

Self and Only:

A Comparative Study of Reflexive Adverbials in Squliq Atayal and Mandarin Chinese^{*}

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1. The Puzzle

In Squliq Atayal, an Austronesian language spoken in the central part of Taiwan, there is a rather peculiar modifier-like expression, i.e., *nanak*, that can be construed either as a focus adverb, as exemplified by (1a,b), or as an adnominal reflexive, as exemplified by (2a,b):

- (1) a. yaqih na-Temu **nanak** qu-Tali.
 NAV.hate Obl-Temu only Nom-Tali
 ‘Only Temu hates Tali.’
- b. yaqih **nanak** na-Temu qu-Tali.
 NAV.hate only Obl-Temu Nom-Tali
 ‘Only Temu hates Tali.’
- (2) a. yaqih na-Temu qu-hiya **nanak**.
 NAV.hate Obl-Temu Nom-3S self
 ‘Temu hates himself.’
- b. nyux m-lahang squ-hiya **nanak** qu-Temu.
 Prg AV-protect Dat-3S self Nom-Temu
 ‘Temu is protecting himself.’

The adverbial *nanak* very often gets an exclusive reading, akin to *only* in English (Kiss 1998), and its distribution is relatively free. By contrast, when attached to an argument, *nanak* has a much more restricted distribution, and its reading is distinctively reflexive, very much like *-self* in English. Interestingly enough, there is also a gray area between the two construals, where *nanak* occupies an adjunct position, while sporting a variety of reflexive and contrastive readings, as illustrated below:¹

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¹ The abbreviations used in this paper are glossed as follows: Acc: accusative case; AV: agent/actor voice; CL: classifier; Inc: inchoative aspect; Nom: nominative case; Obl: oblique case; Prf: perfective aspect; Prg: progressive

- (3) a. s<m>oya **nanak** m-aniq syam qu-Tali.
 AV-like self AV-eat pork Nom-Tali
 ‘Tali ate the pork out of his own liking. (Don’t blame the others!’)
- b. s<m>oya m-aniq **nanak** syam qu-Tali.
 AV-like AV-eat self pork Nom-Tali
 ‘Tali likes to eat pork alone. (So don’t disturb him!’)
- c. s<m>oya m-aniq syam **nanak** qu-Tali.
 AV-like AV-eat pork self Nom-Tali
 ‘Tali likes to eat the pork in private. (He won’t share it with others.)’

This paper proposes to investigate the peculiar syntax and semantics of *nanak* in a cross-linguistic context: Our inquiry is two-fold: The first part is to deal with the issue whether there is a conceptual connection between *self* and *only*, especially in view of a strong resemblance from *ziji* ‘self’ in Mandarin Chinese, which behaves very much like an intensifier before negation, as in (4a), while serving as a reflexive adverbial after negation, as in (4b).

- (4) a. Akiu **ziji** bu kai zhe-bu che. ta dou jiegei bieren kai.
 Akiu self not drive this-CL car he all lend others drive
 ‘Akiu himself does not drive this car. He always lends it to others.’
- b. Akiu bu **ziji** kai zhe-bu che. you yi-ge siji bang ta kai.
 Akiu not self drive this-CL car have one-CL chauffeur help him drive
 ‘Akiu does not drive this car in person. There is a chauffeur driving for him.’

The typological comparison is done in section 2 and section 3. The second part of our inquiry is to find an interpretive procedure which aims to capture the generalization behind various construals of *nanak* and *ziji*, which task is carried out throughout section 4-7. Section 8 concludes this paper.

2. The Delimiting Factors

2.1. Pseudo-cleft Constructions

To begin with, it is instructive to examine some basic patterns of the behavior of *nanak*, which is typically interpreted as ‘only’ when associated with predicate nominals in the sentence-initial

aspect; PV: patient voice; Top: topic marker.

position, as shown below (AV: actor voice marker):

- (5) a. **nanak** Tali qu-[m-aniq syam].
 only Tali Nom AV-eat pork
 ‘Only Tali eats pork.’
- b. Tali **nanak** qu-[m-aniq syam].
 Tali only Nom AV-eat pork
 ‘Only Tali eats pork.’

Here the structure needs a bit more explanation: Squiliq Atayal is a typical VOS language, so the proper name *Tali* in (5a,b) is actually a predicate nominal followed by a headless relative in the subject position (also cf. Potsdam 2006), as indicated by the nominative case marker *qu-* that marks the boundary between the predicate and the subject, as illustrated below ([e]: empty category):

- (6) [predicate Tali] [subject qu-[[e]_k [m-aniq syam [e]_k]]
 Tali Nom AV-eat pork
 ‘[(The one who) eats pork] (is) Tali.’

Here the actor voice marker *m-* picks an actor argument to serve as the subject of the relative clause, which is further related to the empty head noun either by raising or by matching (cf. Aoun and Li 2003). This analysis provides the reason why it is the agent of the eating event that appears as the predicate of this pseudocleft-like (equational) construction. A similar analysis has already been proposed for Kavalan by Tsai (1997), and for Malagasy by Potsdam (2006) (a concealed pseudocleft in his terms).

