Direct syntax meets information structure: The case of Iroquoian

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1. Direct syntax

> Oneida (Northern Iroquoian) is not just a head-marking language, it is a
> direct syntax language.

- Function in most languages (*selectional* languages) of phrases that are external to the predicate:
  semantic: (1) saturate a predicate, or (2) specify further the described event;
  pragmatic: (3) (e.g. introducing new referents,…) (cf. Koenig 1999)

(1) "A lone figure walked along a shoveled-off bricklaid path." Excerpt From: Rita Mae Brown & Sneaky Pie Brown. "Cat of the Century." iBooks. https://itun.es/us/DOucz.l

- Oneida (Northern Iroquoian) is head-marking, but more importantly it is a *direct syntax* language (Koenig and Michelson 2012, in Press), and so:

  - o Heads are fully saturated (and arguments are referenced morphologically through so-called pronominal prefixes).
  - o External phrases are *always* in adjoined or appositive positions.
  - o The noun/verb distinction is relevant for Oneida stems but not Oneida words (i.e., there are no *syntactic* categorial distinctions in Oneida; Koenig and Michelson 2013, in prep).

- How does information structure affect the syntactic distribution of referring expressions in a direct syntax language such as Oneida?

  - o The distribution of RPs is almost entirely governed by information-structure (see Section 5.5 for ONE exception)

2. List of major Oneida constructions

- Every verb (or noun) in Oneida includes so-called pronominal prefixes that reference participants in the described situation.
- Up to two *animate* participants can be referenced via portmanteau-like pronominal prefixes.
- Arguments of verbs are interpreted by default as definite (Koenig and Michelson 2010).
- Oneida has both indefinite as well as personal (1st, 2nd, and 3rd person) pronouns. They are morphologically uninflected.

RP= Referential Phrase
SP= Situation Phrase

(2) Adjunction to situational phrase (unbounded): $[RP_i , SP_{ARG\_i}]$

[$_{SP}$ waʔ-**úk**-yehteʔ] [$_{RP}$ **ak**-nulhá·]
she woke me   my mother

'my mother woke me up'

a. RP$_{+WH}$ < SP

[$_{RP}$ úhka?] [$_{SP}$ wá·yuwe?]
who   someone arrived
'who got here?'

b. SP < RP$_{PROP}$

[$_{SP}$ Yahyatlihwísane? kati? wí· ka?ikʌ] [$_{RP-prop}$ tsi? tʌhyathwatsi·láyes<u>te</u>?.]
[they agreed well then these]   [that they would mix families]
'They agreed [that they would get married.]'

(3) Adjunction to referential phrase (bounded): [RP$_i$, RP$_{ARG\_i}$]

[$_{RP}$ lake?níha] [$_{RP-ARG\_i}$ lohsótha]
my father   his grandmother
'my father's grandmother'

(4) Apposition: [RP$_i$ RP$_i$]

[$_{RP-i}$ laksótha]   [$_{RP-i}$ Amos]
my grandfather   Amos
'my grandfather Amos'

(5) "Internally-headed relative clause:" [$_{RP-i}$ SP$_{ARG\_i}$]

[$_{SP}$ kwa·-kʌ-he?]   [$_{RP-i}$ thikʌ]   [$_{RP-i\ SP-ARG\ i}$ loti-stó·sl-ot-e?,]
1PL>2SG-see-HAB.ASP   that   3MASC.PL.PAT-feather-stand-STATIVE.ASP
'we see you with the feathered ones,'

(6) "Free relative clause:" [$_{RP-i}$ REL$_i$ SP$_{ARG\_i}$]

[$_{SP}$ ʌshakothálhahse?]   [$_{RP-i\ REL-i}$ tsi? ka·yʌ· $_{SP-ARG\ i}$ yakotló·lu]
they will advise them   the one that   someone/people is/are watching
'they will advise those who are watching'

In selectional syntax languages:

- Dependents must be expressed for syntactic/semantic reasons (saturation), irrespective of information-structure needs.
- Syntactic constructions (with or without an intonational tune) have a "default" information structure attached to them.
- "Marked" structures are used for partitions of information that differ from that "default."

