



The Syntax of Causal Clauses in Taiwan Southern Min

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Abstract

Causal clauses in Taiwan Southern Min (TSM) are an issue that has long been ignored. Based on data drawn from corpora and recordings, by means of a diagnostic based on locality effect (Pan and Paul 2018; Pan and Zhu 2023), we argue that *in'ui* 'because' in TSM is uniformly an adverb and that topicalized objects are tolerated in S-initial causal clauses but prohibited in S-final causal clauses. Further, we propose that the external structure of causal clauses is either adjunction or predication, rather than coordination, via diagnostics regarding sentence final particles (SFPs), clause types, and scope-related factors. The diagnostic results reveal that the existence of high SFPs and the scope of negation are not necessary conditions for determining whether a causal clause in TSM qualifies as a root clause; instead, the diversity of force and quantification binding play a decisive role in defining the root status of a causal clause. With this, the external structure of causal clauses in TSM can be categorized into four types in terms of central adverbial clauses (CACs) and peripheral adverbial clauses (PACs) (Heagman 2012, 2014): (i) S-initial causal clauses, which are CACs, left-adjoined to the main clause below ForceP; (ii) irreversible S-final causal clauses, also CACs, right-adjoined to the main clause below ForceP; (iii) reversible S-final causal clauses, PACs, right- or left-adjoined to the main clause above ForceP; (iv) *si*-S-final causal clauses, which serve as predicates and are predicated of the main clause as a subject, are neither CACs nor PACs.

Keywords

causal clause, adjunction, predication, central adverbial clause, peripheral adverbial clause

1 Introduction

Causal clauses in Taiwan Southern Min (TSM) are an issue that has long been ignored. Based on data drawn from corpora and recordings,¹ this paper attempts to approach a fine-grained structure of causal clauses. We find that the causal marker *in 'ui* ‘because’ in S-initial and S-final causal clauses is uniformly an adverb. Further, we argue that the external structure of causal clauses is adjunction or predication, rather than coordination.

To identify the syntactic category of *in 'ui* ‘because’, we adopt a diagnostic of island effects proposed by Pan and Paul (2018) and Pan and Zhu (2023) based on topicalization test. We discover that the syntactic category of *in 'ui* in TSM is not homogenous; it could be a preposition, taking a nominal complement. When taking a causal complement, however, it could be a sentential adverb, allowing the raising of the direct object out of S-initial causal clauses, or a complementizer, blocking the direct object fronting out of S-final causal clauses, differing from the uniform analysis of the complementizer *yinwei* ‘because’ in Mandarin Chinese. To resolve this syntactic inconsistency, we argue that *in 'ui* ‘because’ in TSM is uniformly an adverb and that topicalized objects are tolerated in S-initial causal clauses as inner topics but prohibited in S-final causal clauses. Second, to further define the syntactic properties and positions of causal clauses, three diagnostics will be adopted to detect if a causal clause is a root clause: (i) if the clause can be followed by high SFPs, it may be a root clause (Pan 2019a); (ii) if the clause can be declarative, interrogative, exclamative, etc., it is a root clause; (iii) if elements within the causal clause are not affected by scope-related factors of the main clause, such as negation/modal, the force of the main clause, and quantificational binding, it is a root clause (Wei and Li 2018a, 2018b).

The major types of causal clauses concerned in this paper are as follows: (i) irreversible S-initial causal clauses, as in (1); (ii) irreversible S-final causal clauses, as in (2); (iii) reversible S-final causal clauses, as in (3); and (iv) S-final causal clauses following a copula, as in (4).²

¹ The corpus data mainly come from Taiwanese Corcordance program (台語文 Corcordance 程式) and Taiwanese colloquial corpus of National Chung-Cheng University (國立中正大學 臺灣閩南語口語語料庫). The source of recordings is based on our transcriptions of contemporary TSM, drawn from YouTube videos by Mr. Tse Long-Jie (謝龍介), who is a councilman in the Tainan City (Southern part of Taiwan) and who is famous for his Taiwanese language knowledge and skills. He generally speaks TSM, including when being interviewed by media, on talk shows, or in his own video-blogs on YouTube. The data collected here are transcriptions of his six YouTube videos.

² The abbreviations in this article are as follows: CL-classifier; LNK-a structural linker placed after a modifier, a demonstrative, or a relative clause; POSS-possessive marker; NEG-negative element; ASP-aspect marker; PROG-progressive marker; SFP-sentence final particle; CAU-causative marker; PART-particle; PL-plural marker; ATT-attitudinal marker.

- (1) [In'ui li hoo i bo hit'e tau'phio e tong'ling
 because you give him not that vote LNK motivation
 mah],³ ah li hoo gua be kam'tong, gua ho'pit
 SFP PART you CAU me not moved I why.have.to
 toh tshut-lai tau'phio?
 then go-come vote
 'Because you have not given him any motivation to vote and since you have
 not moved me, why do I have to go to vote for you?'
- (2) Ui'tioh i-e mia lai siu khun'tiok, thi'tshio,
 for he-POSS name come receive harassed teased
 le'me e u hok'khi, [in'ui thian-kok si i-e].
 cursed LNK have welfare because heaven be he-POSS
 'Those who are harassed, teased, and cursed due to HIS name are blessed,
 because the heaven belongs to him.'
- (3) Tai'ke long thiann i, [in'ui i gau tso'lang].
 everyone all love him because he good.at sociality
 'Because he is good at sociality, everyone loves him.'
- (4) Tai'ke tshut'giap liau'au, tai'poo'hun bo
 everyone graduate after most.people have.not
 khang'khue thang tso, tse si [in'ui tsuann'iunn] leh?
 job can do this be because why SFP
 'After graduation, most people cannot find jobs. What causes this?'

We find that high SFPs and negation are not necessary conditions for determining whether a causal clause in TSM qualifies as a root clause. The diversity of force and quantification binding play a decisive role in defining the root status of a causal clause. Based on the data from the corpora and recordings, we find that irreversible S-initial causal clauses like (1), the first type, can end with SFPs but only manifest declaratives and are affected by scope-related factors, such as the force of the clause and quantificational binding. We propose that S-initial causal clauses are left-adjoined to the main clause at a position lower than ForceP, close to central adverbial clauses (CACs, Heagman 2012, 2014), not peripheral adverbial clauses (PACs, Heagman 2012, 2014).

Regarding the second type exemplified by (2), S-final causal clauses cannot be freely reversed. They can accommodate SFPs, tolerate declaratives only, and are affected by scope-related effects. This type is excluded as a coordinate structure (cf. Wei and Li 2018a, 2018b) for not displaying a full range of clause types except declaratives. Furthermore, it is subject to scope-related effects other than negation, such as quantifier binding and the force of the main clause. Similar to CACs rather

³ The final particle *mah* is not a clause-typing particle like *ma* in Chinese but a speaker-oriented particle, used to express speaker's opinion and attitude toward the event.

than PACs, these clauses are right-adjoined to the main clause at a position lower than ForceP.

The third type, as in (3), is identified as the reversible S-final causal clause, which can end with SFPs and express interrogative and declarative force. It is affected by scope-related effects other than negation. This type is distinctive from its irreversible counterpart in (2) for its ability to accommodate interrogative force in addition to declarative force. We assume that these clauses may be PACs, which are left- or right adjoined above the ForceP of the main clause (CP-adjunct), based on diagnostics of types of force and quantificational binding.

The fourth type, in the form of [be + *in'ui* causal clause] as illustrated in (4), tolerates SFPs and various types of force. However, these clauses are dominated by scope-related factors, such as negation, the force of the clause, and quantificational binding. We propose that this type is a subject-predicate structure. The main clause is the subject, being predicated of by [be + *in'ui* causal clause]. This subject-predicate frame can capture the free use of SFPs, diversity of force types, and scope-related effects. Thus, copula-S-final causal clauses are neither CACs nor PACs.

The organization of this paper is as follows. Section 2 lays out the distribution and categorization of causal clauses in TSM. Section 3 focuses on the internal structure of causal clauses in TSM. Section 4 discusses the external structure of causal clauses in terms of adjunction and predication. Section 5 concludes.

2 The distribution and categorization of causal clauses in TSM: S-initial vs. S-final

Some significant differences exist between causal clauses in S-initial position and causal clauses in S-final position.

For S-initial causal clauses in TSM, like their counterparts in Mandarin Chinese, *in'ui* 'because' can appear in the sentential-initial position as in (5a) or other positions as in (5b)–(5g). The latter occurs when the embedded object or subject undergoes raising across *in'ui* as in (5b)–(5e) or when the matrix subject undergoes topicalization across the causal clause as in (5f)–(5g). All these cases of S-initial causal clauses are recognized as the first type of causal clause in TSM.⁴

⁴ As suggested by a reviewer, the optional conjunctive *soo'i* 'so' could precede consequent clauses, being taken one of the criteria of distinguishing causal clauses from consequent clauses. After verifying each sentence in (5), we find that *soo'i* 'so' can naturally precede clauses without *in'ui* 'because' as in (i), indicating that these clauses are consequent.

(i) a. [Hua'lian te'khu₁ (in'ui) tshit-ho hong'thai hong-hoo
 Hualian area because 7-No. typhoon wind-rain
 ing'hiong t₁], *soo'i* suann'loo be thong.
 influence so line not available
 'Because the heavy rain and strong wind of typhoon No.7 influence the Hualian area, the
 telephone and electricity lines are not available.'

- (5) a. [In'ui bok'tsing i ka'ki jin'ui i'king tua'han],
 because at.present he himself think already mature
 u ling'lik lai tshu'li tsit-e sio bun'te.
 have capability come deal.with this-LNK small problem
 'Because at present he thinks of himself as a grown-up, he has the capability
 of dealing with such a small problem.'
- b. [Hua'lian te'khu_i [in'ui tshit-ho hong'thai hong-hoo
 Hualian area because 7-No. typhoon wind-rain
 ing'hiong t_i], suann'loo be thong.
 influence line not available
 'Because the heavy rain and strong wind of typhoon No.7 influence the
 Hualian area, the telephone and electricity line are not available.'
- c. [[Na'au_i [in'ui t_i kin'tiunn]], [pro_i pian kah ta'so]].
 throat because tense become more dry
 'Because the throat is tense, it becomes drier.'
- d. [I_i [in'ui t_i iong li]], au'lai pro_i siunn huan'hue.
 he because hire you afterwards think regret
 'Because he hired you, later he was very regretful.'
- e. [Li_i [in'ui t_i khuann'kinn gua tsiah sin]], hia-e bo
 you because saw me then believe those-LNK have.not
 khuann'kinn lai-sin e lang u hok'khi.
 saw come-believe LNK people have welfare
 'Because you have seen me, you have believed; blessed are those who
 have not seen and yet have believed.'
- f. [Gua-e hing'kham_i [ma in'ui jiat'tsing kue'too],
 I-POSS chest also because passion over
 t_i kiong'beh hue'sio khi-lai].
 is.about.to burn rise-come
 'Because of excessive passion, my chest is about to burn.'
- g. [Gua_i [in'ui sim'phuann lim kau tsit se'kan],
 I because trial come arrive this world
 t_i hoo be khuann'kinn-e lang khuann'kinn].
 give not see-LNK people see
 'Because the trial will arrive in this world, at that time, I will give eyesight
 to the ones who cannot see.'

