An SBCG analysis of "middle" *je-* in Paraguayan Guarani

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I provide an SBCG analysis of the middle-like family of uses of the "reflexive/passive" verbal prefix *je-* in Paraguayan Guarani (henceforth, PG; 1). This analysis relies on combining the syntactic effects of *je-* as an intransitivizer, its morphological effects as a deverbal nominalizer, and its semantic effects as a marker of violations of the expected directionality of events.

(1) *ajehecha*

a-je-hecha
1SG.ACT-JE-see

'I was seen' or 'I saw myself' (NB: the verb stems are non-future, interpreted as past or present depending on lexical semantics and context.)

Some preliminary information about the verbal morphosyntax of PG is essential. PG is a split intransitive language with direct-inverse alignment in transitive clauses (Estigarribia, 2020). Every inflected verb, regardless of valency, receives only one personal prefix. These prefixes come from one of the two following sets:

- The set of personal prefixes (*a-, re-, o-, ja-, ro-, pe-*), called "active" because it is used with intransitive verbs that prototypically (but not solely) select for an agentive subject;
- The set of personal prefixes (*che-, nde-, i-, ñande-, ore-, pende-*), called "inactive" because it is used with intransitive verbs that prototypically select for a non-agentive subject.

(2) a. *Aguata.*

a-guata
1SG.ACT-walk

'I walk.'

b. *Chekane'õ.*

che-kane'õ
1SG.INACT-be.tired

'I am tired.'

As for transitive verbs, the verb receives the person prefix of the highest argument in the person hierarchy (1>2>3). If this argument is an actor, the person prefix used is active; if it is an undergoer, the person prefix used is inactive (see Estigarribia, 2020). Generally speaking, then, one could say that across the board active prefixes index agents and inactive prefixes patients. However, there are numerous important exceptions in the case of intransitives. For example, the predicate *mano* 'to die' takes active marking even though the sole participant is not agentive (3a), and the predicate *hu'u* 'to cough' takes inactive marking even though the participant can sometimes be agentive (3b).

(3) a. *amano, remano, omano...*

a-mano re-mano o-mano
1SG.ACT-die 2SG.ACT-die 3.ACT-die

'I died, you died, he/she/it/they died...'

b. *chehu'u, ndehu'u, ihu'u...*

che-hu'u nde-hu'u i-hu'u
1SG.INACT-cough 2SG.INACT-cough 3.INACT-cough

'I cough, you cough, he/she/it/they cough...'

To resolve this apparent inconsistency we adopt the analytical apparatus amply argued for in Velázquez-Castillo (2002) and Velazquez-Castillo (2008). Morphological alignment in Guarani is not determined by transitivity-oriented notions of agent/patient, but by a semantically-oriented, partially lexically determined opposition **source ∼ locative target/goal** where there is an asymmetric, somewhat metaphorical, directional "flow of energy" from source to goal (Langacker, 1990). Regular eventive transitives (e.g. *japi* 'shoot'), are unproblematic: in (4a) the initiator/agent shooter is the source marked with an active prefix, the patient shot is the locative target, and and there is an outwardly directed flow. But stative transitive verbs such as *hayhu* 'love' also take active marking (4b). Velázquez-Castillo (2002, p. 145) notes that the situation they describe "involves inherent directionality towards a goal" and calls them "directional statives". This inherent directionality in situations, whether they are events or states, is then the unifying factor for verbal person marking for transitives (4 and 5) and for intransitives (3a and 3b): Whenever this flow of energy is part of the situation construal, participants that are construed as sources are co-referenced with so-called "active" prefixes; participants that are construed as location targets or goals, with so-called "inactive" prefixes.

(4) a. *Ajapi ichupe.*
a-japi ichupe
1SG.ACT-shoot 3SG.OBJ
'I shot him/her.'

b. *Ahayhu Koláp*e.
a-hayhu Kola=pe
1SG.ACT-love Nicolás=DOM
'I love Nicolás.'

(5) a. *Kola chejapi.*
Kola che-japi
Nicolás 1SG.INACT-shoot
'Nicolás shot me.'

b. *Kola cherayhu*
Kola che-rayhu
Nicolás 1SG.INACT-love
'Nicolás loves me.'

