A General Theory of *Wh*-Questions, Partial *Wh*-Movement and Related Matters

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Day 1 13:00-15:00

Part 1. A General Framework (Tonoike (2019, in preparation))

1. Overt Syntax Condition

(1) Internal Merge (IM) can see only SOs with a(n associated) phonetic shape.

(2) a. No covert movement of any kind
b. Islands do not block IM unless they have a phonetic shape. (Rescue by PF deletion eliminated)

(3) a. Extension Condition regulates both IM and EM.
b. Inclusiveness Condition regulates IM.
c. Inactivity Condition (?) (See below.)

Reasons for eliminating covert operations

It cannot be emphasized enough that if covert movement were allowed in any form (be it by literal covert movement or by copy theory of movement coupled with a lower copy pronounced),
(a) languages would exhibit all sorts of weird behavior, and
(b) languages would be unlearnable.
Just an example

(4) a. 学生の誰かが教授の誰もを憎んでいる unambiguous
b. 教授の誰もを学生の誰かが憎んでいる ambiguous
c. Some student hates every professor ambiguous

(5) a. If covert movement were allowed, (4a) would be wrongly predicted to be ambiguous.
b. If it is claimed that Japanese does not allow covert operation to apply to (4a) (Cf. Rigidity Condition) and causes it to have the structure of (4b), then the language would be predicted to be unlearnable due to lack of observable positive evidence.

2. Quantifier Scope (QR eliminated)

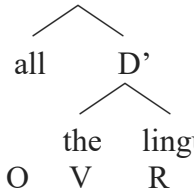
(6) a. Operator Variable Constructions (OVCs) hold in situ
b. Determiners function as variables

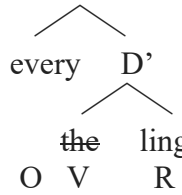
Fox (2002) Trace Conversion (Variable Insertion + Determiner Replacement)

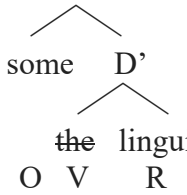
(7) a. John offended every linguist →QR+Trace Conversion
b. every linguist λx [John offended the linguist x]
c. Violation of Chomsky's (1995) Inclusiveness Condition (λ, x, the)

(8) a. John offended all the linguists
b. all (the?) linguists λx [John offended the the linguist x]

In-Situ Operator Variable Constructions (O(perator), V(ariable), R(estriction))
(*λ, x,* eliminated)

(9) a. 

b. 

c. 

(10) a. everybody [every [~~the~~ body]] (*the* spelled out as null)
b. somebody [some [~~the~~ body]]

(11) a. a student [a [~~the~~ student]]
b. some student [some [~~the~~ student]]
c. every student [every [~~the~~ student]]

(12) the → ∅ /Q __ except when Q=all/both ∅=Null Spell-Out

Japanese (Tonoike 1987, 1991; Ueda 1990): Case particles as determiners

(13) a. dare-ka-ga a'. dare-mo-ga
R O D=V R O D=V
b. some the body every the body
O V R O V R

(14) Indeterminate (未定詞) Kuroda (1965)
a. dare=body=Indeterminate
b. nani=thing=Indeterminate
c. doko=where=Indeterminate
d. itu=time=Indeterminate

(15) a. do+no-gakusee-ka-ga b. do+no-gakusee-mo-ga
R O V R O V
b. some the student every the student
O V R O V R

(16) a. Japanese: Indeterminator→do(+no)= (未定化詞)
b. English: Indeterminator→∅

(17) Ko-So-A-Do

ko-re	so-re	a-re	do-re	re=thing
ko-ko	so-ko	a(so)-ko	do-ko	ko=place
ko-itu	so-itu	a-itu	do-itu	itu=thing/person
ko-yatu	so-yatu	a-yatu	do-yatu	yatu=thing (derogatory)
			nani	
			da-re	
			itu	

Quantifier Scope Ambiguity: Overt QR (Rightward Adjunction)

(18) a. [$_{v*P}$ Every-~~the~~-body [$_{v*'}$ loves some-~~the~~-body]] every>some Overt QR →
b. [$_{v*P}$ [$_{v*P}$ Every-~~the~~-body [$_{v*'}$ loves ~~the~~]] [some-~~the~~-body]] some>every

Japanese: Left Branching Structure + Overt QR=Scrambling

(19) a. Dare-mo-ga dare-ka-o aisi-teiru Unambiguous (Said to be the basic order)
b. Dare-ka-o dare-mo-ga aisi-teiru Ambiguous (Said to be scrambled)

Note on notation: /X/=the sound of X, {X}=the meaning of X, X=/X/+{X}

(20) a. [$_{v*P}$ [$_{v*}$, Dare-ka-o {aisi}] dare-mo-ga]] /aisi/-teiru mo>ka
Overt QR of *dare-ka-o*→
b. [$_{v*P}$,Dare-ka-o [$_{v*P}$ [$_{v*}$ ~~o~~ {aisi}] dare-mo-ga]] /aisi/-teiru ka>mo
(Ambiguity of (19b))
Overt QR of *dare-mo-ga*→
c. [$_{v*P}$ Dare-mo-ga [$_{v*P}$ [$_{v*}$, dare-ka-o {aisi}] ~~ga~~ $_{v*P}$]] /aisi/-teiru mo>ga
(Non-ambiguity of (19a)

3. Typology of Internal Merge ("Free Merge", Probe-Goal eliminated)
3.1. A-Movement (Driven by Case and Agreement)
Featural Reaction under Adjacency Condition (DP-EPP deduced and Inheritance eliminated)
(21) a. [$_{VP}$ V DP] → [$_{VP}$ V DP]
Acc ϕ ϕ Acc
b. [$_{TP}$ T [$_{v*P}$ DP [$_{v*}$, v* VP]]] → [$_{TP}$ /DP/ [$_{T}$, T [$_{v*P}$ {DP} [$_{v*}$, v* VP]]]] /X/=sound of X
Nom ϕ Nom ϕ {X}=meaning of X
c. [$_{VP}$ V [$_{TP}$ to [$_{v*P}$ DP v* VP]]] →[$_{VP}$ /DP/ V [$_{TP}$ to [$_{v*P}$ {DP} v* VP]] (ECM)
Acc ϕ Acc ϕ See 3.3. & 6.3.
d. chemical reaction (burning of methanol)
$2CH_3OH+3O_2 = 2CO_2+4H_2O$
methanol+oxyegen→carbon-dioxide+water

Early/Late Merge (Reconstruction/Piggybacking eliminated)
(22) a. Somebody seems to know the answer some>seem, seem>some
Early Merge (Reconstruction eliminated)
b. [seems [to [some-the-body know the answer]]] →
c. [/some-the-body/ seems [to [{some-the-body} know the answer]]] seem>some
Late Merge (Piggybacking eliminated)
d. [seems [to [the know the answer]]] A-Movement + Late Merge→
e. [some-the-body [seems [to [the know the answer]]]] some>seem

3.2. A'-Movement
3.2.1 *Wh*-Movement (See Part 2 later this afternoon)
3.2.2. Relativization (Driven by a need to receive a θ-role)
DP Movement Approach to Relativization
(23) a. the picture of himself (that/which) John painted
b. [$_{CP}$ C [$_{TP}$ John painted the^2 picture of himself]] *the*^{2}=two copies of *the*
Predicate Formation (aka *Wh*-Movement)→
c. [$_{CP}$ the+/the/ picture of himself C [$_{TP}$ John painted {the}]]
DP Extraction (θ-movement)→
d. [$_{DP}$ the picture of himself] [$_{CP}$ /the/ C [$_{TP}$ John painted {the}]] CP Adjunction→
e. [$_{DP}$ [$_{DP}$ the picture of himself] [$_{CP}$ /the/ C [$_{TP}$ John painted {the}]]]
Merge to a θ-position→
f. /the/→which or C→that
3.3. Head Movement
Lexical Complex and Excorportation (Inheritance eliminated)
Standard Head Raising

(24) a. [$_{v*P}$ v* [$_{VP}$ V ..]] → [$_{v*P}$ v*-V [$_{VP}$ ~~V~~ …]]
b. [$_{CP}$ C [DP T ..]] → [$_{CP}$ C-T [DP ~~T~~ ..]] (Subject Aux Inversion)

Chomsky's puzzle : Cyclicity points to syntactic process; Semantic vacuity points to PF process.

(25) a. [$_{v*P}$ v* [$_{VP}$ read DP]] → [$_{v*P}$ v*-read [$_{VP}$ ~~read~~ DP]] (v*→V)
b. Did you know that? (T→C)
c. Had I known that =If I had known that (T→C?)

Excorporation Analysis (Tonoike (2009, 2015a), Egashira and Tonoike (2010))

(26) a. [$_{VP}$ v*-read DP] → [$_{v*P}$ v*-/read / [$_{VP}$ {read} …]]
b. [$_{TP}$ /you/ [$_{T'}$ Q-did know that]] → [$_{CP}$ Q-/did/ [$_{TP}$ /you/ {did} know that]]]
c. [$_{TP}$ /I/ IF-had [$_{v*P}$ known that]] →[IF-/had/ [$_{TP}$ /I/ {had} [$_{v*P}$ known that]]]

French/German: Cyclic Excorporation of V to C

(27) a. Connaissez-vous son nom?
b. Weißen Sie seinen Namen?

(28) a. [Q-T-v*-connaissez son nom] →
[Q-/connaissez/ [/vous/ T [{vous} v* [{connaissez} son nom]
LF : [$_{CP}$ Q [$_{TP}$ T [$_{v*P}$ vous v* [$_{VP}$ connaissez son nom]]]]
b. [Q-T-v*-weißen seinen Namen] →
[Q-/weißen/ [/Sie/ T [{Sie} v* [{weißen} seinen Namen]]]]
LF: [$_{CP}$ Q [$_{TP}$ T [$_{v*P}$ Sie v* [$_{VP}$ weißen seinen Namen]]]]
c. [Q-/do/ [/you/ {do} [{you} v* [know his name]]]]
LF: [$_{CP}$ Q [$_{TP}$ do [$_{v*P}$ you v* [$_{VP}$ know his name]]]]

Japanese: bound morphemes

(29) a. 証拠を隠したの(は明らかだ)
b. [証拠を kaku-si-ta-no] kaku=V, si=v*, ta=T, no=C
c. [$_{CP}$ [$_{TP}$ [$_{v*P}$ [$_{VP}$ 証拠を{kaku}]{si}]{ta}]/kaku-si-ta/-no]
LF [$_{CP}$ [$_{TP}$ [$_{v*P}$ [$_{VP}$ 証拠を kaku]si]ta]no]

3.4. θ-Movement: Pronominalization/Reflexivization/Relativization (Sideward Movement)

(30) a. The student thinks he/she is a genius.
b. The student believes himself/herself to be a genius.
c. I bought the picture of himself that John painted

3.4.1. Pronominalization

(31) a. __ thinks that the^2 student is a genius
b. LF: the student thinks that the is a genius
c. PF: the student thinks that he/she is a genius (*the* spelled out as *he*/*she*)

3.4.2. Reflexivization

(32) a. The student believes himself/herself to be a genius
b. [$_{VP}$ v*-believes [to [the^2 student's self be a genius]]] Raising →
c. [the$^+$/the/ student's /self/ [v*-believes [to [{the's self} be a genius]]]] Excorporation→
d. [v*-/believes/ [the$^+$/the/ student's /self/ [{believes} [to [{the's self} be a genius]]]]
Reflexivization→
e. [the student v*-/believes/ [/the's self/ [{believes} [to [{the's self} be a genius]]]]

the's self spelled out as *himself/herself*

f. LF [the student v* [believe [to [the's self be a genius]]]]

3.4.3. Relativization

(33) a. bought __ [that [John painted the[2] picture of himself]

b. [$_{VP}$ bought [$_{DP}$ [$_{DP}$ the /picture of himself/ [/the/ that [John painted {the picture of himself}]]]]]