It is of significance to note that the S-initial type is irreversible. It means that their S-final counterparts are not preferable to native speakers.

b. [[Na'au_i [(in'ui) t_i kin'tiunn]], *soo'i* [pro_i pian kah ta'so]].
 throat because tense so become more dry
 'Because the throat is tense, it becomes drier.'

- (5) b'. ??Suann'loo be thong, [Hua'lian te'khu_i in'ui tshit-ho
 line not available Hualian area because 7-No.
 hong'thai hong-hoo ing'hiong t_i].
 typhoon wind-rain influence
 'Because the heavy rain and strong wind of typhoon No.7 influence the
 Hualian area, the telephone and electricity lines are not available.'
 g'. ??Au'lai i_i siunn huan'hue, [in'ui t_i iong li].
 afterwards he very regret because hire you
 'Because he hired you, he was very regretful afterwards.'

S-final causal clauses do not tolerate the structural variations occurring in S-initial causal clauses. The S-final causal clauses in (6a), (7a), and (8a) do not have an S-initial counterpart in (6b), (7b), and (8b), respectively. It is impossible to reverse the order between the main clause and the causal clause. We classify irreversible S-final causal clauses as the second type of causal clause in TSM.⁵

- (6) a. Ui'tioh i-e mia lai siu khun'tiok, thi'tshio,
 for he-POSS name come receive harassed teased
 le'me e u hok'khi, [in'ui thian'kok si i-e].
 cursed LNK have welfare because heaven be he-POSS
 'Those who are harassed, teased, and cursed due to HIS name are blessed,
 because the heaven belongs to HIM.'
 b. *[In'ui thian'kok si i-e], ui'tioh i-e mia
 because heaven be he-POSS for he-POSS name
 lai siu khun'tiok, thi'tshio, le'me e u hok'khi.
 come receive harassed teased cursed LNK have welfare
- (7) a. U'lang kong gua iong tsit-e sok'ka te'a ka thau'khak
 someone say I use this-LNK plastic bag KA head
 tho-khi-lai, tse long si m-tioh-e honnh,
 cover-rise-come this all be not-right-LNK SFP
 [in'ui tse long bo-huat'too e tsoo'tong].
 because this all no-way will stop.
 'Someone says that I can use this plastic bag to cover my head, but this is
 all wrong, because it cannot stop [the smoke].'
 b. *[In'ui tse long bo-huat'too e tsoo'tong], u'lang
 because this all no-way will stop someone
 kong gua iong tsit-e sok'ka te'a ka thau'khak
 say I use this-LNK plastic bag KA head
 tho-khi-lai, tse long si m-tioh-e honnh.
 cover-rise-come this all be not-right-LNK SFP

⁵ We have checked with native speakers of TSM. Of the twenty speakers that we have consulted, seventeen consider the irreversible S-final examples as being unacceptable and only three consider them as being marginal. Irreversible S-final causal clauses are characterized by their assertive illocutionary force.

- (8) a. I bo ti tsia, [in'ui gua bo khuann'kinn i].
 he not at here because I not saw him
 'He is not here, because I have not seen him.'
 b. *[In'ui gua bo khuann'kinn i], i bo ti tsia
 because I not saw him he not at here

Besides, the second type is characterized by its unique semantic property. The consequent clauses of these examples express assertive illocutionary force independently, and the clauses led by *in'ui* 'because' provide explanations to the assertion, similar to the view adopted by Rutherford (1970) and Ross (1970) on English example (9), implying 'I say to you that Jenny isn't here, because I don't see her.' This type of reason clause is not reversible.

- (9) Jenny isn't here, because I don't see her. (Rutherford 1970: 100)

The similar assertive illocutionary force also appears in (6)–(8). For (6), it denotes 'I say to you that those who are harassed, teased, and cursed due to HIS name are blessed, because the heaven belongs to HIM.' Similarly, (7) and (8) denote '..., but I would say to you that this is all wrong, because it cannot stop [the smoke]' and 'I would say to you that he is not here, because I have not seen him,' respectively.

The third type is reversible S-final causal clauses. These causal clauses can freely appear initially or finally as in (10)–(12), yielding identical meaning. This type differs from the second type not only in the free ordering but also in the internal and external syntax, as will be discussed later, and semantic interpretation. The consequent clauses of the third type do not convey independent assertive illocutionary force; that is, the *in'ui* 'because' clauses do not provide an explanation for the assertion 'I would say to you that ...'. That is why the order of this type is reversible.

- (10) a. Le'tsui hong'khi ge'sut bang, tshiong tng khi tai'uan,
 Letsui give.up art dream rush return go Taiwan
 [in'ui sannh'tioh tsit-e tiong-lian ue'ka].
 because attracted one-CL middle-aged painter
 'Letsui gave up her art dream and rushed to Taiwan, because she had been attracted to a middle-aged painter.'
 b. [In'ui sannh'tioh tsit-e tiong-lian ue'ka], Le'tsui hong'khi
 because attracted one-CL middle-aged painter Letsui give.up
 ge'sut bang, tshiong tng khi tai'uan.
 art dream rush return go Taiwan
 'Because Letsui had been attracted to a middle-aged painter, she gave up her art dream and rushed to Taiwan.'
- (11) a. Gua beh Tsng sio'tsia jip-lai, [in'ui i si lan
 I want Tsng Ms. enter-come because she be our
 siong'ho-e hua'hak kang'ting'su].
 best-LNK chemistry engineer
 'I want Ms. Tsng to join us, because she is our best chemistry engineer.'

- b. [In'ui i si lan siong'ho-e hua'hak kang'ting'su],
 because she be our best-LNK chemistry engineer
 gua beh Tsng sio'tsia jip-lai.
 I want Tsng Ms. enter-come
 'Because she is our best chemistry engineer, I want Ms. Tsng to join us.'

- (12) a. Tai'ke long thiann i, [in'ui i gau tso'lang].
 everyone all love him because he good.at sociality
 'Everyone loves him because he is very sociable.'
 b. [In'ui i gau tso'lang], tai'ke long thiann i.
 because he good.at sociality everyone all love him
 'Because he is good at sociality, everyone loves him.'

The fourth type of causal clause in TSM is characterized by the copula *si* 'be' appearing in front of S-final causal clauses, as exemplified in (13), in the form of [consequent clause-*si*-reason clause]. The structure renders the main/consequent clause a sentential subject and the *si*-reason clause a predicate as the frame in (14). The predication analysis is evidenced by the fact that *si* 'be' can be negated by the negative *m* 'not' as in (13a) and (13b) and modified by adverbs as in (13c). This causal clause type as in (13a) cannot be freely reversed as in (15).

- (13) a. Se-kok-e lang sin tse to'li, m si [in'ui
 West-nation-LNK people believe this truth not be because
 tshut ti pun-kok].
 originate at mother-nation
 'People in West nations believe in this truth, not because it originates from their own mother land.'
 b. Li sian'sinn iong kong'to lai tso tai'tsi,
 Li Mr. use common.rule come do business
 m si [in'ui beh khi'ke], si [in'ui beh
 not be because want establish be because want
 than siong'te-e bing'ling].
 obey God-POSS command
 'Mr. Li used common rules to do business, not because he wanted to establish it, but because he wanted to obey God's command.'
 c. Kha'hun sim'kuann lai bing'pik i e tng lai,
 Khahun heart inside understand he will return come
 uan'tsuan si [in'ui nng-ui si'tua'lang]], bo-kho'ling
 completely be because two-CL elder not-possible
 si [in'ui kua'liam i tsit-e boo tng lai] e.
 be because worry he this-LNK wife return come SFP
 'In her mind, Khahun knows that he will come back, mainly because of the two elders, his father and mother, not possibly because of his worry about his wife.'

- (14) [[S...] _{subject} [*si in'ui*[S...] _{predicate}]]

- (15) *[M si [in'ui tshut ti pun'kok]]
 not be because originate at mother.nation
 se'kok-e lang sin tse to'li.
 west.nation-LNK people believe this truth

In brief, there are at least four types of causal clauses in TSM in terms of S-initial and S-final ordering: (i) irreversible S-initial causal clauses, (ii) irreversible S-final causal clauses, (iii) reversible S-final causal clauses, and (iv) copula-S-final causal clauses.

3 The internal structure of causal clauses in TSM

This section focuses on the differences between TSM and Mandarin Chinese with respect to the syntactic behaviours of causal clauses. In Mandarin Chinese, according to Pan and Paul (2018) and Pan and Zhu (2023), the causal conjunction *yinwei* ‘because’ is consistently a complementizer, not an adverb in the position of C domain, blocking the fronting of the direct object in either the S-initial or S-final position. In TSM, given Pan and Paul (2018) and Pan and Zhu (2023), *in'ui* ‘because’ in reversible or irreversible S-final causal clauses should be grammatically classified as a complementizer, blocking object raising, whereas in reversible or irreversible S-initial causal clauses *in'ui* ‘because’ is expected to be an adverb, not blocking object fronting. To resolve this syntactic inconsistency, Section 4 will modify this observation by arguing that *in'ui* ‘because’ in TSM is uniformly an adverb and that it is the topicalization occurring in S-final causal clauses that blocks object fronting.

3.1 Syntactic category of causal conjunctions

According to Chao (1968), Pan and Paul (2018), and Pan and Zhu (2023), *yinwei* ‘because’ in Mandarin Chinese is not uniform in syntactic category. It could be a preposition, taking a DP complement, a complementizer, or an adverb. In defining the property of *yinwei* ‘because’, Pan and Paul (2018) propose that island effects can be used to diagnose whether *yinwei* ‘because’ is an adverb or a complementizer. In (16a), the topicalized direct object does not cause island violations, showing that the seeming causal conjunction is de facto an adverb, located within the causal clause TP in the absence of an overt C element (C or SpecCP), incapable of blocking the fronting of the direct object. On the other hand, if the topicalization of the direct object gives rise to island effects as in (16b), Pan and Paul (2018) and Pan and Zhu (2023) assume that the violation is attributed to the blocking of the complementizer in the C domain. In that sense, the causal clause is syntactically categorized as a CP, in which an overt C element blocks the extraction of the direct object.

- (16) a. Topic-DO, [_{Main cl.} Subject [_{causal-cl.=TP} Conjunction-Adverb ... DO] ...]
 b. *Topic-DO, [_{Main cl.} Subject [_{causal-cl.=CP} Conjunction-COMP ... DO] ...]
 (DO: direct object)

They find that all the causal clauses headed by conjunctions, such as *yinwei* ‘because’ in (17a), *youyu* ‘due to’, *yinci* ‘because (of this)’, *yin'er* ‘as a result’, and *suoyi* ‘so’, prohibit object raising to the topic position, as shown in (17b).

