1 Introduction

In many languages, dedicated morphosyntactic processes target focused phrases:
• for example, moving a focused phrase to a dedicated position, or
• placing a particle on a focused phrase.
We refer to such behaviors as morpho-syntactic focus (MSF) marking.

Today we discuss mismatches between the logical focus (the locus of variation across alternatives) and the target of MSF marking.

A familiar fact: 

wh/focus-sensitive movement operations may target either the logically focused element, (1a), or a phrase containing the logically focused element, (1b). Ross (1967) termed this phenomenon ‘pied-piping.’

(1) Pied-piping in wh movement

a. [Who]_{MSF} did you talk to?
   b. [Whose book]_{MSF} did you read?

(2) Pied-piping in focus movement

a. It’s [John]_{MSF/F} that I talked to.
   b. It’s [John’s book]_{MSF} that I read.

This isn’t true just of movement operations. Focus particles may attach directly to the logically focused element, as in (3a), or to a phrase containing that element, as in (3b).

(3) Pied-piping in focus particle placement

In addition to releasing something else... (Kotani, 2008: 10)

a. ano kin-medarisuto-wa [uta]_{MSF/F} [sae] dasi-ta.
   that gold-medalist-TOP song-even release-PST
   ‘That gold-medalist even released a song.’

b. ano kin-medarisuto-wa [VP [uta]_F o dasi ]_{MSF} [sae] si-ta.
   that gold-medalist-TOP song-ACC release -even do-PST
   ‘That gold-medalist even released a song.’

Schematically, in pied-piping as in (2–3), an MSF process targets a constituent that properly contains the logical focus; see (4). We might wonder if the inverse is attested, where MSF targets a constituent properly contained within the logical focus (5).

(4) Pied-piping

YP_{MSF}

... XP_{F} ...

(5) Anti-pied-piping

YP_{F}

... XP_{MSF} ...
In Miyara Yaeyaman (Ryukyuan), the particle =du is used to mark answer focus (Davis, 2013, 2014). Interestingly, =du appears on the subject not only in responses to subject wh-questions (6a), but also in response to broad focus wh-questions (6b).

(6) **Subject =du for subject answer focus and broad answer focus:**

a. Q: Who hit Jiro?

\[ [Hajasi-san]_{MSF/F} = du \ ziroo = ba \ bari. \]

Hayashi-san = DU \ Jiro = ACC hit

‘Hayashi-san hit Jiro.’

b. Q: What happened?

\[ [TP \ [Hajasi-san]_{MSF} = du \ ziroo = ba \ bari ]_{F}. \]

Hayashi-san = DU \ Jiro = ACC hit

‘Hayashi-san hit Jiro.’

Focus at the VP level works in much the same way. In (7a) we see that =du appears on the object in a response to an object wh-question; (7b) shows us that =du also appears on the object in response to a ‘what did X do’ question.

(7) **Object =du for object answer focus and VP answer focus:**

a. Q: What did that woman eat?

\[ Kunu \ midun-pito = o \ [izi = ba]_{MSF/F} = du \ fai. \]

this \ female-person = TOP \ fish = ACC = DU \ ate

‘This woman ate fish.’

b. Q: What did that woman do?

\[ Kunu \ midun-pito = o \ [VP \ [izi = ba]_{MSF} = du \ fai ]_{F}. \]

this \ female-person = TOP \ fish = ACC = DU \ ate

‘This woman ate fish.’

(6b) and (7b) illustrate anti-pied-piping\(^1\). MSF targeting a proper subconstituent of the logical focus.

Roadmap:

- Anti-pied-piping cross-linguistically
- A first, post-syntactic theory, which is incorrect
- Anti-pied-piping and movement
- A proposal

\(^1\)In Aoyagi 1998 terms, association with wide focus or, in Tancredi’s (p.c.) terms, association from within.
2 Characteristics of anti-pied-piping

We begin with a survey of anti-pied-piping patterns in a diverse range of languages, and observe some commonalities in their behaviors.

2.1 More anti-pied-piping with focus particles

Focus particles in many languages allow the anti-pied-piping pattern in their placement. VP focus with object particle placement is rather common:

(8) **Japanese** *(Aoyagi, 1999: 28)*

(Kare-wa) **sushi-sae** tabe-ta.

he-TOP sushi-even eat-PST

‘He even ate sushi.’

(9) **Korean** *(Kotani, 2009: 65)*

Ben-un kheyiku-kkact mandul-ess-ta.