Davis, Koenig & Wechsler (2021, 328) propose that argument structure-valence linking patterns only need the specification of "a small number of dyadic semantic relations such as *act-und-rel* (actor-undergoer relation) with attributes ACT(OR) and UND(ERGOER) that serve as intermediaries between semantic roles and syntactic arguments". Because of the arguments presented above, it is necessary to decouple semantic roles from source ∼ locative target/goal construals. I propose that the relevant dyadic semantic relation mediating between semantic roles and syntactic argument in PG is instead *src-lcs-rel* (source-locus relation). In addition to semantic role information in SEM | FRAMES, PG verbs carry source-locus information as values of a SEM | CONST(rual) attribute. Each verb is lexically specified to have construal values of types

- *src-rel* and also possibly *lcs-rel* (verbs belonging to the subtype *scr-vb-lx*), or
- only *lcs-rel* (verbs belonging to the subtype *lcs-vb-lx*).

The contraints that apply to these verb and frame types are shown in (6). Verbs subject to (6a) are transitives, whose active/inactive marking is determined by the arguments relative prominence on the person hierarchy, but also directional statives like *hayhu* 'to love' and unaccusatives like *mano* 'to die', and because their sole argument is lexically specified as a source, they take active marking (3a). All other verbs are subject to (6b), and they take inactive marking (3b).

(6) a. $\textit{src-vb-lx} \Rightarrow \left[\text{SEM} \mid \text{CONST} \left\langle \left[\textit{src-rel}\right] \left(, \left[\textit{lcs-rel}\right] \right) \right\rangle\right]$

b. $\textit{lcs-vb-lx} \Rightarrow \left[\text{SEM} \mid \text{CONST} \left\langle \left[\textit{lcs-rel}\right] \right\rangle\right]$

The linking default for *scr-vb-lx* verbs is for the source to be the most prominent/least oblique member of the ARG-ST list and the locus the more oblique of the two (7, using slashes as default markers per Lascarides & Copestake, 1999).

(7) $\textit{src-vb-lx} \Rightarrow \left[\begin{array}{l} \text{ARG-ST} \quad / \left\langle \text{NP}\boxed{1} \left(, \text{NP}\boxed{2} \right) \right\rangle \\ \text{SEM} \mid \text{CONST} \left\langle \left[\begin{array}{l}\textit{src-rel} \\ \text{SOURCE } \boxed{1}\end{array}\right] \left(, \left[\begin{array}{l}\textit{lcs-rel} \\ \text{LOCUS } \boxed{2}\end{array}\right] \right) \right\rangle \end{array}\right]$

Now let's finally turn to the prefix *je-*. Scholastic grammars of PG consider *je-* mainly a passive or reflexive marker (Guarania, 2008; Guarani Ñe'ẽ Rerekuapavẽ, 2018, see (8)). Strictly reflexive scenarios are those when the only syntactic argument present expresses a participant that performs an action that, whereas usually applied onto a participant conceptualized as distinct, is applied onto the same single participant, and strict passives as those where a patient is marked as subject, and there is a semantically understood agent.

(8) a. *María ojehayhu.*
María o-je-hayhu
María 3.ACT-PASS-love
'María is loved.' (Canese & Acosta Alcaraz, 2007, 95)

b. *Ange pyhare jerokyháp Ma'ẽra ojejapi.*
ange -pyhare jeroky-ha=pe Ma'ẽra o-je-japi
last.night dance-NMLZ=LOC some.guy 3.ACT-PASS-shoot
'Last night at the dance some guy was shot.' (Guarania, 2008, 44)

c. *Oñekytĩ ohakã'onguévo yvyrarakã.*
o-je-kytĩ o-hakã-'o-ngué-vo yvyra+rakã.
3.ACT-REFL-cut 3.ACT-REFL-head-REMOVE-PST-while tree+head
'(S)he cut himself/herself while trimming the tree.' (Guarania, 2008, 44)