Exactly the same treatment applies to the following non-actor voice construals as well (PV: patient voice marker):

- (7) a. **nanak** syam qu-[niq-un na-Tali].
 only pork Nom eat-PV Obl-Tali
 ‘Tali eats only pork.’
- b. syam **nanak** qu-[niq-un na-Tali].
 pork only Nom eat-PV Obl-Tali
 ‘Tali eats only pork.’

Here the patient voice marker *-un* picks a theme argument as the subject of the relative clause.

As a result, the main predicate is identified instead with the theme of the eating event, i.e., *syam* 'pork'. In both the actor and non-actor voice constructions, *nanak* may appear either before or after the main predicates, serving as an exclusive focus adverb.

By contrast, *nanak* is interpreted as 'self' when appearing within the subject headless relative, as evidenced by the reflexive adverbial construals in (8a,b):

- (8) a. Tali qu-[m-aniq **nanak** syam].
 Tali Nom AV-eat self pork
 'Tali ate the pork alone/by himself.'
- b. Tali qu-[m-aniq syam **nanak**].
 Tali Nom AV-eat pork self
 'Tali had the pork to himself while eating.'
- c. syam qu-[niq-un **nanak** na-Tali].
 pork Nom eat-PV only Obl-Tali
 'Tali eats only pork.'
- d. syam qu-[niq-un na-Tali **nanak**].
 pork Nom eat-PV Obl-Tali only
 'Tali eats only pork.'

Moreover, while the reflexive usage requires an agentive subject, the focus usage does not. This can be seen by employing the patient voice, which picks the theme argument *syam* 'pork' instead as the relative subject, as in (8c,d): As a result, *syam* 'pork' is located in the predicate nominal position (i.e. the sentence-initial position), and the interpretation of *nanak* has become 'only' again.

2.2. Inner Self vs. Outer Self

The adverbial reflexive *nanak* can be further divided into two groups according to their syntactic distribution: Let's take the pair of control sentences in (9a,b) for examples:

- (9) a. s<m>oya [m-aniq syam qu-Tali].
 AV-like AV-eat pork Nom-Tali
 'Tali likes to eat pork.'

- b. syon [m-aniq na-Tali qu-syam].²
 like.PV AV-eat Obl-Tali Nom-pork

We can place *nanak* immediately after the control verb *smoya* ‘like’, as in (10a) ((3a) repeated here), which produces a kind of voluntary reading. We will call this occurrence an outer self construal. By contrast, when *nanak* appears within the control complement, either before the object *syam* ‘pork’, as in (10b) ((3b) repeated here), or after it, as in (10c) ((3c) repeated here), its interpretation is distinctively exclusion of any companies or partners. Since here *nanak* is much lower than its counterpart in (10a), we will label it an inner self instead. Finally, it is instructive to note that adverbial *nanak* can never appear after the subject, as evidenced by (10d):

- (10) a. s<m>oya **nanak** [m-aniq syam qu-Tali]. (outer self)
 AV-like self AV-eat pork Nom-Tali
 ‘Tali eats pork out of his own liking (i.e., without coercion from others).’
- b. s<m>oya [m-aniq **nanak** syam qu-Tali]. (inner self)
 AV-like AV-eat self pork Nom-Tali
 ‘Tali likes to eat pork alone (i.e., without the company of others).’
- c. s<m>oya [m-aniq syam **nanak** qu-Tali]. (inner self)
 AV-like AV-eat pork self Nom-Tali
 ‘Tali likes to eat the pork in private (i.e., without sharing it with others).’
- d. * s<m>oya [m-aniq syam qu-Tali **nanak**].
 AV-like AV-eat pork Nom-Tali self

The same pattern holds for a pseudocleft construction such as (11a,b), where *nanak* serves as a typical focus adverb expressing exclusiveness when associated with the predicate nominal in the main clause:

- (11) a. **nanak** Tali qu-[s<m>oya m-aniq syam].
 only Tali Nom AV-like AV-eat pork
 ‘Only Tali likes to eat pork.’
- b. Tali **nanak** qu-[s<m>oya m-aniq syam].

² Jennifer Huang (p.c.) points out that *syon* is actually a contraction of *soya-un* with *au* turning into *o*.

Tali only Nom AV-like AV-eat pork
 ‘Only Tali likes to eat pork.’

On the other hand, when *nanak* appear within the headless relative, it again behaves like a reflexive adverbial observing the above inner-outer distinction: (12a) shows that *nanak* receives a voluntary reading when preceded by the AV control verb *smoya* ‘like’. By contrast, it receives a “lone wolf” reading when embedded in the control complement, as evidenced by (12b,c):

- (12) a. Tali qu-[s<m>oya **nanak** [m-aniq syam]]. (outer self)
 Tali Nom AV-like self AV-eat pork
 ‘Tali eats pork out of his own liking (i.e., without coercion from others).’
 Lit. ‘The one who eats pork out of his liking is Tali.’
- b. Tali qu-[s<m>oya [m-aniq **nanak** syam]]. (inner self)
 Tali Nom AV-like AV-eat self pork
 ‘Tali likes to eat pork alone (i.e., without company of others).’
 Lit. ‘The one who likes to eat pork alone is Tali.’
- c. Tali qu-[s<m>oya [m-aniq syam **nanak**]]. (inner self)
 Tali Nom AV-like AV-eat pork self
 ‘Tali likes to eat the pork in private (i.e., without sharing with others).’
 Lit. ‘The one who likes to eat the pork in private is Tali.’

