Logical Entailment and Conversational Implication:
A Discourse-Pragmatic Account of Taiwanese
Toh (就) and Ciah (才)

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Taiwanese toh (就) and ciah (才), which are often considered as forming an antonymous pair, show significant difference in their distribution and functions. A corpus of 4-hour recording shows as many as 275 toh occurrences, while ciah is used only 51 times. The difference in their frequency rates is due to their different basic meanings: ciah, meaning 'only, just', intrinsically involves size and quantity, and thus has to co-occur with a scalar term; while toh, meaning 'precisely', does not show such a restriction. Their different core meanings, when used in the context of conversation, interact with the Maxims in the Cooperative Principle as proposed by Grice (1975) and derive their various interpretations. The emphatic tone that toh may carry and its function to mark a less-demanding situation both arise as conversational implicatures from the interaction of its basic meaning, its logical inference entailed by the proposition, and the Maxims of Manner, Relevance, and Quantity. Ciah’s function of expectation-denying and marking of a more-demanding condition may also be accounted for in terms of pragmatic implicature, though it may have already been conventionalized.

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Introduction

In the study of Mandarin grammar, the functions of jiu (就) and cai (才) have long been a topic that arouses heated discussions. Earlier works such as Chao (1968), Li and Thompson (1983) and Lu (1984) provided the basic description and categorization of the multiple uses of the two adverbs. More recently, Biq (1984, 1988) and Liu (1993) further introduced the new dimension of discourse to the scene, and presented a more comprehensive picture of the two adverbs.

The Taiwanese counterparts of the two adverbs, however, have received relatively little attention. In the past, sporadic reference was made to the meaning of toh (就) and ciah (才) in works on Taiwanese grammar such as Xu (1990) and Yang (1991), as well as lexicographical works such as Cheng (1989) and Chen (1991). The first systematic account of Taiwanese toh and ciah is Lin (1996). Following the framework of Liu (1993), Lin presents a comprehensive investigation on the discourse functions of toh and ciah in Taiwanese, in which she explicates in great detail how these two adverbs may be used as a limiting element to quantify the scope of its modified constituent within a clause, and as a linking element to indicate the dependency relation between two clauses.

Lin’s analysis of toh and ciah is correct on the whole; however, it fails to present a clear and persuasive generalization for the various, seemingly unrelated uses of the two adverbs. For example,
how do the linking functions of *toh* and *ciah* relate to their limiting functions? And, in their respective linking use, how does *toh* come to indicate a less-demanding situation, and *ciah* come to signal a more-demanding situation, as Lin observes in her study?

The purpose of this paper, therefore, is to re-examine the various functions performed by *toh* and *ciah* in Taiwanese and further provide a generalization which may relate their different uses. Specifically, I will propose that the various, seemingly unrelated functions of the two adverbs will be better captured in terms of such semantic and pragmatic notions of logical entailment and conversational implicature as developed and elaborated in Grice (1975), Gazdar (1979), Leech (1983) and Levinson (1983). In what follows, I will first explicate the notions of logical entailment and conversational implicature in Section II, and then discuss in Section III how these notions may help to derive the various uses of *toh* and *ciah* in different contexts, which in turn result in their different functions and meanings.

Owing to the fact that the use of *toh* and *ciah* often involves contextual features such as the speaker's subjective evaluation of the real world situation, I believe that the functions and interpretations of these adverbs can best be seen in the actual use of Taiwanese in verbal interaction. Thus, I will base my analysis in this study mainly on a fully transcribed corpus of about four hours of tape recording, including one daily conversation recorded in I-Lan in 1994, three Taiwanese soap operas on TV 'Wan Neng mei Ren Po' (萬能媒人婆), 'Chun Hua Ciu Yue' (春花秋月), and 'Dong Gua Jia Zu' (冬瓜家族), and a radio call-in program 'Quan Min Jian Kang' (全民健康) on Quan Min Broadcasting Station. 29 native speakers of Taiwanese were involved in the total speech sample, with 18 males and 11 females. However, introspective data will also be referred to whenever called for in the progression of argumentation. The transcription of the Taiwanese examples follows the romanization system proposed by Tai Yu Yan Jia She (台語研究社), and that of the Mandarin examples follows the Pin Yin system.

Conversational Implicature and Logical Entailment

The word 'implicature' derives from the verb 'to imply', which etymologically means 'to fold something into something else' (from the Latin verb *plicare*). A conversational implicature is, therefore, something which is implied in conversation; that is, something which is left implicit in actual language use.

The notion of conversational implicature is often considered as the one single most important idea in pragmatics, because it provides an explicit account of how it is possible to mean more than what is actually said. The key ideas were first proposed in Grice (1975) in relation to his Cooperative Principle. According to him, human communication is possible because of a set of over-arching assumptions guiding the conduct of conversation. That is, conversation participants in general are assumed to be observing four basic Maxims of Conversation: the Maxim of Quality, the Maxim of Quantity, the Maxim of Relevance, and the Maxim of Manner, which jointly express a general Cooperative Principle. These maxims specify what participants have to do in order to converse in a maximally efficient, rational and cooperative way: they should speak sincerely, relevantly and clearly, while providing sufficient information.

Now, Grice does not intend for the Cooperative Principle to be any kind of moral injunction which is never to be violated. In fact, examples abound in real life communication where the Maxims are intentionally violated. Yet, the true significance with Grice’s proposal lies in the fact that through the assumption of their general observation by language users, these maxims may generate inferences beyond the semantic content of the sentences uttered. A typical example of how such inferences can be derived is given in Levinson (1983:102):

(1) A: Where is Bill?