- (17) a. [_{TP1-main cl.} [_{CP-causal cl.} Yinwei [_{TP2} Zhangsan zuotian tuidao
because Zhangsan yesterday push-down
na-ge xueren]], [_{TP1-main cl.} xiaopengyou-men dou hen nanguo]].
that-CL snowman kid-PL all very sad
'The kids are all very sad [because Zhangsan pushed down that
snowman yesterday].'
- b. *Na-ge xueren_j, [_{TP1-main cl.} [_{CP-causal cl.} yinwei [_{TP2} Zhangsan zuotian
that-CL snowman because Zhangsan yesterday
tui-dao t_j]], [_{TP1-main cl.} xiaopengyou-men dou hen nanguo]].
push-down kid-PL all very sad
*‘As for that snowman_j, [because Zhangsan pushed down t_j yesterday], the
kids are all very sad.’

This result leads Pan and Paul (2018) and Pan and Zhu (2023) to conclude that causal conjunctions in Mandarin Chinese are not adverbs but complementizers in the position of C domain, blocking the fronting of the direct object, as in (16b).

3.2 Syntactic category of *in'ui* in TSM: Complementizer or adverb

3.2.1 Object extraction and S-initial causal clauses in TSM

We find that *in'ui* ‘because’ in TSM displays at least three grammatical functions: preposition, sentential adverb, and complementizer, similar to its counterpart *yinwei* ‘because’ in Mandarin Chinese. In TSM, *in'ui* ‘because’ can directly take an NP complement, serving as a preposition as shown below.

- (18) In'ui kok'bun tsit kho, tsit hue, gua to iann
because Chinese one course this time I return win
tsap hun.
ten point
Lit.: ‘Because of the Chinese course, I won 10 points back this time.’

Furthermore, when *in'ui* ‘because’ appears in the sentential-initial position and takes a clausal complement, it may function as a complementizer or a sentential adverb, as shown in (19). We adopt Pan and Paul’s (2018) generalization in (16) to approach such a distinction. Consider (20a)–(22a). The direct objects in S-initial causal clauses can eligibly be fronted to the topic position, as in (20b)–(22b). The results show that *in'ui* ‘because’ in TSM is a sentential adverb, not a complementizer, since it does not cause any blocking effect. *In'ui* ‘because’ is not a preposition either, because it takes a causal complement, not an NP complement. The characteristic is drastically different from that of its Mandarin Chinese counterpart *yinwei* ‘because’, as illustrated in (17b).

- (19) [_{CP} In'ui [bok'tsian i ka'ki jin'ui i'king tua'han]],
because at.present he himself think already mature
u ling'lik lai tshu'li tsit-e sio bun'te.
have capability come deal.with this-LNK small problem
'Because at present he thinks of himself as a grown-up, he has the capability
of dealing with such a small problem.'

- (20) a. [_{CP} In'ui [tshit-ho hong'thai hong'hoo ing'hiong Hua'lian
because 7-No. typhoon wind.rain influence Hualian
te'khu]], guan kuat'ting khi Tai'pak.
area we decide go Taipei
'Because the heavy rain and strong wind of typhoon No.7 influence the
Hualian area, we decided to go to Taipei.'
- b. [Hua'lian te'khu_i [_{CP} in'ui tshit-ho hong'thai hong'hoo
Hualian area because 7-No. typhoon wind.rain
ing'hiong t_i]], guan kuat'ting khi Tai'pak.
influence we decide go Taipei
'Because the heavy rain and strong wind of typhoon No. 7 influence the
Hualian area, we decided to go to Taipei.'
- (21) a. [_{CP} In'ui [li khuann'kinn gua tsiah sin]], hia-e
because you saw me then believe those-LNK
bo khuann'kinn lai-sin e lang u hok'khi.
have.not saw come-believe LNK people have welfare
'Because you have seen me, you have believed; blessed are those who have
not seen and yet have believed.'
- b. [Gua_i [_{CP} in'ui li khuann'kinn t_i tsiah sin]], hia-e
me because you saw then believe those-LNK
bo khuann'kinn lai-sin e lang u hok'khi.
have.not saw come-believe LNK people have welfare
'Because you have seen me, you have believed; blessed are those who
have not seen and yet have believed.'
- (22) a. [_{CP} In'ui [sim'phuann lim kau tsit se'kan]],
because trial come arrive this world
gua hoo be khuann'kinn-e lang khuann'kinn.
I give not see-LNK people see
'Because the trial will arrive in this world, at that time, I will give eyesight
to the ones who cannot see.'
- b. [Tsit se'kan_i [_{CP} in'ui sim'phuann lim kau t_i],
this world because trial come arrive
gua hoo be khuann'kinn-e lang khuann'kinn.
I give not see-LNK people see
'Because the trial will arrive in this world, at that time, I will give eyesight
to the ones who cannot see.'

Thus far, we have not seen any island violations of S-initial causal clauses in the collected data. Below, we will check if the raising of the direct object in S-final causal clauses would cause locality effects.

3.2.2 Object extraction and S-final causal clauses in TSM

Object fronting results in ungrammatical sentences in two types of S-final causal clauses. First, object extraction out of irreversible and reversible S-final causal

clauses is not acceptable as in (23) and (24), suggesting that *in'ui* 'because' may be a complementizer, blocking object fronting.

- (23) a. I bo ti tsia, [in'ui gua bo khuann'kinn i].
 he not at here because I not saw him
 'He is not here, because I have not seen him.' (Irreversible)
 b. *I bo ti tsia, [i_i [in'ui gua bo khuann'kinn t_i]].
 he not at here he because I not saw
 Int.: 'He is not here, because I have not seen him.'⁶
- (24) a. Le'tsui hong'khi ge'sut bang, tshiong tng khi tai'uan,
 Letsui give.up art dream rush return go Taiwan
 [in'ui i sannh'tioh tsit-e tiong-lian ue'ka].
 because she attracted one-CL middle-aged painter
 'Letsui gave up her art dream and rushed to Taiwan, because she had been attracted to a middle-aged painter.'
 b. *Le'tsui hong'khi ge'sut bang, tshiong tng khi tai'uan,
 Letsui give.up art dream rush return go Taiwan
 [tsit-e tiong-lian ue'ka_i [in'ui i sannh'tioh t_i]].
 one-CL middle-aged painter because she attracted
 Int.: 'Letsui gave up her art dream and rushed to Taiwan, because she had been attracted to a middle-aged painter.'⁷

⁶ A reviewer raises a question concerning the fact that the ungrammaticality of (23b) could be caused by the extracted third person pronoun crossing over a first person pronoun (Huang 1984; Tang 1989: 108). We find that the crossing of the third person pronoun *i* 'him' over the first pronoun *gua* 'I' might have nothing to do with the unacceptability of (23b). It is because when the pronominal object is replaced with a r-expression *Tsng'e* 'Mr. Tsng' in (ia), the outcome of object extraction from the S-final causal clause remains disallowed in (ib). The result shows that the person of pronoun is not a factor that may affect the outcome of object extraction.

- (i) a. Tsng'e bo ti tsia, [in'ui gua bo khuann'kinn Tsng'e].
 Mr.Tsng not at here because I not saw Mr.Tsng
 'Mr. Tsng is not here, because I have not seen him.' (Irreversible)
 b. *Tsng'e bo ti tsia, [Tsng'e_i [in'ui gua bo khuann'kinn t_i]].
 Mr.Tsng not at here Mr.Tsng because I not saw
 Int.: 'Mr. Tsng is not here, because I have not seen him.'

⁷ One of the reviewers asks if the unacceptability of object extraction in (ib) is due to the breaking up of the idiom *tso'lang* 'sociality'. We would like to suggest that object extraction from the V-N construction may fail, not because of the disassembling of phrases (integrity effect), but because of the violation of intervention in the extraction process.

- (i) a. Tai'ke long thiann i, [in'ui i gau tso'lang].
 everyone all love him because he good.at sociality
 'Because he is very sociable, everyone loves him.' (Reversible)
 b. *Tai'ke long thiann i, [lang_i [in'ui i gau tso t_i]].
 everyone all love him people because he good.at do
 Int.: 'Because he is very sociable, everyone loves him.'

Lien (2003) observes that the use of *tso* 'DO/do' in TSM is more diverse than expected regarding V-N construction. From a semantic perspective, *tso* can function as a 'make' verb, a 'do' verb, a

Second, extraction of the object from S-final causal clauses preceded by the copula *si* 'be' is ungrammatical. The grammatical contrast between examples in (25) and (26) shows that S-final causal clauses prohibit direct object fronting, contrary to the licit fronting observed in S-initial causal clauses in (20)–(22). The phenomenon reveals that the S-final *in'ui* 'because' after the copula *si* 'be' is a complementizer, not an adverb.

- (25) a. Li sian'sinn iong kong'to lai tso tai'tsi,
 Li mister use common.rule come do business
 m si [in'ui i beh khi'ke], si [in'ui
 not be because he want establish.family be because
 i beh than siong'te-e bing'ling]].
 he want obey God-poss command
 'Mr. Li used common rules to do business, not because he wanted to establish it, but because he wanted to obey God's command.'
- b. *Li sian'sinn iong kong'to lai tso tai'tsi,
 Li mister use common.rule come do business
 m si [ke_i [CP in'ui beh khi t_i], si
 not be family because want establish be
 [siong'te-e bing-ling_j [CP in'ui i beh than t_j]].
 God-poss command because he want obey
 Int.: 'Mr. Li used common rules to do business, not because he wanted to establish it, but because he wanted to obey God's command.'
- (26) a. Le'tsui hong'khi ge'sut bang, tshiong'tng khi tai'uan,
 Letsui give.up art dream rush go Taiwan
 si [CP in'ui i sannh'tioh tsit-e tiong-lian ue'ka]].
 be because she attracted one-CL middle-aged painter
 'Letsui gave up her art dream and rushed to Taiwan, because she had been attracted to a middle-aged painter.'

'be' verb, a 'give' verb, a 'become' verb, a 'hold' verb, and even an 'existential have', etc. Lien (2003) argues that *tso* 'do' becomes a light verb (a verbalizer) to verbalize a de-verbal nominal like *piau'ien* 'performance', a noun like *sann* 'clothes', an eventish noun like *sit* 'farming', a temporal expression like *sinn'jit* 'birthday', or a weather word like *hong'thai* 'typhoon'. We find that either from the canonical V-O phrase *tso kang* 'do job' or from V-N constructions like *tso'lang* 'sociality' and *tso sit* 'do farming', the object is prohibited to be extracted in (ii). This strengthens the fact that object extraction from S-final causal clauses is always prohibited, no matter whether it comes from an idiom or not. To avoid any controversy over the nature of the idiom *tso'lang* 'sociality', we determine to use another reversible causal clause in (24). The object of (24b) cannot be extracted as expected.

- (ii) a. *Tai'ke long thiann i, [kang, [in'ui i gau tso t_i]].
 Everyone all love him job because he good.at do
 Int.: 'Because he is good at getting jobs done, everyone loves him.'
- b. *Tai'ke long thiann i, [sit_i [in'ui i gau tso t_j]].
 everyone all love him farming because he good.at do
 Int.: 'Because he is good at doing farming, everyone loves him.'

- b. *Le'tsui hong'khi ge'sut bang, tshiong'tng khi tai'uan,
 Letsui give.up art dream rush go Taiwan
 si [hit'e tiong-lian ue-ka_i [_{CP} in'ui i sannh'tioh t_i]].
 be that middle-aged painter because she attracted
 Int.: 'Letsui gave up her art dream and rushed to Taiwan, because she had
 been attracted to a middle-aged painter.'