Ben-TOP cake-even make-PST-M

‘Ben even made a cake.’

(10) **Telugu** *(Kotani, 2008: 16)*

Karthik **Sean-ni goda** kott-ee-du.

Karthik Sean-ACC goda hit-PST-3SG

‘Karthik even hit Sean.’

(11) **Imbabura Quechua** *(Kwon, 2013)*

Q: What did Pepe do?

A: Pirkuti-ta-**mí** wanyuchi-rka Pepe.

rat-ACC-PRT kill-PST Pepe

‘Pepe killed the rat.’

(12) **Tibetan** *(Erlewine notes)*

Tshe.ring **deb-yang** ’bri-’dug.

Tsering book-also write-AUX ‘Tsering also wrote a book.’

(13) **Masalit** *(Leffel, 2011: 31–32)*

Hawa mada **de** ta-ng-e.

Hawa mada only 3SG-drink-PRS ‘Hawa only drinks mada.’

(14) **Turkish** *(Kotani, 2008: 16)*

Ozge **Karthik-’a bile** var-du.

Ozge Karthik-DAT even hit-PST ‘Ozge even hit Karthik.’

(15) **Ishkashimi** *(Karvovskaya, 2013: 81)*

Salima **kulča-məs pacu**

kulcha-also bake.3SG

‘Salima also bakes kulcha.’

Anti-pied-piping is not limited to head-final languages. Object particle placement can express VP focus in SVO languages as well:

(16) **Dagbani** *(Fiedler & Schwarz, 2005: 9)*

ɔ̀ bɔ̀l lá fm George.

3SG call FM George

‘She called George.’

(17) **Bùlì** *(Fiedler & Schwarz, 2005: 7)*

Wà chèŋ kà Sándêm.

3SG go FM Sandema

‘He went to Sandema.’

(18) **Awing** *(Fominyam & Šimík, 2017: 23, 25)*

a. **A-pe’-náŋ’ə** [tsɔ’ə] ngsásəŋá.

SM-CP1-cook only maize ‘He cooked only maize’

b. **A-tó-ndzí’ə** [tsɔ’ə] ali’ə.

SM-PROG-till only farm ‘She is only tilling the farm.’
Broad focus with subject particle placement — which we saw in Miyara Yaeyaman in (6b) — is also attested in other languages:

(19) **Japanese** (Aoyagi, 1999: 32–33)
(At yesterday’s party, not only did Mary dance, but...)

\[\text{John-mo}\text{ piano-o hii-ta.}\]

John-also piano-ACC play-PST

‘John also played piano, too.’

(20) **Ishkashimi** (Karvovskaya, 2013: 82)

\[\text{Wai mol-[mas] xi dust-o-i zənayu isu.}\]

DEM husband-also REFL hand-PL-OBJ wash.3SG come.3SG

‘Her husband goes to wash his hands, too.’

(21) **Konkomba** (Schwarz, 2007: 23, 24)  

(22) **Dagbani** (Issah, 2008: 10)

\[\text{àjúá lé !ŋmán ñtúùn.}\]

A. FM chew beans

‘Ajua ate beans.’

\[\text{Ama n da bua.}\]

Ama FM buy goat

‘Ama bought a goat.’

In addition, as the following examples show, we can find other sorts of mismatches:

(23) **English** (McCawley, 1970: 296)

The judge **only** sent you to prison; your wife didn’t leave you too.

‘It’s only that the judge sent you to prison...’

(24) **Southern Tiwa** (Dawson, 2017: 1)

a. \[\text{lì thái-do = sê}\]

\[\text{go AUX-IPFV = FOC}\]

b. \[\text{lì = sê thái-do}\]

\[\text{go = FOC AUX-IPFV}\]

‘He is still going’

(25) **Navajo** (Perkins, 1978: 26)

\[\text{[ Jáan [hanii chidi yiyítcho'-go ] t'áani' naashá.}\]

John NEG.FOC car 3SS.3SO.P.wreck-C afoot 1P.walk

‘It’s not because John wrecked the car that I’m on foot.’

(26) **Tagalog** (Richards, 2019: 6)

\[\text{Q: What’s your job like, as a professor? What do you do?}\]

\[\text{Binabasa = ko [lang ang mga libro-ng ito buo-ng araw.}\]

PV.read 1sg only NOM PL book-LI this whole-LI day

‘I just read these books all day.’