Ellipsis (PF deletion eliminated)

More than one copy of a meaning {X} with one phonetic shape /X/

(34) a. I will help you if I can.

b. v* if I can help you Sideward Movement→
{help you}

c. [v* help you] [if I can {help you}]

d. [[I will help you] [if I can {help you}]]

Day 1 15:15-17:15

Part 2. A General Theory of *Wh*-Questions

1. Cross-linguistic Allomorphy: Disjunction and Conjunction Functions

Indeterminates, *Ka* and *Mo*; *Or* and *Some* and *Every* and *And*

Existential and Universal Quantifiers

(1) a. doko-ka = some-where
b. doko-mo=every-where

(2) doko (N) = where (Adv)
a. Indeterminates in the sense of Kuroda (1965)
b. Denotes a contextually defined set of places (say Kyoto, Nara and Kobe)

(3) a. ka=some (Existential quantifier)
b. mo=every (Universal quantifier)

Logical Connectives

(4) a. Kyoto-ka Nara-ka, Kobe-ka =(either) Kyoto, (or) Nara, or Kobe
b. {Kyoto, Nara, Kobe} ka = or {Kyoto, Nara, Kobe} (Cf. Fr. ou Kyoto, ou Nara, ou Kobe)
unordered set →linearization

(5) a. Kyoto-mo, Nara-mo, Kobe-mo = Kyoto, (and) Nara and Kobe
b. {Kyoto, Nara, Kobe} mo = and {Kyoto, Nara, Kobe} (Cf. Fr. et Kyoto, et Nara, et Kobe)
unordered set →linearization

(6) a. ka=or (Disjunction)
b. mo=and (Conjunction) Cf. Kyoto-to, Nara-to, Kobe-to *To* takes only set of Ns.

Surprising Homonymy

(7) a. ka=some, ka=or
b. mo=every, mo=and

Surprising Synominy

(8) a. some=or
b. every=and

(8') Logical expressions
a. ka=some=∃ mo=every=∀
b. ka=or=∨ mo=and=∧

Lakoff (1974)

(9) a. To hell with Lyndon Johnson and/*or Richard Nixon.
b. To hell with everybody/*somebody.

Japanese

(10) a. Johnson-mo/*ka Nixon mo/*ka kuso-kurae
'(Lit.) Both Johnson and Nixon eat feces'
b. Doitu-mo/*ka kuso kurae
' (Lit.) Everybody eat feces.'

(11) a. *Every* and *and* are compatible with cussing expressions, but not *some* and *or*.
b. *Mo* is compatible with cussing expressions, but not *ka*.
c. (11a) is highly unsatisfactory.

(11') Kalish, Montague and Mar (1964) *Logic: Techniques of Formal Reasoning*
a. ka=some=∨ mo=every=∧ (disjunction and conjunction signs)
b. ka=or=∨ mo=and=∧ (existential and universal quantifiers)

2. A Proposal: Disjunction and Conjunction Functions

(12) a. ka=some=or: a disjunction function (δ) that takes a set and gives back a member

b. mo=every=and: a conjunction function (χ) that takes a set and gives back all its members
c. Choice function? Disjunctive/Conjunctive Choice Functions?
See von Heusinger (2004).

(13) a. A set can be an indeterminate (=WH) doko={Kyoto, Nara, Kobe}
b. A set can be created for the occasion {Kyoto, Nara, Kobe}

(14) a. doko-ka {Kyoto, Nara, Kobe} δ → Kyoto
b. some-where δ {Kyoto, Nara, Kobe} → Kyoto
c. Kyoto-ka, Nara-ka, Kobe-ka. {Kyoto, Nara, Kobe} δ → Kyoto
d. (either) Kyoto, (or) Nara, or Kobe δ {Kyoto, Nara, Kobe} → Kyoto

(15) a. doko-mo = {Kyoto, Nara, Kobe} χ → {Kyoto, Nara, Kobe}
b. every-where = χ {Kyoto, Nara, Kobe} →{Kyoto, Nara, Kobe}
c. Kyoto-mo, Nara-mo, Kobe-mo. {Kyoto, Nara, Kobe} χ → {Kyoto, Nara, Kobe}
d. Kyoto, (and) Nara, and Kobe χ {Kyoto, Nara, Kobe} → {Kyoto, Nara, Kobe}

Cross-linguistic allomorphy

(16) Japanese English (complementary distribution)
a. δ→ka δ→some /__ N(⊃indeterminate (contextually determined set))
δ→or/___ {A, B ...} = (a nonce set)
b. χ→mo χ→every /__ N(⊃indeterminate (contextually determined set))
χ→and /_ {A, B ...} = (a nonce set)

(17) a. δ takes a set and gives back (at least) one of its members
b. χ takes a set and gives back all its members

(18) Cussing expressions in English and Japanese are compatible with χ, but not with δ.

Suppletion

(19) Japanese paradigm is systematic; English paradigm has a large-scale suppletion.

doko-ka/mo	dare-ka/mo	nani-ka/mo	itu-ka/mo
some/every+**place**	some/every+**one/body**	some/every+**thing**	some/every+**time**
some/every+where	*some/every+who	*some/every+what	*some/every+when

(20) Old English

hw*ā*	who/what	some+one/thing	(δ+hw*ā*)	
ge+hw*ā,*	(?who/what-ever)	every+one/thing	(ge+hw*ā*)	ge=χ (intensifier)

In passing (for those who are skeptical of the parallelism between *ka* and *mo*)

(21) a. naze-ka/*mo doo-ka=someway or other doo-mo=(in) every way
b. *some/every-why (for some/*?every reason)
c. *Naze/why* denotes an open set. χ requires a closed set because it has to exhaust the set in giving back its value, while δ can take an open-ended set because it only has to give back one member. (the exception that proves the rule)

(22) a. John-mo ki-ta ‘ John also came’. A-mo = {{…} A} mo
b. *John-ka ki-ta. ‘*Either John came’ *A-ka = *{{…} A} ka
(One would simply say *John-ga ki-ta*)
Cf. John-ka Bill-(ka) ga ki-ta. ‘Either John or Bill came’.

Comparatives (bit of a mystery)

(23) a. omot-ta yori kasiko-i. ‘smarter than (I) thought’

(I) thought than smarter
b. omot-ta yori-ka kasiko-i 'smarter than (I) thought'
c. omot-ta yori-mo kasiko-i 'smarter than (I) thought'

(24) a. smarter than either John or Bill Cf. J-yori-ka, B-yori-ka kasiko-i
b. smarter than both John and Bill Cf. J-yori-mo B-yori-mo kasiko-i

3. Interim Conclusions

(25) a. In Western philosophy, disjunction (*or*) and existential quantifiers (*every*) are considered completely unrelated, and so are conjunction (*and*) and universal quantifiers (*every*).
b. However, *or* and *some* are allomorphs of δ, and *and* and *every* are allomorphs of χ.
c. If Japanese had been the native language of Western philosophers, they would have devised a much different logical system.

4. *Ka/Mo* and (*Wh*-)Questions/Concessives

(26)	Japanese (clause-final *ka/mo*)	English (clause-initial WH)
a.	(kimi-ga) **doko-e** it-ta-**ka** (siranai) You-nom where-to went-KA (I don't know)	(I don't know) **where** you went?
b.	(kimi-ga) **doko-e** it-te-**mo** you nom where-to go-if-MO	**Wher-ever** (you) went, (No matter where you go,)
c.	(kare-ga) Kyoto-e it-ta-(no) **ka** (siranai) he-nom Kyoto-to went(C)KA (I don't know)	(I don't know) **if** he went to Kyoto **Did** he go to Kyoto?
d.	(kare-ga) Kyoto-e it-te **mo** he-nom Kyoto-to go MO	(**even) if** he goes to Kyoto

e. Old English oþþe(r) =either/or, if
(Jayaseelan (2008), also for Japanese *ka* = Sinhala *də*)

English: "*Wh*-Movement"

(27) a. **where** you went ← you went **where**
b. **wherever** you went ← you went **wherever**
c. **if** he went to Kyoto ← he went **if** to Kyoto
d. **even if** he went to Kyoto ← he went **even if** to Kyoto

Japanese: Ka/Mo Movement Tonoike (1992, 1995), Hagstrom (1993, 1998)

(28) a. (kimi-ga) doko-e-**ka** it-ta → (Kimi-ga) doko-e it-ta-**ka**
you-nom where-to went KA
b. (kimi-ga) doko-e-**mo** it-te → (kimi-ga) doko-e it-te-**mo**
you-nom where-to go-if MO
c. (kare-ga) Kyoto-e-**ka** it-ta → (kare-ga) Kyoto-e it-ta **ka**
he-nom Kyoto-to went KA
d. (kare-ga) Kyoto-e-**mo** it-te →(kare-ga) Kyoto-e it-te **mo**
he-nom Kyoto-to go-if MO

(29) *Kakari-musubi* (Classical Japanese, up until the 14th century)
doko-e **ka** kimi-no yuki-**taru** (clause internal *ka*)
where-to you-gen went(=adnominal ending as opposed to indicative ending)
"Where have you gone?" adnominal superseded indicative by the 14th century

Mysteries

(30) a. Why English exhibits *Wh*-Movement?
b. What drives *Wh*-Movement in English?
c. Why Japanese does not move what appears to be a *wh*-phrase like *doko-e*? In other words, why Japanese is a so-called *wh-in-situ* language? etc.

The mysteries are solved if,

(31) a. δ and χ are involved in (*wh*-)questions and (*wh*-)concessives in all languages, and
b. δ and χ can be overt or covert (phonetically null), and
c. δ and χ move by themselves if and only if they are overt and free morphemes (like Japanese *ka* and *mo*), and
d. the meanings of (24a-b) as a *wh*-question and a *wh*-concessive are captured by the semantics of the indeterminate *doko-e* and the semantics of *ka* and *mo* as δ and χ.

(32) a. *Wh*-Movement in English is not the movement of the indeterminate but the movement of δ and χ, the indeterminate moving to provide δ and χ with a vehicle.
b. This falls out from the Overt Syntax Condition: (Tonoike 2007b)
A syntactic object can undergo movement (Internal Merge) if and only if it has an associated phonetic form (i.e., a vehicle to move in).
c. δ-/where/ you went {where} ← you went δ-where
d. χ-/where/ you went {where} ← you went χ-where (χ-/where/=wherever)

5. Little Digression

Surprising homonymy is not an isolated phenomenon limited only to Japanese.
Szabolsci (2015:1): Athabaskan, East Asian, South-East Asian, Slavic, and Finno-Ugric languages
Hungarian and Japanese. [bold face mine S.T.]

(33) a.	**vala-ki**	**dare-ka**	'someone'
b.	(vagy) A **vagy** B	A-ka B(-**ka**)	'A or B'
c.	**vagy** száz	hyaku-nin-to-**ka**	'some one hundred =approx.. 100'
d.	val-, vagy-	--	'be' participial & finite stems
e.	--	dare-ga V …-**ka**	'Who Vs?'
f.	S-**e**	S-**ka**	'whether S'
(34) a.	**mind**-en-**ki**	**dare-mo**	'everyone/anyone'
b.	**mind** A **mind** B	A-**mo** B-**mo**	'A as well as B, both A and B'
	A is (és) B is		'A as well as B, both A and B'
c.	A is A-mo		'A too/even A'

6. Semantics of *Wh*-Questions/Concessives

Wh-Questions
Hamblin (1973)

(35) Denotation of a wh question = the set of **possible answers** to it.