Note, however, that there are uses of *je-* that do not correspond to either of these cases: auto-causatives (where an actor effects a change of body position or location and there is no distinct

participant conceptualized as patient/undergoer, Geniušienė, 1987, 9a)) and anticausatives (a patient/undergoer is marked as subject without a semantically understood agent; 9b). This constellation of uses/functions is characteristic of what is often termed a "middle" marker (Inglese, 2022).[1]

(9) a. *. . . chipa ha terere ojeipyso haimete Ñemby Amérika yvyvogua pukukue. . .*

chipa ha terere o-je-ipyso haimete Ñemby Amérika yvyvogua pukukue
manioc.roll and iced.mate.drink 3.ACT-JE-extend almost South America soil length

'. . . chipa and terere expanded throughout almost all of South America. . . ' (autocausative)
(https://gn.wikipedia.org/wiki/Tembi'u_Paraguái, Vikipetã "Tembi'u Paraguái")

b. *Ovetã ojepe'a.*

ovetã o-je-pe'a.
window 3.ACT-REFL-open

'The window opened.' (anticausative)
(Estigarribia, 2020, 87)

What all these uses have in common is that the *je*-prefixed verbs are syntactically intransitive, and that the locus is re-conceptualized as a source, hence also indexed with an active prefix (even when it is semantically an undergoer, as in anticausatives and passives). This speaker's non-default construal of the situation is marked by *je-* (Velazquez-Castillo, 2008). The formalization of an intransitivizing *je*-construction applied to transitive verbs is shown in (10).

(10) *je-intr-cxt* ⇒

$$\left[\begin{array}{l}\text{MTR}\ \left[\begin{array}{l}\textit{intr-vb-lxm}\\ \text{FORM}\quad F_{je-}\left(\boxed{1}\right)\\ \text{ARG-ST}\ \left\langle \text{NP}\boxed{3}\right\rangle \oplus \textit{list}\\ \text{SYN}\ \left[\begin{array}{ll}\text{CAT} & \textit{vb}\\ \text{SPR} & \left\langle \text{NP}\boxed{3}\right\rangle\\ \text{COMPS} & \langle\rangle\end{array}\right]\\ \text{SEM}\ \left[\begin{array}{ll}\text{CONST} & \left\langle \left[\begin{array}{l}\textit{src-rel}\\ \text{SOURCE}\ \boxed{3}\end{array}\right]\right\rangle\\ \text{FRAMES} & \left\langle \left[\begin{array}{l}\textit{verbing-fr}\\ \text{ROLE1}\ /\ \boxed{2}\\ \text{ROLE2}\ \boxed{3}\end{array}\right]\right\rangle\end{array}\right]\end{array}\right]\\ \text{DTRS}\ \left\langle \left[\begin{array}{l}\textit{src-vb-lxm}\\ \text{FORM}\quad \boxed{1}\\ \text{ARG-ST}\ /\left\langle \text{NP}\boxed{2}\ ,\ \text{NP}\boxed{3}\right\rangle\\ \text{SYN}\ \left[\begin{array}{ll}\text{CAT} & \textit{vb}\\ \text{SPR} & \left\langle \text{NP}\boxed{2}\right\rangle\\ \text{COMPS} & \left\langle \text{NP}\boxed{3}\right\rangle\end{array}\right]\\ \text{SEM}\ \left[\begin{array}{ll}\text{CONST} & \left\langle \left[\begin{array}{l}\textit{src-rel}\\ \text{SOURCE}\ \boxed{2}\end{array}\right],\left[\begin{array}{l}\textit{lcs-rel}\\ \text{LOCUS}\ \boxed{3}\end{array}\right]\right\rangle\\ \text{FRAMES} & \left\langle \left[\begin{array}{l}\textit{verbing-fr}\\ \text{ROLE1}\ \boxed{2}\\ \text{ROLE2}\ \boxed{3}\end{array}\right]\right\rangle\end{array}\right]\end{array}\right]\right\rangle\end{array}\right]$$

The resulting interpretation is contingent on the linking of the original source: it is mapped to the same argument in strict reflexives and autocausatives, semantically present but not linked to

[1]There are also body-part incorporation uses that are not strictly reflexive but pseudo-reflexive, since there is no identity between agent and patient; I do not have the space to address those here.