> Anti-pied-piping is not limited to head-final languages, to languages with complex verbal morphology, or to VP-level focus.
2.2 Anti-pied-piping is not a repair

Q: What causes anti-pied-piping?
A: Maybe it’s a repair, e.g. to avoid illicit particle placement.

Consider the case of VP focus. Suppose we want to place a pre-focal particle on a head-initial VP (27a) or post-focal particle on a head-final VP (27b), and focus particles cannot attach to the verb, or doing so interrupts a relationship between V and T:

\[(27) \quad \text{a. } [\text{O V}]_F \rightarrow [\text{O = PRT V}]_F \]
\[\text{b. PRT} = [\text{V O}]_F \Rightarrow [\text{V PRT} = \text{O}]_F \]

This can’t be the (entire) answer.

Japanese and Tibetan, for instance, allow focus particles to appear between the verb and tense.

\[(28) \quad \text{Japanese (Aoyagi, 1999): } \text{sushi-o tabe-sae si-ta.} \quad \text{Japanese (Aoyagi, 1999): } \text{he-TOP sushi-ACC eat-even do-PST} \quad \text{He even ate sushi.} \]

In particular, note that (28) expresses a meaning which can also be expressed with sae on the object, via anti-pied-piping in (8) above.

The Navajo example in (25) above likewise has a non-anti-pied-piping variant, where the particle is next to the verbal complex.

\[(30) \quad \text{Navajo (Perkins, 1978): } \text{[Jáan chidi yiýéécho go]} \quad \text{Navajo (Perkins, 1978): } \text{hanii t’áani’ naashá} \quad \text{John car 3SS.3SO.P.wreck.comp NEG.FOC afoot 1.P.walk} \quad \text{‘It’s not because John wrecked the car that I’m on foot.’} \]

Recall also the Southern Tiwa facts, which show optionality in anti-pied-piping:

\[(31) \quad \text{Southern Tiwa (Dawson, 2017): } \text{[lí thái-do = sê]} \quad \text{Southern Tiwa (Dawson, 2017): } \text{1 = sê thái-do} \quad \text{He is still going’} \]

Anti-pied-piping cannot (generally) be a response to a problem with MSF marking on the logical focus, for example due to some morphological requirements on the verbal complex.
2.3 A left edge preference/requirement

Q: In anti-pied-piping, which subpart of the logical focus is treated as the MSF?
A: For many languages, it’s often the leftmost constituent in the logical focus.

Recall the Miyara Yaeyaman pattern from the introduction:

(32) **Miyara Yaeyaman** = *du* placement, from [Davis 2013, 2014]:
   a. Broad focus: $[S\ O\ V]_F \Rightarrow \sqrt{S=du\ O\ V} \quad *S\ O=du\ V$
   b. VP focus: $S\ [O\ V]_F \Rightarrow *S=du\ O\ V \quad \sqrt{S\ O=du\ V}$

   “In some circumstances *du* can attach to material that is strictly within its associated focus domain; in such cases, it attaches to the leftmost element within its focus domain.”

The same pattern is observed in Ishkashimi:

(33) **Ishkashimi** = *mas* placement, from [Karvovskaya 2013]:
   a. Broad focus: $[S\ O\ V]_F \Rightarrow \sqrt{S=mas\ O\ V} \quad *S\ O=mas\ V$
   b. VP focus: $S\ [O\ V]_F \Rightarrow *S=mas\ O\ V \quad \sqrt{S\ O=mas\ V}$

A similar preference is observed between the arguments of ditransitives in Tibetan:

(34) **Tibetan VP focus** (Erlewine notes)
Kunga’s a very good person. She walks around the temple every day.
      Kunga dog-DAT-also food give-IMPF-EVID
      ‘Kunga also gives food to dogs.’
   b. ?*Kun.dga’ khyi-la kha.lag-*yang sprad-gi-*dug.*
      Kunga dog-DAT food-also give-IMPF-EVID
      ‘Kunga also gives food to dogs.’

The leftmost requirement (or preference) suggests that MSF placement in anti-pied-piping must take place after linear order has been determined.

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2 [Karvovskaya (2013)] gives one example where subject placement of *mas* is possible, with a pronominal subject (p. 85), although in other examples this is not available (p. 81), which is noted as a puzzle (pp. 84–85).
3 A PF theory and interactions with movement

(35) Proposal: (ultimately wrong)

a. During narrow syntax, place your (focus) particle in a position where it can be interpreted: i.e. taking its intended focus particle in its scope.

b. At PF, at the end of the derivation, allow particles to lower. This does not affect LF.