(36) a. The indeterminate *doko-e/where* denotes a contextually determined set of places {Kyoto, Nara, Kobe} (or destinations).
b. The TP *kimi-ga doko-e itta/you went where* denotes a contextually determined set of propositions:
c. {kimi-ga Kyoto-e itta, kimi-ga Nara-e itta, kimi-ga Kobe-e itta}
d. {you went to Kyoto, you went to Nara, you went to Kobe}

Karttunen (1977)

(37) a. Denotation of a question = the set of propositions expressed by its **true** answers
b. Because "Tell me what you bought" doesn't ask you to give a set of possible answers. It asks you to give the true answer

(38) a. *Ka* takes the set of propositions denoted by TP as its argument, and gives at least one member back as a true statement
b. δ (TP) = CP = Karttunen's definition=*kimi-ga Kyoto-e it-ta/you went to Kyoto*

***Wh*-Concessives**

(39) a. Suppose that TP in (26b) denotes a set of conditionals.
ex. {if you go to Kyoto, if you go to Nara, if you go to Kobe}
b. *Mo* as χ takes this set of conditionals and gives back all its members. Hence, the concessive meaning "no matter whether you go to Kyoto, Nara, or Kobe."
c. χ(TP)=CP "under all conditions"

(40) a. δ: Pick the correct proposition(s). More generally, Pick (at least) one
b. χ: Pick all the conditionals. More generally, Pick all

(41) δ and χ have allomorphs in English in complementary distribution
δ has (at least) three allomorphs, *some, or* and δ, where δ is abstract.
a. δ → some /__ N(⊃WH) WH=indeterminate
b. δ → or /___ { … } {…} =nonce set
c. δ → δ /___[$_{TP}$ .. WH..] WH=indeterminate
d. δ → δ /___ if (or δ →if _ TP Old English (oþþe(r) =either/or, if
Cf. δ-Had I known that… =If I had known
e. δ → δ /___ Aux (resulting in Subject-Aux Inversion)

(42) χ has (at least) four allomorphs in English: *every*, *and, -ever* and *even*
a. χ → every /___ N(WH)
b. χ → and /___ { … } {…} =nonce set →
c. χ → -ever /___ [$_{TP}$ .. WH..] WH =indeterminate
d. χ → even / ___ if or →even if
e. Etymologically *every=ever+each*[1]

(43) δ and χ in Japanese
a. δ → ka (except in matrix CP where δ is spelled out as null or as ↑)
b. χ → mo

(44) a. [δ/**where**/ [C [$_{TP}$ you went {where}]]] ←[$_{CP}$ C [$_{TP}$ you went [δ **where**]]]
b. [[doko-e-**ka** it-ta $_{TP}$] (no) $_{CP}$] → [[doko-e it-ta $_{TP}$] (no) **ka** $_{CP}$]
where-to-KA went C where-to went C KA

(45) a. [$_{CP}$ /**where**/-ever [$_{CP}$ C [$_{TP}$ you went {where}]] ←[$_{CP}$ C [$_{TP}$ you went [**where**-ever]]]
b. [[doko-e-**mo** it-te $_{TP}$] C $_{CP}$] → [[doko-e it-te $_{TP}$] C **mo** $_{CP}$]
where-to MO go-if wherer-to go-if MO
c. *-ever* is a bound morpheme, so it cannot be separated from /where/.

(46) *Wh*-Movement is driven by the need of δ and χ to move to SpecCP where they take the TP as its argument, not the putative need to create an operator-variable construction.

[1] I am grateful to Miyuki Nomura for pointing this out to me.

7. Further Evidence

7.1. Dutch and Japanese

Barbiers, Koeneman and Lekakou (2010: (19),(33))

(47) a. Jan heeft **wat** gegeten.
'John has eaten **something**.'
NOT: 'What has Jan eaten? '

a' wat=[D [NP δ-**wat**]]=something

b. **Wat** heeft Jan gegeten?
'**What** has Jan eaten?'
NOT: 'Jan has eaten something.'

b' wat=[DP δ [DP wat]]

(48) a. **Wie** het weet, (die) mag het zeggen.
Who it knows D-PRON. may it say-INF
'Whoever knows it may say it.'

a' wie= [DP χ [DP wie]]

b. **Wat** je weet, (dat) mag je zeggen.
What you know D-pron. may you say
'Whatever you know you can tell.'

wat=[DP χ [DP wat]]

(49) a. **Waar** je **ook** gaat
where you also go
'Wherever you go'

a' [waar ook] ook= χ

a" /War/{ook} je /ook/{war} gaat

b. **Wat** je **ook** doet
what you also do
'Whatever you do'

b' [wat **ook**] ook= χ

b" /Wat/{ook} je /ook/{wat} doet

c. ook =also, too, as well, likewise, either

c' ook=χ

Cf. John-wa **nani-ka**-o tabe-ta
-top what-ka-acc eat-past
'John ate something'

Cf. [DP [NP **nani ka**] o]=something

Cf. John-wa **nani**-o tabe-(masi)-ta-**ka**
-top what-acc eat-(pol)-past-ka
'What did John eat?'

Cf. [DP [DP [NP **nani**] o] **ka**]

Cf. Sore-o **dare**-ga sitte-i-te **mo**
it-acc know who-MO-nom
'whoever knows it …'

Cf. [DP [DP [NP dare] ga] **mo**]]

Cf. kimi-ga **nani**-o sitte-ite-**mo**…
you-nom what-acc know-if-MO
'Whatever you know …' b'

Cf. [DP [DP [NP **nani**]o] **mo**]

Cf. doko-e itte-mo
where-to go-also
'Wherever (you/I) go,'

Cf. [DP [DP doko-e] **mo**] mo= χ

Cf. nani-o site-mo
what-acc do-also
'Whatever (you/I) do,'

Cf. [DP [DP nani o] **mo**] mo= χ

Cf. mo=also, too, as well, even, either

Cf. mo=χ

7.2. Chinese

Jing Crystal Zhong (p.c) and Zhong (2007))

Base-generation of abstract Disjunction Function (δ)

(50) a. Ni xihuan shui(?)
you like who
"**Who** do you like?/ You like **someone**"

b. Zhangsan yiwei Lisi mai-le shenme?
Zhangsan think Lisi buy-ASP what
"What does Zhangsan think Lisi bought?"

c. Zhangsan jide Lisi mai-le shenme(?)
Zhangsan remember Lisi buy-ASP what
i) "Zhangsan remembers what Lisi bought"
ii) "What does Zhangsan remember that Lisi bought?"

(51) a. [$_{CP}$ δ [$_{TP}$ Ni xihuan shui]]? a' [[$_{CP}$ [$_{TP}$ Ni xihuan [δ shui]]]?
you like who you like someone
"Who do you like?" "You like someone?"

b. [$_{CP}$ δ [$_{TP}$ Zhangsan yiwei [$_{CP}$ [$_{TP}$ Lisi mai-le shenme]]?
Zhangsan think Lisi buy-ASP what
"What does Zhangsan think that Lisi bought"

c. [$_{CP}$ [$_{TP}$ Zhangsan jide [$_{CP}$ δ [$_{TP}$ Lisi mai-le shenme]]]
Zhangsan remember Lisi buy-ASP what
"Zhangsan remembers what Lisi bought"

d. [$_{CP}$ δ [$_{TP}$ Zhangsan jide [$_{CP}$ [$_{TP}$ Lisi mai-le shenme]]]]?
Zhangsan remember Lisi buy-ASP what
"What does Zhangsan remember that Lisi bought?"

Conjunction Function : *dou*

(52) ta shui dou bu xihuan
he who all not like
"He does not like anyone"

No *wh* concessives: *No-matter* strategy

(53) Bùguǎn nǐ qù nǎ
No matter you go where
"No matter where you go,"

8. Typology of *WH*-Questions

(54) a. *Wh*-In-situ: δ base-generated in SpecCP.
[δ C […. WH…]]
ex. Chinese (No subjacency violation)

b. Apparent *Wh*-in-situ: Free morpheme overt δ
[[…WH-δ ...] C] --->[[...WH…] C δ] δ=overt free morpheme
[…[$_{DP}$ [$_{NP}$ [$_{CP}$ … WH…]] NP]D δ]…] C] --->[…[$_{DP}$ [$_{NP}$ [$_{CP}$ … WH…]] NP]D]…] C δ]
ex. Japanese (No subjacency violation)

c. *Wh*-movement: δ associated with an indeterminate
[C […δ WH…]] --->[δ /WH/ C […{WH}…]]
δ=phonetically null /WH/=the sound of WH, {WH}=the meaning of WH
ex. English (Subjacency respected)

9. In-Situ Operator -Variable Constructions Revisited

(O=operator, V=variable, R=restriction, Ind=Indeterminator)

(55)	Japanese	English
a.	da-re-ka-ga	some ~~the~~ body
	Ind-N-∃-D	∃ D N
	R O V	O V R
b.	da-re-mo-ga	every ~~the~~ body
	Ind-N-∀-D	∀ D N
	R O V	O V R
c.	da-re	
	wh-person	
	Ind N	

d. do-no gakusee-ka-ga — some ~~the~~ student
Ind-gen student-∃-D — O V R
R O V

e. do-no gakusee-mo-ga — every ~~the~~ student — Cf. all the students
wh-gen student-∀-D — O V R — O V R
R O V

10. Typology of IM Revisited

(56) a. *Wh*-Movement is driven by the need of δ to raise to SpecCP.
b. A-movement is driven by a mutually beneficial need of a head and a DP to assign Case and agree.
c. A'-movement is simply that: phrasal movement that is not A-movement. (There is no monolithic group of movements sharing a common property, other than not being driven by Case and agreement.)

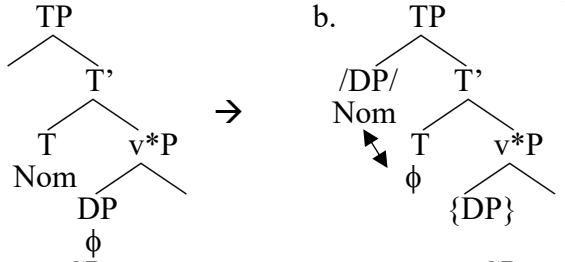
11. Double Dilemma

(57) a. δ in SpecCP takes TP as its argument.
b. Taking an argument is a property of a head.
c. δ should be in C.

Solution

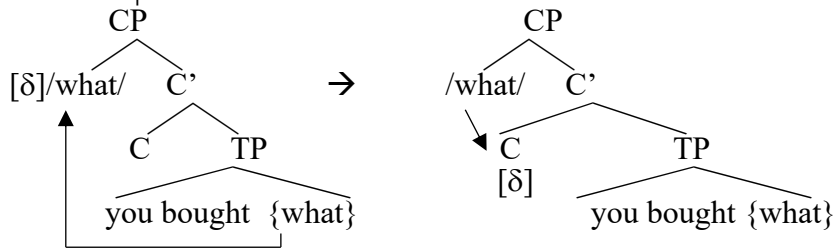
Featural Reaction: A feature value can move between SpecXP and X

(58) a.

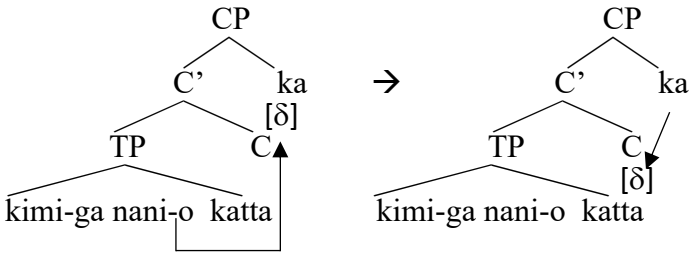


b.

(59) a



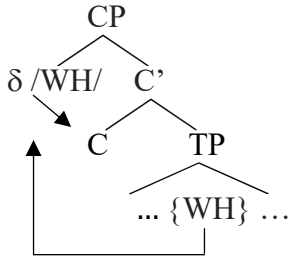
b.