Even when we replace the AV control verb with its PV counterpart *syon*, as in (13a,b), the same inner-outer dichotomy re-emerges, as illustrated by (14a,b): Here the theme argument is picked as the subject of the headless relative, which, as mentioned above, is in turn identified by the main predicate *syam* ‘pork’:

- (13) a. **nanak** syam qu-[syon m-aniq na-Tali].
 only pork Nom like.PV AV-eat Obl-Tali
 ‘Tali likes to eat only pork.’
- b. syam **nanak** qu-[syon m-aniq na-Tali].
 pork only Nom like.PV AV-eat Obl-Tali
 ‘Tali likes to eat only pork.’
- (14) a. syam qu-[syon **nanak** [m-aniq na-Tali]]. (outer self)

pork Nom like.PV self AV-eat Obl-Tali
 ‘Tali eats pork out of his own liking (i.e., without coercion from others).’

- b. syam qu-[syon [m-anig **nanak** na-Tali]]. (inner self)
 pork Nom like.PV AV-eat self Obl-Tali
 ‘Tali likes to eat pork by himself (i.e., without company of others).’

Finally, the post-subject position is again not available for adverbial *nanak*, as shown by the ungrammaticality of (15):

- (15) * syam qu-[syon [m-anig na-Tali **nanak**]].
 pork Nom like.PV AV-eat Obl-Tali self

2.3. Outer Self as Reflexive of Nature

The most curious case concerns the interaction between an inanimate subject and *nanak*, where an external force (often appearing in the form of a topic) is required to license the adverbial usage. (16a) expresses that, with the water-pouring event as a trigger, it is just natural that the water will flow as a result. Here the outer reflexive construal has shifted from ‘voluntarily’ to ‘by nature’, the reason being that, in absence of animacy, *nanak* seems to invoke a causal relation that ascribes the current event to a higher cause through the law of physics, i.e., gravity in this case. The same analysis applies to the rock throwing event of (16b) and the walking-over event of (16c), where kinetics and automation are at work respectively:

- (16) a. tkuran qsya ga, m-qluy’ **nanak** qu-qsya.
 pour water Top AV-flow self Nom-water
 ‘Pour the water, and it will flow by nature.’
- b. m-uling tunux ga, m-turuy **nanak** qu-tunux.
 AV-throwrock Top AV-roll self Nom-rock
 ‘Throw the rock, and it will roll by nature.’
- c. m-usa-saku ga, g-m-yah **nanak** qu-blihun.
 AV-go-1S Top AV-open self Nom-door
 ‘I walk over, and the door will open by nature (of its built-in mechanism).’

Interestingly enough, if there is no external force present in the context, then very often the outer selfhood is ascribed to a supernatural cause, as shown in (17a-c):

- (17) a. m-qluy' **nanak** qu-qsya. cyux ki'an utux!
 AV-flow self Nom-water Pst.there with ghost
 'The water flowed by itself. There must be a ghost!'
- b. m-turuy **nanak** qu-tunux. cyux ki'an utux!
 AV-roll self Nom-rock Pst.there with ghost
 'The stone rolled by itself. There must be a ghost!'
- c. m-t-gyah **nanak** qu-blihun. cyux ki'an utux!
 AV-T-open self Nom-door Asp with ghost
 'The door opened by itself. There must be a ghost!'

3. Adverbial Self in Comparative Perspective

3.1. Reflexive Adverbial vs. Adnominal Intensifier

With the basic patterns of *nanak* being sorted out, we are now in a position to address the 'self' vs. 'only' distinction from a comparative point of view: First, it is not difficult to see that the focus semantics is at the heart of both construals. As shown by (18a), when *himself* appears in the VP-adjunct position, it receives an 'alone' reading: Namely, Akiu is the sole participant of this Taipei-going event. By contrast, when *himself* serves as an adnominal to the subject, as in (15b), it receives an "in person" reading, which means none other than Akiu himself is active in the event.

- (18) a. Akiu went to Taipei **himself** yesterday. (reflexive adverbial)
 b. Akiu **himself** went to Taipei yesterday. (adnominal intensifier)

This focus connection obtains for Mandarin as well, as evidenced by the distinct semantic interpretations of (19a,b). In fact, our observation seems to hold across languages (cf. Bickerton 1987, Tang 1989, Siemund 2000, König 2001, Gast 2002, Hole 2002, Gast & Siemund 2004, among many others).

- (19) a. Akiu zuotian **ziji** qu-le Taibei. (reflexive adverbial)
 Akiu yesterday self go-Prf Taipei
 'Akiu went to Taipei by himself yesterday.'
- b. Akiu **ziji** zuotian qu-le Taibei. (adnominal intensifier)
 Akiu self yesterday go-Prf Taipei

'None other than Akiu himself went to Taipei yesterday.'