Before concluding that *in'ui* 'because' in the S-final position is a complementizer, one thing is worth noting. The presence of the copula *si* 'be' complicates the complementizer account. As we have discussed in Section 2, the copula *si* 'be' often appears in front of S-final causal clauses, rendering the consequent clause a sentential subject and the *si*-causal clause a predicate. Further, the verbal *si* 'be' can be negated by the negative *m* 'not', strengthening the fact that *si* 'be' is a copula verb. These facts support the analysis that the verbal *si* 'be' takes a CP as its complement. In that sense, *in'ui* 'because' can be recognized as a complementizer, heading the CP complement of the copula.

In brief, as discussed in (20)–(22), object extraction from S-initial causal clauses is legitimate without causing any locality effect; in contrast, object extraction from S-final causal clauses is illegitimate, as shown in (23)–(26). Therefore, *in'ui* 'because' in S-initial causal clauses serves as a sentential adverb, whereas in S-final causal clauses it serves as a complementizer, distinct from their Mandarin Chinese counterpart *yinwei* 'because'. To sharpen this line of thought, let's survey more data regarding subject extraction below.

3.2.3 Subject extraction and S-initial/S-final adverbial clauses

The behaviours of S-initial causal clauses and S-final causal clauses also differ with respect to subject extraction. The embedded subjects in (27a) and (28a) can be extracted from S-initial causal clauses without violating locality effects, as shown in (27b) and (28b), respectively. This reveals that *in'ui* 'because' is closer to being a sentential adverb than a complementizer.

- (27) a. [_{CP} In'ui [na'au kin'tiunn pian kah ta'so]], sui'bong
 because throat tense become more dry even.so
 u tshut-lat beh thun tshui'nua.
 have use-strength will swallow saliva
 'Because the throat becomes drier due to tenseness, he has forcefully
 swallowed saliva.'
 b. [Na'au_i [_{CP} in'ui t_i kin'tiunn pian kah ta'so]], sui'bong
 throat because tense become more dry even.so
 u tshut-lat beh thun tshui'nua.
 have use-strength will swallow saliva
 'Because the throat becomes drier due to tenseness, he has forcefully
 swallowed saliva.'
- (28) a. [_{CP} In'ui [li khuann'kinn gua tsiah sin]], hia-e
 because you saw me then believe those-LNK

bo khuann'kinn lai-sin e lang u hok'khi.
 have.not saw come-believe LNK people have welfare
 'Because you have seen me, you have believed; blessed are those who
 have not seen and yet have believed.'

- b. Li_i [_{CP} in'ui [t_i khuann'kinn gua tsiah sin]], hia-e
 you because saw me then believe those-LNK
 bo khuann'kinn lai-sin e lang u hok'khi.
 have.not saw come-believe LNK people have welfare
 'Because you have seen me, you have believed; blessed are those who
 have not seen and yet have believed.'

Moreover, the examples in (29) and (30) show that subjects of consequent clauses can be fronted across causal clauses. The data reveal that adverbial causal clauses are sentential adjuncts, appearing either in an S-initial position or between the post-subject and the verb. Since no islands have been crossed in these cases, the examples are eligible.

- (29) a. Ma [_{CP} in'ui [jia'tsing kue'too]], gua-e hing'kham
 also because passion over I-POSS chest
 kiong'beh hue'sio khi-lai.
 is.about.to burn up-come
 'Because of excessive passion, my chest is about to burn.'
 b. Gua-e hing'kham,_i ma [_{CP} in'ui [jia'tsing kue'too]],
 I-POSS chest also because passion over
 t_i kiong'beh hue'sio khi-lai. (Subject fronting)
 is.about.to burn up-come
 'Because of excessive passion, my chest is about to burn.'
- (30) a. [In'ui [iong li]], au'lai i siunn huan'hue.
 because hire you later he think regretful
 'Because he hired you, later he was very regretful.'
 b. I_i [in'ui [iong li]] au'lai t_i siunn huan'hue.
 He because hire you later think regretful
 'Because he hired you, later he was very regretful.' (Subject fronting)

In contrast, *in'ui* 'because' in S-final causal clauses, whether irreversible or reversible, is not allowed to be preceded by the embedded subject raised from causal clauses, as illustrated in (31) and (32). The presence/absence of the copula *si* does not play a role in determining the grammaticality of the sentences when the subject is extracted. It is the complementizer identity of *in'ui* 'because' in S-final causal clauses that counts.

- (31) *Ui'tioh i-e mia lai siu khun'tiok, thi'tshio,
 for he-POSS name come receive harassed teased
 le'me e u hok'khi, [thian'kok_i [in'ui t_i si i-e].
 cursed LNK have welfare heaven because be he-POSS
 Int.: 'Those who are harassed, teased, and cursed due to HIS name are
 blessed, because the heaven belongs to him.'

- (32) a. **Tai'ke* long thiann *i*, [_i [_{in'ui} _{t_i} gau tso'lang]].
 everyone all love him he because good.at sociality
 Int.: 'Because he is good at sociality, everyone loves him.'
- b. **Le'tsui* hong'khi ge'sut bang, tshiong'tng khi tai'uan,
 Letsui give.up art dream rush go Taiwan
 (si) [_i [_{CP} in'ui _{t_i} sannh'tioh tsit-e tiong-lian ue'ka]].
 be she because attracted one-CL middle-aged painter
 Int.: 'Letsui gave up her art dream and rushed to Taiwan, because she had been attracted to a middle-aged painter.'
- c. **Gua* beh Tsng sio'tsia_i jip'lai, (si) [_i [_{CP} in'ui _{t_i} si lan siong'ho-e hua'hak kang'ting'su]].
 I want Tsng Ms. enter be she because
 be our best-LNK chemistry engineer
 Int.: 'I want Ms. Tsng to join us, because she is our best chemistry engineer.'

Thus, we can predict that when the order of reversible S-final causal clauses in (32) is reversed, subject extraction from S-initial causal clauses is acceptable in (33). Besides, it is important to note that the position of the raised subject *i* 'he/she' in (33a) and (33b) is not high enough to cause Condition C violation. As a result, *i* 'he/she' cannot c-command the bindees *Le'tsui_i* and *Tsng sio'tsia_i* 'Ms. Tsng' in the consequent clauses. Accordingly, the raised subject is extracted to the embedded CP₂ of the S-initial causal clause, rather than the matrix CP₁, as shown below. This is why Condition C is not violated.

- (33) a. [_{CP1} [_{CP2} I_i [_{CP2} in'ui _{t_i} sannh'tioh tsit-e tiong-lian ue'ka]],
 she because attracted one-CL middle-aged painter
 Le'tsui_i hong'khi ge'sut bang, tshiong'tng khi tai'uan.]
 Letsui give.up art dream rush go Taiwan
 'Because Letsui_i had been attracted to a middle-aged painter, she_i gave up her art dream and rushed to Taiwan.'
- b. [_{CP1} [_{CP2} I_i [_{CP2} in'ui _{t_i} si lan siong'ho-e hua'hak.
 she because be our best-LNK chemistry
 kang'ting'su]], gua beh Tsng sio'tsia_i jip'lai.]
 engineer I want Tsng Ms. enter
 'Because she_i is our best chemistry engineer, I want Ms. Tsng_i to join us.'
- c. [_{CP1} [_{CP2} I_i [_{in'ui} _{t_i} gau tso'lang]], tai'ke
 he because good.at sociality everyone
 long thiann _{i_i}]
 all love him
 'Because he_i is very sociable, everyone loves himi.'

The above analysis strengthens our analysis that *in'ui* 'because' in S-final causal clauses is a complementizer, blocking argument raising, whereas in S-initial causal clauses it is an adverb, not blocking argument fronting. In addition, the external structures of S-initial and S-final causal clauses are expected to be different,

as will be shown below.⁸ In the following section, we will try to unify the syntactic category of *in'ui* 'because'.

4 The external structure of causal clauses: Adjunction and predication

To further define the architecture of causal clauses in TSM, we will consider the differences between CACs and PACs in terms of the S-initial vs. S-final distinction and their relationships with root clauses. According to Haegeman's (2002, 2012, 2014) analysis, PACs exhibit root clause phenomena, since the properties of PACs highly overlap with those of root clauses with respect to the operation of force, variable binding, and scope-related factors. Even so, PACs cannot be taken as being equal to root clauses. The notion of root has been taken as a general concept in both Haegeman's and Li and Wei's (2018a, 2018b) analyses. In this work, despite the similarities between root clauses and PACs, we distinguish PACs from root clauses as follows. PACs are adverbial clauses adjoined to the peripheral position of the matrix clause above ForceP, at a position much higher than that of CACs, which are below ForceP. Contrastively, root clauses are independent clauses.

4.1 CACs vs. PACs

Adverbial clauses can be divided into CACs and PACs (cf. Haegeman 2002, 2012, 2014, etc.). PACs exhibit root clause phenomena. A CAC is a non-root clause without any Force Projection (below ForceP) to license attitude-related expressions such as SFPs, whereas a PAC is merged above ForceP. The detailed CAC and PAC dichotomy is shown below.

(34) Two types of adverbial clauses (adapted from Haegeman 2012: 180)

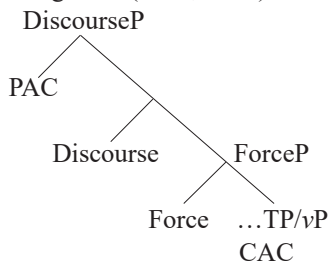
	CACs	PACs
a. In scope of matrix negation	+	-
b. In scope of matrix interrogative/focus	+	-
c. Variable-binding into the adverbial clause	+	-
d. Illocutionary force	-	+
e. Speaker-oriented markers	-	+
f. Argument fronting (English)	-	+

⁸ In the following section, we further observe that the landing site of extraction from an S-initial causal clause, either a CAC or a PAC, is located at CP₂, within the periphery of the subordinate clausal clause, rather than at CP₁, within that of the matrix domain. The major evidence comes from the fact that the extracted elements can escape from the Condition C violation in (33). Such "local" extraction across the adverb *in'ui* 'because' is tolerated in TSM. In contrast, argument extraction out of S-final causal clauses, whether reversible or not, is prohibited. The fact reveals that when an S-final causal clause follows the main consequent clause, the S-final domain intervenes in the raising of argument owing to the blocking of the complementizer. Thus, the major difference between Taiwanese and Mandarin Chinese lies in the S-initial "because". Taiwanese regards it as an adverb, but Mandarin Chinese as a complementizer. In Section 4, we argue that the syntactic category of *in'ui* 'because' in S-initial or S-final causal clauses in TSM is uniformly an adverb. Topicalization makes object fronting impossible in the S-final position.

CACs are within the scopes of matrix negation and matrix interrogative/focus, and are bound by antecedents in the main clause, whereas PACs are not. PACs accommodate illocutionary force and speaker-oriented markers,⁹ whereas CACs do not. In English, PACs tolerate argument fronting, whereas CACs do not.