Historical note: This is essentially a modern version of Kuroda’s attachment transformation theory, where a focus particle is base-generated in Deep Structure but regularly lowered at Surface Structure, all at the end of the derivation.

Waiting until PF allows for anti-pied-piping (“lowering” in 35a) to make reference to linear order to determine the optimal particle placement.

• For Yaeyaman/Ishkashimi: choose the leftmost phrase in the logical focus.
• See e.g. Kaufman 2010 on post-syntactic second-position clitic placement.

(36) Ishkashimi example (20) via PF lowering

a. LF: [TP Wai mol xi dust-o-i zənayu isu ]F = məs

DEM husband REFL hand-PL-OBJ wash.3SG come.3SG

b. PF: [Wai mol]-məs xi dust-o-i zənayu isu.

DEM husband-also REFL hand-PL-OBJ wash.3SG come.3SG

‘Her husband goes to wash his hands, too.’

► But anti-pied-piping feeds movement! This is true in two ways:

1. Particle placement interacts opaquely with other movements.
2. Focus movement also exhibits anti-pied-piping: i.e. a subpart of the logical focus can be targeted for focus movement.

So anti-pied-piping cannot be completely post-syntactic!

3.1 Opacity effects

Recall that Ishkashimi anti-pied-piping targets the leftmost phrase in the logical focus. But scrambling of the object does not affect anti-pied-piping particle placement:

(37) Scrambling doesn’t bleed anti-pied-piping in Ishkashimi

[ Xi dust-o-i ] [ wai mol- [mas] zənayu isu ]F, (Karvovskaya, 2013: 88) cf (20)

REFL hand-PL-OBJ DEM husband-also wash.3SG come.3SG

‘Her husband goes to wash his hands, too.’

► If anti-pied-piping chose the leftmost subconstituent of the logical focus at PF for particle placement (36), we might expect = məs on the object in (37).
Scrambling can also take the particle-marked constituent out of the logical focus:

(38) **Scrambling doesn’t bleed anti-pied-piping in Japanese** (Kotani, 2008: 46)

In addition to being on TV and dating an actress...

a. ano *kin-medarisuto-wa* [VP *uta-[sae]* dasi-] _F_ -ta

that gold-medalist-*TOP* song-even release- _PST_

‘that gold-medalist even released a song.’

b. *uta-[sae]* ano *kin-medarisuto-wa* [VP ___ dasi-] _F_ -ta

song-even that gold-medalist-*TOP* release- _PST_

‘that gold-medalist even released a song.’

▶ Again, if anti-pied-piping targets a subconstituent for particle placement at PF, we would not expect *uta* ‘song’ to continue to bear = *sae* in (38b).

### 3.2 Anti-pied-piping in focus movement

Just as we observe pied-piping in focus particle placement and focus movement, we also observe anti-pied-piping in focus movement:

(39) **Yoruba** (Manfredi, 2004: 39a)  (40) **Finnish** (Fanselow, 2008: 17)

Emu ni Arábá rà ___. Talon-sa-(han) hän my-i ___.

palmwine Σ A. buy house-his-PRT he sold

‘Mr. A bought palmwine.’ ‘He sold his house.’

(41) **Hungarian** (Kenesei, 1998: 74)

Péter *a Hamletet* olvasta fel ___ Marinak, míg János...

Peter the Hamlet-ACC read up Mary-DAT while John

‘Peter was reading out Hamlet to Mary, while John was...’

We see here a real parallel with pied-piping: movement and particle placement both participate in both pied-piping and anti-pied-piping.

▶ Assuming targets of (Ā-)movement bear “Q”-particles (Cable, 2010) suggests a unification: If Q-particles also participate in anti-pied-piping, prior to movement, we can reduce the problem of anti-pied-piping in focus movement to focus particle anti-pied-piping, above.

### 3.3 Towards a proposal

The intuition: Place/lower particles **at cyclic Spell-Out by phase** (Chomsky, 2000, 2001; a.o.), so anti-pied-piping can feed syntactic operations in higher phases.

• But maintaining the correct interpreting position for the focus particle can be tricky under this view...