Furthermore, the peculiar behavior of *ta-ziji* 'him-self' in (20a) also lend some support to our analysis. As a complex reflexive, it cannot function as an adjunct except in an adnominal position, as illustrated by the deviance of (20b,c). More importantly, here the reading is distinctively 'in person', akin to identity functional readings in the sense of Eckardt (2001), Gast (2002):

- (20) a. Akiu **ta-ziji** changchang hui qu Taipei. (adnominal intensifier)
Akiu him-self often will go Taipei
'Akiu himself went to Taipei yesterday.'
- b.* Akiu changchang **ta-ziji** hui qu Taipei.
Akiu often him-self will go Taipei
- c.* Akiu changchang hui **ta-ziji** qu Taipei.
Akiu often will him-self go Taipei

What we don't quite expect in this context is the presence of the inner-outer dichotomy of the reflexive adverbials in question, whose interpretations vary with respect to the type of syntactic projections they modify (cf. Tsai 2015, 2016). First take the following minimal pair for example:

- (21) a. Akiu **ziji** ken chuli zhe-jian shi.
Akiu self willing handle this-CL matter
'Akiu is willing to handle this matter on his own initiative.'
- b. Akiu ken **ziji** chuli zhe-jian shi.
Akiu willing self handle this-CL matter
'Akiu is willing to handle this matter by himself.'

(21a) has the reflexive adverbial *ziji* in front of the volitional modal *ken* 'willing', and the sentence is true if Akiu is willing to handle this matter without others' persuasion. (21b), on the other hand, has *ziji* following *ken* instead, and the sentence is true if Akiu is willing to handle this matter without others' company or help. So (21a) can be true while (21b) is false, as in the scenario where Akiu is willing to handle this matter voluntarily, but he did ask for help. Equally, (21b) can be true when (21a) is false, as in the scenario where Akiu is willing to handle this matter alone only after someone persuaded him to do so.

As a result, we may take premodal *ziji* to be an instance of outer self, and therefore receives an anti-causal reading, in that it excludes all possible causes or causers except for Akiu himself. By contrast, postmodal *ziji* should be classified as inner self, hence the anti-comitative construal, where all possible comitants or help are excluded except for Akiu himself.

Now recall the inner vs. outer distinction of adverbial *nanak* in (10), (12) and (14). There is actually a direct parallel in Mandarin Chinese, as exemplified by the following control sentences containing *jihua* ‘plan’ and *dasuan* ‘intend’:

- (22) a. Akiu **ziji** *jihua* [qu Taipei]. (outer self)
 Akiu self plan go Taipei
 'Akiu plans to go to Taipei on his own initiative.'
- b. Akiu *jihua* [**ziji** qu Taipei]. (inner self)
 Akiu plan self go Taipei
 'Akiu plans to go to Taipei alone.'
- (23) a. Akiu **ziji** *dasuan* [qu Taipei]. (outer self)
 Akiu self intend go Taipei
 'Akiu intends to go to Taipei of his own accord.'
- b. Akiu *dasuan* [**ziji** qu Taipei]. (inner self)
 Akiu intend self go Taipei
 'Akiu intends to go to Taipei alone.'

Here everything works pretty much the same as in Squliq Atayal, except that the reflexive adverbials are on the other side of the predicates they modify (presumably due to the word order typology of the two languages): Namely, when *ziji* precedes the control verb, the reading is distinctively anti-causal; when it follows the control verb (hence embedded within the control complement), the reading is anti-comitative. Sometimes the distinction could be rather subtle, but one careful look at relevant truth conditions would usually do the trick. Consider the following minimal pair, which may sound alike to some people:

- (24) a. Akiu **ziji** *yao* [shui na-zhang chuang].
 Akiu self want sleep that-CL bed
 'Akiu wants to sleep on that bed exclusively.'
- b. Akiu *yao* [**ziji** shui na-zhang chuang].
 Akiu want self sleep that-CL bed

'Akiu wants to sleep on that bed alone.'

Nonetheless, (24a) is true if Akiu doesn't want others to sleep on that bed at all, whereas (24b) is true if Akiu doesn't want others to share that bed while he is sleeping. The typical voluntary reading is suppressed in this case probably because the control verb *yao* 'want' encodes this property by default. When forced, one can employ the *shi ... de* construction to bring out the reading with emphasis, as evidenced by the following example:

- (25) Akiu shi **ziji** yao [shui na-zhangchuang] de.
Akiu be self want sleep that-CL bed DE
'It is out of his own liking that Akiu wants to sleep on that bed.'

This again shows that selfhood and exclusiveness are closely related but still not exactly the same thing.

Furthermore, it is worthwhile to note that the inner-outer dichotomy is attested in German as well, except that the outer self receives an additive focus interpretation (cf. Siemund 2000, König 2001, Hole 2005):

- (26) Der Koch hat **selbst** schon mal Blaubeeren gepflückt. (outer self)
the cook has himself alreadyonce blueberries picked
'The cook has himself picked blueberries before.'
- (27) Der Koch hat die Blaubeeren **selbst** gepflückt. (inner self)
the cook has the blueberries himself picked
'The cook has picked the blueberries himself.'

(26) expresses that the cook, too, has picked blueberries, while according to (27), the cook has picked the blueberries without any help.

3.2. Delimitating Factors Revisited

Presumably due to its word order and robust analyticity (cf. Huang 2015), Chinese modals appear in the same side of adverbials. As a result, just like control verbs, they are able to separate outer self in (28) from its inner counterpart in (29):

- (28) tamen **ziji** yinggai/bixu chuli zhe-jian shi. (outer self)
they self should/must handle this-CL matter

'They should/must handle this matter on their own initiative.'

- (29) tamen yinggai/bixu **ziji** chuli zhe-jian shi. (inner self)
they should/must self handle this-CL matter
'They should/must handle this matter in person.'