In direct syntax languages:

- Dependents are not expressed for syntactic reasons
- There is no mixing of syntactic requirements with information-structure

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Questions:
1. What are the constructions dedicated to particular information-structure functions?
2. Why do speakers produce an RP at all in a direct syntax language?

3. Distribution of referring expressions

> - What are referring phrases?
> - What kinds of referring phrases do we find in natural Oneida discourse?

- There can be long stretches of discourse with almost no RPs:

(7) Tóhka? niwʌhní·take u·tú· wa?katáyahte? tahnú· nok u·tú· wa?akwanakla·kó·,
A few   months amount to it could be I went to school and then it had to be we moved away,

wahuthwehnota·kó·   tsi? nú· nihatiyʌtákwas, ákte? núwa? nú· nyusayákoh.
they finished working the area where they cut wood,   different this time where we went there next.

Né· aolí·wa? só·tsi? yah te?wakhyatuhslayʌtelé·u tsi?   tyótkut nok yukwanaklakwʌháti?
It's why too much not I didn't get book-learning because always only we are moving around

tshikeksá·,   kwáh kʌs   kok ná·ye? **kátsha? ok nú·** yeyakwanákle?   ókhale?
when I am a child, just habitually a little while **somewhere**   we reside over there and

wahatíhsane? latiyʌtákwas ókhale? ákte?   núwa? nú· yusayukwanaklakwʌháti?.
they finished   they cut wood and   different this time where we moved over there next.

Yah kati? wí· náhte? te?yotú·u   tá·tkʌ   a·kataya?tá·na?, khále? onʌ́ tho
Not well then any   it couldn't be or maybe that I go to school, and   then that's

nitwakenú   nʌ oni? **ní·** yah thya·ya·wʌ́ne? tsi? ukyo·tʌ́·, nʌ oni?
where I have come from then too **me** it has to be   that I worked, then too

wa?kheya?takénha? latiyʌtákwas.
I helped them   they cut wood.

'I could go to school for a few months and then we had to move away, they got done working the area where they were cutting wood, and we went someplace else. That's the reason why I never got much education, because we were always moving around when I was a child, we would live somewhere for a little while and they would finish cutting wood and we would be moving to someplace else. Well then nothing was possible either so that I could go to school, and soon I was old enough that I had to work too, then I helped them at cutting wood.' *Clifford Cornelius, A Life Time Working, 1994*

- Philosophers' notion of referential expression is narrow and will not help in cross-linguistic comparisons (for the strictest philosophers, only "pure indexicals" (I/you) are referring expressions, Bach 2008).
- It is unclear where linguists want to stop: Gundel et al. (1995) include in the class of referring expressions, of course, definite NPs (*the dog*), but also indefinite NPs of the form *a dog*. We assume Gundel et al. exclude essentially quantified NPs (proportionally quantified NPs such as *every dog*, *most dogs*).
- What about "semi-lexicalized" concepts, like the word for 'tomorrow'?

(8) Head cheese ʌhsatu·ní· ʌyólhʌne?.
head cheese you will make tomorrow
'You will make head cheese tomorrow.' *Verland Cornelius, My Father Has a Laugh, 2007*

- Our working definition: a referring expression is any expression that introduces a discourse referent anchored to an entity (as opposed to a situation) à la DRT (Kartunnen 1976; Kamp and Reyle 1993)
- Even then, it is not easy to determine what counts as a referring expression (as there may be phrases that denote entity *concepts* but do not introduce discourse referents, see Koenig 1999; Farkas and de Swart 2003).
- Corpus study (from texts in Michelson, Kennedy and Doxtator, 2014 ms.): count RPs and classify them in terms of semantic and morphological types.
- Percentage of clauses with at least one RP is 40%, but this is a somewhat misleading number, as it does not factor in "standard deviation."