ARG-ST in agentless passives, or absent from both ARG-ST and FRAMES in antipassives.[2]. These configurations are in turn contingent on both the lexical semantics of the verb and the context of use, which are not completely determined merely by the appearance of *je-*. These options are shown in (11), omitting for brevity the DTRS lists which are as in (10).

(11) a. *je-refl-cxt* ⇒

$$\begin{bmatrix} \text{MTR} & \begin{bmatrix} \textit{intr-vb-lxm} \\ \text{FORM} \quad F_{je-}\left(\boxed{1}\right) \\ \text{ARG-ST} \quad \left\langle \text{NP}\boxed{3}, \text{NP}\boxed{3} \right\rangle \\ \text{SYN} \quad \begin{bmatrix} \text{CAT} & \textit{vb} \\ \text{SPR} & \left\langle \text{NP}\boxed{3} \right\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \\ \text{SEM} \quad \begin{bmatrix} \text{CONST} & \left\langle \begin{bmatrix} \textit{src-rel} \\ \text{SOURCE} \ \boxed{3} \end{bmatrix}, \begin{bmatrix} \textit{lcs-rel} \\ \text{LOCUS} \ \boxed{3} \end{bmatrix} \right\rangle \\ \text{FRAMES} & \left\langle \begin{bmatrix} \textit{verbing-fr} \\ \text{ROLE1} \ \boxed{3} \\ \text{ROLE2} \ \boxed{3} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \\ \text{DTRS} & \left\langle \begin{bmatrix} \textit{src-vb-lxm} \end{bmatrix} \right\rangle \end{bmatrix}$$

b. *je-pass-cxt* ⇒

$$\begin{bmatrix} \text{MTR} & \begin{bmatrix} \textit{intr-vb-lxm} \\ \text{FORM} \quad F_{je-}\left(\boxed{1}\right) \\ \text{ARG-ST} \quad \left\langle \text{NP}\boxed{3} \right\rangle \\ \text{SYN} \quad \begin{bmatrix} \text{CAT} & \textit{vb} \\ \text{SPR} & \left\langle \text{NP}\boxed{3} \right\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \\ \text{SEM} \quad \begin{bmatrix} \text{CONST} & \left\langle \begin{bmatrix} \textit{src-rel} \\ \text{SOURCE} \ \boxed{3} \end{bmatrix} \right\rangle \\ \text{FRAMES} & \left\langle \begin{bmatrix} \textit{verbing-fr} \\ \text{ROLE1} \ \boxed{2} \\ \text{ROLE2} \ \boxed{3} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \\ \text{DTRS} & \left\langle \begin{bmatrix} \textit{src-vb-lxm} \end{bmatrix} \right\rangle \end{bmatrix}$$

c. *je-anti-cxt* ⇒

$$\begin{bmatrix} \text{MTR} & \begin{bmatrix} \textit{intr-vb-lxm} \\ \text{FORM} \quad F_{je-}\left(\boxed{1}\right) \\ \text{ARG-ST} \quad \left\langle \text{NP}\boxed{3} \right\rangle \\ \text{SYN} \quad \begin{bmatrix} \text{CAT} & \textit{vb} \\ \text{SPR} & \left\langle \text{NP}\boxed{3} \right\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \\ \text{SEM} \quad \begin{bmatrix} \text{CONST} & \left\langle \begin{bmatrix} \textit{src-rel} \\ \text{SOURCE} \ \boxed{3} \end{bmatrix} \right\rangle \\ \text{FRAMES} & \left\langle \begin{bmatrix} \textit{verbing-fr} \\ \text{ROLE1} \ \langle\rangle \\ \text{ROLE2} \ \boxed{3} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \\ \text{DTRS} & \left\langle \begin{bmatrix} \textit{src-vb-lxm} \end{bmatrix} \right\rangle \end{bmatrix}$$

Lastly, as already noted by Velazquez-Castillo (2008), *je-* can apply to intransitive bases, both unergative (12a) and unaccusative (12b), to focus exclusively on expressing the occurrence of an

[2]How to differentiate strict reflexives from autocausatives is beyond the scope of this abstract.

event at a location or time or framed by a real or possible situation, without reference to participants. In this case, the single argument is always syntactically expressed with an active 3rd person prefix interpreted as an indefinite human (Blevins, 2003). For example, a "verbose" semantics of (12a) is 'finally people screamed (=were able to celebrate a goal) (in some match that will be obvious in the context)'. A verbose semantics for *ojesapukái* is, then, 'there was screaming'. Similarly, a verbose semantics for *oñemanovéta* in (12b) is, then, 'there will be more dying'.

