Nandao-Questions as a Special Kind of Rhetorical Questions

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Introduction

Unlike other question forms which are ambiguous between ordinary questions (OQ) and rhetorical questions (RQ) (cf. Sadock 1979, Han 2002), *nandao*-Questions (*nandao*-Q) in Mandarin **necessarily have RQ readings** (1, 2).

(1) Nandao zhe jiushi shichang jingji (me)?
Nandao this be market economy Q
"Is this market economy?"
(=This isn't market economy.)

(2) Nandao shui bang-guo ni (ma)?
Hard-say who help-EXP you Q
"Who helped you?"
(=No one helped you.)

The Distribution of *Nandao*

∗ ***Nandao* + declaritives**

(3) ∗Nandao Lisi hui lai.
Nandao Lisi will come
(Attempted) "Lisi will come."
(N/A: Lisi will not come.)

(4) Zhangsan xiangxin (∗nandao) Lisi hui lai.
Zhangsan believe nandao Lisi will come
"Zhangsan believes that Lisi will come."

✓ ***Nandao* + Yes/No Questions (Y/N-Q)**

Nandao can transfer Y/N-Q to Y/N-RQ.

(5) Zhe jiushi shichang jingji (me)?
This be market economy Q ⇒ (2)
"Is this market economy?"

∗ ***Nandao* + A-not-A Questions (A-not-A-Q)**

(6) ∗Nandao Zhangsan chi-mei-chi fan?
Nandao Zhangsan eat-not-eat rice
(Attempted) "Did Zhangsan have meal or not?"

∗ ***Nandao* + WH-Q**

Although *nandao* can appear in sentences like (2) which have WH-word (e.g. *shui* "who"), these are not true WH-Qs. Two pieces of evidence are presented below:

a. ∗ *nandao* + *weishenme* "why"

(7) ∗Nandao Zhangsan weishenme qu xuexiao?
Nandao Zhangsan why go school
(Attempted) "Why does Zhangsan go to school?"
(N/A: There is no reason for Zhangsan to go to school.)

In Mandarin, many WH-words can have indefinite pronoun interpretations including *shui* "anyone", *shenme* "anything", and so on (cf. Li and Thompson 1981). But *weishenme* "why" is an exception: it can only have the interrogative reading. Thus, every question with it will be a true WH-Q. The incompatibility of *nandao* and *weishenme*, as shown in (7), suggests: (2) is not a WH-RQ, but a Y/N-RQ with indefinite pronoun ("Is there anyone who helped you?"); *Nandao* cannot transfer WH-Q into WH-RQ.

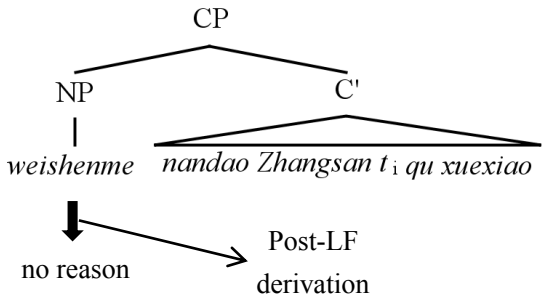
b. ∗ *nandao* + *ne*

Ne is a typical WH-Q particle in Mandarin (cf. ibid.), while *me* in (1) and *ma* in (2) is a Y/N-Q particle. The incompatibility in (8) shows that *nandao* cannot go with WH-Qs.

(8) Nandao shui bang-guo ni ma/*ne?
Nandao anyone help-EXP you Q Q
"Who helped you?"
(=No one helped you.)

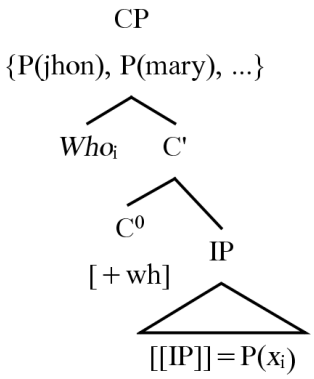
The Puzzle

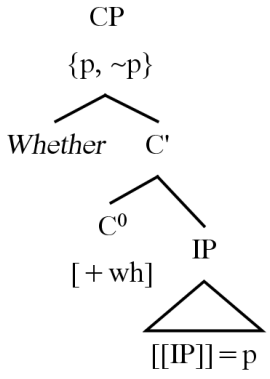
1. Standard theories of RQ (cf. Sadock 1979, Han 2002) treat RQ reading as a pragmatic result, but the necessary RQ reading of *nandao*-Qs seems to suggest that RQ need a semantic solution.
2. Even we follow Han (2002)'s framework, we cannot explain why *nandao* is incompatible with WH-Qs. In her framework, the polarity reversal reading of *weishenme* in (7) can be perfectly derived from the WH-word denoting the bottom element in its denotational domain, i.e. "no reason".

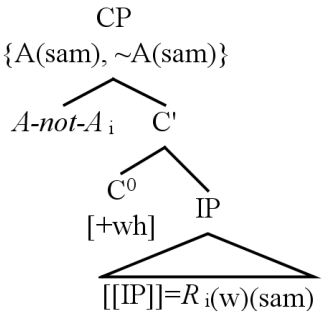


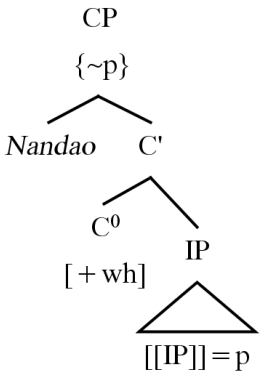
The Syntax of *Nandao*

1. As the polarity reversal effect will necessarily appear when *nandao* is added to Y/N-Q, so it should appear in LF. Also, it takes a question or a proposition and negates it, so its position should be above IP.
2. Unlike *whether* or Y/N operator in Y/N-Qs, *nandao* can only exhibit a negative meaning in *nandao*-Q. I propose that in *nandao*-Qs, there is no covert *whether or Y/N* operator in SpecCP, and the SpecCP will be filled by *nandao.*
3. In this sense, like *who* and *whether*, *nandao* in Mandarin is a WH-word with [+wh] feature. A comparison of Four WH-structures is presented below. (The structure of A-not-A-Q is adapted from Huang (1991).)









