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SCRAMBLING IS EVERYWHERE

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> Scrambling is not some special rule induced by some unusual property of a language.

(1) Unusual properties proposed in the literature:
   a. non-configurational phrase structure (Hale 1983)
   b. non-forced agreement (Kuroda 1988)
   c. costless, featureless, purely optional movement (Fukui 1993, Saito & Fukui 1998)
   d. weak theta-marking feature (Boskovic and Takahashi 1998)

(2) Scrambling is motivated by some formal feature such as the EPP or some semantic factor (Miyagawa 1995, 1997, 2002, 2003).

> - Scrambling is a typical, run of the mill movement.
> - There are no "scrambling" and "non-scrambling" languages.
> - Scrambling is everywhere.
> - Scrambling in a non-scrambling language: QR

1. Overt vs. Covert Movement

(3) Overt vs. Covert movement: wh-movement
   a. What$_i$ did John   buy   t$_i$

OVERT MOVEMENT

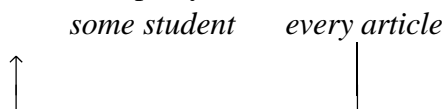   b.   John-ga   nani-o   katta   no?
            John-Nom what-Acc bought Q

COVERT MOVEMENT   (Huang 1982)

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(4) a. Some student (or other) read every article (on the list).
     b. inverse scope by covert movement
             some student   every article

                                                    (May 1977, 1985)
             COVERT MOVEMENT

(5) a. In some languages, scope relation is limited to surface c-command relation
         Dareka-ga   dono-ronbun-mo yonda.   (Japanese)
         someone-Nom   every-article   read
         'Someone read every article.'
         NO INVERSE SCOPE: *every article > someone   (Kuroda 1971, Huang 1982, Hoji 1985)

     b. Scrambling alters scope relation in Japanese
         Dono-ronnbun-mo$_i$ dareka-ga   t$_i$ yonda.
         every-article$_i$ someone-Nom   t$_i$ read

             OVERT MOVEMENT
         ever article > someone, someone > every article   (Kuroda 1971, Hoji 1985)

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(6) Covert and overt A-scrambling
     The movement in (4b) and (5b) is the same: A-scrambling.

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(7) A-scrambling: A-movement (Mahajan 1990, Webelhuth 1989; cf. Saito 1992, Tada 1993).
(8) A-scrambling is EPP driven (Miyagawa 2001, in press).
(9) Overt vs. Covert: different instructions to phonology -- pronounce the head (overt) or the
     tail (covert) of the chain (e.g., Bobaljik 1995, Fox and Nissenbaum 1999, Pesetsky 1998,
     Groat and O'Neil 1996).
(10) QR is scrambling (Johnson and Tomioka 1997; cf. Hornstein 1995, Kitahara 1996 for
     related discussion.)

2. QR/A-scrambling Correlations

I.   Clause boundedness (May 1977, Mahajan 1990, Tada 1993):

(11) a. #Someone said [that Sue will marry every man]. (adapted from Fox 2000:62)
     b. *every > some

(12) a. #Dareka-ga   [Sue-ga   daremo-to   kekkonsuruto] itta.
        someone-Nom[Sue-Nom everyone-with   marry   C] said
        'Someone said that Sue will everyone.'

   b. #Daremo-to$_i$ dareka-ga   [Sue-ga   t$_i$ kekkonsuru   to] itta.
      everyone-with$_i$ someone-Nom   [Sue-Nom   t$_i$ marry   C] said
      '*Everyone, someone said that Sue will marry t.'
      'Someone said that Sue will marry everyone.'
      (cf. Tada 1993 for the observation that long-distance scrambled QP must obligatorily
      reconstruct; this is due to the fact that this is A'-scrambling (cf. also Saito 1989, 1992))

II.   Counting QP: (e.g., Beghelli 1993, Beghelli and Stowell 1997, Hakl 2000, Liu 1992,
                  Szabolcsi 1997)

(13) a.   Some student read more than five books.
     b.   *more than five books > some student

(14) a.   Dareka-ga   go-satu-izyou-no-hon-o   yonda.
         someone-Nom   5-CL-more.than-Gen-book-Acc read
         'Someone read more than five books.'

   b.   Go-satu-izyou-no-hon-o$_i$ dareka-ga   t$_i$ yonda
        5-CL-more.than-Gen-book-Acc$_i$ someone-Nom   t$_i$ read
        *more than five books > someone

                                                    (Watanabe 2000)