B: There’s a yellow VW outside Sue’s house.

Here B’s contribution, taken literally, fails to answer A’s question, and might thus be interpreted as
a non-cooperative response. However, despite this apparent failure of cooperation, we are still able to interpret B’s utterance as nevertheless cooperative at some deeper level: by assuming that B’s response is in fact cooperative, we ask ourselves what possible connection there could be between the location of Bill and the location of a yellow VW, and are able to arrive at the implicature that, if B has a yellow VW, he may be in Sue’s house. Notice that such implicature is in fact what B intends and effectively conveys, although he has not explicitly spelled it out in the semantic content of the utterance. In other words, inferences like this are not **logical implications**, but are **conversational implicatures**, because they do not come solely from the logical or semantic content of the sentence, but are rather derived on the basis of both the content of what has been said and some specific assumptions about the cooperative nature of ordinary verbal interaction.

One particular type of implicature, which involves the Maxim of Quantity, is the scalar quantity implicature. This arises mainly as a result of the interaction between the Maxim of Quantity and expressions from a linguistic scale. Levinson (1983) defines a linguistic scale as follows (levinson 1983: 133):

A **linguistic scale** consists of a set of linguistic alternates, or contrastive expressions of the same grammatical category, which can be arranged in a linear order by degree of informativeness or semantic strength. Such a scale will have the general form of an ordered set (indicated by angled brackets) of linguistic expressions or **scalar predicates**, e1, e2, e3...en, as in:

\[<e1, e2, e3,...,en>\]

where if we substitute e1, or e2, etc., in a sentential frame A we obtain the well-formed sentences A(e1), A(e2), etc.; and where A(e1) entails A(e2), A(e2) entails A(e3), etc., but not vice versa.

Thus, the English quantifiers all and some, for example, form a linguistic scale \(<all, some>\), since any sentence like (3) below **logically entails** (4); that is, if (3) is true, then by logical inference (4) will also be true:

(3) All of the boys went to the party.

(4) Some of the boys went to the party.

For another example, numbers also often constitute a linguistic scale \(<1, 2, 3, 4, 5, 6,...>\), because any sentence like (5) will also entail the truth of sentences like (6):

(5) Three is enough.

(6) Four/Five/Six ... is enough.

Now, when such scalar terms interact with the Maxim of Quantity, there will be a general predictive rule for deriving a set of scalar quantity implicatures, namely, if a speaker asserts that a lower or weaker point on a scale obtains, then he implicates, by the maxim of quantity, that a higher or stronger point does not obtain. In other words, if one asserts (4) or (6), he **conversationally implicates** that (3) or (5) do not hold. This is due to the general assumption of conversational cooperation: if the speaker knows that all the boys went to the party, in the case of (3-4), then by the Maxim of Quantity, he will not use a relatively less-informative scalar term some. Thus, his use of a weaker term some implicates that he is not aware as to whether a more informative statement with the stronger term all holds true or not, which is pragmatically (though not logically) equivalent to saying that the stronger term does not hold true.

It should be clear to us by now how logical entailment differs from scalar implicature. The former is derived solely through logical reasoning based on the semantic content of the sentence, while the latter, as a type of conversational implicature, involves the interaction between the speech content and the assumption for the general observation of the Cooperative Principle.

With the notions of scalar implicature and logical entailment understood, I now proceed to the functions of toh and ciah in Taiwanese and how they may be accounted for in terms of these semantic and pragmatic notions.
Discourse Functions of Toh (就) and Ciah (才)

Though toh and ciah are commonly regarded as an anonymous pair of adverbs, yet their distribution in the corpus shows a land-slide difference in frequency. The occurrences of toh amount to 275 in total, while only 51 instances of ciah are found in the data. Such a discrepancy, as I will show later in this paper, is a significant indication of the fundamental difference between the functions of the two adverbs.

The instances of toh and ciah in the data show that they may both serve either as a limiting element that quantifies or qualifies a following constituent, or as a linking element that relates the antecedent and the consequent in a bipartite antecedent-consequent structure. However, their specific limiting and linking functions diverge substantially from each other. In what follows I will discuss their respective uses as a limiting element and a linking element.

Toh (就) as a Limiting Element

Historically, the adverb toh in Taiwanese has derived from the verb 就 in Archaic Chinese, which means 'to approach' or 'to move toward and coincide (in location) with'. Traces of such verbal uses are manifested in some Taiwanese verb compounds still in use today, such as chen1jii3 (牵就), gojii3 (高就), etc., although they are felt to carry some literary and/or archaic tone. With its etymological source as such, it is quite natural for the adverb to come to have the basic meaning 'precisely' or 'exactly'.

In our data, toh is often found to serve a limiting function in that it marks a following linguistic unit as the selected one to be asserted out of a large set of possible candidates, as shown in (7):

(7) Ciel a3 oan5a2 TOH li2 honn6. 這也 原子 就 你 吩，
This also really TOH you PRT
CIAH w7 phoe2 leh0. iioh7 m7 tioh7
CIAH have match PRT right not right

'(As for this comment on your figure,) it is exactly you only that deserve it, am I right?'

Such a scope-limiting function can be viewed as its basic semantic function, since it follows naturally from its lexical meaning 'precisely; exactly.' Thus in (7), toh limits the scope of its following constituent down to the pronoun li2 (你) by singling out 'you' among all the possible candidates as the only one that possesses the described characteristic. In this respect, the limiting toh is also felt to carry an emphatic tone, since by narrowing the range of a possible set of candidates down to the asserted one, the speaker is saying: 'It is precisely this, and nothing/no one other than this'.