Table 1: Different kinds of referring expressions in our texts

Noun	Poss noun	Loc noun	Lex. verb	P	English	Kin	People	Pro-noun	Names	Count clause	Other	Total REs	Total Words
272	135	168	194	40	317	402	284	490	326	256	404	3287	30997

Table 2: Proportions of referring expressions according to morphology

	REs headed by words with *exclusive* nominal morphology	REs headed by words with *some* nominal morphology	REs headed by words with *no* nominal morphology	Total
Number	575	686	2027	
As % of REs	17.5%	20.8%	61.7%	100%
As % of Wds	1.9%	2.2%	6.5%	10.6%
As % of clauses				39.93%

4. Specialized constructions

- Iroquoian languages are "purely pragmatically ordering languages" (Mithun 1987) and, as a result, position of RPs is not as rigid as in other languages
- … But there are some specific constructions for specialized information structure types

4.1. Example of ordering flexibility

(9)   Example of preverbal NP:

nʌ kwí· úska útlatsteʔ thikʌ́ **Tsyó khále? í·** yakní·tluʔ,
so then   one   time   that   **Joe   and   myself** we two are at home
'so then one time **Joe and I** were home'

(10)   Example of postverbal NP:

né· tsiʔ   nihonaʔkhwʌ́·u   thikʌ́ **lake?nihkʌ́,**
because he is so mad   that   **my late father**
'because **my father** was so mad'

4.2. Presentational structures

> - Né· s thikʌ́/kaʔikʌ́ + RP/SP 'There is this RP/SP'
> - Né· + (RP +) X$_{Name}$ + pref-yats 'There is this person named X'
> - SP$_{presentational}$ + RP

(11) A. **Né· s thikʌ́ John Láets khále? Simon Láets,** tho wahotiké·toh<u>te?</u>.
       it's that John Elijah and Simon Elijah there they showed up

       'John Elijah and Simon Elijah, they showed up there.'

    B. Né· kʌ thikʌ́ tehutʌhnutlúni? yahsotkʌ́.
       it's question that they are siblings your late grandfather

       'They were brothers to your late grandfather?' *Pearl Cornelius, Family and Friends, 1993*

(12) Tahnú· né· ki? n **laknulhá· Jake luwa·yáts,** wahaklihúni? n
       and it's actually **my uncle Jake is his name** he taught me

       aukyo·tʌ́· utakhenláh<u>tu?</u>.
       that I work that I hand someone leaves

       'And it was **my uncle Jake**, he taught me how to hand [tobacco] leaves.' *Olive Elm, How I Got Started Working in Tobacco, 1998*

(13) ya?enhotu·kó·, ya?utkátho? yakʌ?, tho kwáh **yakotluhóstu**
       she opened the door she looked that way reportedly there just **she is shielding herself**

       yakukwé tho i·yé<u>te?</u>.
       a woman there she stands

       'she opened the door, she looked out, there's **this woman** turned away shielding herself, she's standing there.' *Olive Elm, Ghost Sightings at the Language Centre, 2007*

4.3. Left-detached construction

> - Left detached construction is used for narrow focus and contrastive topics (S-topics in Büring 1997)
>
>   RP (+ ,) + né· + SP

4.3.1. Narrow focus

(14) A. Wá·lelhe? né· kʌ swahyo·wáne?, ohnaná·ta? nʌ? né·.
       he thought it's question apple potato that one

       'He thought it was an apple, it was a potato as for it.'

    B. Ohnaná·ta?.
       potato

       'Potato?'