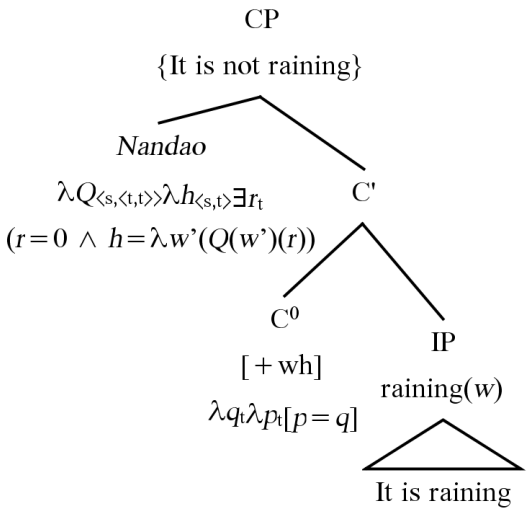
The Semantics of *Nandao*

Nandao is a WH-word which takes a question of a single proposition and turns it into a set with the proposition of the opposite polarity. To be specific, having an existential *r* in

the semantics ranging over only the truth value of 0 in the spirit of Guerzoni (2003) and George (2011), *nandao* is a function that takes an argument of type ⟨s, ⟨t, t⟩⟩ and yields a singleton set of proposition.

(9) [[*nandao*]]=$\lambda Q_{\langle s,\langle t,t\rangle\rangle}\lambda h_{\langle s,t\rangle}\exists r_t(r=0 \wedge h=\lambda w'(Q(w')(r)))$

(10)



(9) C': $\lambda q\lambda p[p=q](raining(w)) \Rightarrow \lambda p[p=raining(w)]$

CP: $\lambda Q\lambda h\exists r(r=0 \wedge h=\lambda w'(Q(w')(r)))(\lambda w\lambda p[p=raining(w)])$

$\Rightarrow \lambda h\exists r(r=0 \wedge h=\lambda w'[r=raining(w')])$

$\Rightarrow \lambda h(h=\lambda w'(raining(w')=0))$

$\Rightarrow \{\lambda w'(raining(w')=0)\}$ or {It is not raining}

Explanations of the Mandarin Data

∗ ***Nandao* + declaritives**

As *nandao* is a WH-word which needs to check [+wh] feature at SpecCP in LF, it cannot appear in declaratives which do not have this feature.

∗ ***Nandao* + WH-Q/A-not-A-Q**

Both *nandao* and WH-words in WH-Q (e.g. *who*) have [+wh] features. If they co-occurred in the same clause, they might form a multiple WH-Q. Following Dayal (1996)'s functional dependency requirement for normal multiple WH-Qs, we can create a negative identity function between *who* and *nandao* for (8).

$\lambda p\exists f(Dom(f)=people \wedge \forall x(f(x)\in\{0\}) \wedge p=\cap\lambda p'\exists x(p' = (x\ helped\ you = f(x)))$

Although the compositional semantics is good, the sentence is unacceptable. This

suggests that we need a further restriction on normal multiple WH-Qs.

Multiple WH-feature Question Restriction (MWHQR):

x and its functional dependent element f(x) should be thematic arguments within the question nucleus denoted by the IP.

As *nandao* is an IP adjunct operating on propositional level, it doesn't satisfy **MWHQR**. Thus, *nandao* and *who* cannot form a multiple WH-Q.

Following Huang (1991), I regard A-not-A as a WH-word denoting a set of complementary properties, e.g. $\{\lambda w \lambda x\ A(w)(x), \lambda w \lambda x \sim A(w)(x)\}$. As both A-not-A and *nandao* don't satisfy **MWHQR**, they cannot form a multiple WH-Q either.

∗ *Nandao*-Q cannot be embedded

Nandao-Qs are neither like questions nor like declaratives, having the syntactic form of OQs and the semantics of declaratives. Interestingly, they cannot be embedded.

(4) shows that *nandao*-questions cannot be embedded by [-wh] selecting verbs, e.g. *xiangxin*. This can be explained by the incompatibility of [+wh] feature of *nandao* with the [-wh] requirement of V.

But, surprisingly, *nandao*-Q cannot even be embedded under [+wh] selecting word like *wen* "ask", as shown in (11).

(11) ∗Zhangsan wen Lisi nandao chi fan le me.
Zhangsan ask Lisi nandao eat rice PERF Q
(Attempted) "Zhangsan ask Lisi that Lisi didn't have meal."

Pragmatically, a [+wh] selecting verb needs the embedded clause to denote multiple answers: there is no reason to enquire a degenerate question that has only a single answer (Veneeta Dayal, p.c.)

So what are *nandao*-Qs good for?

By Quine's Innovation (Schwarzschild 1996), a singleton set is identified with its individual member. So, {~p} = ~p. What else can a *nandao*-Q be but a rhetorical question?

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