The emphatic tone carried by toh as a limiting element is especially evident in cases like (8), where it precedes the verb of identification si7 (是):

(8) Goo2 kong2 TOH si7 se3han3 m7bat4
我 講 就 是 細漠 不講
I say TOH be young know
CIAH ai1 tong7ka3 phah4.
子 愛 用說 打
CIAH need use beat
phah4 ii CIAH caii3m2 kong2 m7 tioh7.
伊才 知影 講 不 對
beat he CIAH know say not right

'I say it is exactly because they are young and do not know rights and wrongs that you should beat them. Only when you beat them will they know that they are wrong.'

In (8), toh serves to limit the scope of predication of the verb si7 (是), signaling that it IS precisely for the reason of the kids' being se3han3 m7bat4 (細漠不講) 'too young to understand (the rights and wrongs)' that the speaker thinks they should be disciplined by beating.

Researchers on Taiwanese grammar often consider that the adverb toh serves only to quantify a constituent within the domain of a single clause. However, there are examples found in the data where toh’s limiting function has been extended to a more global level in discourse. Observe the exchanges in (9) and (10):

(9) A: a li2 koh2 sau3sau3?
啊 你 復 嘻嘻
DM you still cough-a-little
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B: a1 goa2 TOH kh3 hoo7 kum2moon7 tio7.

A: ‘You’re coughing again?’
B: ‘It’s just that I’ve caught a cold.’

A: A1tho5a2. L12 oa7 cong2 ci7-e5 kha2 cheng1cho2 e0...

B: ‘A-tho-a, please say it more clearly... What bearing does my son Cui-mok-a have with your daughter Chiu-goat-a’s getting married?’

B: ‘It’s just that your son Cui-mok-a is running after our daughter Chiu-goat-a. Don’t you know it?’

Instances of toh like those in (9B) and (10B) are treated by Cheng (1987), among other linguists, as a different morpheme from 就, represented as toh. His treatment might be due to two facts (although he has not made it clear in his book). First of all, toh in these cases has a rather larger scope of limitation: it takes the whole VP or the whole clause as its scope, and may occur before the subject/topic of the clause, as seen in (10B). Secondly, unlike the other toh (就) instances, which may only have a 3rd-tone pronunciation, these toh occurrences may take either a 7th tone or a 3rd tone.

However, a closer examination of all such uses of the adverb shows that it should not be treated as a separate morpheme, because its function and interpretation in these contexts can be naturally derived from toh’s basic meaning ‘precisely; exactly.’ Remember that as a limiting element, toh (就) serves to select one particular item out of a possible set of candidates as the one being asserted in the sentence. Now, in (9) and (10), toh serves exactly this same function. Toh in (9B) marks B’s response, i.e. ‘I’ve caught a cold’ as the selected item out of a set of possible reasons which may respond to A’s remark, saying something like ‘It is PRECISELY for this reason that I am coughing.’ Similarly, toh in (10B) also marks the whole clause ‘Your son Cui-mok-a is running after our daughter Chiu-goat-a’ as PRECISELY the answer to A’s question. Notice that here the use of toh also carries the implication that the speaker thinks his answer is quite obvious. In fact, such an overtone of ‘obviousness’ very often accompanies the use of toh in contexts similar to (10). This can be reasonably accounted for when we consider the focus marking function of the limiting adverb toh (就): with its lexical meaning ‘precisely, exactly’, toh serves to narrow the scope of possible candidates to be selected down to the asserted one. Furthermore, as will be pointed out in Section 3.2, the use of toh often marks its quantified element as the less-demanding (and thus the less costly) choice out of all the possible candidates when a scale of quantity or evaluation is involved in the context; thus it comes as no surprise that the speaker may use the adverb to indicate that what follows is the most obvious response which may possibly be thought of. Such interesting resemblance between the different uses of toh (就) would have to be treated as mere coincidence if the toh’s in (9) and (10) were regarded as a separate morpheme.

Thus, on the basis of the similarity between their uses, I will regard toh in example (9) and (10) as the same adverb toh (就) that is under discussion in this paper. The only difference is that, in cases like (9) and (10), the scope-limiting function of toh has been extended to a more global level in discourse, where it singles out a whole proposition out of a possible set of propositions as the element to be limited and asserted. Such use of toh is by no means exceptional, but is commonly found in daily conversation in Taiwanese, as can be seen in examples like (11) and (12) below:

A: I7 si7ci3 si7 ci7ce5 ha2 lang5.

B: ‘TOH si7 m7 ma6.

A: ‘He is really a nice guy.’
B: ‘Exactly. Isn’t it true.’
Therefore, we may conclude that *toh* in Taiwanese does serve a limiting function both at the clausal and the discourse level, with its function in the latter as a natural extension from the former. Such limiting use of *toh* at the more global level of discourse seems to be unique to Taiwanese *toh*, but has seemed to find its way to the Mandarin spoken in Taiwan.

**Toh (就) as a Linking Element**

In our data, *toh* is also found to serve as a linking element in an antecedent-consequent structure, as seen in (13)-(16) below:

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respectively. Regardless of the type of semantic relationship, the antecedent part in all the examples here shares one thing in common: each of them serves to establish the 'condition', or the 'parameter', for obtaining the actuation of the event denoted in the consequent. Notice that the antecedent and the consequent linked by toh need not be two clauses in grammatical terms. Take (16), for example. The time word ca$\text{shng}1$ (昨 晚 ) 'yesterday' functions as a parameter in determining the actuation of the event denoted in the consequent $i7$ khi3 cong3 teng7 ki5e5 (伊 去 創 定期的 ) 'she went to handle the fixed deposit.' In this sense, (16) forms a bipartite antecedent-consequent structure, with toh serving to indicate the dependency relation.