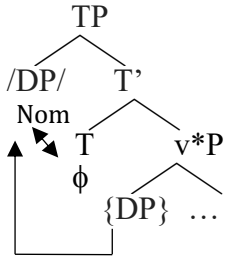
(60) WH-EPP deduced: In wh-movement languages (where δ originates with an indeterminate) movement to SpecCP is the only way for δ to be in C, just like movement to SpecTP is the only way for a Case feature value and ϕ feature to move between the subject DP and T.

Parallelism between the two EPP cases

(61) a. WH-EPP



b. DP-EPP



Day 2

Part 3. Partial *Wh*-movement/*Wh*-Expletive/Scope Marking language

1. Overview of Partial *Wh*-Movement Languages

1.1. Hindi Lahiri (2003: 507)

(1) jaun **kyaa** soctaa hai ki bil-ko **kis-ne** dekhaa (Lahiri 2003:507 (28))
John what thinks that Bill-ACC who-ERG saw
‘‘Who does John think that Bill saw?’’

(2) jaun **kisne** soctaa hai ki bil-ko dekhaa [S.T.]
John who thinks that Bill-ACC saw
‘‘Who does John think that Bill saw?’’

1.2. German (Lahiri 2003: 505 (10), from van Riemsdijk (1983)

(3) a. **Mit wem** glaubt Karl daß Maria gesprochen hat
with whom think Karl that Maria spoken has ‘
“Who does Karl think Maria has spoken to?”
b. **Was** glaubt Karl, **mit wem** Maria gesprochen hat
“Who does Karl think Maria has spoken to?”

1.3. Hungarian (Lahiri 2003:505 (11a) from Horvath 1997 and Horvath (2000: (5b))

(4) a. **Mit** gondolsz, hogy **kit la´** tott Ja´nos?
what-ACC think-2sg that who-ACC saw-3sg John-NOM
‘‘Who do you think that John saw?’’
b. Kerdeztek, hogy **kit** hivott fel Mari.
asked-3pl that who-acc called up Mary-nom
“They asked who Mary had called up”

1.4. Romani (MacDaniel 1989)

(5) a. **Kas**$_i$ [$_{IP}$ o Demiri mislinol [$_{CP}$ t_i **so** [$_{IP}$ i Arifa dikhla t_i]]]? McDaniel (1998: 569(8a)
who Demir think what Arifa saw
“Whom does Demir think that Arifa saw?”
b. **So**$_i$ [$_{IP}$ o Demiri mislinol [$_{CP}$ **kas**$_i$ [$_{IP}$ i Arifa dikhla t_i]]? McDaniel (1998: 569(8b)
what Demir think who Arifa saw
“WHAT does Demir think whom Arifa saw?”

(6) Unique property of Romani partial *wh*-movement
Of the two morphemes *kas* and *so*, either order is possible.

1.5. Mong Leng (Bruhn (2007) “LF *Wh*-Movement in Mon Leng”)

“The language has an LF *wh*-movement that obeys islands.”

(7) a. ***Leej twg*** *nyam Maab?* (Bruhn (6b))
who like Mang
“Who likes Mang?”
b. *Lauj nyam* ***leej twg****?* (Bruhn (6b))
Lao like **who**
“Who does Lao like?”

(8) a. *Lauj paub **leej twg** nyam Npis.* (Bruhn (8a))
Lao know **who** like Be
"Lao knows who likes Be."
b. *Lauj paub Npis nyam **leej twg**.* (Bruhn (8b))
Lao know Be like **who**
"Lao knows who Be likes."

(9) a. Complex NP Island (Bruhn 2007:13 (51b))
Lauj pum tug txivneej kws **leej twg nyam?*
Lao see cl man rel-pro **who** like
"Who did Lao see the man that __ likes?"
b. Adjunct Island (Bruhn 2007:13 (52b))
Nwg nyob nuav ruaqhov nwg nyam **dlaabtsi?*
3sg live here because 3sg like **what**
"What does he live here because he likes __ ?"
c. WH-Island (Bruhn 2007:14 (53b))
Lauj tsi tau qha koj saib tug tsuv puas tau noj **dlaabtsi?*
Lao not have tell 2sg whether cl tiger Q have eat **what**
"What has Lao not told you whether the tiger has eaten __ ?"
d. Clausal Subject Island (Bruhn 2007:14 (54b))
Qhov **leej twg nyam koj yog qhov zoo?*
that **who** like 2sg be cl good'
"Who that __ likes you is good?"

The relevance of the "Partial *Wh*-Movement" data:

(10) a. They pose a potential threat to the proposed theory of *wh*-questions.
b. Or they provide further support for it.

2. Two Approaches to Partial *Wh*-Movement

(11) a. Direct Dependency Analysis: LF Movement of WH to replace WH-expletive
van Riemsdijk (1983), McDaniel (1998), Bayer (1996), Cheng (2000), Dayal (1994: 96)
b. Indirect Dependency Analysis: "Literal Interpretation" [S.T]
Dayal (1994: 96), Herburger (1994) and Horvath (1997)

2.1. Problems with the two approaches from the view point of the proposed theory

(12) a. Direct Dependency Approach uses a covert (LF) operation
b. Indirect Dependency Approach requires a special semantic mechanism.

3. Scope Freezing: An Overview (Defining property of partial *wh*-movement)

(13) How many books does John think that Bill read? (ambiguous) Lehiri 2003: 519 (65))
a. What is the number of books (such that) John thinks that Bill read those books? (wide-scope)
b. What is the number such that John thinks that Bill read that many books? (narrow scope)

3.1. Scope Freezing in Hindi (Lehiri 2003: 519 (68))

(14) rameS **kyaa** soctaa hai ki raam-ne **kitnii kitabeN** paRhiiN?
Rames what thinks that Ram-ERG how many books read-PST ‘
“How many books does Rames think that Ram read?’’
(unambiguous, narrow scope of wh-numeral phrase, no wide scope construal available)

(15) rameS **kitnii kiabeN** soctaa hai ki raam-ne paRhiiN? (presumably ambiguous)
Rames how many books thinks that Ram-ERG read-PST ‘
“How many books does Rames think that Ram read?’’ [S.T.]

3.2. Scope Freezing in German (Lehiri 2003: 537 (125))

(16) a. Wo glaubt/sagt sie, daß Fox populärer ist als er ist?
where believes/says she that F. popular-er is than he is
b. Was glaubt/sagt sie, wo Fox populärer ist als er ist?
what believes/says she, where F. popular-er is than he is

(125a) (=(16a) [S.T]) is ambiguous: the object of the propositional attitude in question can either be inconsistent or consistent. (125b)[=(16b) [S.T]] is unambiguous. (Lehiri 2003: 537))

(17) a. Consistent object of attitude: Lehiri 2003: 537 (126))
For which place x, in her belief worlds is Fox more popular at x than Fox is popular at x in the real world?
b. Inconsistent object of attitude:
For which place x, in her belief worlds is Fox more popular at x than Fox is popular at x?

3.3. Scope Freezing in Hungarian (Lahiri 2003:538 (129))

(18) a. **Mit** akarsz, hogy **hány** **ko:nyvet** olvasson el János?
what-acc want-you that how-many book-acc read-subj.-3sg perf John
“What do you want? How many books should John read?” unambiguous=narrow scope
b. **Hány ko:nyvet** akarsz, hogy elolvasson János?
How many book-acc want-you that read John
“How many books do you want John to read?” ambiguous

4. A Proper Treatment of Partial *Wh*-Movement: *Wh*-Expletive as a Disjunction Function

4.1. Proposal: The so-called scope marking elements are all instances of δ.

4.1.1 German (A hybrid language: δ =*was* or null)

(19) a. **Mit wem** glaubt Karl daß Maria gesprochen hat
with whom think Karl that Maria spoken has ‘
‘Who does Karl think Maria has spoken to?’’
b. **Was** glaubt Karl, **mit wem** Maria gesprochen hat
‘‘Who does Karl think Maria has spoken to ?’’

Two allomorphs of δ: δ and *was* (*was* is ambiguous between disjunction function and regular WH=what)

Like English

(20) a. [$_{CP}$ C [$_{TP}$ Karl glaubt [$_{CP}$ daß [$_{TP}$ Maria gesprochen [δ mit wem] hat]]]]
[δ with whom]
[δ mit wem] raises to SpecCP=daß --->
b. [$_{CP}$ C [$_{TP}$ Karl glaubt [$_{CP}$ [δ /mit wem/] [$_{CP}$ daß [$_{TP}$ Maria gesprochen {mit wem} hat]]]]
[δ /with whom/] {with whom}

/glaubt/ raises to C & *δ /mit wem/* raises to SpecCP --->

c. [$_{CP}$ [δ /mit wem/ C-/glaubt/ [$_{TP}$ Karl {glaubt} [$_{CP}$ daß [$_{TP}$ Maria {mit wem} gesprochen hat]]]]
[δ /with who(m)/ {with whom}

Like Japanese

(21) a. [$_{CP}$ C [$_{TP}$ Karl glaubt [$_{CP}$ C [$_{TP}$ Maria [**was** mit wem] gesprochen hat]]]]
with whom **KA**

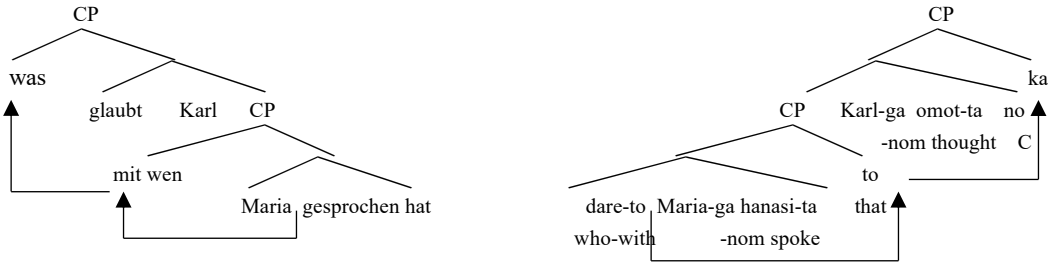
[was /mit wem/] raises to SpecCP --->

b. [$_{CP}$ C [$_{TP}$ Karl glaubt [$_{CP}$ **was** /mit wem/ C [$_{TP}$ Maria gesprochen {mit wem} hat]]]]
/with whom/ **KA** {with whom}

/glaubt/ raises to C & *was* raises to SpecCP --->

c. [$_{CP}$ **was** C-/glaubt/ [$_{TP}$ Karl {glaubt} [$_{CP}$ /mit wem/ C [$_{TP}$ Maria gesprochen {mit wem} hat]]]]
KA /with whom/ {with whom}

d. German (Partial *wh*-movement) Japanese



(19a-b) are exactly the same with respect to the way δ in SpecCP (in C after featural reaction) takes TP as its argument. Why *mit wem* moves to SpecCP in (21a) is still a mystery. See below.

4.1.2. Hindi: A hybrid language: *kyaa* as δ

(22) a. jaun **kyaa** soctaa hai ki bil-ko **kis-ne** dekhaa (=1)
John what thinks that Bill-ACC who-ERG saw
‘‘Who does John think that Bill saw [sic]?’’ Should be “saw Bill”

b. jaun **kisne** soctaa hai ki bil-ko dekhaa [S.T.] (=2)
John what thinks that Bill-ACC who-ERG saw
‘‘Who does John think that Bill saw?’’