Considering the S-initial vs. S-final distinction, Wei and Li (2018a, 2018b) further argue that S-initial CACs and PACs cannot end with SFPs, while only S-final causal and concessive PACs can. As to clause types, S-initial CACs and PACs can be declarative only, whereas S-final causal and concessive PACs can accommodate a full range of clause types, such as imperative, interrogative, exclamative, etc. Based on a full range of clause types and the presence of attitude SFPs, they propose that certain S-final reason clauses are root sentences and form a coordinate conjunction with the preceding “main” clause. In line with Haegeman’s (2012, 2014) hierarchical structure of adverbial clauses, CACs are merged below the ForceP of the main clause, in the form of *v*P or TP adjunction (*v*P/TP-adjunct), while PACs are merged above the ForceP of the main clause (CP-adjunct) as a kind of root clause in the Spec of DiscourseP, encoding the illocutionary act and attitude-denoting SFPs, as shown in (35).

(35) Haegeman (2012, 2014): PAC vs. CAC



It is worthwhile to note that regarding the analysis of illocutionary force and speaker-oriented markers such as SFPs, there is a drastic analytical difference between Pan (2015, 2019a) and Wei and Li (2018a, 2018b) in Mandarin Chinese. Pan (2015, 2019a) allows S-initial causal clauses to be taken as the complement of high SFPs, such as *i*ForceP and AttP, which are adjoined to the left or right side of the consequent clause. That is, these SFPs can freely appear in S-initial or S-final causal clauses, depending on the speaker’s discourse considerations. In contrast,

⁹ *Ah* in TSM, the counterpart of the speaker-oriented marker *you* ‘again’ in Mandarin Chinese, cannot be identified within our TSM data regarding causal clauses. In Mandarin Chinese, *you* ‘again’ appears in concessive clauses (PACs) as in (i) but not in conditional clauses (CACs) (Wei and Li 2018b: 198–199). In TSM, *ah* ‘again’ also occurs in concessive clauses.

(i) Jiran Zhangsan *you* bu shi guyi de, ni jiu yuanliang ta ba.
 since Zhangsan ATT not be intentional DE you then forgive him SFP
 ‘Since Zhangsan obviously is not (in doing something), you might as well forgive him.’

Wei and Li (2018a, 2018b) do not allow S-initial causal clauses to take any SFPs in Mandarin Chinese. Such an empirical and analytical difference will be surveyed in TSM.

4.2 Tests of root clause in TSM

This section is to diagnose whether a causal clause in TSM, either in S-initial or S-final position, is a root clause or not. By means of diagnosing the root phenomena, we could understand which type of causal clause is or is close to an independent root clause. The result helps us to realize the relationship between the root phenomena and the CACs/PACs division. Three tests will be used to detect if a causal clause is a root clause: (i) if the clause can be followed by high SFPs, it may be a root clause (Pan 2019a); (ii) if the clause can accommodate a full range of clause types, including declarative, interrogative, exclamative, etc., it is a root clause; and (iii) if elements within the causal clause are not affected by scope-related factors from the main clause, including quantificational binding into the adverbial clause, the scope of the negation, and the scope of (interrogative) force, it is a root clause. Here one issue needs clarifying before the analysis. PACs cannot be taken as being equal to root clauses in certain respects. PACs are adverbial clauses adjoined to the peripheral position of the matrix clause above ForceP, at a position much higher than that of CACs, which are below ForceP. Contrastively, root clauses are independent clauses, being able to coordinate with the main clause. Even so, as can be seen from the comparison of CACs/PACs in (34), the properties of PACs highly overlap with those of root clauses with respect to the operation of force, variable binding, and scope-related factors. All these phenomena will be taken into account when we categorize causal clauses in TSM as being close to CACs or PACs.

Based on the empirical data, we find that high speaker-oriented SFPs do exist in both S-initial and S-final causal clauses in TSM, drastically differing from SFPs in Mandarin Chinese, which as Wei and Li (2018a, 2018b) argue, are forbidden to appear in S-initial causal clauses. Besides, the scope of negation is not a reliable diagnostic due to a general syntactic property of negation in TSM. The major differences between CACs and PACs in TSM lie in type of force, scope of force, and quantifier binding. These diagnostics distinguish the first and second types of causal clauses (CACs) from the third type (PACs). Furthermore, it will be shown that the syntactic structure of S-initial and S-final causal clauses in TSM is left- or right-adjoined to the consequent clause above or below ForceP, as argued by Heageman (2012, 2014) and Pan (2015, 2019a). Each type of causal clause in TSM will be checked below.

4.2.1 Irreversible S-initial causal clauses

According to data from the recordings, we find that S-initial causal clauses, which are classified as the first type, can end with SFPs like *mah* in (36a), *leh* in (36b), *ah* in (36c), and *nah-honnh* in (37b), all of which are speaker-oriented particles,

used to express a speaker's personal opinions and attitudes.¹⁰ Besides, this type uniformly displays declaratives only, differing from consequent clauses, which can accommodate a full range of clause types, such as interrogatives and imperatives, as illustrated in (36a) and (37).

- (36) a. [In'ui li hoo i bo hit'e tau'phio e
because you give him not that vote LNK
tong'ling mah], ah li hoo gua be kam'tong,
motivation SFP PART you give me not moved
gua ho'pit toh tshut-lai tau'phio]? (Interrogative)
I why.must then go-come vote
'Because you have not given him that motivation to vote, you have not given me the reason for being moved, then why do I go out to vote?'
- b. [In'ui ting'ki liau leh], Tan Ki'mai it'ting e
because register finish SFP Tan Kimai certainly will
ting'ki uan'sing liau'au e kap i soo'u the'mia
register finish after will with he all nominated
e gi'oan, li'tiunn lian'hap tua-tso'se.
LNK alderman neighborhood.head unite big-demonstration
'Because the registration has finished, Tan Ki'mai certainly, after he finished registering, will unite all of the nominated aldermen and neighborhood heads to hold a big demonstration.'
- c. [In'ui tsheh'tiam tsiok se-e ah], bo-huat'too
because bookstore very small-LNK SFP not-able
khng tsiok tse tsheh. (because > ¬)
put very many book
'Because the bookstore is very small, it is impossible to put lots of books.'
- (37) a. [_{Causal} In'ui sing'li'lang u nng-sann-tshing-e lai tsia
because businessman have two-three-thousand-LNK come here
leh pio], [_{Causal} lam'poo tsit'ma hong'siu, iu'ki thing
ASP tender south now harvest especially stop

¹⁰ Under the split CP hypothesis (Rizzi 1997; Bayer 2001; Haegeman 2002, 2004, 2012; Zagana 2007; among others), Paul (2014, 2015) and Pan and Paul (2016) propose a three-layered CP for Chinese in (i).

(i) Attitude > Force > Low C

Based on this hierarchy, Pan (2015, 2019a, 2019b) proposes a fine architecture with respect to the left peripheral projections of Chinese SFPs as in (ii). Pan argues that different types of SFPs head different functional projections from low to high hierarchy.

(ii) The hierarchy of the core projections in the Chinese left-periphery

AttP (speaker's attitude) > SQP (special questions) > iForceP (illocutionary force) > OnlyP (exclusive focus particles) > S.AspP (sentential aspects) > TP...

tsit sann-jit], [_{main} pai'thok kuann'kin tsin'tiunn]. (Imperative)¹¹
 this three-day please hurry enter

Lit.: 'Because there are two or three thousand people coming to tender, and because the south enjoys harvest now, especially in these three days, please hurry up to join.'

- b. [In'ui lan beh pi'bian e si tsit-e ian
 because we will avoid LNK be this-LNK smoke
 nah-honnh],¹² m'thang hoo ian tsau'jip-lai
 SFP-SFP don't give smoke enter-come
 toh-tioh. (because > ¬) (Imperative)
 then-is.right
 'Because what we would like to avoid is this kind of smoke, just don't let it come in; that is right.'

- c. [In'ui i_i-e ka'tiunn ting'ki ah],
 because he-POSS parents register SFP
 mui tsit-e hak'sing_i it'ting e lai.
 every one-CL student certainly will come
 'Because his parents have registered, every student certainly will come.'

Furthermore, the first type of causal clause is affected by scope-related factors, such as the force of the clause and binding. For example, the interrogative force of the *wh*-word *ho'pit* 'why (must)' in (36a) takes scope over the entire causal clause (interrogative *ho'pit* > *in'ui* 'because'), as do the imperatives in (37a) and (37b). As to the effect of quantificational binding, the subject quantifier *mui tsit-e hak'sing_i* 'every student' in (37c) can be co-indexed with the embedded pronominal subject *i_i-e* 'his' in the causal clause. Even so, the S-initial causal clause is not within the scope of negation of the consequent clause in (36c) marked by *bo* 'not', or in (37b) marked by *m'thang* 'don't', neither of which shows matrix negation.

In brief, as will be shown, the presence of SFPs does not seem to play a crucial role in determining the root status of S-initial causal clauses in TSM. Concerning clause types, S-initial causal clauses only tolerate declaratives and are affected by scope-related factors such as the force of the main clause and quantificational binding. Besides, S-initial causal clauses are structurally outside the scope of negation of the main clause, which, we observe, does not take scope over the entire sentence due to its own syntactic properties. Negatives such as *bo* 'has not' in TSM locally negate the constituents right after it, as do the negatives in Mandarin

¹¹ This example can be analyzed as being composed of two causal clauses and one consequent clause ending with imperative mood. The second causal clause contains a covert *in'ui* 'because', which naturally occurs in Chinese.

¹² The SFP use of *honnh* appears in our transcribed data. It is interesting to know that it can be alternatively used as a free filler between phrases. In these cases, it may indicate a pause, lacking meaningful connotation such as personal attitude or opinion. As suggested by a reviewer, this sequence is posited to originate from *lah hoannh*, undergoing transformation due to regressive assimilation.

Chinese such as *bu* ‘not’ and *mei* ‘has not’. Here, we roughly come to a tentative conclusion that S-initial causal clauses are closer to CACs, but not PACs or roots.

4.2.2 Irreversible S-final causal clauses

Regarding the second type, the S-final causal clause in (38a) cannot be freely reversed as in (38b). This is a so-called irreversible S-final causal clause with independent assertive illocutionary force in the consequent clause.

- (38) a. *Ui'tioh i-e mia lai siu khun'tiok, thi'tshio,*
 for he-POSS name come receive harassed teased
 le'me e u hok-khi, [in'ui thian-kok si i-e].
 cursed LNK have welfare because heaven be he-POSS
 ‘Those who are harassed, teased, and cursed due to HIS name are blessed,
 because the heaven belongs to him.’
 b. **[In'ui thian'kok si i-e], ui'tioh i-e mia*
 because heaven be he-POSS for he-POSS name
 lai siu khun'tiok, thi'tshio, le'me e u hok'khi.
 come receive harassed teased cursed LNK have welfare

The data collected from the recordings show that SFPs expressing a speaker's attitude, such as *mah* in (39a), *lah* in (39b), and *eh* in (39c), prevalently end sentences in irreversible S-final causal clauses. This fact reveals that the occurrence of SFPs cannot be used to prove that a clause is a root, mainly because they freely appear in either S-initial or S-final causal clauses.