Liu (1993: 218-225) argues, quite convincingly, that the linking function of Mandarin jiu (就 ) derives from the Archaic Chinese verb 就 through a process of metaphorical extension from spatial movement to temporal movement, with the specific kind of semantic relation (i.e. conditional, sequential, causal, or temporal) between the linked parts contextually inferred. Our data for the linking toh, as shown in (13)-(16), indicate that a similar process must have been shared by the Taiwanese toh in its process of grammaticalization.

Lin (1996) observes the fact that the linking toh often serves to mark a sufficient condition, as opposed to ciah, which functions to indicate a necessary condition. In other words, toh often marks the antecedent part as a condition less demanding than expected. Take (17), for example.

(17) 伊來我就來.

Here the speaker, in addition to providing the condition under which he will come, also conveys the message that 伊來 ‘he comes’ is a less demanding (or less costly, in the sense that it is more easily to be achieved) condition than what the conversation participants have expected.

However, the problem is this: such a 'less demanding' interpretation is not always present with all the occurrences of linking toh, and with some of the toh occurrences it is rather difficult to determine whether such an interpretation is intended by the speaker or not. For example, the toh in (16), and possibly that in (15) as well, may be felt to indicate that the antecedent is less demanding than expected, but such a reading can hardly be perceived in (13) and (14). Thus, one would like to know under what condition the "less-demanding" interpretation will be present; and, to go a step further, how such an interpretation is derived.

The key to these doubts, I propose, lies in the notion of linguistic scale and the relevant inferences that often accompany the use of a scalar term, as has been discussed in Section II. An interesting fact about toh instances with a less-demanding interpretation is that there is always a scalar term of some sort involved in the sentence. Let us take for example sentence (18), which contains a numeral sann1 (三) 'three,' as numerals are typical scalar terms that form a quantity scale.

(18) Sann1 e5 TOH w7kui5 a0.

十八 倫 槍 有夠 廢

three M TOH enough PRT

'Three is enough.'

In terms of the proposition 'X is enough', the quantity scale may be presented as follows:

$0 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow 6 \rightarrow 7 \rightarrow$

It should be clear why the numbers occurring toward the right end are weaker: if three is enough, then it goes without saying that four is enough as well. In other words, with respect to the sentential frame of (18), the value on the left of the scale will logically entail the truth of those to its right.

Now, (18) specifies that 'three' is the value that holds true for the proposition 'X is enough,' which automatically entails that all the values to its right on the scale are true to the sentential frame. And, since toh basically performs a scope-limiting function, what it is doing here is to single out 'three' among this possible set of candidates which satisfy the proposition (i.e. 3, 4, 5, 6, 7, etc.) as precisely the one that the speaker chooses to assert. In terms of their relative strength on the linguistic scale with respect to the proposition, all the values to the right of 3 are weaker than 3 itself; yet in terms of the extent of cost in the real world, they are more costly, i.e., more demanding than the logically stronger value 3. Since toh always singles out the stronger value from the possible set, it then follows naturally that toh quantifying a scalar term
will be felt to mark a less demanding situation. In other words, *toh*’s function of marking a less demanding situation is a natural consequence from its scope-limiting function.

The use of *toh* to mark a less demanding situation does not always have to apply to a strictly quantity-based scale like (19). So long as there is some kind of evaluation involved, its less-demanding interpretation can be derived, as in (20) and (21):

(20) *Nga7 e5 ilseng1 long2 kong2 he1 [liangi1]geng1 e5.*
    兩 個 醫生 鬆 講 那 (良性) 的
    two M doctor all say that benign NOM.

*Cliah* *ioh7a2 TOH e7sai2 a0.
    吃 藥 仔 就 會 好 啊
cat medicine TOH work PRT

'Both doctors said that the tumor is benign and I can get well just by taking medicine.'

(21) *A1 lan2 ca5bo2kiaun2 ha2 i7. Ani1 nei2ku3ka5soum5.*
    啊 咱 盖某子 嫁 伊 安呢 委曲求全
    DM we daughter marry him this-way stoop-to-compromise

*Ani1 bo5 tai7ji3 TOH ho2 a0.
    安呢 無 代 託 就 好 啊
this-way no affair TOH good PRT

'We have our daughter marry him. In this way, we have to give in and compromise. So long as there is no trouble, then everything is OK.'

The speaker in (20) talks about her doctor's suggestion for the treatment of her tumor. Now, in the commonly known set of therapies for tumor pharmacological treatment, surgery, cobalt radiation treatment, etc., pharmacological treatment is regarded as less demanding than the others. On the other hand, it is logically the strongest in the context of (20), because if it may work, certainly the other more costly treatments will also work. And since *toh* singles out the strongest possible candidate out of all the possibilities that satisfy (20), it is at the same time marking a less demanding situation. By the same token, *toh* in (21) indicates that the speaker only has the humble wish for an acceptable result in her daughter's marriage and nothing more than that.

