en funt-at nôu˜ in de tave'rn g'-er hat ga-trinkx-et
and has-him find-D still in the tavern where-he has GE-drink-D
'and he found him still in the tavern where he *was drinking*'

(34) Infinitive: perfect functioning as simple past

a. Hij beweert dat hij sliep toen ik binnen kwam (Dutch)
he claims that he sleep:PAST when I in come:PAST
'He claims that he was asleep when I came in.'

b. Hij beweert ge-slap-en te hebben toen ik binnen kwam
he claims GE-sleep-N to have:INF when I in come:PAST
'He claims to have been asleep when I came in.'

(35) The application of *ge* to the past participle was already productive in Old Saxon / Old High German (Prokosch 1939:205) →IPP effect must be old.
[Kern (1912:49) and Paul (1920:128) date the earliest cases of IPP in Middle High German in the early 13th century, which led to the hypothesis that IPP is an innovation involving *suppression* of *ge*. This scenario predicts the Middle High German (and Middle Dutch) should have *ge*-less participles instead of infinitives in the IPP construction, contrary to fact (Kern *loc cit*). Instead we assume (with Paul *loc cit*) that *ge*-less participles where assimilated to infinitives already before the Middle High German period.]

(36)

	2-verb cluster	*3-verb cluster (IPP)*	*3-verb cluster (modal)*	
a.	AUX ... *ge* .... [participle]	AUX ... participle ... infinitive	AUX ... infinitive ... infinitive	→
b.	AUX ... *ge* + participle	AUX ... *ge*-less part...infinitive	AUX ... infinitive ... infinitive	→
c.	AUX ... *ge* + participle	AUX ... infinitive ... infinitive (**IPP**)	AUX ... infinitive ... infinitive	

(37) *Vestiges of* ge-*less participles in IPP-clusters*

a. *Dutch* (*West Flemish, Western East Flemish, parts of Antwerp province and Belgian Brabant*)
Hij is wees-t viss-en
he is be$_{SUPPL}$-D fish-INF
'He has been out fishing.' (De Schutter 1974 [1983:273-275])

b. *Dutch* (*Zeeuws, West Brabantish, northern Antwerp province, and parts of Belgian Brabant*)
Hij is wees-t-en viss-en
he is be$_{SUPPL}$-D-INF fish-INF
'He has been out fishing.' (*loc cit*)

c. *Altenburgisch* (Weise 1900:154)
..dass ihm kein Mensch was hat konn-t an-hab-en (1-2-3)
that him no man something has can-D on-have-INF
'..that noone could do anything to him.'

d. *Dillingen (Saar)* (Labouvie 1938:105)
Er hat nicht möch-t-en komm-en
he has not may-D-INF come-INF
'He was not allowed to come.'

e. *Early Middle Dutch* (Heersche 1991:166)
..of hi also alse recht es hem heuet daen sinn-en
whether he thus like just is him has do$_{SUPPL}$:N excuse-INF
'..whether he thus rightly let himself be excused.'

(38) *Hypothesis*
The IPP-effect is the result of analogical leveling of a *ge*-less participle to an infinitive

6. The tense of infinitives

(39) An infinitive is [+tense] if it expresses tense information

(40) Simple past = once removed from the here and now (cf. Ebeling 1962:92)

(41) Test: cotemporaneity with reference point in the past → (34a,b)

(42) An infinitive is [+tense] if it shifts to an aux+participle construction to express cotemporaneity with a reference point in the past

a. Ik { sliep / *heb ge-slap-en } toen hij binnen kwam
I sleep:PAST have GE-sleep-N when he in came

b. Ik moet { ge-slap-en hebben / *slap-en } toen hij binnen kwam
I must GE-sleep-N have:INF sleep-INF } when he in came

(43) The complement of IPP-verbs is always [–tense]

	subject control (*proberen, durven*)	ECM (*zien, horen*)	deontic modal	epistemic modal	raising (*schijnen, blijken*)	subject control (*beweren, hopen*)
TENSE	–	–	–	+	+	+
IPP	+	+	+	(–)	(–)	–

(44) deontic vs. epistemic

a. Jij moet ge-slap-en hebben toen ik binnen kwam (probability/*obligation)
you must GE-sleep-N have:INF when I in came
'You must have been asleep when I came in.'
NB, also irrelevant relative tense reading: You must have had your nap when I came in.

b. Jij moet van mij ge-slap-en hebben toen hij binnen kwam (only obligation)
you must of me GE-sleep-N have:INF when he in came
'I demand that you have rested by the time he came in.'

c. Jij hebt moet-en slapen (IPP: only obligation)
you have must-INF sleep:INF
'It had to sleep.'
*'You probably slept.'

(45) conative verbs may have a coerced tensed complement: then no IPP

a. Hij heeft ge-probeer-d [gekozen te worden morgen]
he has GE-try-D elected to become tomorrow
'He tried to (make arrangements such that he would) be elected tomorrow.'

b. * Hij heeft prober-en [gekozen te worden morgen]
he has try-INF elected to become tomorrow

(46) Proposal: an event is bounded by: D on a nominal complement
T on a clausal complement

(47) a. John completed the/a letter {in/*for} 10 minutes
b. John completed letters {for/*in} 10 minutes

(48) a. John saw the play {in/for} 10 minutes
b. John saw us play {for/*in} 10 minutes

(49) *Atelicity of ECM complements*

a. Ik heb het boek ge-lez-en
I have the book GE-read-N
'I read the book.'
[book is finished]

b. Ik liet het boek lez-en
I let:PAST the book read-INF
'I let (sc. them) read the book.'
[book is not finished, possibly not even read]

c. Ik heb de film ge-zie-n
I have the movie GE-see-N
'I saw the movie.'
[the whole movie]

d. Ik heb de film zien op nem-en
I have the movie see-INF up take-INF
'I saw (sc. them) shoot the movie.'
[some segment of the shooting process]

(50) tenseless complement → unbounded event → incompatible with *ge* → *ge*-less participle/IPP

(51) Perhaps: no T → no C → no phase (phasal/interpreted complement is what bounds events)

(52) *let*

a. laten stikken
let suffocate
'abandon, leave to one's own devices'

b. laten zitten
let sit
'give up, forget about'

c. laten vallen
let fall
'drop, cease to pursue' 'abandon, withdraw support'

(53) *see*

a. iemand zien zitten
someone see sit
'appreciate someone'

b. iemand niet zien staan
someone not see stand
'ignore someone, fail to respect someone'

(54) *noncompositionality*

a. Hij heeft mij lat-en stikk-en
he has me let-INF suffocate-INF
'He abandoned me.'

b. # Ik ben ge-stik-t
I am GE-suffocate-D
'I suffocated'
(*not* 'I was abandoned')

c. Hij heeft mij nooit zie-n zitt-en
he has me never see-INF sit-INF
'He never liked me.'

d. # Ik heb nooit ge-zet-en volgens hem
I have never GE-sit-N according.to him
'I never sat, according to him.'
(*not* 'He never liked me.')

7. Conclusion

a. the complement of IPP-verbs is (inherently) tenseless
b. tenseless complements yield unbounded events, incompetible with the completive particle *ge*
c. originally, all perfect participles were *ge*-less, but some (the ones indicating bounded events) came to be associated with *ge*, which then got reanalyzed as a prefix.
d. participles without *ge* were leveled with infinitives: the IPP effect.
e. [2-3] clusters without IPP then must be tenseless, and the alternation with IPP variants must be a function of the tense properties of the infinitival complement
f. if so: IPP is not restricted by word order, but by the (phasal) status of V3

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