Two allomorphs of δ: δ and kyaa

Like Japanese

(23) a. [C [$_{TP}$ jaun soctaa [$_{CP}$ hai [$_{TP}$ ki bil-ko [**kyaa kis-ne**] dekhaa]]]] --->
John thinks that Bill-ACC [KYAA who-ERG saw

b. [$_{CP}$ C [$_{TP}$ jaun soctaa [$_{CP}$ **kyaa** hai [$_{TP}$ ki bil-ko **kis-ne** dekhaa]]]] --->

c. [$_{CP}$ **kyaa** C [jaun soctaa [$_{CP}$ hai ki bil-ko **kis-ne** dekhaa]]]
--->V-raising, Topicalization

d. [$_{CP}$ /jaun/ [$_{CP}$ **kyaa** C-soctaa [$_{TP}$ {jaun} [$_{CP}$ hai [$_{TP}$ ki bil-ko [**kis-ne]** dekhaa]]]]]

Cf. Manetta (2012): *Wh*-Movement to SpecVP

Cf. Simpson and Bhattarya (2003) *Wh*-Movement to SpecCP (for Bangla)

Possibly: Movement of *kyaa* to SpecCP via SpecVP, where it receives Case.

Like English

(24) a. [$_{CP}$ C [$_{TP}$ jaun soctaa [$_{CP}$ hai [$_{TP}$ ki bil-ko [**δ kis-ne**] dekhaa]]]] --->
John thinks that Bill-ACC [δ who-ERG saw

b. [$_{CP}$ δ /**kis-ne**/ C [$_{TP}$ jaun soctaa [$_{CP}$ hai [$_{TP}$ ki bil-ko {kis-ne} dekhaa]]]]
---->V-raising, Topicalization (Simpson and Bhattacharya 2003)

c. [$_{CP}$ /jaun/ [$_{CP}$ [δ /**kis-ne**/] C-/soctaa/ [$_{TP}$ {jaun } {soctaa} [$_{CP}$ hai [$_{TP}$ ki bil-ko {kis-ne} dekhaa]]]]]

4.1.3. Hungarian: Horvath (1997:533 (33))

(25) a. **Kivel** akarod hogy beszéljek?
Who-with want-2sg-def.DO that talk-subjnc.-1sg
Lit. With whom do you want that I talk?

b. **Mit** akarsz hogy **kivel** beszéljek?
what-ACC want-2sg-indef.DO that. who-with talk-subj.-1sg
Lit. What do you want with whom I talk?

(26) One extra factor: Case Marking on *wh*-expletive

a. Two allomorphs of δ: δ and *mi* (*mit* [Acc] vs. *mi* [Nom] vs. *mire* [Allative])

b. *Mi* goes to SpecVP to get Case before going to SpecCP

(27) a. [C [akarod [hogy [**δ kivel**] beszéljek]]] --->
want-2sg-def.DO. that who-with talk-subjnc.-1sg

b. [δ /**kivel**/ C [akarod [hogy {kivel} beszéljek]]]
want-2sg-def.DO that. who-with talk-subjnc.1sg

c. Agreement in definiteness with *kivel* (possibly in SpecVP)

(28) a. [C [akarsz [hogy [**mi-kivel**] beszéljek]]] →Raising to SpecVP
want-2sg-def.DO that. what-who-with talk-subjnc.1sg

b. [C [**mit**-akarsz [hogy **kivel** beszéljek]]] →Raising to SpecCP
ACC indef that who-with talk-subjc.1sg

c. [**mit** C [akarsz [hogy [kivel] beszéljek]]]

4.1.4 German Multiple Partial *WH*-Movement (Sternfeld (1999: 5 (11)) (Riemsdijk (1983))

(29) **Was** glaubst du, **was** Peter meint, **was** Hans sagt, **was** Klaus behauptet,
What believes you what Peter thinks what Hans says what Klaus claims
mit wem Maria gesprochen hat?
with whom Maria talked has
Lit. 'What do you believe what Peter thinks what Hans says what Klaus claims with whom Maria has talked?' (Sternfeld (1999:5 (11))

Sternfeld (1999: 5 Footnote 1)

(30) a. %**Was** glaubst du, **was** Peter meint, *mit* ***wem*** Klaus behauptet daß Maria gesprochen hat?

b. %**Was** glaubst du **was** Peter meint ***mit wem*** Hans sagt daß Klaus behauptet daß Maria gesprochen hat?

c. %**Was** glaubst du **mit wem** Peter meint daß Hans sagt daß Klaus behauptet daß Maria gesprochen hat?

d. %***Mit wem*** glaubst du daß Peter meint daß Hans sagt daß Klaus behauptet daß Maria gesprochen hat?

(31) a. *Was* requires a Case value in order to be spelled out (Cf. Hungarian)

b. Clausal complement taking verbs can have Case values to assign, but Case cannot be assigned to the clausal complement.

c. It follows that n copies of *was* are needed with n verbs to assign a Case value.

The derivation of (30)

(32)a. [C du glaubst, [C Peter meint, [C Hans sagt, [C Klaus behauptet, [daß Maria gesprochen
Case Case Case Case
was [3] **mit wem** hat]]]]] *was*[3] =/was/[3] + {was}=δ
Was[3] *mit wem* raising to SpecCP (to use it as an escape hatch and may be for focus)

b. [C du glaubst, [C Peter meint, [C Hans sagt, [C Klaus behauptet, [**was** [3] /mit wem/ daß
Case Case Case Case
Maria gesprochen {mit wem} hat]]]]]
Was[3] *mit wem* raises to the next SpecCP

c. [C du glaubst, [C Peter meint, [C Hans sagt, [**was**[3] /mit wem/ C Klaus behauptet, [daß
Case Case Case
Maria gesprochen {mit wem} hat]]]]]
Was[3] raises to SpecVP=*sagt* for Case; One */was/* gets a Case value.

d. [C du glaubst, [C Peter meint, [C Hans **was** [3] sagt, [mit wem C Klaus behauptet, [daß
Case Case
Maria gesprochen {mit wem} hat]]]]]
Was[3] raises to SpecCP

e. [C du glaubst, [C Peter meint, [**was** [3] C Hans sagt, [mit wem C Klaus behauptet, [daß
Case Case
Maria gesprochen {mit wem} hat]]]]]
Was[2] raises to SpecVP=*meint* for Case; One */was/* gets a Case value.

f. [C du glaubst, [C Peter **was**[2] meint, [/**was/** C Hans sagt, [mit wem C Klaus behauptet,
Case
[daß Maria gesprochen {mit wem} hat]]]]]
Was[2] raises to SpecCP

g. [C du glaubst, [**was**[2] C Peter meint, [/**was/** C Hans sagt, [/mit wem/ C Klaus behauptet,
Case
[daß Maria gesprochen {mit wem} hat]]]]]
Was raises to SpecVP=*glaubst* for Case; It gets a Case value

h. [C du **was** glaubst, [/**was/** C Peter meint, [/**was/** C Hans sagt, [/mit wem/ C Klaus behauptet, [daß Maria gesprochen {mit wem} hat]]]]]
Subject-Aux Inversion

i. [C-/glaubst du **was** {glaubst}, [/**was/** C Peter meint, [/**was/** C Hans sagt, [/mit wem/ C Klaus behauptet, [daß Maria gesprochen {mit wem} hat]]]]]
Was raises to SpecCP

j. [**Was** C-/glaubst/ du {glaubst}, [/**was/** C Peter meint, [/**was/** C Hans sagt, [/mit wem/ C Klaus behauptet, [daß Maria gesprochen {mit wem} hat]]]]]

(33)a. Improper Movement? A'-Movement to SpecCP followed by A-Movement to SpecVP

b. Only δ is undergoing successive cyclic A'-Movement

c. Each copy of */was/* undergoes A-Movement to SpecVP and then A'-movement to SpecCP.

d. Therefore, no violation of Improper Movement Condition, even if it is a valid condition.

(Romani and Mong Leng to be discussed later)

5. Scope Freezing

5.1. English (Lack of Scope Freezing)

(34) How many books does John think that Bill read? (ambiguous)

a. What is the number of books (such that) John thinks that Bill read those books? (wide-scope)

b. What is the number such that John thinks that Bill read that many books? (narrow scope)

(35) a. John does think that Bill read [δ [how [many the books]]].

b. John does think that Bill read [[δ [how many]] the books]]]

Or Late Merge

(36) a. [[δ **how many books**] John does think that Bill read [D]]]] (wide scope)

b. [[δ **how many /D** /books/ John does think that Bill read [{D books}]]] (narrow scope)

5.2. Hindi

(37) rameS **kyaa** soctaa hai ki raam-ne **kitnii kitabeN** paRhiiN? (=43)
Rames what thinks that Ram-ERG how many books read-PST
"How many books does Rames think that Ram read?"
(unambiguous, narrow scope of wh-numeral phrase, no wide scope construal available)

5.3. Japanese: Floating Quantifier Possibility

(38) a. [(Kimi-wa) Bill-ga [nan-satu-no hon-o]-~~ka~~ kat-ta] to omoi-masu-ka
you-top nom how-many-gen book-acc bought that think-pol-KA
"How many books do you think Bill bought?" (wide scope reading only)

b. [(Kimi-wa) Bill-ga [nan-satu]-~~ka~~ hon-o kat-ta] to omoi-masu-ka
you-top nom how many book-acc bought that think-pol-KA
"Lit. How many do you think Bill bought books? (narrow scope reading only)

c. [(Kimi-wa) Bill-ga hon-o [nan-satu]-~~ka~~ kat-ta] to omoi-masu-ka
you-top nom book-acc how many bought that think-pol-KA
"Lit. How many do you think Bill bought books? (narrow scope reading only)

Quantifier Scrambling

Hindi: (Manetta (2019:48 (11))

(39) a. *Base order: S IO [QP Q DO-NP] V*
Raam-ne Mohan-ko [**saarii kitabeeN**] laut̩aa dii
Ram-ERG Mohan-DAT all books return give.PFV
'Ram returned all the books to Mohan.'

b. *Short scrambling: S DO-NP$_i$ IO [QP Q t$_i$] V*
Raam-ne **kitabeeN**$_i$ Mohan-ko **[saarii t$_i$]** laut̩aa dii
Ram-ERG books Mohan-DAT all return give.PFV
(Manetta (2012:48 (12))

(40) *Postverbal: S IO [QP Q t$_i$] V DO-Np$_i$*
Raam-ne Mohan-ko [**saarii** t$_i$] laut̩aa dii **kitabeeN$_i$**.
Ram-ERG Mohan-DAT all return give.PFV books (Déprez 1990:23)

Floating Quantifier Analysis

(41) a. Raam-ne Mohan-ko **saarii kitabeeN** laut̩aa dii

b. Raam-ne **kitabeeN** Mohan-ko **saarii** laut̤aa dii

c. Raam-ne Mohan-ko **saarii** laut̤aa dii **kitabeeN**

(42) a. [C rameS soctaa [hai ki raam-ne [**kyaa kitnii]** kitabeN paRhiiN]]
Rames thinks that Ram-ERG what how many books read-PST

b. [rameS [**kyaa** [C-soctaa [hai ki raam-ne **kitnii** katabeN paRhiiN]
Rames what thinks that Ram-ERG how many books read-PST .

c. The narrow scope reading falls out if Hindi quantifiers like *kitnii* are all floated quantifiers.

5.4. German

(43) a. Wo glaubt/sagt sie, daß Fox populärer ist als er ist? (Lehiri 2003: 537 (125))
where believes/says she that F. popular-er is than he is
(glaubt/sagt>wo, wo>glaubt/sagt)

b. Was glaubt/sagt sie, wo Fox populärer ist als er ist?
what believes/says she, where F. popular-er is than he is
(glaubt/sagt>wo)

(44) a. [$_{CP}$ C [$_{TP}$ sie glaubt/sagt, [$_{CP}$ C [$_{TP}$ Fox populaärer ist als er ist **[was wo]**]]]] (embedded)→

b. [$_{CP}$ C [$_{TP}$ sie glaubt/sagt, [$_{CP}$ **was** /**wo**/ [$_{CP}$ C [$_{TP}$ Fox populärer ist als er ist {**wo**}]]]] →

c. [$_{CP}$ **was** [$_{TP}$ sie glaubt/sagt, [$_{CP}$ **/wo/** C [$_{TP}$ Fox populärer ist als er ist {wo}]]]]
glaubt/sagt>wo (43b)

(45) a. [$_{CP}$ C [$_{TP}$ sie glaubt/sagt [**was wo**], [$_{CP}$ C [$_{TP}$ Fox populaärer ist als er ist]]]] (matrix)→

b. *[$_{CP}$ **was** C [$_{TP}$ sie glaubt/sagt **wo**, [$_{CP}$ C [$_{TP}$ Fox populärer ist als er ist]]]] (43b)

c. This derivation is ruled out because in German partial *wh*-movement is banned in a simplex sentence. (I am grateful to Yasuhito Hosaka and Josef Bayer (p.c.) for confirming this.)