Thus, it may be concluded that the 'less demanding' interpretation is a result of the interaction between the lexical meaning of *toh* 'precisely' and the logical entailment of a proposition which contains a linguistic scale of some sort. In cases where no obvious linguistic scale is involved, as in examples (13) and (14), *toh* can hardly be felt as marking a less-demanding situation. This also explains why in the limiting use of *toh* at the introsentential level, as in examples (7) and (8) discussed in Section 3.1, the 'less-demanding' meaning is seldom perceived, since those cases typically will not involve any quantity scale or evaluation judgment. However, whenever a possible linguistic scale becomes relevant, as in the use of limiting *toh* at the discourse level shown in examples (9-12), the 'less-demanding' inference will automatically be derived.

*Cliah (才) as a Limiting Element*

Historically, the adverb *cliah (才)* derives from the noun *才* in archaic Chinese meaning 'a small plant/tree.' The meaning of 'smallness' in the noun explains why the adverb comes to mean 'only' or 'just', obviously through a process of metonymy from the Archaic Chinese noun *才*.

As an adverb, *cliah* typically occurs at the preverbal position in the sentence, serving to quantify the subsequent VP or an element in the VP:

(22) *Gao2 CIAH chat4shi3 keng5keng5 e7 (leng5leng5).*
    我 才 合 伊 講 爾爾
    I only with he say only

*Bo5 chong3 siam3.
    無 創 啥
    no do what

'I just went out for a walk. (I) didn’t do anything special.'

(23) *Gao CIAH7 kah4 i7 kong2 (leng5leng5).*
    我 才 合 伊 講 爾爾
    I only with he say only

*Bo5 kab4 pat4lang5 kong2.
    無 合 別人 講
    no with other people say

'I only told him. (I) didn’t tell anyone else.'

(24) *Gao2 CIAH kah4 i7 men7 (leng5leng5).*
    我 才 合 伊 講 爾爾
    I CIAH DISP he scold only

*Bo5 kab4 i7 phak4.
    無 合 伊 打
    no DISP he beat

'I only scolded him. (I) didn’t beat him.'
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Goa2 Ciah ciah7 cit7 bau1 (leng5leng5).
我 才 吃 一 包 餅乾
I Ciah eat one pack only

'I only ate one pack.'
Notice that the basic meaning of the adverb derives from the idea of 'smallness', which essentially involves the notion of size or quantity. The use of ciah is therefore limited to cases where some kind of scale, whether objective or subjective, can be inferred, as seen in examples (22-25). In sentences where the VP does not contain a quantity element, such as if the first clause in (22-24) occurs alone, a scalar interpretation of ciah will still be inferred by having the adverb limit the time of the event as 'a little before the speech time', i.e., 'just (now)'. But if the context is clear enough, as in (22-24) here, where a contrast is present and the speaker's scale of value judgment made clear in the following clause, ciah will serve to limit any element in the VP which is intended for the contrast. In (25), where the VP contains a quantity element 'one pack,' ciah naturally serves to limit the quantity element, meaning 'only one package'.

The observation that ciah's lexical meaning requires its occurrence to involve an inerrable scalar interpretation explains its restricted distribution in our corpus. Recall that in our corpus of four-hour recording, a total of 275 occurrences are identified, while only 51 ciah instances are found. The landslide difference in their frequency of occurrence follows naturally from their different semantic functions: toh's basic meaning is to single out one item to be asserted from a possible set of candidates, which may or may not involve a scalar judgment; ciah's meaning, on the other hand, essentially involves comparison of size, quantity or value, and thus its use is restricted only to cases where a scalar interpretation is involved.

Another phenomenon related to ciah's limiting function, as has been pointed out in Lin (1996), is that it often has an expectation-denying function, just like its counterpart cai in Mandarin. But, if its basic meaning is 'only' or 'just', how does it come to serve this counter-expectation function? I believe that this is also due to its basic meaning interacting with the Maxim of Manner and Maxim of Relevance. Take (25) again, for example. The quantity expression cit7pau1 ( — 包 ) 'one pack' is explicitly limited by ciah (才 ). Now if the speaker's intention in uttering the sentence is merely to assert 'I ate a pack,' then according to Grice's Maxim of Manner, he should have simply put it that way, without using any adverb. But instead of making this simple assertion, he chooses to use ciah to show that he has eaten ONLY one pack. Thus, by the Maxim of Manner, which states that the use of a more marked form signals some marked intention, the intended interpretation can be calculated here with the semantic meaning of ciah interacting with the Maxim of Relevance: when a speaker specifies that he has ONLY eaten one package, it can be inferred that he has expected to eat more.

This same process of pragmatic inference also applies where there is not any obvious scale of objective quantity, but a scale of the speaker's subjective evaluation. Thus, in (24), when the speaker says 'I only scolded him,' he is not simply making the assertion 'I scolded him.' Rather, by using ciah... (leng5leng5) to mean 'only', he shows that the action is in his estimation slight and not serious at all. Thus, by the Maxim of Manner and the Maxim of Relevance, we can derive the conversational implicature that the speaker is actually denying stronger value on his scale of estimation, such as 'beating him' or something more serious, which may have been expected by himself or the other participant(s) in discourse.

Therefore, we may conclude that the counter-expectation reading of ciah as a limiting element is pragmatically derived from its basic lexical meaning 'only' or 'just' interacting with the Cooperative Principle in conversation. Such a pragmatic function also explains why 才 is frequently found in sentences like (26) and (27) below, which typically serve to counter the addressee's expectation and are thus felt to be emphatic.

Goa2 Ciah bo5 ai2 chap4 i7 le0.
我才 沒 爱 撇 言 啰
I Ciah no want mind he PRT

'(Contrary to what you have expected,) I will not pay any attention to him.'