- (39) a. *In ti leh phah sng'puann, [in'ui sin tiau'liu long*
 they PROG ASP calculate abacus because new trend always
 ti leh hai Bin'tsin-tong ki'thann-e lang mah],
 PROG ASP torture Progressive-party other-LNK person SFP
 hai Lim Ka'liong, hai tai'lam-tshi e Lim sio'tsia.
 set.up Lim Kaliong set.up Tainan-city LNK Lim Ms.
 ‘They are evaluating the situation because the New Trend is torturing the
 other people in the Progressive Party, torturing Lim Kaliong, and torturing
 Ms. Lim from Tainan.’
 b. *Ah u'lang kong, kam'tsia ho'tsiah bo*
 PART someone say cane delicious not
 siang-thau tinn, [in'ui tse si sio ti'sik lah].
 double-head sweet because this be little knowledge SFP
 ‘As someone said, “cane is delicious, but it is impossible to be sweet at
 both ends simultaneously,” because this is common knowledge.’
 c. *U, tsuat'tui u! [in'ui tse si pik tshut-lai*
 have absolutely have because this be force out-come
 eh! pik tshut-lai eh!]
 SFP force out-come SFP
 ‘Yes, there is absolute [disagreement], because this [anger] has been
 squeezed out [from people].’

Besides, the empirical fact from the corpora reveals that irreversible S-final causal clauses only display declaratives¹³ and are subject to quantificational binding into the causal clauses. Consider the matrix subjects in (40a) and (40b): [*Mui tsit-e lian'bin lang e lang*]_i ‘anyone who has mercy on human’ and [*Mui tsit-e iau tshui'ta him'moo gi e lang*]_i ‘anyone who is hungry and thirsty for justice’. Each serves as a quantifier that binds the subject of the irreversible S-final causal clause and the possessive pronoun *i_i-e* ‘his’. If the main and causal clauses are both roots, then they form a coordinate structure.¹⁴ Since quantificational binding with variables across

¹³ A reviewer raises a question regarding (38a) (= (6a)). What if the S-final causal clause has a rising intonation, which accompanies a question from a scenario as follows? Imagine someone read a message on a pamphlet and curiously uttered (38a) with a rising intonation at the end of it. Does this count as a counterexample of the claim that the causal clauses of the second type tolerate declaratives only? We would like to say that such an example is not considered as a counterexample to our observation. Its grammaticality can be attributed to the fact that the interrogative force takes scope over the entire sentence, including the consequent clause and the causal clause. In other words, the question can be interpreted as ‘Have I said to you that those who are harassed, teased, and cursed due to HIS name are blessed, because the heaven belongs to HIM?’. Moreover, the answer of the question leads to another question about the internal structure of irreversible S-final causal clauses. In line with Pan’s (2015, 2019a, 2019b) hierarchy of the core projections in the Chinese left-periphery (cf. footnote 10), we could argue that irreversible S-final causal clauses are also fully-fledged clausal structure CPs, headed by the complementizer *in'ui* ‘because’, as in (i). The CP-causal clause is adjoined to the right side of the TP-consequence. The rising intonation at the end is bound by a Q operator at the matrix *iForceP*, yielding an interrogative force.

(i) [_{iForceP} Q [_{TP-consequence} [_{TP-consequence} U_i'tioh i-e mia lai siu khun'tiok, thi'tshio, le'me e u hok'khi]], [_{CP-causal} in'ui [_{TP} thian'kok si i-e]] Ø (rising intonation)].

¹⁴ Pan and Zhu (2023) report that irreversible reason clauses are akin to so-called epistemic-level causal clauses (Sweetser 1990: 77) as reported in (ib), in contrast to the ones in content level and the ones in speech-act level as illustrated in (ia) and (ic), respectively.

(i) a. John came back because he loved her. (Content level)
 b. John loved her, *because he came back*. (Epistemic level)
 c. What are you doing tonight because there's a good movie on. (Speech-act level)

Pan and Zhu (2023: 235) assert that structurally the Mandarin Chinese counterpart of the epistemic type of causal clauses is base-generated in a position following the main clause (S-final) in (iia). The reverse order is unacceptable in (iib), because because the main clause is “not factual” but “as a belief of the speaker”. When a non-factive verb *renwei* ‘think’ appears in the main consequence clause, it improves as in (iic).

(ii) a. [_{consequent-cl.} Zhangsan hen ai ta taitai], [_{causal-cl.} yinwei ta
 Zhangsan very love 3SG wife because 3SG
 zuizhong haishi liu-xia-lai le].
 finally still stay-down-come SFP
 ‘Zhangsan loves his wife very much, because in the end he stayed.’
 b. * [_{causal-cl.} Yinwei Zhangsan zuizhong haishi liu-xia-lai le],
 because Zhangsan finally still stay-down-come PERF
 [_{consequent-cl.} ta hen ai ta taitai].
 3SG very love 3SG wife
 **‘Because Zhangsan stayed in the end, he loves his wife very much.’
 c. [_{causal-cl.} Yinwei Zhangsan zuizhong haishi liu-xia-lai le],
 because Zhangsan finally still stay-down-come PERF

coordinated sentences is generally prohibited, it is expected that quantificational binding into the S-final causal clauses should not be allowed, contrary to fact.¹⁵ The grammaticality of (40) weakens the coordinate root clause analysis for irreversible S-final adverbial clauses. In that sense, this type is much closer to CACs, not PACs.

- (40) a. [Mui tsit-e lian'bin lang e lang]_i u hok'khi,
 every one-CL mercy human LNK person have welfare
 [in'ui [i_i-e hio'tai] beh tit'tioh lian'bin].
 because he-POSS descendant will obtain mercy
 'Anyone who has mercy on humans has welfares, because his descendants will obtain mercy.'
- b. [Mui tsit-e iau tshui'ta him'boo gi e lang]_i
 every one-CL hungry thirsty adore justice LNK person
 U hok'khi, [in'ui [i_i-e hio'tai] beh tit'tioh pa].
 have welfare because he-POSS descendant will obtain full
 'Anyone who is hungry and thirsty for justice has welfares, because his descendants will obtain fullness.'

Regarding other scope-related effects, negation in the consequent clause cannot take scope over S-final causal clauses, due to the properties of negatives in TSM.¹⁶ This means that negation cannot be taken as a property of CACs in TSM. Consider the matrix negation *bo* 'has not' in (41). It cannot take scope over the irreversible S-final causal clause. Although in (41b) the scope of negation can reach the clausal clause when it immediately follows the negation in the sentence-medial position, the meaning changes drastically compared to (41a). Such a difference can be attributed to the properties of negative words in TSM, which locally negate the constituent right after them, as do negatives in Mandarin Chinese like *bu* 'not' and *mei* 'has not'. This implies that the negation test may not be a reliable diagnostic for identifying root clauses.

[consequent-cl. wo renwei ta hen ai ta taitai].
 1SG think 3SG very love 3SG wife

**'Because Zhangsan stayed in the end, he loves his wife very much.'

¹⁵ Pan (2015, 2019a) and Wei and Li (2018b) analyze S-final reason clauses as being conjuncts in a coordinate structure with two conjoining root clauses (cf. Verstraete 2005, 2007). Wei and Li (2018b) further argue that some Chinese S-final causal or concessive adverbial clauses are not PACs but root clauses with their own illocutionary force, as shown in (i).

(i) [_{Root} Mali bu zai zheli], [_{Root} yinwei wo mei kanjian ta].
 Mary not at here because I not see her
 'Mary is not here, because I don't see her.'

¹⁶ Regarding (41a), we have to admit that when S-final causal clauses follow the main clause, they are outside of the scope of negation. This phenomenon is similar to negation test of Chinese CACs and PACs in the S-final position, as discussed by Wei and Li (2018b: 222). They note that both CACs and PACs, when following the main clauses, are outside of the scope of negation. To resolve this non-distinctive flaw, CACs and PACs are put immediately after the negation in the sentence-medial position. Such a modification distinguishes CACs from PACs: CACs turn out to be legitimate, but PACs do not.

- (41) a. I bo tsham'ka, [in'ui gua bo khuann'kinn i].
 he has.not join because I not saw him
 'He has not joined [the activity], because I have not seen him.'
 b. I bo [in'ui gua bo khuann'kinn i] tioh tsham'ka.
 he has.not because I not saw him then join
 'It is not because I have not seen him, he joined [the activity].'

Moreover, the S-final causal clause in (42) is within the scope of the yes-no interrogative force *si-bo* ‘be not’ or the question particle *ni* in TSM. However, the consequent clause of (42) expresses assertive illocutionary force independently, and the S-final *in’ui* ‘because’ clause provides an explanation to the assertion, denoting the following meaning: ‘I say to you that he is not here, because I have not seen him.’ When the assertive illocutionary force becomes an interrogative sentence, the question marker *si-bo* ‘be not’ or the question particle *ni*, appearing at the end of the consequent clause, takes scope over the entire reason clause, including the irreversible S-final causal clause. (42) therefore denotes the meaning: ‘Haven’t I said to you that he is not here, because I have not seen him?’ If this line of thought is correct, S-final causal clauses are akin to CACs, not PACs, because the interrogative force of the consequent clause takes scope over them.

- (42) I bo ti tsia si-bo/ ni, [in'ui gua bo khuann'kinn i]?¹⁷
he not at here be-not Q because I not see him
Lit.: ‘Haven’t I said to you that he is not here, because I have not seen him?’
(Interrogative force > because)

In brief, irreversible S-final causal clauses tolerate the appearance of high SFPs. These clauses do not display a full range of clause types except declaratives, but they show quantification binding. This jeopardizes the coordination analysis, implying that S-final causal clauses are not root conjuncts in a coordinate structure. Furthermore, the scope-related test relating to negation is not distinctive, but scopal

¹⁷ As a reviewer suggests, when the sentence-final particle *neh* (pronounced with a mid-level tone) is attached to S-final causal clauses, it appears to disrupt the interpretation intended by the author. The particle *neh* with a mid-level tone does not fit in with the rhetorical mood at all as in (i).

- (i) I bo ti tsia si-bo, in'ui gua bo khuann'kinn i neh33.
he not at here be-not because I not see him SFP
Lit.: 'Haven't I said to you that he is not here, because I have not seen him?'

Given Pan's (2015, 2019a, 2019b) hierarchy of the core projections in (ii), our interpretation matches the CAC analysis for the following reasons. First, causal clauses in TSM can end with final particles. Thus, the final particle *neh33* structurally heads the AttP of the S-final causal clause. This clause is right-adjointed to the consequent clause under ForceP, whose interrogative force dominates the entire sentence (iForceP). After checking with native speakers, we find that the presence of *neh33* does not affect the interpretation of (42).

- (ii) [_IForceP-consequence OP_i [_IForceP-consequence [_{TP} I bo ti tsia] si-boi],
 he not at here be-not
 [_{AttP}-cause [_{CP}-cause in'ui [_{TP} gua bo khuann'kinn i]] neh33]]?
 because I not see him SEP

effect relating to interrogative force shows that causal clauses of this kind are close to CACs rather than PACs. We propose a right-adjunction analysis for this type later.