III.   Double object (Bruening 2001):

(15) a. (At least) one professor gave most students at the linguistics department every book on
        the syllabus. (based on Bruening 2001, data from Takahashi 2002)
     b.   most students$_{goal}$ > one professor$_{subj}$ > every book$_{theme}$ GOAL SUB THEME
     c.   most students$_{goal}$ > every book$_{theme}$ > one professor$_{subj}$ GOAL THEME SUB
     d.   *every book$_{theme}$ > one professor$_{subj}$ > most students$_{goal}$ *THEME SUB GOAL

(16) Idiom chunk may be moved only by A-scrambling (Miyagawa 1997)
      The following from Richards (1997)

      a. Taroo-ga   hi-ni   abura-o   sosoida.   SUB [$_{idiom}$ GOAL THEME V]
          Taro-Nom fire-Dat oil-Acc   poured
        ' Taro made things worse.'

      b. Hi-ni   Taroo-ga   t$_{DAT}$ abura-o   sosoida.   GOAL SUB THEME
          fire-Dat   Taro-Nom   t$_{DAT}$ oil-Acc poured

      c. Hi-ni   abura-o   Taroo-ga   t$_{DAT}$ t$_{ACC}$ sosoida   GOAL THEME SUB
          fire-Dat   oil-Acc   Taro-Nom   t$_{DAT}$ t$_{ACC}$ poured

      d. *Abura-o   Taroo-ga   hi-ni   t$_{ACC}$ sosoida.   *THEME SUB GOAL
          oil-Acc   Taro-Nom   fire-Dat t$_{ACC}$ poured
         (with the intended idiomatic reading)
                               (See Yatsushiro 1999 for a similar point involving quantifier scope.)

IV. PP.
(17) a. Some student (or other) was sleeping in every room.
     b. in every room > some

(18) a. Dareka-ga   dono-heya-de-mo   nete-ita.
         someone-Nom   every-room-in   was.sleeping.
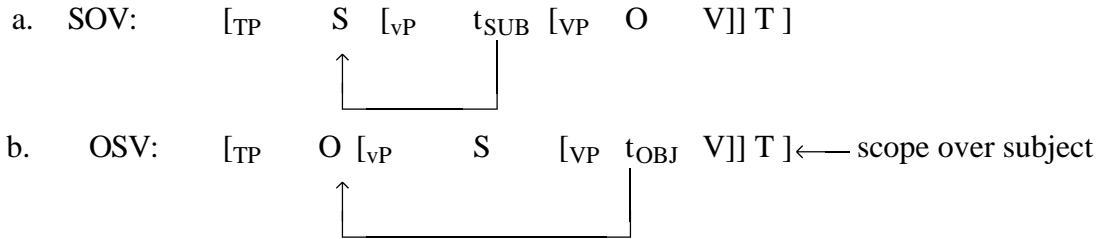   someone > every room, *every room > someone

     b. Dono-heya-de-mo$_i$ dareka-ga   t$_i$ nete-ita.
         every-room-in$_i$ someone-Nom   t$_i$ was.sleeping
         every room > someone
(cf. Takano 1998 for the point that a PP can undergo A-scrambling in Japanese)

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3. Structurally Correlating A-scrambling and QR

A-scrambling is EPP-driven (Miyagawa 2001)

(19) A-scrambling triggered by the EPP feature on T   (Miyagawa 2001)

    a. SOV: $[_{TP}$ S $[_{vP}$ t_{SUB} $[_{VP}$ O   V]] T]

    b.   OSV: $[_{TP}$ O $[_{vP}$ S $[_{VP}$ t_{OBJ} V]] T]$\longleftarrow$ scope over subject

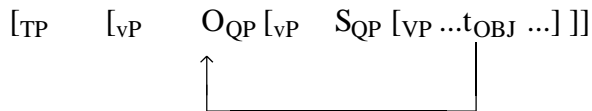SLIGHT REVISION: A-scrambling is (first) to *v*, a strong phase

(20)   For OSV: postulate a step for A-scrambling of object: EPP driven to *v*, a strong phase, and we have a perfect match with (21) (thanks to Danny Fox for pointing this out)

    $[_{TP}$ $[_{vP}$ O $[_{vP}$ S $[_{VP}$ t_{OBJ} V] v   ] T]

                                                     [EPP]
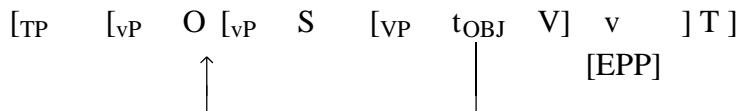
(21) Inverse scope requires subject reconstruction (cf. Johnson and Tomioka (1997))