Goa2 Ciah m7 song2i3n3 le0.
我才 不 相信 啰
I Ciah not believe PRT

'(Contrary to what you have expected,) I do
not believe in it.'

Ciah (才) as a Linking Element

Like toh, ciah also serves as a linking element in an antecedent-consequent structure, as shown in (28)-(31) below:

\[ \text{Gua2} \text{ na3} \text{ khi3} \text{ khuun3} \text{ theng1} \text{ hon00. U7 tang7s15a2 na3.} \]

'I if go see doctor PRT have sometimes if

\[ \text{Na3} \text{ u7 th3} \text{ kan1kho002 gau2 CIAH u7 kong2.} \]

\[ \text{if} \text{ have at\ pain} \text{ CIAH have say} \]

'We didn't turn on (the TV) until eleven o'clock.'

\[ \text{Gua2} \text{ na3} \text{ khi3} \text{ khuun3} \text{ theng1} \text{ hon00. U7 tang7s15a2 na3.} \]

'When I went to see the doctor, I would tell him this only when I was suffering pain sometimes.'

\[ \text{I7} \text{ ci4 e5 beh4 kah4 kia3 kui1 tiunn1.} \]

'He this M want DUSP deposit whole M

\[ \text{Au7pa2} \text{ pah4 goo7 ban7} \text{ next-time hundred five ten-thousand} \]

\[ \text{CIAH coh3 coh3 sann1 tiunn.} \]

\[ \text{CIAH do do three sheet}\]

'She wants to deposit the money with one-time deposit slip this time. Only until next time will the one million and five hundred thousand dollars be deposited with three slips.'

\[ \text{Ai1} \text{ toh si7 in7u7 hom2 li2. M7 CIAH e7 pha2 li2.} \]

'Ah is because love you not CIAH will beat you

'It was only because I adored you that I would beat you. (Otherwise, I would not.)'

Just as toh, ciah may also indicate four kinds of linking relations: temporal, conditional, sequential, and causal, exhibited in (28)-(31), respectively.

While the linking toh serves to mark the antecedent part as a sufficient condition for the consequent event to obtain, ciah indicates that the antecedent is a necessary condition. Thus, in examples (28-31) above, the antecedent part in the bipartite structure linked by ciah is taken as the least that has to be satisfied for the consequent proposition to hold true. So, (28) means 'we did not turn on (the TV) until 11 o'clock just now.' The ciah-marked clause in (29) means 'I would tell him this ONLY when I was suffering the pain.' (30) has the interpretation of 'ONLY next time will she divide the deposit into three slips.' And (31) is understood as 'it was ONLY because I adored you that I would beat you (otherwise, I would not).' In other words, in all these examples where ciah is used, the utterance is interpreted as expressing a situation more demanding than has been expected by the participants of conversation.

Just like with the 'less-demanding' interpretation of toh, I propose that the 'more-demanding' interpretation is also derived from the basic meaning of ciah interacting with a linguistic scale of some sort. However, unlike the case of toh, where the 'less-demanding' inference comes from logical entailment, the 'more-demanding' inference that is associated with 才-marked condition is a result of scalar implicature. This can be seen more clearly in (32), which involves an obvious quantity scale (33):

\[ \text{Sann1 e5 CIAH u7 kau3.} \]

\[ \text{three M CIAH have enough}\]

'At least three will (only) be enough.'

\[ \text{stren7} \text{ weaker} \]

\[ 1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow 6 \rightarrow 7 \rightarrow \]

On a linguistic scale like (33), the values to the left end are stronger with respect to the proposition in (32) 'x is enough', in the sense that if 3, for example, is enough, then it follows naturally that 4, 5, 6, 7, etc. will by logical reasoning all be enough, while values to its left, e.g., 2 or 1, will not hold true for the proposition. In other words, (32) says that the asserted value 3, with its basic meaning 'only', is the least or the smallest amount that satisfies (32), i.e., the strongest possible value that holds true for the proposition. Now, by the Maxim of Manner and the Maxim of Quantity, the hearer can infer from the use of ciah that (32) carries some implicature in addition to its propositional meaning, and that the intended implicature is that (32) is the strongest possible proposition that can be made, i.e., any value smaller than 3, (and thus stronger than 3,)
such as 2 or 1, will not be enough.

Therefore, the fact that a linking ciah often marks the antecedent part of the bipartite structure as a necessary condition more demanding than expected can be naturally accounted for in terms of Grice's theory of conversational implicature. Since ciah marks that any condition stronger (and therefore less costly) than the antecedent will not be sufficient for the consequent to hold true, it implicates that the antecedent in a ciah-linked construction is more demanding than has been expected.

This analysis also presents a unified explanation for the functions of linking and limiting ciah: they both derive from the basic lexical meaning of the adverb 'only' or 'just', with their pragmatic implicature conversationally inferred through the interaction between its basic meaning and the Maxims of Manner and Quantity. Their apparent difference lies only in the type of structure in which they occur and the scope of their modification. Consider the following examples:

(65) CiaH san1 e5.
才 three M
'There is only three.'

(66) san1 e5 CiaH u7 kau3.
三才有夠 three M CiaH have enough
'At least three will (only) be enough.'

At the first glance, it may be confusing that while (34) implicates 'I have only three, not four, five, or more', (35) implicates 'Only three is enough, not two, one, or less.' However, the difference is but apparent, because when the relative strength of the numbers against the propositions on the quantity scale is considered, ciah in both cases marks the quantity 3 as the strongest possible value: (34) says that the stronger values 4, 5, or more do not hold true; (35) says that stronger conditions 2, 1 or less do not hold true. Thus, in both the limiting and the linking cases,才 indicates that the asserted value is the strongest possible value, and thus scalarly-implicates to negate any value stronger, or less demanding in the real world concern, than the asserted one.