    A. Hʌ́·, **ohnaná·ta? né·** lonʌskwʌháti?.
       yes **potato it's** he is stealing

       'Yes, a potato he was stealing.' *Pearl Cornelius, Family and Friends, 1993*

4.3.2. Contrastive topics

(15) nʌ   seʔ kwáh akulhaʔtsíwaʔ oꞏnʌ́. **Lakeʔnihkʌ́**   nʌ   néꞏ wahokstʌꞏháneʔ,
      then too   just   all by myself   now   **my late father** then it's he became old

      yah néꞏ teʔshoyóꞏtʌhseʔ   tsiʔ s nʌ   tayohtuháti̱ʔ.
      not   it's he doesn't work anymore how   then the way it's going

      '(And I looked after myself starting at that time. And then [jobs] became more plentiful, I went to
      work in tobacco too,) and I was by myself now. **My father** had gotten old, he wasn't working
      anymore the way it used to be. (I was all by myself now, all on my own.)'

- The story is about the speaker's childhood memories, the hardships his family endured (*Clifford Cornelius, A Life Time Working, 1994)*.

- Sometimes, it is hard to determine whether a left-detached construction encodes a contrastive topic, or simply contrast:

(16) tsiʔ yukwʌtʌhtáꞏu lakeʔnihkʌ́   oskánhʌ teyakwatʌhnutlúnyuʔ, **ukwatʌnoʔsʌ́ha** nʌ
      that   we are poor   my late father together brothers   **sisters**   then

      néꞏ tetsyalú yotinyákuʔ,   nʌ   néꞏ yah oskánhʌ teʔtsyakwʌ́ꞏtluʔ   thikʌ́
      it's both   they are married then it's not   together we don't stay anymore that

      neʔ thóꞏneʔ, kéꞏyaleʔ   aʔéꞏ   sʌ́ꞏ   **Dutton** néꞏ yehatinolótshyus,
      at that time   I remember way over also **Dutton** it's they husk corn over there

      '(I remember) that we were all poor, my late father and my brothers, **my sisters**, they were both
      married already, they didn't live together with us anymore at that time, I rmember way over in
      Dutton also, they used to husk corn over there,'

- The speaker had been talking about his father and brother and their living in Dorchester. Now he talks about *his sisters* and *Dutton*.

5. Why say something?

> Four kinds of reasons for RP production:
> 1. Introduction of a participant in the narrative
> 2. A. Reactivation of a participant in the narrative/topic shift
>   B. Disambiguating participants
> 3. Creation of a multi-word event name
> 4. Mention of an unfamiliar, but important participant

5.1. Introducing a participant

- First mention of a participant through an RP is more often pre-SP than post-SP
- This is particularly true of:
  - inanimate referents
  - quantity expressions (quantities are most often expressed as IHRCs)
  - indefinite expressions
- Subsequent mentions are more often after the SP

(17)   nók tsiʔ   shekú   kiʔ   lotiyo·té·   kwahikʌ́ tsiʔ   watyesʌ́,
       but   still   actually they are working   just really   it's cheap

tóhkaʔ   ok   kwénis   tehutʌ́·tshaʔas.
a few   only pennies they earn

'but still they were working [and] [labour] was really cheap, they made **only a few pennies**.'

- First mention of anchored participants (Prince 1982) are often post-SP (kinship terms; possessed NPs):

(18)   Tahnú·   **yukwanʌ́skwayʌʔ**   kʌs   thikʌ́ **é·lhal,**   lakwanʌ́   police dog.
       and   **we have a pet**   customarily   that   **dog**   he is big   police dog

'And we had **a dog**, a big police dog'

- Sometimes, although the participant has been introduced via noun incorporation, it is introduced later as an external RP to focus attention on the particular *token* of the entity concept associated with the (incorporated) noun stem:

(19)   nʌ kwí·   wé·ni   waʔka·lí·.   Atnʌyálhoʔ,   tho   né·   niyohnilhá·u
       so then   evidently it got ripe   giant   there it's   how has become hard

thikʌ́ **akná·talok,**   kwáh   oniʔ   né·   aʔnyóh   cement   waktáhkwʌ   thikʌ́,
that   **my bread**   just   too   it's   seems like cement   I have taken it out   that

niyolakalé·ni   atekhwahlakhwá·ke   waʔká·lane?.
a loud noise sounded   on the table   it landed

'But it had become hard, so then it must have gotten cooked. By golly, **my bread** had become
so   hard, it was just like cement [what] I took out, it landed on the table with a loud noise.'