(12) a. *Al fin ojesapukái.*
al -fin o-je-sapukái
finally 3.ACT-JE-scream
'A goal was finally celebrated' (more literally 'Finally there was screaming')
(https://www.abc.com.py/especiales/remiandu/al-fin-ojesapukai-465515.html)

b. *Heta gueteri oñemanovéta ndopáirõ la ñorairõ.*
Heta gueteri o-je-mano-ve-ta nd-o-pá-i-rõ la ñorairõ
much even 3SG.ACT-JE-die-more-FUT NEG-3SG.ACT-end-NEG-COND the fight
'Even more dying will occur if the fight does not end.' (Velázquez-Castillo 2008: 393)

The translations into English gerunds suggest that *je*-derived predicates are related to deverbal nouns. This is defensible on language-internal grounds, since words like *jejuka* '(the/a) killing', *jepy'apy* '(the/a) worrying', *jevy'a* 'happiness', *jeka'u* 'drunkenness', and many others with the *je*- prefix are used as verbal nouns in PG (Velazquez-Castillo, 2008; Estigarribia, 2020). The derivational construction in (13) captures the function of *je*- as a deverbal nominalizer with intransitive and transitive bases.

(13) *je-nmlz-cxt* ⇒

$$\left[\begin{array}{l}\text{MTR}\ \left[\begin{array}{ll}\textit{noun-lxm}\\ \text{FORM} & F_{je-}\left(\boxed{1}\right)\\ \text{ARG-ST} & \left\langle\left(\text{NP}\boxed{3}\right)\right\rangle\\ \text{SYN} & \left[\begin{array}{ll}\text{CAT} & \textit{noun}\\ \text{SPR} & \langle\rangle\\ \text{COMPS} & \langle\rangle\end{array}\right]\\ \text{SEM} & \left[\begin{array}{ll}\text{CONST} & \left\langle\left[\begin{array}{l}\textit{src-rel}\\ \text{SOURCE}\ \boxed{2}\end{array}\right]\right\rangle\\ \text{FRAMES} & \left\langle\left[\begin{array}{l}\textit{noun-denotation-fr}\\ \left(\text{ARG}\ \boxed{3}\right)\end{array}\right]\right\rangle\end{array}\right]\end{array}\right]\\ \text{DTRS}\ \left\langle\left[\begin{array}{ll}\textit{src-vb-lxm}\\ \text{FORM} & \boxed{1}\\ \text{ARG-ST} & /\left\langle\text{NP}\boxed{2}\left(,\ \text{NP}\boxed{3}\right)\right\rangle\\ \text{SYN} & \left[\begin{array}{ll}\text{CAT} & \textit{vb}\\ \text{SPR} & \left\langle\text{NP}\boxed{2}\right\rangle\\ \text{COMPS} & \left\langle\left(\text{NP}\boxed{3}\right)\right\rangle\end{array}\right]\\ \text{SEM} & \left[\begin{array}{ll}\text{CONST} & \left\langle\left[\begin{array}{l}\textit{src-rel}\\ \text{SOURCE}\ \boxed{2}\end{array}\right]\left(,\ \left[\begin{array}{l}\textit{lcs-rel}\\ \text{LOCUS}\ \boxed{3}\end{array}\right]\right)\right\rangle\\ \text{FRAMES} & \left\langle\left[\begin{array}{l}\textit{verbing-fr}\\ \text{ROLE1}\ \boxed{2}\\ \left(\text{ROLE2}\ \boxed{3}\right)\end{array}\right]\right\rangle\end{array}\right]\end{array}\right]\right\rangle\end{array}\right]$$

The mother sign's ARG-ST list is non-empty: it contains the original patient/undergoer which can appear as a generic noun-incorporated argument (14). Note that this is an argument for keeping CONST and ARG-ST information distinct.