    $[_{TP}$ $[_{vP}O_{QP}$ $[_{vP}$ S_{QP} $[_{VP}$ ... t_{obj} ...   ]]]

         subject reconstruction
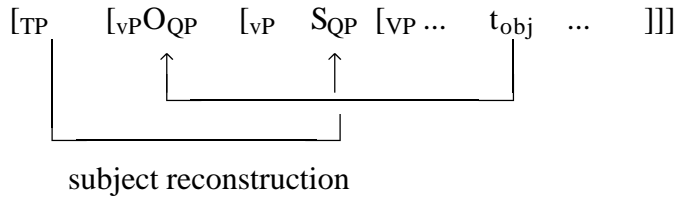
(22) Intermediate stage

    $[_{TP}$ $[_{vP}$ O_{QP} $[_{vP}$ S_{QP} $[_{VP}$ ...t_{OBJ} ...]]]

(23) A-scrambling is driven by the EPP feature on *v* (modification of Miyagawa 2001, 2003)

    "QR" to *v* is driven by the EPP feature on *v* (Bruening 2001)

3. Covertness of QR vs. Overtness of "A-scrambling"

(24) If A-scrambling in Japanese and QR in English are the same rule, why is one overt and the other covert?

(25) If we are to keep to our spirit of "scrambling is a routine operation," this overt/covert difference cannot be related to some unusual, "scrambling-specific" property of these languages.

(26) Proposal:
The difference arises from an expanded version of Holmberg's Generalization (Holmberg 1986, 1999, etc.)

(27) *Object Shift cannot apply across a phonologically visible category asymmetrically c-commanding the object position except adjuncts.* (Holmberg 1999)

   Revised: An element (in VP) cannot move across a phonologically visible category asymmetrically c-commanding it (except adjuncts). (see recent work by Fox and Pesetsky for related discussion)

(28) HG applies at PF (Holmberg 1999).

(29) Swedish: V and Object Shift (Holmberg 1986)
   a. Jag   kysste   **henne**   inte   [$_{VP}$ t_v t_o]   a' *Jag kysste   inte   henne.
      I   kissed   her   not   I   kissed   not   her

   b. *Jag har   **henne**   inte   [$_{VP}$ kysst t_o]   b' Jag har   inte   kysst   henne**.**
      I   have her   not   kissed   I   have not   kissed her

   c. *... att jag **henne** inte [$_{VP}$ kysste t_o]   c' ... att   jag   inte   kysste   henne**.**
           that I   her   not   kissed   that I   not   kissed   her

(30) Swedish: preposition, indirect object, verb particle (Holmberg 1999)
   a. preposition
      *Jag talade **henne** inte <u>med</u> t_o.   a'   Jag talade   inte <u>med</u> henne.
       I   spoke her   not with   I   spoke   not   with her

   b. indirect object
      *Jag gav **den** inte <u>Elsa</u> t_o.   b.'   Jag   gav   inte <u>Elsa</u> den.
       I   gave it   not   Elsa   I   gave not   Elsa it

   c. verb particle
      *Dom   kastade **mej** inte <u>ut</u> t_o.   c.'   Dom kastade inte <u>ut</u>   mej.
       they threw   me   not out   they threw   not   out   me

Prediction: overt A-scrambling occurs in languages in which the verb, or some other relevant element, does not block such overt movement. Most commonly, such a language would be OV. But even in VO, shifting of the object should be allowed if V moves out of the way.

(31) Overcoming HG: V topicalization (Holmberg 1999)
      Kysst har   jag   henne inte (bara hållit hennei   handen).
      kissed have I   her   not (only held her   by the   hand)

Negative Movement (Svenonius 2000)

"...the negative object must leave VP overtly" -- a form of QR subject to HG (Svenonius 2000).

(32) a. Knut leverte ingenting inn.   Norwesian
         Knut handed nothing   in
         'Knut didn't hand anything in.'

      b. *...hvis Knut <u>leverte</u> ingenting   inn.   (verb)
           if   Knut handed nothing   in

      c. *Knut   har <u>levert</u> ingenting   inn.   (verb)
          Knut   has handed nothing   in

      d. *Knut   skrev   <u>på</u>   ingenting. (preposition)
          Knut   wrote   on   nothing

      e. *Lars   skickade <u>in</u> ingenting.   (verb particle)
          Lars   handed in nothing

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(33) a. *Jeg har <u>kyssa</u>   ingen av dem.
        I   have kissed   none of them

    b. *Jeg har ingen   av dem <u>kyssa</u>.
        I   have none   of them kissed

    c. Kyssa har jeg   ingen av   dem. (V topicalization)
        kissed have I   none   of   them

4.   Why Covert A-movement Apparently Only Targets Quantifiers (thus "QR")

(34) The EPP feature on *v* is optional. How is it justified?