5.2. Reactivation of a participant or disambiguating participants

(20)   Ok wí· n   **akná·talok,**   yah   ní·   teʔwakanúhteʔ   kátshaʔ   nyehóti,
       and as for **my bread**   not   me   I don't know   where   he has thrown it

wé·ne   kwí·   ísiʔ   nyehóti.
evidently   away   he has thrown it

'And as for **my bread**, I don't know where he threw it, he must have thrown it away.'

- The speaker messed up making bread; his father got really mad and so the speaker left the house to go into the woods. Then the story gets back to what happened to the bread he tried to make.

- Subsequent mention is sometimes used to disambiguate *who did what to whom*

(21)   né·n   tho   né·   yahuwayaʔto·lʌ́·neʔ   ʌtilú   kalhakú   thikʌ́,
       and it's there it's   they found him over there   raccoon   in the woods   that

tahyatli·yó·   thikʌ́ é·lhal.   Wahatikwe·ní·   wahuwályoʔ   thikʌ́ **ʌtilú,**
the two fought there   that   dog   they were able   they killed him   that   **raccoon**

nʌ kwí·   tutahuwayaʔtáhaweʔ.
so then   they brought him back

'and they found this raccoon in the woods, and it fought with the dog. They were able to kill **the raccoon**, so then they brought it back.'

5.3. Focus/contrast (as in *focus* particles)

- Subsequent mention is sometimes used to indicate a property is true of a participant to the exclusion (or near exclusion) of others:

(22) Waʔtyakniye·ná·   waʔakniyʌtéhtaneʔ, nók tsiʔ né· kyuniʔ wí· né· tsiʔ
      we two pulled together we two learned   but   it's too   because

      onulhá· Nellieha, náleʔ   yah thutayakniye·líteʔs ʌyuknihlo·lí·
      her mother Nellie   then again not   we two won't do right   she will tell us two

      kyuniʔ wí· **nʌʔ né·,**
      too   **that one**

      'We worked together and we learned, but also it's because **her mother Nellie**, when we weren't doing it right, SHE would tell us,' *Olive Elm, How I Got Started Working in Tobacco, 1998*

5.4. Maintaining activation of important, but "unfamiliar" participants

- Aside from contrastive topics/topic shifts, reactivation of participants, there is typically no need to mention again participants.

- For participants that are very familiar or are not a salient part of the story, one-time mention is enough.

- But, for participants that are a salient part of the story, but not familiar, speakers often mention a participant via an RP more than once. Maybe, to indicate that they are the speakers' focus of attention (Zubin 1979).

(23) kháleʔ othé·tsliʔ waʔkkó·naʔ,   tahnú· kwáh kok nikú   ska·yʌ́·
      and   flour   I went and got it and   just   some amount only   it is left

      thikʌ **othé·tsliʔ,** kwah nók tsiʔ úska ʌkatesheʔlhu·ní· tsyoʔk nikú   ska·yʌ́·.
      that   **flour**   just only   one   I will make dough   only how much   it is left

      'and I went and got some flour, and there was only a small amount left of **flour**, just enough to make one loaf, only so much was left.'

(24) Lakeʔníha s lohsótha   teyakwayáshe. Né· s kwí· yakolʌʔnhá·u
      my father   his grandmother   we stay together so it's   she knows how

      a·yutaʔahslu·ní.   Né· s kwí· nʌ   wahatluto·lʌ́neʔ kalutiyó   oʔnu·ná·,
      that she makes baskets   so it's   when he found a tree   it's a nice tree   black ash

      né· s kwí· tashakolutahawíhtʌ? **lohsótha.**   Shekú kwí· tshiyakotshá·nit
      so it's   he brought her a log   **his grandmother** still   then she is industrious

      lohsótha,   akaulhá· kʌs   waʔehwáʔekeʔ.
      his grandmother she herself habitually she pounded it

      'My father's grandmother lived with us. She really knew how to make baskets. So when he found the right tree, a black ash, he would bring **his grandmother** the log. **His grandmother** still could work hard, she would pound [the logs] herself.' *Georgina Nicholas, An Oneida Childhood, 1981*

- Sometimes a single-mention of a participant (including by presentational structures) also reflects its high activation *in the speaker's mind*.