As expected, (28) is true if they should/must handle this matter without others' persuasion, while (29) is true if they should/must handle this matter without asking others to do it.

The same observation applies to negation such as *mei* 'have.not'. As illustrated in (30), an emphatic/contrastive construal becomes available when *ziji* appears above the negation (cf. Tang 1990), while *ziji* below the negation generally receives an 'in person' reading, as in (31):

- (30) Akiu **ziji** mei jiao qian, you jiao bieren ye bu yao jiao. (outer self)
Akiu self have.not pay money again ask others also not want pay
'Not only Akiu himself did not pay the money, but he also asked others to do the same.'

- (31) Akiu mei **ziji** jiao qian, shi jiao bieren dai-jiao de. (inner self)
Akiu have.not self pay money be ask others acting-pay DE
'Akiu did not pay the money in person, but asked others to do that for him.'

Not surprisingly, sentential adverbs also do the same trick, as shown by the interpretive contrast between the outer self in (32) and its inner counterpart in (33):

- (32) tamen **ziji** changchang/henshao/congbu chuli zhe-zhong shi. (outer self)
they self often/seldom/never handle this-kind matter
'They themselves often/seldom/never handled this kind of matters.'
- (33) tamen changchang/henshao/congbu **ziji** chuli zhe-zhong shi. (inner self)
they often/seldom/never self handle this-kind matter
'They often/seldom/never handled this kind of matters in person.'

All in all, a systematic distinction is shown to exist between the two types of reflexive adverbials both in terms of their syntactic distribution and semantic interpretations.

3.3. Subject Agentivity

In this section, we continue to examine a rather peculiar agentivity restriction on inner self, which may further set them apart from their outer counterpart. First note that predicate types

have a close bearing on the distribution of Chinese reflexive adverbials: Inner self is consistently blocked when its subject is not an agent, as is the case with the passive construal of (34b):

(34) *passives:*

- na-ge xuesheng **ziji** bei pian-le, hai xiang pian bieren.
 that-CL student self BEI cheat-Inc still want cheat others
 a. ‘That student himself was cheated, and he still wants to cheat others.’
 b.# ‘That student alone was cheated, and he still wants to cheat others.’

The same pattern shows up with unaccusatives, locative-existentials, psyche-verbs, as well as unergative sentient verbs, as illustrated by the fact that all the inner self readings of (35b), (36b), (37b) and (38b) are ruled out without exception:

(35) *unaccusative verbs:*

- wo hai mei zhao, na-ben shu jiu **ziji** chu-xian le.
 I still have.not search that-CL book then self show-up Inc
 a. ‘I have not looked for it yet. Then the book showed up spontaneously.’
 b.# ‘I have not looked for it yet. Then the book showed up alone.’

(36) *locative-existential verbs:*

- cong faguo **ziji** lai-le san-ge gongchengshi.
 from France self come-Prf three-CL engineer
 a. ‘From France came three engineers without invitation.’
 b.# ‘From France came three engineers by themselves.’

(37) *psych verbs:*

- Akiu **ziji** xihuan hua, jiu guli dajia zhong.
 Akiu self like flower then encourage people plant
 a. ‘Akiu likes flowers out of his own liking. He then encouraged people to plant them.’
 b.# ‘Akiu alone likes flowers. He then encouraged people to plant them.’

(38) *non-agentive unergative verbs:*

- bu **ziji** zenme de, Akiu ziji ku-le qilai.
 not know how DE Akiu self cry-Inc up
 a. ‘(I) don’t know how (that happened). Akiu started to cry without cause.’
 b.# ‘(I) don’t know how (that happened). Akiu started to cry alone.’

By contrast, predicates with an agentive subject allows both outer and inner reflexive interpretations, as evidenced by the ambiguity of (39a,b):

(39) *agentive unergative verbs:*

bu zhi zenme de, Akiu **ziji** pao-le chuqu.
not know how DE Akiu self run-INC out

a. ‘(I) don’t know how (that happened). Akiu ran out on his own initiative.’

b. ‘(I) don’t know how (that happened). Akiu ran out by himself.’

Now recall that, in Squliq Atayal, an outer self associated with an inchoative ergative may receive a 'by nature' reading given that an external force is available in the context. This is exactly what happens in (37a) and (38a), where an inner self would be totally out of place, since it does not involve a cause-effect relationship in any way, as evidenced by (40b) and (41b):

(40) a. diu-xia-qu, shitou **ziji** hui gun.
throw-down-go stone self will roll
‘Throw it down, and the stone by nature will roll.’

b.^{??} diu-xia-qu, shitou hui **ziji** gun.
throw-down-go stone will self roll
‘^{??}Throw it down, and the stone will roll by itself.’

(41) a. da ge dong, chuan **ziji** hui chen.
punch CL hole ship self will sink
‘Punch a hole, and the ship naturally will sink.’

b.^{??} da ge dong, chuan hui **ziji** chen.
punch CL hole ship will self sink
‘^{??}Punch a hole, and the ship will sink by itself.’

In cases where there is no external cause at work, an inner reflexive construal suddenly becomes possible with a supernatural reading of the rolling/sinking event, as shown below:

(42) a. shitou hui **ziji** gun. you gui!
stone can self roll have ghost
‘The stone can roll by itself. There must be a ghost!’