4.2.3 Reversible S-final causal clauses

Reversible S-final causal clauses are causal clauses that can freely appear before or after the consequent clause, as shown in (10) and (12), with each pair conveying the same meaning despite the different orders.¹⁸

In (43) and (44), we find that the interrogative force appearing in the consequent clause takes scope over the entire reversible reason clause, whether in S-initial or S-final position. This test seems to show that reversible adverbial clauses could be classified as CACs rather than PACs, due to the fact that the interrogative force of the matrix clause, as expressed by *siann'mih* 'what' and *an'tsuann* 'how' in (43) and (44), respectively, takes scope over the causal clause (cf. Haegeman 2012: 180).

- (43) a. Le'tsui hong'khi *siann'mih* bang, tshiong'tng khi tai'uan,
 Letsui give.up what dream rush go Taiwan
 [in'ui sannh'tioh tsit-e toing-lian ue'ka]?
 because attracted one-CL middle-aged painter
 Lit.: 'What dream did Letsui give up by rushing to Taiwan, just because she had been attracted to a middle-aged painter?'
 b. [In'ui sannh'tioh tsit-e toing-lian ue'ka], Le'tsui hong'khi
 because attracted one-CL middle-aged painter Letsui give.up
siann-mih bang, tshiong'tng khi tai'uan?
 what dream rush go Taiwan
 Lit.: 'Because Le-tsui had been attracted to a middle-aged painter, what dream did she give up by rushing to Taiwan?'
- (44) a. Tai'ke *an'tsuann* ti leh thiann i,
 everyone how PROG ASP love him

¹⁸ Pan and Paul (2018) and Pan and Zhu (2023) argue that reversible S-initial/S-final causal clauses headed by *yinwei* 'because' in Mandarin Chinese are adjuncts of the matrix TP, adjoined to either side of the main clause (TP), as shown in (i). In contrast, irreversible S-final causal clauses might be part of a conjoined structure (cf. Pan and Paul 2018; Pan and Zhu 2023; Wei and Li 2018b; etc.). That is, S-final causal clauses are independently derived, unlike S-initial causal clauses.

- (i) a. [_{TP1-main} [_{CP-clausal} Yinwei [_{TP2} zijin yijing daowei]], [_{TP1-main} tamen xinxin
 because money already arrive their confidence
 hen zu]].
 very sufficient
 'Because the money has arrived, they feel so confident.'
 b. [_{TP1-main} [_{TP1-main} Tamen xinxin hen zu]], [_{CP-clausal} yinwei [_{TP2} zijin
 they confidence very sufficient because money
 yijing daowei]].
 already arrive
 'They feel so confident because the money has already arrived.'

- long [in'ui i gau tso'lang]?
 all because he good.at sociality
 Lit.: 'How does everyone love him, all because he is very sociable?'
- b. [In'ui i gau tso-lang], tai-ke long
 because he good.at sociality everyone all
an'tsuann ti leh thiann i?
 how PROG ASP love him
 Lit.: 'Because he is very sociable, how does everyone love him?'

However, in (45) and (46), we find that reversible S-final causal clauses can express *wh*-interrogative in the causal clauses. This suggests that the adverbial clauses are capable of accommodating not only declarative force, but also interrogative force, as expressed by *siann'mih* 'what' and *an'tsuann* 'how'.

- (45) a. Le'tsui hong'khi ge'sut bang, tshiong'tng khi tai'uan,
 Letsui give.up art dream rush go Taiwan
 [in'ui sannh'tioh *siann-lang*?]
 because attracted what-person
 Lit.: 'To what person had Letsui been attracted, so she gave up her art dream and rushed to Taiwan?'
- b. [In'ui sannh'tioh *siann-lang*], Le'tsui hong'khi ge'sut
 because attracted what-person Letsui give.up art
 bang, tshiong'tng khi tai'uan?
 dream rush go Taiwan
 Lit.: 'To what person had Letsui been attracted, so she gave up her art dream and rushed to Taiwan?'
- (46) a. Tai'ke long thiann i, [in'ui i tso'lang *an'tsuann*?]
 everyone all love him because he behave how
 Lit.: 'How does he behave, so everyone loves him?'
- b. [In'ui i tso'lang *an'tsuann*], tai'ke long thiann i?
 because he behave how everyone all love him
 Lit.: 'How does he behave, so everyone loves him?'

We assume that based on the appearance of the interrogative force within the adverbial clauses, reversible S-final causal clauses might be categorized as PACs, which are left- or right-adjoined above the ForceP of the main clause (CP-adjunct), higher than CACs.

In (47), concerning quantificational binding, it is apparent that the S-final adverbial clause in (47a) sounds better than the S-initial one in (47b). It seems that the quantifier subject of the main clause is more accessible to the pronoun *i* 'he' of the causal clause in the final position than that in the initial position. However, the co-indexation between the quantifier *mui-tsit-e hak'sing* 'every student' in the consequent clause and *i* 'he' in the reversible causal clause is not acceptable.¹⁹

¹⁹ Of ten informants, six do not accept the quantification binding of (47a) and four mildly accept it. The sentence becomes acceptable if the plural pronoun *in* 'they' is used.

- (47) a. ??[Mui-tsit-e hak'sing]_i long e'sai jip'lai kong'si,
 every-one-CL student all can enter company
 [in'ui i_i kho'ling si lan siong'ho e kang'ting'su].
 because he possible be our best LNK engineer
 Lit.: 'Every student_i can enter company, because he_i possibly will be the best engineer.'
- b. *[In'ui i_i kho'ling si lan siong'ho e kang'ting'su],
 because he possible be our best LNK engineer
 [mui-tsit-e hak'sing]_i long e'sai jip'lai kong'si.
 every-one-CL student all can enter company

As to the diagnostic of negation, we find that the reversible S-final causal clause scopes over the negation, encoding 'it is because she is the best chemist that I won't let Ms. Tsng go' in (48a) and (48b). This is contrary to (48c), in which the negation takes scope over the causal clause, resulting in the reading 'It is not because she is the best chemist that I let Ms. Tsng go.' Akin to the non-distinctiveness of negation occurring in the first and second types of causal clauses, the scope of negation in the third type cannot be deemed as a reliable diagnostic to distinguish PACs from CACs.

- (48) a. Gua bo hoo [Tsng sio'tsia]_i tsau, [in'ui i_i si lan
 I not let Tsng Ms. leave because she be our
 siong'ho e hua'hak kang'ting'su].
 best LNK chemical engineer
 'I won't let Ms. Tsng_i leave, because she_i is our best chemical engineer.'
 (because > ¬)
- b. [In'ui i_i si lan siong'ho e hua'hak
 because he be our best LNK chemical
 kang'ting'su], gua bo hoo [Tsng sio'tsia]_i tsau.
 Engineer I not let Tsng Ms. leave
 'Because she_i is our best chemical engineer, I won't let Ms. Tsng_i leave.'
 (because > ¬)
- c. Gua bo [in'ui i_i si lan siong'ho e
 I not because she be our best LNK
 hua'hak kang'ting'su], toh hoo [Tsng sio'tsia]_i tsau.
 chemical engineer then let Tsng Ms. leave
 'I let Ms. Tsng leave, not because she is our best chemical engineer.'
 (¬ > because)

Thus, this section shows that based on diagnostics of scope of force and quantification binding, reversible S-final causal clauses could be classified as PACs, in which causal clauses are not directly dominated by the main clause.

4.2.4 Copula-S-final causal clauses

The fourth type of causal clause, in the form of [be + *in'ui* causal clause] in the S-final position, differs from the second type of S-final causal clause mainly in its

toleration of various types of force, such as interrogative, exclamative, declarative, and rhetorical, as shown in (49). Besides, SFPs such as *lah* in (49b), denoting a speaker's subjective opinion and attitude as a kind of high SFP (cf. Pan and Zhu 2023), can appear right after *si in'ui* 'be because' clauses.

- (49) a. Tai'ke tshut'giap liau'au, tai'poo'hun bo khang'khue thang
 everyone graduate after most not job can
 tso, tse si [in'ui tsuann'iunn leh? (Interrogative)
 do this be because why SFP
 'After all of them graduated, most of them have no jobs to do; why is this?'
- b. M bian ka li phi'siunn si [in'ui li si
 not not.necessary KA you blamed be because you be
 tso kah li'li'lak'lak lah]! (Exclamative)
 do to.the.extent sloppily SFP
 'I don't blame you; that is because you always do things in a sloppy way.'
- c. Kha'hun sim'kuann lai bing'pik i e tng lai,
 Khahun heart inside understand he will return come
 uan'tsuan si [in'ui nng-ui si'tua'lang], bo-kho'ling.
 completely be because two-CL elder not-possible
 si [in'ui kua'liam i tsit-e boo tng lai] e.
 be because worry he this-LNK wife return come SFP
 'In her mind, Khahun knows that he will come back, mainly because of the
 two elders, his father and mother, and possibly not because of his worry
 about his wife.' (Declarative)
- d. An-ni, in-e un'mia thai e tsiah tshi'tsham,
 such they-POSS fate then will so miserable
 kiam m si [in'ui i si koo'ji] mah! (rhetorical)
 Q not be because he be orphan SFP
 'In such a way, their fate becomes so miserable; that is because he is an orphan!!'

Based on the aforementioned discussions, the accommodation of various types of force and different kinds of SFPs apparently points to the fact that S-final *si in'ui* 'be because' causal clauses behave like root clauses or at least resemble PACs. Furthermore, this type of causal clause is affected by scope-related factors, such as negation in (50) and the force of the clause in (51). In (50), the negative *m-si* 'not be' scopes over the entire causal clause right after it. In (51a) and (51b), the interrogative force, induced by the question particle *mah* and question marker *kam*, respectively, takes scope over the causal clause. Moreover, the matrix quantifier subject can elastically bind the pronoun within the copula-causal clause in (52). These facts reveal that copula-S-final causal clauses are located at a position c-commanded by the matrix subject, being much closer to CACs, not PACs. Below, we will show that the syntactic structure of the copula type will be captured after more syntactic properties of the copula have been released.

- (50) a. Ia'soo m si [in'ui beh hian'tshut pun'sin
 Jesus not be because want demonstrate himself
 si siong'te], tsiah lai kiann sin'jiah.
 be God then come do miracle
 'Jesus did miracles not because He wanted to show himself to be God.'
 ($\neg >$ because)
- b. Siong'te king li, beh kiu li, m si [in'ui li
 God choose you will save you not be because you
 ing'kai tit'tioh kiu]. ($\neg >$ because)
 should obtain save
 'God chooses you and wants to save you, not because you should be saved.'
- (51) a. Kho'sioh, ti lan sin kau-lun tsit-e siau'kik
 pity at our new religion-theory this-LNK passive
 e hong'bin, kam m si [in'ui khuat'huat e
 LNK aspect Q not be because lack LNK
 in'tuann, ti'kau tsin tshian'poh e khuan] mah?
 reason lead.to really shallow LNK manner SFP
 'What a pity! With respect to our new religion theory, isn't it because the
 lack of understanding [of the theory] leads to the superficial shallowness
 [of the theory]?' (Interrogative $>$ because)
- b. Bun'pit ho, kam iah si [in'ui li khuann
 writing good Q or be because you read
 tsin'tse tsheh]? (Interrogative $>$ because)
 many book
 'Since [your] writing is excellent, is it because you have read lots of books?'
- (52) [Mui tsit-e pit'giap e tai'hak-sing]_i si [in'ui
 every one-CL graduate LNK university-student be because
 i_i-e jin'tsin siu'tioh khing'ting]. (Quantificational binding)
 he-POSS devotion receive recognition
 Lit.: 'Every college student_i who graduated is because his_i devotion has
 been recognized.'