Now, if the limiting ciah and the linking ciah are essentially the same, with their main difference only in the scope of modification, then how does one know whether the adverb ciah has its subsequent or preceding element as its scope? From the data, we find that the scope is often made clear from the context. When no bipartite structure is involved and there is an element in the VP involving a linguistic scale of some sort, ciah usually takes a subsequent element as its scope, thus performing a limiting function. But even if an antecedent-consequent structure is involved, ciah does not necessarily take the antecedent as its scope: it often does, but it does not have to. If the VP in the consequent contains a scalar term, then ciah may still serve to limit its scope. Take (36) and (37), for example.

(67) I7 ciaH lai5.
他 yesterday CiaH come
'He didn't come until yesterday.'

(68) I7 ciaH lai5 cil7 pai3.
他 yesterday CiaH come once
'He only came once yesterday.'

CiaH in (36) obviously serves as a linking element, which has the antecedent part 'yesterday' as its scope. But in the similar antecedent-consequent structure (37), ciah does not necessarily take the antecedent 'yesterday' as its scope, but may serve to limit the verbal complement cil pai3 'once', which essentially involves a scale.

Our observation that ciah in an antecedent-consequent structure does not necessarily take the antecedent as its scope of modification helps to explain the examples in Lin (1996: 70-77) finds problematic, as shown below:

(69) Na3 i7 cia7puu7 ciau7. Ciau7 ciau2 e5.
若吃飯像請的 eat-meal like invite NOM
Ciaun7 tih2 ciau2 san1hooe3 leh7.
像在請啥貨像 like at invite what
A1 cil2ma4 e7. E7tai2h2 TOH kau3 kau2 tian2.
這鎮下卜早起就到九點 DM now morning TOH to nine o'clock
CiaH e7kau3 kau3 cil7 tian2.
下要在到一點
E7 hau71 TOH kau3 la7 cil7 tian2.
下要在到六七點
'Speaking of him, asking him to eat a meal is like inviting someone to a big feast. Now, he won't have his breakfast until nine o'clock; as a result, the lunch hour will be delayed till one o'clock in the afternoon. Thus, the dinner will naturally be postponed to six or seven o'clock in the evening.'

(23)
A1 long2 honn0.
啊 請 哼 DM say PRT
lan2 long2 tu13 ci3n5 ciau3 koo3 la0.
咱 對 伊 懷 照顧 啦
Kong2 lan2 tio1ng4 koh4 lang5 honn0.
講 咱 中國人 哼
say we Chinese PRT
sh17 cai7 ciok4 ho2 an1n1l la0.
實在 足 好 安呢 啦
really enough gook this-way PRT
A1 CIAH th5 ciau3 koo3 ci1n5 honn0.
啊 才 提 一 場 錢 哼
DM CIAH take some money PRT
Kong2 hio3 goa2 meh2 ciau3 koo3 cha13 honn0.
請 咱 我 買 一 場 茶 哼
say ask I buy some vegetable PRT
啊 啾 啾 要 來 回 請 咱
DM DM DM want come return treat we
An1n1l la0.
安呢 啦
this-way PRT

'(He) says that we showed much hospitality for him. (He) says that we Chinese are really nice. Therefore, he gave me some money to buy some food to treat us in return for hospitality. That's the story.'

(40)
A: Bin-ceng7 ma1 lai4 ung7-a2 beh4 ta2 lai5.
敏感 啦 那當仔 要 轉來
Bin-ceng also that-time want back-come
B: An1n1l a0.
安呢 啦
this-way PRT
CIAH ch1n3 cai7 ci1n5 TOH ho2 a0.
才 進前 拜拜 就 好 啊
CIAH beforehand worship TOH fine PRT
A: Bin-ceng will come back at that time, too.
B: Really? Then, we simply move up the date for worship.'

(41)
Lai5. Long7 te5 a0. Cc1 be7 bai2 neh0.
來 用 茶 啦 這 不 壞 呢
come use tea PRT this not bad PRT

‘Come on. Have some tea. This is not bad. I asked my friend to buy this for me from some foreign country. True Oulung tea. When you go home, just take some back with you.'

(42)
L7 eng5 CIAH lai5 ce7 la0.
有 閒 才 來 坐 啦
have leisure CIAH come at PRT

'Be sure to visit us when you are free.'

These examples appear to be problematic because, though ciah occurs in the consequent part of the antecedent-consequent structure, the antecedent can hardly be perceived as setting up a necessary condition to mean 'ONLY when...'. My explanation is that ciah in all these examples actually functions to limit its subsequent consequent part, meaning 'given the condition, it follows SIMPLY...'. The only difference between the use of limiting ciah here and that in (22)-(25) in Section 3.3 is the scope of its quantification: here the use of limiting ciah does not serve to limit an element within the VP, but has been extended to a more global level in discourse and takes the whole following clause as its scope of quantification. Such an explanation also accounts for similar use of ciah in (43) and (44) below, which obviously cannot be satisfactorily explained in terms of a necessary-condition analysis:

(43)
(Na7 an1n1l) L2 CIAH ka7 goa2 chi3
若 安呢 你 才 給 我 試
khoann3 main3n7.
看我
ATTEMPT

'(In that case,) you just wait and see.'