- b. chuan hui **ziji** chen. zhe zhenshi jian gui le!
 ship can self sink this really see ghostInc
 ‘The ship can sink by itself. I must be seeing a ghost!’

Note that here the modal force of *hui* has changed into ability (hence much lower in cartographic terms, which is again a sure indication for the inner selfhood (cf. Tsai 2015a,b).

4. Simplex Self as a Reflexive Focus Marker

To solve the mystery surrounding the hybrid nature of reflexive adverbials, it is noted by Tsai (2016) that they may well combine properties from an adnominal intensifier and an anaphors. As a result, they carry an identificational focus while triggering argument reduction. More specifically, the complex reflexive *ta-ziji* ‘him-self’ heads an argument DP, specializing in contrasting an individual (i.e., the subject *Akiu* in (20a)) against possible alternatives. The simplex reflexive *ziji*, on the other hand, functions as an adverbial, hence contrasting a proposition/eventuality against possible alternatives (cf. Rooth 1985, 1992, among others). Another piece of evidence comes from Gast & Siemund (2004), where it is pointed out that, in Tetelcingo Nahuatl, *sie* plus a pronoun serves as an adnominal intensifier, while *sa ... siel* together function as an adverbial intensifier:

- (43) a. pos **sie yaha** David kihtoa ipa inu libro de Salmos ...
 well one he David he.says in Detbook of psalms
 ‘and David himself saith in the book of Psalms.’
- b. **sa i-siel** okichihchi i-kal.
 only 3.Poss-Int he.built 3.Poss-house
 ‘He built his house himself.’

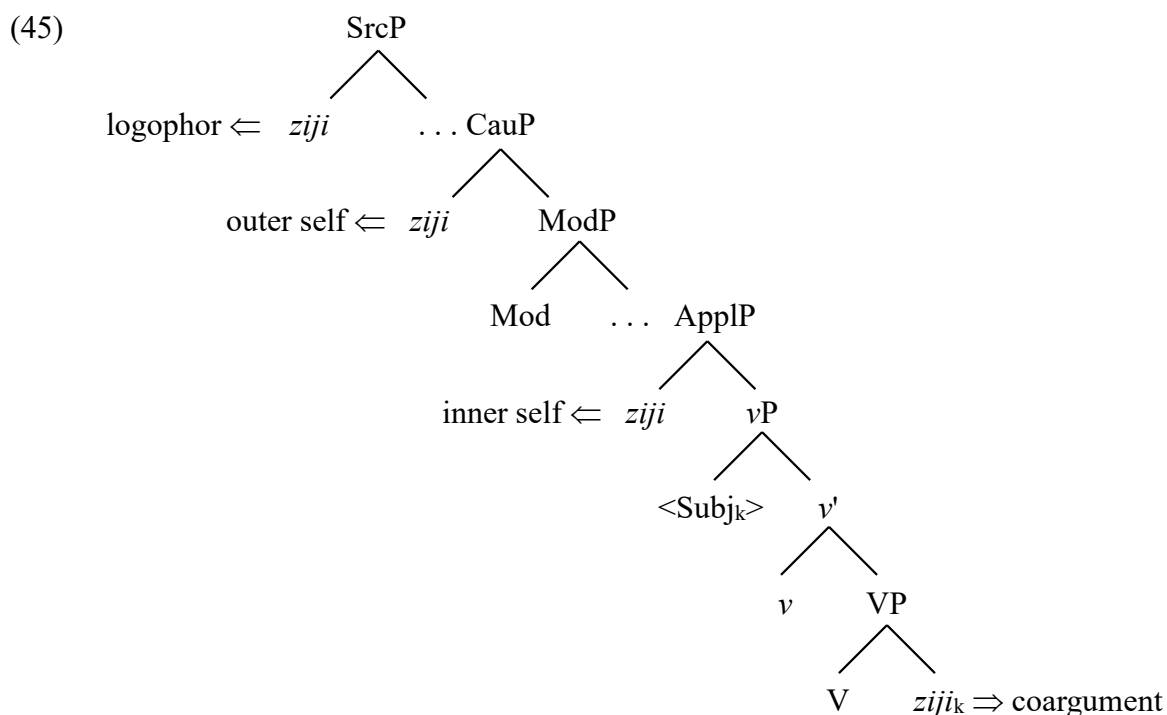
By extending Reinhart & Reuland's (1993) version of Binding Principle to reflexive adverbials, reflexive-marking can be taken to be a mechanism of reducing peripheral arguments. That is, by reflexive-marking *vP* instead of *V*, inner self reduces an applicative argument rather than a core argument (i.e. coargumental self in the object position):

- (44) A reflexive predicate must be reflexive-marked.

By the same token, the proposed identificational focus is now operating on the *vP* level, shifting its alternatives from an individual to an eventuality. In terms of syntax, it is situated at the edge

of vP , presumably an applicative projection (ApplP) in the vP periphery (cf. Tsai 2015b), where inner *ziji* serves to reflexive-mark the main predicate, resulting in the anti-comitative reading mentioned above. Outer *ziji*, by contrast, is introduced by a causative projection (CauP) above ModP, hence reflexive-marking the modal projection. As a result, the anti-causal interpretation emerges accordingly.