(25) nók tsiʔ   ké·yaleʔ   kiʔ n   **lakeʔnihkʌ́**   wahu·níseʔ   Dorchester s
but   I remember actually **my late father** a long time ago Dorchester habitually

nú·   yeyakwanaklátyehseʔ, latiyʌtákwas kháleʔ teyakwatʌhnu·téleʔ tehniyáshʌ.
where we reside all around   they cut wood and   we are siblings   two

Tahnú· kwáh s tshaʔtehnikwanʌ́   thikʌ́ neʔ thó·neʔ, nʌ kʌs   né·
and   quite   when the two are big that   at that time   then habitually it's

lotiyo·té·   lakeʔníha oskánhʌ,
they are working my father   together

'but I remember **my late father**, a long time ago we lived all around Dorchester, the were cutting wood and [so were] my two brothers.' And the two were quite big [big enough] at that time, they were working together with my father,'

5.5. Multi-word event names

- RPs in English can be used to create multi-word event names (Marvel and Koenig, In preparation).

(26)   a. Joe raised his hand.
       b. Joe was pulling the ball (in soccer).

- In Oneida, noun incorporation is typically used for this purpose (English multi-word event names = Oneida multi-stem event names). This can result in incorporated noun stems being repeated across clauses

(27)   Tho nikú wí· yaʔthawe·ná·seʔ   thikʌ́ lakeʔnihkʌ́   neʔ thó·neʔ,
       that's how much he received in profit that   my late father at that time

kwahikʌ́ wak**ahtahkw**áksʌhseʔ kʌs,   tewakahyakwilakeʔto·tú·
just really I have awful **shoes**   customarily my toes are sticking out

tsiʔ niw**akahtahk**ó·tʌhseʔ, wahakwe·ní· thikʌ́ tho   nikú   tahuwa·yú·
what kind of **shoes** I have   he was able   that   that's how much they gave him

kané·waʔ wahatnehwahni·nú·, oyá· suk**wahtahkw**ayʌ·tá·neʔ thikʌ́ kwáh aseʔshúha.
pelt   he sold a pelt   other I got **shoes** again   that   just   new ones

'That's how much my late father got for it at that time — I had these really awful **shoes**, my toes were sticking out of my **shoes**, he was able to have them give him enough for the pelt [when] he sold it that I got new **shoes**.'

- Some verbs that do not allow noun incorporation. In this case, external RPs are used when the need arises for complex event names

(28)   Aʔé·   akwáh **oyú·kwaʔ** yeyukwayo·té·,   Percy Ireland
       far away mostly **tobacco**   we are working over there Percy Ireland

kháleʔ Simpson Ireland, **oyú·kwaʔ** yukwayo·té· aʔé·   Simcoe áktaʔ.
and   Simpson Ireland   **tobacco**   we are working far away Simcoe near

'We were working sort of over there in **tobacco**, Percy Ireland and Simpson Ireland, we were working in **tobacco** over near Simcoe.'

6. Conclusions

- In a direct syntax language, most aspects of syntactic structure is information structure-driven (but, be advised we left particles out of our discussion!)
- Information structure should include not only partition of information governed by the speaker's model of the addressee's state of mind, but also partition of information governed by the speaker's state of mind
- Although there are syntactic constructions dedicated to a particular pragmatic use, many of the information-structure sensitive patterns we have described are rather tendencies than requirements
- If true, the model we need in these cases is not one where we have an inventory of syntactic constructions that encode a particular information structure, but rather a set of more or less entrenched discourse routines