(46) a. [$_{CP}$ C [$_{TP}$ sie glaubt/sagt, [$_{CP}$ daß [$_{TP}$ Fox populärer ist als er ist **δ-wo**]]]] (embedded) →

b. [$_{CP}$ C [$_{TP}$ sie glaubt/sagt, [$_{CP}$ **δ /wo/** daß [$_{TP}$ Fox populärer ist als er ist {wo}]]] →

c. [$_{CP}$ **δ /wo/** [$_{TP}$ sie glaubt/sagt, [$_{CP}$ daß [$_{TP}$ Fox populärer ist als er ist {wo}]]]]
glaubt/sagt > wo (43a)

(47) a. [$_{CP}$ C [$_{TP}$ sie glaubt/sagt [**δ wo**], [$_{CP}$ daß [$_{TP}$ Fox populärer ist als er ist]]]] (matrix)→

b. [$_{CP}$ **δ /wo/** C [$_{TP}$ sie glaubt/sagt {wo}, [$_{CP}$ daß Fox populärer ist als er ist]]]]
wo>glaubt/sagt (43a)

5.5. Hungarian

(48) a. akarsz, hogy **mit hány ko:nyvet** olvasson el János →

b. **Mit** akarsz, hogy **hány ko:nyvet** olvasson el János? (want>how many books)
want how many books

Piggybacking

(49) a. akarsz, hogy [**δ hány ko:nyvet**] elolvasson János →

b. [**δ hány /D/ ko:nyvet**] akarsz, hogy {D} elolvasson János
(how many books>want)

c. [**δ /**hány ko:nyvet/] **akarsz**, hogy [{**hány ko:nyvet**} elolvasson János
(want > how many books)

Late Merge

(50) a. akarsz, hogy **(δ) D** elolvasson János →

b. [**δ hány /D/ ko:nyvet**] akarsz, hogy {D} elolvasson János

(how many > want)

Early Merge

(51) a. akarsz, hogy [**δ hány D ko:nyvet**] elolvasson János →

b. [**δ /**hány D ko:nyvet/] **akarsz**, hogy [{**hány D ko:nyvet**} elolvasson János (want>how many)

Part 4. Related Matters: Tying Up Loose Ends

1. Hindi Expletives: *there*, *kyaa* and *yeh*

(1) a. raam **yeh** jaantaa hai ki ramaa kis-se baat karegii (Lahiri 2003:503 (3))
Ram this know-PR that Ramaa who-INS talk-do-FUT
"Ram knows who Ramaa will talk to"

b. raam **kyaa** soctaa hai ki kOn laRkii kis-se baat karegii (Lahiri 2003:503 (4))
Ram what think-PR that which girl who-INS talk-do-FUT
"Which girl does Ram think will talk to who?"

Proposal: Case Solution

(3) Expletives serve to eliminate unassigned Case values.

English expletive *there*

(4) a. [are [Part] [books on the desk]] *books* raises to SpecBE for Partitive Case→

b. [/books/ [Part] are [{books} on the desk]]
Merge of Pres with Nominative Case value, Head-raising of *are*

c. [Pres-/are/[Nom] [/books/ [Part] {are} [{books} on the desk]]] EM of *there* →

d. [there [Nom] Pres-are [/books/ [Part] {are}[{books} on the desk]]]

English expletive *it*

(5) a. We hold it to be true that all men are created equal

b. *We hold that all men are created equal to be true

c. [v*-hold [Acc] to be true that all men are created equal] EM of *it* →

d. [it[Acc] v*-hold to be true that all men are created equal Excorp. →

e. v*-/hold/ [it [Acc] {hold} to be true that all men are created equal

Going back to Hindi

(6) a. jaantaa [Acc] hai ki ramaa kis-se baat karegii (where *kis-se* has raised to SpecCP)
know-PR that Ramaa who-INS talk-do-FUT
EM of *yeh*

b. yeh [Acc] jaantaa hai ki ramaa kis-se baat karegii

(7) a. soctaa [Acc] hai ki kOn laRkii kyaa kis-se baat karegii
kyaa raises to SpecVP

b. kyaa [Acc] soctaa hai ki kOn laRkii kis-se baat karegii

(1a-b) are parallel and both involve "expletives" that are merged to receive Case. But no expletive replacement of any kind takes place.

2. Romani MacDaniel (1989)

(8) a. Kas$_i$ [$_{IP}$ o Demiri mislinol [$_{CP}$ t$_i$ so [$_{IP}$ i Arifa dikhla t$_i$]]]? McDaniel (1998: 569(8a)
who Demir think what Arifa saw
Whom does Demir think that Arifa saw?

b. So$_i$ [$_{IP}$ o Demiri mislinol [$_{CP}$ kas$_i$ [$_{IP}$ i Arifa dikhla t$_i$]]? McDaniel (1998: 569(8b)
what Demir think who Arifa saw
WHAT does Demir think whom Arifa saw?

(9) Unique property of Romanian partial *wh*-movement
Of the two morphemes *kas* and *so*, either order is possible.

(10) a. McDaniel's Absorption account: scope marker and true *wh*-phrase coindexed.

b. The central claim of the Disjunction Function Movement Account is that *wh*-questions involve disjunction function and not operator binding.

Proposal

(11) a. *Kas* 'who', *ko* 'where' etc. = Wh-word (indeterminate),
b. So=Disjunction Function containing a feature (complex) δ, represented as δ/so/. The *so* part does not have any semantic content other than δ itself.
c. The two are adjoined to each other as *δ-so-kas* and form a lexical complex.
d. They undergo initial *wh*-movement to the first SpecCP.
e. If left as it is, δ undergoes *Wh*-Movement to the next higher SpecCP with /so/, leaving *kas* behind giving (8b), as illustrated in (12a-b-c).
f. *Kas* can provide δ with a vehicle to ride in ("Vehicle Change")
(A featural reaction can occur between δ/so/ and /kas/, placing δ with /kas/. When δ undergoes *Wh*-Movement to the next higher SpecCP with /kas/, it leaves {kas} and /so/ behind, giving (8a), as illustrated in (13a-b-c)).

(12) a. [$_{C'}$C [o Demiri mislinol [$_{C'}$ C [$_{TP}$ i Arifa dikhala δ/so/-kas]]]] Wh-Movement --->
Demir think Afifa saw who
b. [$_{C'}$C [o Demiri mislinol [$_{CP}$ δ/so/-/kas/ C [$_{TP}$ i Arifa dikhala {kas}]]]] Wh-Movment--->
c. [$_{CP}$ δ/so/ [o Demiri mislinol [$_{CP}$ /kas/ C [$_{TP}$ i Arifa dikhala {kas}]]]] =(8b)

(13) a. [$_{C'}$C [o Demiri mislinol [$_{C'}$ C [$_{TP}$ i Arifa dikhala δ/so/-kas]]]] Wh-Movement --->
Demir think Afifa saw who
b. [$_{C'}$C [o Demiri mislinol [$_{CP}$ δ/so/-/kas/ C [$_{TP}$ i Arifa dikhala {kas}]]]] Featural Reaction→
c. [$_{C'}$C [o Demiri mislinol [$_{CP}$ δ/kas/-/so/ C [$_{TP}$ i Arifa dikhala {kas}]]]] Wh-Movment--->
d. [$_{CP}$ δ/kas/ C [o Demiri mislinol [$_{CP}$ /so/ C [$_{TP}$ i Arifa dikhala {kas}]]]] =(8a)

3. Mong Leng (Bruhn (2007) LF *Wh*-Movement in Mon Leng)

(14) "The language has an **LF *wh*-movement**"
a. ***Leej twg*** *nyam Maab?* (Bruhn (6b))
who like Mang
"Who likes Mang?"
b. *Lauj nyam* ***leej twg****?* (Bruhn (6b))
Lao like **who**
"Who does Lao like?"
c. *Lauj paub* ***leej twg*** *nyam Npis.* (Bruhn (8a))
Lao know **who** like Be
"Lao knows who likes Be."
d. *Lauj paub Npis nyam* ***leej twg****.* (Bruhn (8b))
Lao know Be like **who**
"Lao knows who Be likes."

(15) "The language has an LF *wh*-movement that **obeys islands**."
a. Complex NP Island (Bruhn 2007:13 (51b))
Lauj pum tug txivneej kws* ***leej twg* *nyam?*
Lao see cl man rel-pro **who** like
'Who did Lao see the man that __ likes?'
b. Adjunct Island (Bruhn 2007:13 (52b)
Nwg nyob nuav ruaqhov nwg nyam* ***dlaabtsi**?*
3sg live here because 3sg like **what**
'What does he live here because he likes __ ?'
c. WH-Island (Bruhn 2007:14 (53b))

*Lauj tsi tau qha koj saib tug tsuv puas tau noj **dlaabtsi**?*
Lao not have tell 2sg whether cl tiger Q have eat **what**
'What has Lao not told you whether the tiger has eaten __ ?'

d. Clausal Subject Island (Bruhn 2007:14 (54b))
*Qhov **leej twg** nyam koj yog qhov zoo?*
that **who** like 2sg be cl good
'Who that __ likes you is good?'

(16) "Although no movement is involved, it is possible to interpret *leej twg* or *dlaabtsi* in an embedded clause as taking wide scope to form a matrix *wh*-question. These long-distance readings are allowed with the matrix verb-complementizer construction ***has tas*** 'say that,' which introduces the embedded clause" (Bruhn 2004: 4)

(17) a. *Lauj has tas Maab nyam Npis.* (Bruhn 2004: 4 (12)
Lao say that Maab like Be
'Lao said that Mang likes Be.'

b. *Lauj has tas **leej twg** nyam Npis?*
Lao say that **who** like Be
'Who did Lao say likes Be?'

c. *Lauj has tas Npis nyam **leej twg**?*
Lao say that Be like **who**
'Who did Lao say Be likes?'

(18) a. *Lauj has tas tug tsuv tua tug us.* (Bruhn 2004: 4 (13)
Lao say that cl tiger kill cl duck
'Lao said that the tiger killed the duck.'

b. *Lauj has tas **dlaabtsi** tua tug us?*
Lao say that **what** kill cl duck
'What did Lao say killed the duck?'

c. *Lauj has tas tug tsuv tua **dlaabtsi**?*
Lao say that cl tiger kill **what**
'What did Lao say the tiger killed?'

(19) "When the upstairs clauses consist of such (serialized) elements, *leej twg* or *dlaabtsi* may be arbitrarily-deeply embedded and still take wide scope: (Bruhn 2004: 5)

(20) a. *Koj xaav has tas Lauj has tas **leej twg** nyam Npis?*
2sg think say that Lauj say that **who** like Be
'Who do you think Lao said likes Be?'

b. *Koj xaav has tas Lauj has tas Npis xaav has tas Maab nyam **leej twg**?*
2sg think say that Lauj say that Be think say that Mang like **who**
'Who do you think Lao said Be thinks Mang likes?'

c. *Koj xaav has tas Lauj has tas Npis xaav has tas Maab nyam **dlaabtsi**?*
2sg think say that Lauj say that Be think say that Mang like **what**
'What do you think Lao said Be thinks Mang likes?'