In the event that *ziji* merges to a even higher functional projection (presumably in the upper lay of the CP domain), *ziji* may be engaged in the role of a logophor, situated in the Spec of a Source Phrase (SrcP) (cf. Huang & Liu 2000). We are therefore in a position to spell out the whole spectrum of selfhood in cartographic terms, where reflexive adverbials can be seen as a missing link between logophors and anaphors with respect to their "height of interpretation" in the order of logophoricity (speaker-orientedness) > causality (eventuality) > comitativity (applicativity) > anaphoricity (transitivity). A tentative visualization of this selfhood spectrum is given in the following diagram:



5. Inner Self and Anti-comitative Semantics

In light of the analysis presented above, we would like to propose a natural extension of the reductionist view of reflexives: Namely, inner reflexive-marking reduces an applicative argument instead of a theme argument. For one thing, inner reflexive-marking actually allows two types of interpretations: One is comitative, as in (46a); the other is instrumental, as in (46b):

(46) Akiu ken **ziji** chuli zhe-jian shi.

Akiu willing self handle this-CL matter

- a. ‘Akiu is willing to handle this matter without others’ company.’
(comitative)
- b. ‘Akiu is willing to handle this matter without others’ help.’
(instrumental)

An illuminating view on the applicativity of the instrument role can also be found in the following quote from Reinhart (2002):

‘In standard agent verbs an instrument is always allowed optionally, but it is not directly selected by the verb. (This is a general entailment licensed by the agent role, which need not be listed for each individual entry.)’

One way to think of this issue is to group instrumental and comitative arguments together under a proto-comitant role in the spirit of Dowty (1991), as illustrated by the closely related usages of *with* and *by* below:

- (48) a. Akiu left with his friends. (comitant)
- b. Akiu left with a limousine. (instrument)
- c. Akiu left with apparent ease. (manner)

- (49) a. Akiu stands by his friends. (comitant)
- b. Akiu came by the highway. (path, method)
- c. Akiu was killed by a knife. (instrument)

Parsons (1995) defines an instrument role as a relation between an event *e* and an individual *x* such that *e* is with *x*. In light of this definition, one may take this proto (applicative) argument to be someone or something in a comitative relation to an event, which can easily translate into an instrumental, path or manner relation. It then becomes clear from Reinhart's remarks that the proto role in question must be licensed by an agentive subject, and subject to (applicative) argument reduction in presence of inner self. This in turn provides a straightforward account of why predicates with a non-agentive subject do not get along with inner reflexive-marking, as we have seen in both Mandarin Chinese and Squliq Atayal.

Now recall the inner *nanak*-construals of (50a,b) ((10b,c) repeated here). One may well represent their basic ingredients with the neo-Davidsonian formula (51) along the line of Parsons (1990, 1995):

- (50) a. s<m>oya [m-aniq **nanak** syam qu-Tali]. (inner self)

AV-like AV-eat self pork Nom-Tali
 ‘Tali likes to eat pork by himself (i.e., without the company of others).’

- b. s<m>oya [m-aniq syam **nanak** qu-Tali]. (inner self)
 AV-like AV-eat pork self Nom-Tali
 ‘Tali likes to eat the pork in private (i.e., without sharing it with others).’

(51) Self ($\lambda x \exists e (maniq(e) \& Agent(x, e) \& Theme(syam, e) \& Comitant(x, e))$) (*Tali*)

Here θ -roles are viewed as thematic relations between arguments and an underlying event, and an adjunct is treated as a conjunct of the main predicate, both predicating upon the event argument. Since there is an agent subject in the sentence, a proto-comitant is introduced. Reflexive-marking triggered by the inner self operator NANAK then applies to reduce the comitative role, while the identification focus excludes all the possible alternatives except for the agent himself, as shown by the following derivations:

(52) NANAK ($\lambda x \exists e (maniq(e) \& Agent(x, e) \& Theme(syam, e) \& Comitant(x, e))$) (*Tali*)

$\Rightarrow \lambda x \exists e (maniq(e) \& Agent(x, e) \& Theme(syam, e) \& \text{Comitant}(x, e)$
 $\& \sim \exists y (y \neq x \& Comitant(y, e)))$ (*Tali*)

$\Rightarrow \exists e (maniq(e) \& Agent(Tali, e) \& Theme(syam, e) \& \sim \exists y (y \neq Tali \& Comitant(y, e)))$

6. Outer Self and Anti-causal Semantics

The question remains as to how the outer selfhood may be characterized in such a way that the anti-causal reading of (53) ((10a) repeated here) may be related to the syntactic position of outer *nanak*:

- (53) s<m>oya **nanak** [m-aniq syam qu-Tali]. (outer self)
 AV-like self AV-eat pork Nom-Tali
 ‘Tali eats pork out of his liking (i.e., without coercion from others).’

First assume that there is a causal relation underpinning every eventuality, whether it is a state or an event. We then distinguish the following three types of causal relation between two events, based on the insights from Shen (1985):

- (54) a. Enable: One event is a necessary condition for the other.
(e.g., Max entered the pool, and then he drowned.)
- b. Cause: One event is a sufficient condition for the other.
(e.g., Xiaodi gave an order, so Akiu will handle this matter.)
- c. Motivate: One event either enables or causes the other, mediated
by a mental state. (e.g., Max wanted to eat, so he started to cook.)