(44)
(i7 na7 tu13 goa2 cia1 phu1n1n2)
伊 若 對 我 這 夕
he if to I this bad
has to be interpreted as limiting the second clause, giving it the interpretation ‘given the antecedent, then it follows SIMPLY/ONLY that...’

The extension of the limiting ciah to a more global level of discourse, just like the case of the limiting toh, represents a unique characteristic of this Taiwanese adverb which is not attested in its Mandarin corresponding cai (才).

Conclusion

To recapitulate the analysis so far in this paper, I have tried to explicate the functions and interpretations of Taiwanese toh and ciah from a discourse-pragmatic perspective. Specifically, I have shown that the various uses of these two adverbs derive from their basic meanings interacting with the Cooperative Principle as proposed by Grice (1975). Toh’s limiting function to restrict the referential or predicational scope of its quantified constituent is mainly due to its semantic import ‘precisely, exactly’: it narrows down the range of a possible set of candidates which may fit the proposition to the one that is currently being asserted. Furthermore, through the interaction of its lexical meaning with the Maxim of Manner and the Maxim of Relevance, the limiting toh may derive an emphatic tone: as the speaker chooses to use toh to single out the item being asserted, he is also implicating the elimination, or trivialization, of other possible candidates, thus giving focus to the quantified element.

Also, the fact that toh in both its limiting and linking function often serves to mark a less-demanding situation follows naturally from this pragmatic account. Though toh’s lexical meaning does not require for it to co-occur with a scalar term, yet in a sentence where a linguistic scale is present, the logical entailment will arise that those items weaker on the scale also hold true for the proposition represented by the sentence. Since toh’s basic function is to single out the item to be asserted, then with the presence of a scalar term, it will conversationally implicate the elimination of the weaker terms on the scale. And since what is logically stronger on a linguistic scale is usually less-costly and less-demanding in the real life situation, toh naturally comes to derive the implicature of marking a less-demanding situation.

Our pragmatic analysis also offers a unified account for ciah’s function of expectation denying and marking of a more demanding condition. With its core meaning ‘only’ or ‘merely’, ciah typically serves to quantify a scalar term, indicating that the quantity or size, etc., is small in the speaker’s estimation. Now, by the Maxim of Manner and the Maxim of Relevance, the use of ciah to overtly indicate the quantity is small conversationally implicates that the speaker’s expectation exceeds the asserted amount, which results in the counter-expectation interpretation of ciah.

Ciah’s function of marking a more demanding condition in an antecedent-consequent structure also arises from the interaction between its basic meaning ‘only’ and the Maxim of Quantity in the speech context. Specifically, ciah marks the antecedent clause as the least that has to be satisfied for the consequent to hold; in other words, it marks the antecedent as the strongest possible condition that makes the consequent true. This naturally implicates, by the Maxim of Quantity, that any condition stronger than the currently asserted one does not hold true. And since logically stronger terms always express a less-demanding situation, the use of ciah naturally comes to mark a more-demanding condition.

The discourse-pragmatic analysis of toh and ciah provided here not only offers a reasonable account to generalize their various uses, but also helps to reveal the fundamental difference between the two adverbs as well as their unique uses in
Taiwanese discourse. First of all, it explains why *toh* and *ciah*, though commonly regarded as forming a pair of antonyms, should exhibit drastically different frequency rates in the corpus. *Ciaih*, with its meaning intrinsically related to size and quantity, has a more restricted distribution since it only occurs in a sentence where a scale of some sort is involved; *toh*, on the other hand, is used more frequently in a wider range of contexts because its basic meaning 'precisely, exactly' does not require it to co-occur with a scalar term. Furthermore, the present study also helps to reveal the fact the limiting function of both *toh* and *ciaih* has been extended to a more global level in discourse.

Finally, the various interpretations of the two adverbs that arise from the interaction of their basic meanings and the Conversational Maxims should not be treated as part of their semantic import but rather as implicatures, since they are often context-bound and subject to the inference of the participant of the discourse. With the case of *ciaih*, however, the implicatures seem to have been conventionalized, as seen in the fact that their interpretation often remain invariable in most contexts.

References


Logical Entailment and Conversational Implicature:  
A Discourse-Pragmatic Account of Taiwanese 
Toh (就) and Ciah (才) 

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台語＜就＞和＜才＞一般認爲是語意對立、用法相彷的一組副詞，但在本研究所收集之四小時真實交談語料中，卻顯示＜就＞的出現頻率遠高於＜才＞，約為其 5.4 倍，且其語用功能各不相同。本文從言語語用的角度分析，認爲＜就＞和＜才＞在不同語境中所呈現的限制用法和連接用法及語設的意義，乃基於此二副詞的基本語意與 Grice (1975) 提出之 “交談合作原則” 內各項細則交互作用而得的 “對話隱涵” (conversational implicature)。＜才＞本意為 “小量”，因此必須用於先涉等級 (linguistic scale) 的句子里，而且也由於＜才＞與等級詞的語意和 “合作原則” 的運作，而衍生出 “與預期相反” 或 “較預期嚴苛” 的意涵。而＜就＞之本意並不要求其與等級詞共現，因此出現範圍較廣，使用頻率也較高。其本意與 “交談合作原則” 交互作用，產生限制用法中加強語氣的功能；而當句意牽涉到等級時，也由於等級詞在句中的邏輯必然推論 (logical entailment) 與其本意和 “合作原則” 的互動而產生 “較預期寬容” 的對話隱涵。 

關鍵詞：語用學 言談分析 台語語法 副詞 對話隱涵 邏輯必然推衍