(21) Bruhn's analysis, if correct, presents an insurmountable difficulty to the Disjunction Function Analysis coupled with the Overt Syntax Condition because it allows islands to block LF-movement.

3.1. An Alternative: Partial *Wh*-Movement Account: *tas*=C and *has*=δ

(*has*[4]=4 copies of /*has*/and one *{has}*) (*Wh*-Movement to Specv*P ignored)

(22) a. Matrix complementizer is null=C.
b. The sequence *has-has* gets reduced to *has*.
c. *Has* gets spelled out as null in the matrix SpecCP

(23) a. [C Koj xaav [CP tas Lauj has [CP tas Npis xaav [CP tas Maab nyam [DP has[4] **dlaabtsi]]]]]
2sg think C Lauj say C Be think C Mang like **what**
b. [C Koj xaav [CP tas Lauj has [CP tas Npis xaav [CP has[4] tas Maab nyam [DP dlaabtsi]]]]]
c. [C Koj xaav [CP tas Lauj has [CP has[3] tas Npis xaav [CP /has/ tas Maab nyam [DP dlaabtsi]]]]]
d. [C Koj xaav [CP has[2] tas Lauj has [CP /has/ tas Npis xaav [CP/has/ tas Maab nyam [DP dlaabtsi]]]]]
e. [has C Koj xaav [CP /has/ tas Lauj has /has/ tas [CP /has/ tas Npis xaav [CP /has/ tas Maab nyam [DP dlaabtsi]]]]]
f. [~~has~~ C Koj xaav [CP /has/ tas Lauj has ~~/has/~~ tas [CP /has/ tas Npis xaav [CP /has/ tas Maab nyam [DP dlaabtsi]]]]]

(24) a. C is null in matrix CPs in English and many other languages.
b. The sequence of *no-no* gets simplified to *no* in Japanese.
no=Genitive Marker, *no*=pro-noun like *one*
John-no-no "John's one" →John-no "John's"
c. Null spell-out of matrix *has* is learnable.
d. *Has* receives Case from *xaav* 'think', *has* 'say', etc

Given (24c), (15a-d) can be reanalyzed as involving disjunction function movement violating islands.

(25) a. Complex NP Island (Bruhn 2007:13 (51b))
*[~~*has*~~ C [*Lauj pum* [DP *tug txivneej kws* [CP *t* ***leej twg*** *nyam*]]
Lao see cl man rel-pro **who** like
'Who did Lao see the man that __ likes?'
b. Adjunct Island (Bruhn 2007:13 (52b))
*[~~*has*~~ C [*Nwg nyob nuav* [*ruaqhov nwg nyam t* ***dlaabtsi***]]]
3sg live here because 3sg like **what**
'What does he live here because he likes __ ?'
c. WH-Island (Bruhn 2007:14 (53b))
*[~~*has*~~ C [*Lauj tsi tau qha koj* [*saib tug tsuv puas tau noj t* ***dlaabtsi***]]]
Lao not have tell 2sg whether cl tiger Q have eat **what**
'What has Lao not told you whether the tiger has eaten __ ?'
d. Clausal Subject Island (Bruhn 2007:14 (54b))
*[~~*has*~~ C [*qhov t* ***leej twg*** *nyam koj yog qhov zo*]
that **who** like 2sg be cl good
'Who that __ likes you is good?'

4. Kakarimusubi & Sinhala

Sinhala Kishimoto (2005, 2018)

(26) a. Chitra monəwa **də** gatt**e**? (Kishimoto 2005 (1))
Chitra what Q bought-E
"What did Chitra buy?"

b. *Chitra monəwa **də** gatt**a**? (Kishimoto 2005 (3))
Chitra what Q bought-A
"What did Chitra buy?"

c. *Chitra monəwa gatt**a**/gatt**e** **də**? (Kishimoto 2005 (4))
Chitra what bought-A/bought-E Q
"What did Chitra buy?"

(27) a. Okina-wa nani-o-**ka** motikaeri-tar**u** (Classical Japanese)
top what-acc-KA bring.home-past-adnominal
What did the old man bring home?

b. *Okina-wa nani-o-**ka** motikaeri-tar**i** (Classical Japanese)
old.man-top what-acc-KA bring.home-past-indicative
What did the old man bring home?

c. Okina-wa nani-o-**ka** motikaeri-tar**i** (Classical Japanese)
old.man-top what-acc-KA buring.home-past-indicative
The old man brought home something

(28) a. Ranjit [kau **də** aawa kiyəla] dann**e**? (Kishimoto 2005 (6a))
Ranjit who Q came-A that know-E
"Who does Ranjit know came?"

b. Ranjit [kau **də** aaw**e** kiyəla] dannəwa: (Kishimoto 2005 (6b))
Ranjit who Q came-E that know-A
"Ranjit knows who came"

c. *Ranjit [kauru aawa kiyəla] dannəwa **də**
Ranjit who came-A Q that know-A

(29) a. Ranjit [kauru aawa **də** kiyəla] dannəwa (Kishimoto 2005 (7a))
Ranjit who came-A Q that know-A
"Ranjit knows who came"

b. kiidenek potə kieuwa **də**? (Kishimoto 2005 (7b))
how.many book read-A Q
"How many (people) read the book?"

(30) a. Ranjit [kiidenek enəwa kiyəla] dannəwa **də**? (Kishimoto 2005 (9a))
Ranjit how.many come-A that know-A Q
"How many (people) does Ranjit know will come?"

b. Ranjit [kiidenek enəwa **də** kiyəla] dannəwa (Kishimoto 2005 (9b))
Ranjit how.many come-A Q that know-A
"Ranjit knows how many (people) will come"

(31) a. Ranjit [kau **də** aaw**e** kiyəla] dannəwa (Kishimoto 2005 (11a))
Ranjit who Q came-E that know-A
"Ranjit knows who came"

b. kiidenek **də** potə kieuw**e**? (Kishimoto 2005 (11b))
how.many Q book read-E
"How many (people) read the book? "

(32) a. Ranjit [Chitra kiidenek **də** dækka/*dække kiyəla] dann**e**? (Kishimoto 2005: Note 4(ia))
Ranjit Chitra how.many Q saw-A/saw-E that know-E
"How many (people) does Ranjit know that Chitra saw?"

b. Ranjit [Chitra kiidenek dækka/*dække kiyəla] dannəwa **də**? (Kishimoto 2005: Note 4(iia))
Ranjit Chitra how.many saw-A/saw-E that know-E
"How many (people) does Ranjit know that Chitra saw?"

(33) a. Ranjit [Chitra kiidenek **də** dækk**e** kiyəla] dannəwa/*danne. (Kishimoto 2005: Note 4(ib))
Ranjit Chitra how:many Q saw-E that know-A/know-E
"Ranjit knows how many (people) Chitra saw"

b. Ranjit [Chitra kiidenek dækka **də** kiyəla] dannəwa/*danne. (Kishimoto 2005: Note 4(iib))
Ranjit Chitra how:many Q saw-A that know-A/know-E
"Ranjit knows how many (people) Chitra saw"

Island Sensitivity (Kishimoto: də moves by LF movement and LF movement obeys islands)

(34) a. *oyaa [[Chitra kaa-tə **də** dunnə] potə] kieuw**e**? (Kishimoto 2005: (46a))
you Chitra who-DAT Q gave book read-E (complex NP)
"To whom$_i$ did you read the book that Chitra gave t$_i$?"

b. *Chitra [[Ranjit monəwa **də** gatta kiənə] katəkataawə] aehuwe?
Chitra Ranjit what Q bought-A that rumor heard-E (complex NP)
"What$_i$ did Chitra hear the rumor that Ranjit bought t$_i$?" (Kishimoto 2005: (46b))

c. *[Chitra monəwa **də** kanə kotə] Ranjit pudumə une**e**? (Kishimoto 2005: (46c))
Chitra what Q ate time Ranjit surprise became-E (adjunct)
"What$_i$ was Ranjit surprised when Chitra ate t$_i$?"

d. ??Chitra [Ranjit monəwa **də** gatta kiyəla] kendiruw**e**? (Kishimoto 2005: (46d))
Chitra Ranjit what Q bought-A that whispered-E (manner of speaking)
"What$_i$ did Chitra whisper that Ranjit bought t$_i$?"

e. ?*Ranjit [Chitra monəwa **də** kieuwa də-naeddə kiyəla] dann**e**? (Kishimoto 2005: (46b))
Ranjit Chitra what Q read-A whether that know-E (wh-island)
What$_i$ does Ranjit know whether Chitra read t$_i$?

Kishimoto's proposal

(35) a. The *wh*-scope is marked either by ***e***-marking on the verb or by movement of ***də***.

b. When scope is marked by ***e***-marking on the verb, ***də*** undergoes LF movement.

c. Both overt movement of ***də*** and covert movement of ***də*** obey islands, hence the degraded statuses of (34).

d. (36a-e) below do not violate islands because LF movement of *də* is from outside the islands.

(36) a. oyaa [[Chitra kaa-tə dunnə potə] **də** kieuwe? (Relative Clause)
you Chitra who-DAT gave book Q read-E
"You read the book that Chitra gave to who?"

a'. Chitra が誰にやった本を君は読みましたか

b. Chitra [[Ranjit monəwa gatta kiənə] (Complex NP)
Chitra Ranjit what bought-A that
katəkataawə] **də** æhuwe?
rumor Q heard-E
"Chitra heard the rumor that Ranjit bought what?"

b'. Ranjit が何を買ったと言う噂を Chitra は聞きましたか

c. [Chitra monəwa kanə kotə] **də** Ranjit pudumə unee? (Adjunct Clause)
Chitra what ate time Q Ranjit surprise became-E
"Ranjit was surprised when Chitra ate what?"
c'. Chitra が何を食べた時に Ranjit は驚きましたか
d. [Chitra [Ranjit monə potə gatta kiyəla] **də** kendiruwe? (
Chitra Ranjit what book bought-A that Q whispered-E
"Chitra whispered that Ranjit bought what book?"
d'. Ranjit がどの本を買ったと Chitra はささやきましたか
e. Ranjit [Chitra monəwa kieuwa də-næddə kiyəla **də** danne?
Ranjit Chitra what read-A whether that Q know-E
"Ranjit knows whether Chitra read what?"
e'. Chitra が何を買ったかどうかを Ranjit は知っていますか

Possible counterevidence against the Overt Syntax Condition.

Alternative: Movement of the **E**-ending.

(37) a. δ exists (as a feature bundle) in **də**
b. The ***e***-ending originates with WH-**də** as in WH-**də**-**e**.
c. δ (as a feature bundle) moves from **də** to **e** by featural reaction.
d. Only the **e**-ending moves from WH-**də**-**e**, and in the absence of e-ending δ moves (only with *how many*).

(38) a. [… WH-də[δ]-e … V] → Featural Reaction
b. [… WH-də-e[δ] … V] → Function Movement
c. [… WH-də … V e[δ]]

(39) a. [[… WH-də[δ] … C] kiyəla] → Function Movement
b. [[… WH … C-də[δ]] kiyəla]

Kakarimusubi in Classical Japanese

(39) a. [[Izure-no hi]ni-**ka**[δ]]-**an** kuni-ni kaer → Featural Reaction
which day-on-KA home-to return
b. [[Izure-no hi]ni-**ka**]-**an**[δ] kuni-ni kaer → Function Movement
c. [[Izure-no hi]ni-**ka** kuni-ni kaer]-**an**[δ]
"When will I return home?"

(40) a. [Izure-**ka**-**an** no hi]ni kuni-ni kaer-→ *[Izure-**ka**-~~**an**~~ no hi]ni kuni-ni kaer-**an**
which KA day-on home-to return-will
b. [Izure-**ka** no hi]ni kuni-ni kaer-an
some day-on home-to return-will
"I will return home some day"

5. Contrastive Stress[2]

Lin (2014)

(41) Ni xiang-zhidao Lisi zai **nali** mai-le **shenme** (Lin 2014)
you wonder Lisi at where buy-Asp what

[2] I am grateful to Jacob Algrim for pointing out the problem of resolving ambiguity of the following example.