To break down the above construal of outer *nanak*, we propose that, for every eventuality, there is a causative argument licensed by the relation Cause specified in (54b). The outer self operator NANAK again reduces the cause role, while introducing the identificational focus responsible for the anti-causal interpretation, as illustrated below:

- (55) NANAK ($\lambda x \exists e$ (Cause(x, e) & *smoya-maniq*(e) & Experiencer(x, e)
& Theme(*syam*, e))) (*Tali*)
- $\Rightarrow \lambda x \exists e$ (~~Cause(x, e)~~ & *smoya-maniq*(e) & Experiencer(x, e) & Theme(*syam*, e)
& $\sim \exists y (y \neq x \text{ \& Cause}(y, e))$) (*Tali*)
- $\Rightarrow \exists e$ (*smoya-maniq*(e) & Experiencer(*Tali*, e) & Theme(*syam*, e)
& $\sim \exists y (y \neq \textit{Tali} \text{ \& Cause}(y, e))$)

The resulted semantics goes as follows: There is a mental state of *like-to-eat* such that Tali is the experiencer, and the pork the theme, and there is no other cause except for Tali himself.

It then follows that the common properties shared by adverbial reflexive-marking and the *only*-construals of (56a,b) ((1a,b) repeated here) can be captured by the Neo-Davisonian semantics given in (57), based on the classic analysis of Horn (1969):

- (56) a. *yaqih* *na-Temu* **nanak** *qu-Tali*.
NAV.hate Obl-Temu only Nom-Tali
'Only Temu hates Tali.'
- b. *yaqih* **nanak** *na-Temu* *qu-Tali*.
NAV.hate only Obl-Temu Nom-Tali
'Only Temu hates Tali.'

- (57) Only ($\lambda x \exists e$ (*yaqih*(e) & Experiencer(*Temu*, e) & Theme(x, e))) (*Tali*)

- a. Presupposition: $\exists e (yaqih(e) \ \& \ Theme(Tali, e) \ \& \ Experiencer(Temu, e))$
- b. Assertion: $\exists e (yaqih(e) \ \& \ Theme(Tali, e) \ \& \ \sim \exists y (y \neq Temu \ \& \ Experiencer(y, e)))$

As stated in the assertion part (57b) of *nanak* as a pure focus operator, no one else but Temu is the holder of the mental state of Tali-hating. Here we see the convergence of the alternative semantics invoked by self and *only*, which in turn explains the variety of interpretations associated with *nanak* in Squliq Atayal.

Moreover, if our analysis presented above is on the right track, then it would not be surprising to find other types of focus construal of adnominal/adverbial self across languages. This point is best illustrated by *selbst* 'self' in German: As we have already seen in (26), it receives an additive reading as outer self. As a matter of fact, it can be construed either as an intensifier in (58a), or as *even* in (58b):

(58) Einstein selbst weiß das nicht.

Einstein self know this not

- a. Literal meaning with *selbst* stressed: 'Einstein himself does not know this.'
- b. New meaning with *Einstein* stressed: 'Even Einstein does not know this.'

According to Eckardt (2002), this *even* interpretation of *selbst* can be characterized by adopting the following alternative semantics:

(59) a. Contextually derivable: A set of alternatives to Einstein

- b. Presupposition: The alternative propositions 'x does not know this' are ordered on a scale according to probability, and 'Einstein does not know this' is at the most improbable end of the scale. All alternative propositions hold true.

- c. Assertion: 'Einstein does not know this' holds true as well.

Finally, questions still remain as to when and how outer self is turned into a reflexive of nature, where a causal relation is no doubt involved. With an external cause available in the context, the reflexive adverbial in question elects instead to substantiate the cause-effect relation by predicating upon the external cause. Consequently, it fails to reduce a causative argument, and no focus interpretation is ever detected in the Squliq example (16a-c) and the Mandarin example (40a) and (41a).

8. Concluding Remarks

In this paper, we build upon Horn's (1969) classic analysis of *only*, and characterize reflexive adverbials as focus operators involving a set of alternatives. As a result, a unified account of *self* and *only* can be offered in the following form:

$$(61) F(x) \ \& \ \sim(\exists y) (y \neq x \ \& \ F(y))$$

Depending on the locus of reflexive adverbials, F may stand for a variety of thematic relations such as experiencer, cause, instrument, or comitant. In the case of Squiliq Atayal, when *nanak* is associated with the external argument, it is interpreted as 'only'. When the focus is placed upon a peripheral argument, *nanak* is interpreted as 'self' instead, resulting in the inner-outer dichotomy (i.e., anti-comitative vs. anti-causal). In the case of Mandarin, *ziji* lacks the option of focusing on the external argument. On the other hand, Chinese does distinguish significantly more layers of verbal projection due to its robust analyticity (cf. Huang 2015). This typological feature thus creates a spectrum of selfhood through reflexive-marking, stemming from anaphoricity all the way to logophoricity, just as we have seen in the topography illustrated in (45).

All in all, we have shown that it is imperative to substantiate the focus semantics of reflexive adverbials through cross-linguistic comparisons. The distinction between inner self and outer self also follows from our cartographic analysis of *nanak* and *ziji* with respect to their "height of interpretation". At the end, we have put forward an explicit theory of reflexivity across the board, which hopefully will lead us to a deeper understanding of how a focus interacts with reflexive-marking in human languages.

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