(14) *kuña jejuka*

kuña je-juka
woman JE-kill

'the killing of women (femicide)' (Sanchís & Espinosa 2014: 53)[3]

I propose that examples with intransitive bases like (12a) and (12b) are derived from the *je*-prefixed deverbal nouns. A conversion construction derives an impersonal intransitive verb with a forced pro-drop 3rd person subject from these nouns. These *je*-prefixed verbs invariably take active prefix marking: the construal of their sole participant as a source is inherited directly from the deverbal noun's construal. Such a conversion is exemplified for *jesapukái* in (15).

(15)

$$\textit{je-impers-cxt} \Rightarrow \left[\begin{array}{l} \text{MTR} \left[\begin{array}{ll} & \textit{impers-vb-lxm} \\ \text{FORM} & \langle \textit{ojesapukái} \rangle \\ \text{ARG-ST} & \left\langle \left[\begin{array}{ll} & \textit{non-canonical} \\ \text{AGR} & \textit{3sg} \end{array}\right]_{\boxed{1}} \right\rangle \\ \text{SYN} & \left[\begin{array}{ll} \text{CAT} & \textit{vb} \\ \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{array}\right] \\ \text{SEM} & \left\langle \left[\text{FRAMES} \left\langle \left[\begin{array}{ll} & \textit{verbing-fr} \\ \text{ARG} & \langle\rangle \end{array}\right], \left[\begin{array}{ll} & \textit{src-rel} \\ \text{SOURCE} & \boxed{1} \end{array}\right] \right\rangle \right] \right\rangle \end{array}\right] \\ \text{DTRS} \left\langle \left[\begin{array}{ll} & \textit{noun-lxm} \\ \text{FORM} & \langle \textit{jesapukái} \rangle \\ \text{ARG-ST} & \langle\rangle \\ \text{SYN} & \left[\begin{array}{ll} \text{CAT} & \textit{noun} \\ \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{array}\right] \\ \text{SEM} & \left[\text{FRAMES} \left\langle \left[\begin{array}{l} \textit{noun-denotation-fr} \end{array}\right], \left[\begin{array}{ll} & \textit{src-rel} \\ \text{SOURCE} & \boxed{1} \end{array}\right] \right\rangle \right] \end{array}\right] \right\rangle \end{array}\right]$$

These latter uses are prima facie similar to the impersonal passives in German and Danish. Blevins (2003) proposes to model impersonals as as an empty SPR list, and this approach is adopted in (15). The analyses in Müller (2003); Müller & Ørsnes (2013) moreover adopt the notion of a "designated argument" (DA) whose job is to identify a "subject-like" argument from the ARG-ST list, without its needing to be an actual subject. This approach is not adequate for PG, first, because unaccusatives like *mano* 'to die' are not supposed to have a DA and are thus predicted to disallow passives. Yet in PG they can be serve as bases for *je-* to yield passive interpretations.

Second, in the broader context of PG verbal person marking, the DA feels like no more than a "gimmick" to get the verbs to behave appropriately: the approach here has the advantage to attempt to be grounded in a more general theory about the cognitive construal of events in PG. Moreover, it generalizes to account for verbal prefix marking across the board, regardless of diathesis alternations. So, the biggest innovation here is in introducing the notions of source and locus in the semantics, which I argue (with Velazquez-Castillo, 2008) are necessary to decouple the application of *je-* and the patterns of verbal prefix marking from notions like actor and undergoer which are insufficient for PG.

Finally, PG *je-* not only marks passive, but also the constellation of middle interpretations exemplified above. This is consequential for the analysis, which for reflexives and autocausatives needs to account for something different from "suppression of the most prominent argument with different possibilities of object promotion" (Müller & Ørsnes, 2013, 145). The prefix *je-* can affix to a verb if and only if the verb lexically construes the event as having a source, independently of transitivity. The PG patterns are not determined solely by thematic, argument obliqueness, or person hierarchies.

[3]This example unfortunately perpetuates a stereotype of women as victims, running afoul of the Linguistic Society of America's "Guidelines for Inclusive Language"; however, the primary text where this noun phrase is found is a document about the right of women workers, specifically, women whose work involves household duties.

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