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3The grammaticality of (38b) with its intended interpretation seems to go against the predictions of Aoyagi, 1998 §4.3.3.
4 Proposal

Background: There are two types of focus particles — sentential particles and constituent particles — and they can cooccur:

(42) **Vietnamese** (Erlewine, 2017: 331)

\[
\begin{array}{ll}
\text{Nam [chi]} & \text{VP mua [mot]} [cuộn sách]_F \\
\text{Nam ONLY} & \text{buy ONLY} & \text{CL} & \text{book}
\end{array}
\]

‘Nam only bought [the book].’

But in many languages, only one or the other part is pronounced (at a time). Suppose:

- Sentential particles (OP) actually bear the contentful focus particle semantics, as a one-place operator that associates with focus (Rooth, 1985).
  - The entire logical focus must be in the scope of OP.
- Constituent particles (PRT) are semantically inert.
- (Some link is necessary to ensure that PRT and OP are paired up.)

Constituent particles are late adjoined during cyclic Spell-Out by phase.

(43) **Building the VP (vP) phase with object focus**

Narrow syntax: \([_vP\, DP_F\, V_]\)

At Spell-Out of VP phase:

\[
\begin{array}{ll}
a. & [_vP\, DP_F = \text{PRT}]\, V] \ \Rightarrow (44a) \\
b. & [_vP\, DP_F\, V] = \text{PRT} \ \text{e.g. pied-piping} \ \Rightarrow (44b)
\end{array}
\]

- This captures the fact that focus particle placement never disrupts selection.
- The resulting projection should “project both” (Citko, 2008; Kotek, 2014), in that it should be visible as the projection of PRT but also retain its DP category.
- Particle placement on a focus-containing phrase results in pied-piping, e.g. (44b).

(44) a. **Ano kin-medarisuto-wa [uta]_F-[sae] dasi-ta.**

that gold-medalist-TOP song-even release-PST

‘That gold-medalist even released a song.’

b. **Ano kin-medarisuto-wa [vP [uta]_F-o dasi ]-[sae] si-ta.**

that gold-medalist-TOP song-ACC release -even do-PST

‘That gold-medalist even released a song.’
Building the VP (vP) phase with VP focus

Narrow syntax: \([v_p \text{ DP V }]_F\)

At Spell-Out of VP phase:

a. \([v_p \text{ DP V }]_F = \text{prt}\)

b. \([v_p \text{ DP = prt V }]_F\) e.g. anti-pied-piping => (46)

Ano kin-medarisuto-wa \([v_p \text{ uta-sae dasi- }]_F\) -ta
that gold-medalist-TOP song-even release -PST
‘That gold medalist even released a song’ = (38a)

• For some languages, such anti-pied-piping (45b) is obligatory, while in many others, it is optional.

• For some languages, such anti-pied-piping has a leftmost requirement/preference.
In cyclic Spell-Out, the contents of the phase are linearized and prosodified. Particle placement for (anti)-pied-piping can make reference to such information.

The result of Spell-Out — e.g. (45a) or (45b) — will be part of the input for the higher phase. Once PRT is placed in a lower phase, it can be the target of focus movement.

- This gives us anti-pied-piping in focus movement (§3.2). The PRT can be null (as in Cable’s Q theory).

The resulting phrase (DP) can also be moved independently in a higher phase — e.g. scrambled — without disrupting the anti-pied-piping interpretation:

(47) \(\text{Utasa}-\text{song-even that gold-medalist-TOP release -PST}\)
‘That gold medalist even released a song’ = (38b)

Note that the MSF (sae-marked phrase) is no longer leftmost in the focus; in fact, it’s not even in the logical focus anymore. This is possible.

5 Conclusion

• We’ve identified anti-pied-piping — the targeting of a proper sub-part of the logical focus as the target of focus morphosyntax — as well attested across a wide range of languages.

• Anti-pied-piping parallels pied-piping in:
  a applying to both particle placement and movement, which can be unified by adopting Cable’s Q theory of Ā-movement targets; and
b commonly reflecting a leftmost requirement or preference; see e.g. Heck 2008 and Kotek & Erlewine 2016 on leftmost preferences in wh pied-piping.

• We developed an analysis involving focus particle placement during cyclic Spell-Out by phase.

• In future work, we hope to better understand the factors that determine the availability of (anti)pied-piping for different languages and particles.

References


Schwarz, Anne. 2007. The particles *lé* and *lá* in the grammar of Konkomba. *Interdisciplinary studies on information structure* 8. 115–139.