As discussed previously, the negative copula *m-si* 'not be' can negate the entire causal clause. The fact shows that a copula *si*-causal clause, serving as a predicate, is predicated of the subject, which could be a nominal or even a consequence clause. This explains why the matrix negation and force can take scope over the entire causal clause in (50) and (51) and why the quantifier in the main clause can bind the pronoun in the causal clause in (52). Besides, the predication analysis also captures the facts that a *si*-causal clause can accommodate a full range of clausal force and that it can take high SFPs as in (49), if it is within the matrix domain. Since *si*-causal clauses serve as predicates, not *vP/TP/CP* adjuncts, they are neither CACs nor PACs.

4.2.5 Summary and reconsideration on syntactic category of *in'ui* 'because'

This paper uses three tests to detect if a clause is a root clause: (i) if high SFPs appear after a clause, the clause may be a root clause (Pan 2019a); (ii) if a clause can accommodate a full range of clause types, including declarative, interrogative, exclamative, etc., the clause is a root clause; (iii) if elements within a causal clause are not affected by scope-related factors from the main clause, including quantificational binding into the adverbial clause, the scope of the negation, and the scope of (interrogative) force, the clause is a root clause. We have clarified the issue that PACs cannot be taken as being equal to root clauses in certain respects. PACs are adverbial clauses adjoined to the peripheral position of the matrix consequent clause above ForceP, at a position much higher than that of CACs, which are below ForceP. Contrastively, root clauses are independent clauses. Even so, as can be seen from the comparison between CACs and PACs in (34), the properties of PACs highly overlap with those of root clauses with respect to the operation of force, variable binding, and scope-related factors.

Thus far, we have come to some solid conclusions. From our investigation, we find that high SFPs and negation are not necessary conditions for diagnosing a causal clause as a root clause in TSM.²⁰ The force of sentence and scope-related factors other than negation play a decisive role in determining the external structure of causal clauses. Along this vein, the four types of causal clauses in TSM can be characterized as follows.

First, S-initial causal clauses can end with SFPs but only manifest declaratives. Furthermore, these clauses are affected by scope-related factors, such as the force of the clause and quantificational binding. However, negation in the main clause cannot take scope over S-initial causal clauses due to the general syntactic property of negation in TSM. This implies that such clauses are close to CACs, but not PACs or roots. CACs are left-adjoined to the main clause below ForceP in that sense, in line with Haegeman's (2012, 2014) hierarchical structure of adverbial clauses.

Second, irreversible S-final causal clauses allow the appearance of high SFPs, but the phenomenon is not a decisive factor of being a root. This irreversible type only displays declarative, which is different from Wei and Li's (2018a, 2018b) coordination analysis of S-final adverbial clauses. They argue that S-final causal and concessive clauses in Mandarin Chinese can accommodate a full range of clause types, such as imperative, interrogative, exclamative, etc. Based on this

²⁰ In fact, TSM and Mandarin Chinese behave similarly in these two diagnostics to a certain degree. In Section 4.2, we reveal that Pan's view (2015, 2019a) on the eligibility of high SFPs in S-initial or S-final causal clauses in Mandarin Chinese also occurs in TSM. As to the scope of negation, in footnote 16, we show that Wei and Li (2018b: 222) intentionally put the tested CACs and PACs immediately after the negation in the sentence-medial position to avoid the non-distinctive flaw caused by the general syntactic property of negation in Mandarin Chinese. Thus, these two diagnostics of detecting "root" might need reconsidering.

property along with the presence of attitudinal SFPs, they propose that certain S-final reason clauses are “root” sentences and form a coordinate conjunction with the preceding “main” clause. That is, if an adverbial clause is a root clause, then it is an independent clause capable of accommodating a full range of clause types. Along this vein, our investigation leads to the conclusion that S-final causal clauses in TSM do not function as root conjuncts in a coordinate structure, which is supposed to tolerate a full range of clause types on both sides. Furthermore, this type is subject to scope-related effects, such as quantifier binding and force, other than negation, showing that it patterns with CACs rather than PACs. We propose a right-adjunction analysis of this type, which is right-adjoined to the consequent clause as a CAC below ForceP in the S-final position.

Third, we find that reversible S-final causal clauses can express *wh*-interrogative. It is possible for these clauses to accommodate interrogatives other than declaratives. We assume that this type might be PACs, which are left- or right adjoined above the ForceP of the main clause (CP-adjunct), higher than CACs. The view that reversible S-final causal clauses seem to be close to PACs is supported by their prohibition of scope-related effects such as force and quantificational binding.

Fourth, we propose that *si*-S-final causal clauses are predicates, being predicated of the main clause as the subject. That explains why the matrix negation and force can take scope over these causal clauses and why the quantifier in the main clause can bind the pronoun within them. Besides, the predication analysis also explains why these clauses can accommodate a full range of clause types and why they can take high SFPs within the matrix clause domain. *Si*-S-final causal clauses serve as predicates, not adjuncts; thus, they are neither CACs nor PACs.

As summarized in Table 1, an S-initial causal clause is a CAC, left-adjoined to the main clause below ForceP, as shown in (53a). An irreversible S-final causal clause is also a CAC, right-adjoined to the main clause below ForceP, not a coordinate structure, as in (53b). A reversible S-final causal clause is a PAC, right- or left-adjoined to the main clause above ForceP, as in (53a) and (53b). Furthermore, the *si*-S-final causal clause serves as a predicate, being predicated of the main clause as the subject, neither a CAC nor a PAC. Therefore, the results contribute to the external structure in (53a) for S-initial CACs and S-initial PACs (reversible type) and to that in (53b) for S-final CACs (irreversible type) and S-final PACs (reversible type) as below.

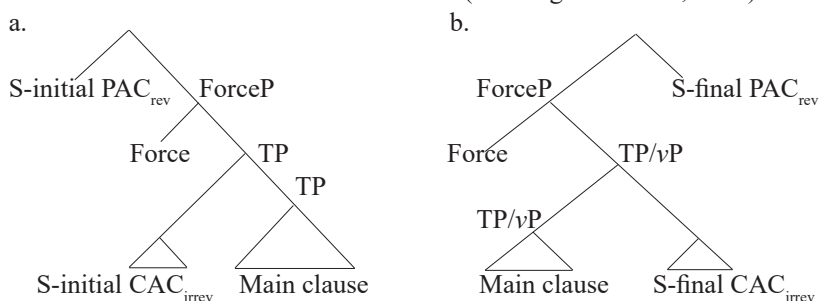
Besides, Table 1 clearly shows the non-distinctiveness of SFPs and scope of negation, which cannot be used to distinguish roots from non-root clauses, and neither can they tell apart CACs from PACs. Furthermore, the table shows that the major differences between CACs and PACs in TSM lie in type of force, scope of force, and quantifier binding. These diagnostics distinguish the first and

second types as CACs from the third type as PACs. The fourth type displays uniquely as a predication type with distinctive properties different from the previous three types.

Table 1

	S-initial causal clause	Irreversible S-final causal clause	Reversible S-final causal clause	<i>Si</i> -S-final causal clause
SFP	V	V	V	V
Type(s) of Force	declarative	declarative	declarative, interrogative	a full range of force
Scope of Negation	X	X	X	V
Scope of Force	V	V	X	V
Quantifier binding	V	V	X	V
Clause Type	CAC (53a)	CAC (53b)	PAC (53a) and (53b)	Predication
Syntactic structure	Left-adjoined, below ForceP (TP-adjunct)	Right-adjoined, below ForceP (vP/TP-adjunct)	Left- or right-adjoined, above ForceP	Predicate

(53) The architecture of causal clauses in TSM (cf. Haegeman 2012, 2014)



To help clarify the position of rhetorical SFPs within S-initial causal clauses, such as *ah* in (36c), the basic architecture of S-initial CACs in (53a) can be adopted and modified as below. The S-initial CAC is left-adjoined to the TP of the consequent clause, projected as an attitudinal projection (AttP) (cf. Pan (2015, 2019a, 2019b); footnote 10), which is headed by *ah*. The final particle takes the CP-clause as its complement, as instantiated in (54) and (55).

- (54) [_{TP} [_{AttP-cause} [_{CP-cause} In'ui tsheh'tiam tsiok se-e] ah]],
 because bookstore very small-LNK SFP
 [_{TP} bo-huat'too kng tsiok tse tsheh].
 not-able put very many book
 'Because the bookstore is very small, it is impossible to put lots of books.'

that there are at least four types of causal clauses: S-initial, irreversible S-final, reversible S-final, and copula-S-final adverbial clauses. The external structure of these causal clauses is adjunction with respect to causal clauses not preceded by a copula or predication with respect to those preceded by a copula, but not coordination. The first two irreversible types are CACs, left- or right-adjoined, respectively, to the main clause below ForceP, each forming causal clauses in the S-initial or S-final position. The third reversible type belongs to the class of PACs, freely left- or right-adjoined to the main clause above ForceP. The fourth type involves neither CACs nor PACs and is dominated by predication.

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台灣閩南語表原因子句之句法面向

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提要

台灣閩南語表原因子句是一個被長期忽略的議題。以語料庫及錄音所得的語料為根據，透過孤島檢測，發現主要子句在後或在前的原因子句之關聯詞 in'ui ‘因為’ 一律當副詞使用，有別於華語中當補語連詞用的‘因為’（Pan and Zhu 2023）。此外本文基於 (i) 語尾助詞出現與否（Pan 2019）；(ii) 各類句式存在與否；及 (iii) 有無受到範域相關因素影響，包括否定、主要句子的語氣類型、以及量詞約束（Wei and Li 2018a, 2018b）等三種根句測試，證實台灣閩南語表原因子句之外部結構只呈現兩種可能結構：加接結構或主謂結構，排除並列結構的可能性。同時，測試結果顯示，語尾助詞及否定範域並非決定台灣閩南語原因子句為根句與否的必要條件；反而主要句子的語氣類型及範域以及量詞約束扮演決定性角色。據此，透過 Heagman (2012, 2014) 對於中立型副詞子句（CAC）及周邊型副詞子句（PAC）的區分，表原因子句可分成四類：第一類為位於主要子句之前的不可自由翻轉原因子句，屬中立型副詞子句，向左加接於主要句子，位於 ForceP 之下；第二類為位於主要子句之後的不可自由翻轉原因子句，也屬中立型副詞子句，向右加接於主要句子，位於 ForceP 之下；第三類為位於主要子句之前或之後的可以自由翻轉之原因子句，向右或向左加接於主要句子，位於 ForceP 之上，屬周邊型副詞子句；第四類為由繫詞 si 引導，位於主要子句之後的原因子句，以主要子句為主語，[si 原因子句] 為謂語之框架，既非中立型副詞子句，也非周邊型副詞子句。

關鍵詞

原因子句，加接結構，主謂結構，中立型副詞子句，周邊型副詞子句