(i) "What is the thing x such that you wonder where Lisi bought x?"
(ii) "Where is the place x such that you wonder what Lisi bought at x?

b. How can (41) be disambiguated?

Answer: Contrastive Stress

Hasegawa (2003) observes:

(42) a. Lasnik and Saito's (1992) example requires contrastive stress on the two wh-phrases with matrix scope.
b. WHO wonders what WHO bought?
c. *WHO wonders what who bought?

Proposal:

(43) a. Each δ assigns contrastive stress to its associated indeterminate(s), and each new assignment of contrastive stress reduces the existing contrastive stress by one notch a la SPE stress assignment rules.
b. Association of indeterminates with δ is carried out when they are merged and each of the associated indeterminates receives contrastive stress.
c. Contrastive stress associated with a higher δ supersedes/reduces contrastive stress associated with a lower δ.

(44) a. δ^1-(WHO^1, WHO^1) δ^2-WHAT^2 (A, B) = set of A and B
b. [C [[δ^1-(WHO^1, WHO^1) bought δ^2-WHAT^2] WH-Movement of δ^2→
c. [δ^2-/WHAT^2/ C [δ^1-(WHO^1, WHO^1) bought {what^2}]] Merge of *wonders* →
d. [wonders [δ^2-/WHAT^2/ C [δ^1-(WHO^1, WHO^1) bought {what^2}]]]
Sideward Movement of δ^1-WHO^1→
e. [δ^1-WHO^1 [wonders [δ^2-/WHAT^2/ C WHO^1 bought {what^2}]]]
Reduction of /WHAT^2/ to /what^2/
f. δ^1-WHO^1 [wonders [δ^2-/what^2/ C WHO^1 bought {what^2}]]]
g. PF: WHO wonders what WHO bought

(45) a. δ^1-SHENME^1 δ^2-ZAI NALI^2 Sideward Movement →
b. [δ^1 [ni xian-zhidao [δ^2 [Lisi ZAI NALI^2 mai-le SHENME^1]]]]
Reduction of ZAI NALI^2→
c. [δ^1 [ni xian-zhidao [δ^2 [Lisi zai nali^2 mai-le SHENME^1]]]] =(41aii)

(46) a. δ^2-SHENME^2 δ^1-ZAI NALI^1 Sideward Movement →
b. [δ^1 [ni xian-zhidao [δ^2 [Lisi ZAI NALI^1 mai-le SHENME^2]]]]
Reduction of SHENME^2
b. [δ^1 [ni xian-zhidao [δ^2 [Lisi ZAI-NALI^1 mai-le shenme^2]]]]

Kai-Ying Lin (p.c) agrees though he feels ambiguity is clearer with *shen-me* replaced by *she-me-dong-xi*

(47) a. [ni xiang-zhidao [shei mai-le SHE-ME-Dong-Xi]]]]
"What is the thing x such that you wonder who bought x?"
b. [ni xiang-zhidao [SHEI mai-le she-me-dong-xi]]]]
"Who is the person x such that you wonder what x bought?"

6. Deducing ECP from the Overt Syntax Condition (formally known as Inactivity Condition)

6.1. Licit Derivation

(48) a. Who did you see?
b. [$_{VP}$ v*-see [$_{DP}$ **δ who**]] (Case assigned upon merge)
c. [$_{v*P}$ v*-/see/ [$_{VP}$ {see} [$_{DP}$ δ who]]]
d. [$_{v*P}$ you v*-/see/ [$_{VP}$ {see} [$_{DP}$ δ who]]]
e. [$_{v*P}$ [$_{DP}$ **δ /who/**] [$_{v*P}$ you v*-/see/ [$_{VP}$ {see} [$_{DP}$ {who}]]]]
(/who/ is the designated vehicle of δ)

6.2. Illicit Derivations violating the OSC

6.2.1. Nominative Trace Effect (ECP, *That*-trace filter)

(49) a. *Who do you think that did it?
b. [$_{TP}$ T [$_{v*P}$ [$_{DP}$ **δ who**] …]] (Only /who/ moves. < Economy)
c. [$_{TP}$ **/who/** T [$_{v*P}$ [$_{DP}$ **δ {who}**]…]]
d. [$_{CP}$ that [$_{TP}$ **/who/** T [$_{v*P}$ [$_{DP}$ **δ {who}**]…]]] Movement of δ is blocked by OSC.

(50) a. [$_{CP/TP}$ C-T [$_{v*P}$ [$_{DP}$ **δ who**] …]]
b. [$_{CP/TP}$ [$_{DP}$ **δ /who/**] C-T [$_{v*P}$ {**who**} …]] (/who/ is the designated vehicle of δ)

6.2.2. Accusative Trace Effect (*For-To* Filter)

(51) a. *Who would you like for to leave?
b. [$_{TP}$ T [$_{ModP}$ to [$_{v*P}$ [$_{DP}$ **δ who**] …]]]
c. [$_{TP}$ **/who/** T [$_{ModP}$ to [$_{v*P}$ [$_{DP}$ **δ {who}**]…]]]]
d. [$_{CP}$ for [$_{TP}$ **/who/** {for} [$_{ModP}$ to [$_{v*P}$ [$_{DP}$ **δ {who}**]…]]]] (δ lacks a designated vehicle)

6.2.3. Dative Trace Effect

(52) a. *Who did you give the book?
b. [$_{VP}$ [$_{DP}$ **δ who**] v*-v-give the book]
c. [$_{vP}$ v*-v-/give/ [$_{VP}$ [$_{DP}$ **δ who**] {give} the book]]
d. [$_{vP}$ **/who/** v*-v-/give/ [$_{VP}$ [$_{DP}$ **δ {who}**] {give} the book]]
e. [$_{v*P}$ v*-/give/ [$_{vP}$ **/who/** v [$_{VP}$ [$_{DP}$ **δ {who}**] {give} the book]]]
f. [$_{v*P}$ you v*-/give/ [$_{vP}$ /**who**/ v [$_{VP}$ [$_{DP}$ **δ {who}]{**give} the book]]]
(δ lacks a designated vehicle)

(53) a. Who did you give the book to?
b. [$_{PP}$ to [$_{DP}$ δ who]] ((/who/ is the designated vehicle of δ)

6.2.4. Genitive Trace Effect

(54) a. *Whose did you buy three books?
b. [$_{NumP}$ three [$_{NP}$ [$_{DP}$ **δ who**] books]]
c. [$_{NumP}$ /**whose**/ three [$_{NP}$ [$_{DP}$ **δ {who}**] books]]
d. [$_{DP}$ the [$_{NumP}$ **/whose/** three [$_{NP}$ [$_{DP}$ **δ {who}**] books]]] (δ lacks a designated vehicle)
Cf. Whose three books did you buy? < [$_{DP}$ δ D [$_{NumP}$ /whose/ three [$_{NP}$ {whose} books]]]

6.2.5. Partitive Trace Effect

(55) a. *How many packages were there placed on the table? (Chomsky 2001)
b. [$_{BeP}$ Q-Past-were [placed [$_{DP}$ **δ how many packages**] on the table]]

c. [$_{BeP}$ /**how many packages**/ [$_{BeP}$ Q-Past-were [placed [$_{DP}$ δ **{how many packages}]** on the table]]]
d. [$_{TP}$ Q-Past-/were/ [$_{BeP}$ /**how many packages**/ {were} [placed **[**$_{DP}$ δ **{how many packages}**] on the table]]]
e. [**there** [Q-Past-/were/ [$_{BeP}$ /**how many packages**/ {were} [placed **[**$_{DP}$ δ **{how many packages}**] on the table]]] $_{DP}$
f. [$_{CP}$ Q-/were/ [$_{TP}$ **there** [Past [$_{BeP}$ /**how many packages**/ {were} [placed **[**$_{DP}$ δ **{how many packages}**] on the table]]]]] (δ lacks a designated vehicle)

(56) a. How many packages were placed on the table?
b. [$_{CP/TP}$ Q-were placed [δ **how many packages**] on the table]
c. [$_{CP/TP}$ δ **/how many packages/** Q-were placed {how many packages} on the table]

6.3. ECM (A Problem?)

(57) a. Who do you believe to have broken into your house?
b. [v*-believe [**$_{TP}$** [δ **who**] to have broken into your house]] →
c. [$_{v*P}$ v*-/believe/ [$_{VP}$ δ **/who/** {believe} [**$_{TP}$** [{who}] to have broken into your house]]]

(58) a. [**$_{CP}$ C** [$_{TP}$ T [to [have [$_{v*P}$ [$_{DP}$ δ **who**] v*-/broken/ [$_{VP}$ {broken} into your house]]]]]
A' Movement to SpecCP→
b. [$_{CP}$ [$_{DP}$ δ **/who/**] [C [$_{TP}$ T [to [have [$_{v*P}$ [$_{DP}$ **{who}**] v*-/broken/ [$_{VP}$ {broken} into your house]]]]]]] (/who/ is the designated vehicle of δ)
Merge of v*-believe
c. [$_{v*P/VP}$ v*[Ag]-believe[Acc] [$_{CP}$ [$_{DP}$ δ **/who/**] [C [$_{TP}$ T [to [have [$_{v*P}$ [$_{DP}$ **{who}**] v*-/broken/ [$_{VP}$ {broken} into your house]]]]]]]
A' and A Movement to Specv*P/VP
d. [$_{v*P/VP}$ [$_{DP}$ δ **/who/**] [v*[Ag]-believe[Acc] [$_{CP}$ C [$_{TP}$ T [to [have [$_{v*P}$ [$_{DP}$ **{who}**] v*-/broken/ [$_{VP}$ {broken} into your house]]]]]]]
Acc assigned to [$_{DP}$ δ **/who/**]
e. [$_{v*P/VP}$ [$_{DP}$ δ **/who/** [Acc]] [v*[Ag]-believe [$_{CP}$ C [$_{TP}$ T [to [have [$_{v*P}$ [$_{DP}$ **{who}**] v*-/broken/ [$_{VP}$ {broken} into your house]]]]]]]
Merge of **you** (Ag assigned to *you*)
f. [$_{v*P}$ **you**[Ag] [$_{v*P/VP}$ [$_{DP}$ δ **/who/** [Acc]] [v*-believe [$_{CP}$ C [$_{TP}$ T [to [have [$_{v*P}$ [$_{DP}$ **{who}**] v*-/broken/ [$_{VP}$ {broken} into your house]]]]]]]
(g. [$_{v*P}$ δ **/who/** [Acc] [$_{v*P}$ **you**[Ag] [v*-/believe/ [$_{VP}$ {believe} [$_{CP}$ C [$_{TP}$ T [to [have [$_{v*P}$ [$_{DP}$ **{who}**] v*-/broken/ [$_{VP}$ {broken} into your house]]]]]]]

7. Concluding Remarks

(59) a. Partial *Wh*-Movement/*Wh*-expletive/Scope Marking Structures fall within the Disjunction Function Theory of *wh*-questions if we make the following assumptions.
b. δ can come in (at least) two allomorphs, an abstract morpheme δ, which can be associated with an indeterminate (i.e, a *wh*)-phrase), or base-generated in SpecCP, or an overt (free) morphemes like *ka* in Japanese, *was* in German, *mit* in Hungarian, *kyaa* in Hindi, or *has* in Mong Leng. Overt free morphemes can have more than one copy, with each copy having an unvalued Case feature so that they stop at an appropriate SpecVP to receive a Case value before raising to SpecCP as in Hindi, Hungarian, German, and Mong Leng, etc.

c. ECP is reduced to the Overt Syntax Condition (what is formerly known as the Inactivity Condition).

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