Movement triggered by an optional feature must have some effect on output (scope, informational structure, etc.) (Fox 1995, 2000; Reinhart 1995; Chomsky 2001).
   • Covert A-scrambling, being covert, perhaps can only meet this requirement by altering scope relation; this is Fox's Scope Economy.
   • Overt A-scrambling can affect, for example, informational structure (e.g., Ishihara 2001), which makes it possible for non-quantifier phrases to undergo A-scrambling.

(35)   ACD resolution may involve quantifier movement to vP (Legate 2002).

(36)   A possible alternative to (34)
       In English, the relevant operation only applies to quantifiers because the operation is Quantifier Raising, not A-scrambling.

5. Is There QR?

(37) QR for an object quantifier (or some other VP-internal quantifier) is required for addressing a type mismatch. Such a quantifier moves to *v*P, which is of the type that includes <t>.

(38) *v*P is a (quasi-)proposition; QR targets *v*P (Bruening 2001, Fox 2000, Johnson and Tomioka 1997, etc.)

(39) An alternative: "pure" QR is to the local VP.
   • VP is of the same type as *v*P
   • External argument is an adjunct (Kratzer 1996)

(40) QR: To VP, for resolution of type mismatch -- required even if there's just one quantifier.
Movement to vP: (covert) A-scrambling (not QR); subject to the requirement on optional movement.

(41)   QP$_{subj}$ [$_{vP}$ QP$_{obj}$ [$_{vP}$ t$_{subj}$ [$_{VP}$ t$_{obj}$ [$_{VP}$ ...   t$_{obj}$ ...   ]]]]

        covert   QR
        A-scrambling

Three-quantifier construction (Bruening 2001); the following taken from Takahashi (2002)

(42) (At least) one professor gave most students at the linguistics department every book on the syllabus.

   (i) one professor$_{subj}$ > most students$_{goal}$ > every book$_{theme}$

   (ii) | most students$_{goal}$ > one professor$_{subj}$ > every book$_{theme}$ |

   (iii) most students$_{goal}$ > every book$_{theme}$ > one professor$_{subj}$

6. Double-object Construction

(43) a.   John sent someone every package.
    b.   *every package > someone (e.g., Aoun and Li 1989)

(44) The example in (b) below is unexpected.
    a.   John-ga   dareka-ni   dono-nimotu-mo okutta.
       John-Nom   someone-Dat every-package   sent
       'John sent someone every package.'
       *every package > someone

    b.   John-ga   dono-nimotu-mo$_i$ dareka-ni   t$_i$ okutta. (Hoji 1985)
       John-Nom   every-package$_i$ someone-Dat t$_i$ sent
       | every package > someone |

High Goal (HG) and Low Goal (LG) (Miyagawa and Tsujioka, in press; cf. Wagner 2003, for a related discussion in German, and Cuervo, to appear, for a related discussion on Spanish)

(45)

	SUB	HG	LG	TH	V
a.	Taroo-ga	Hanako-ni	Tookyoo-ni	nimotu-o	okutta.
	Taro-Nom	Hanako-Dat	Tokyo-to	package-Acc	sent

'Taro sent Hanako a package to Tokyo.'

	SUB	HG	TH	LG	V
b.	Taroo-ga	Hanako-ni	nimotu-o	Tookyoo-ni	okutta.
	Taro-Nom	Hanako-Dat	package-Acc	Tokyo-to	sent

	*SUB	LG	HG		TH	V
c.	*Taroo-ga	Tookyoo-ni	Hanako-ni	t_{LG}	nimotu-o	okutta.
	Taro-Nom	Tokyo-to	Hanako-Dat	t_{iLG}	package-Acc	sent

	*SUB	TH_i	HG	LG	t_{TH}	V
d.	*Taroo-ga	nimotu-o_i	Hanako-ni	Tookyoo-ni	t_{TH}	okutta.
	Taro-Nom	package-Acc_i	Hanako-Dat	Tokyo-to	t_{TH}	sent

(46) Applicative head (cf. Marantz 1993), which selects the High Goal, is <u>not a phase</u>. No EPP feature to attract anything. No overt (c/d above) or covert A-scrambling ((46)). McGinnis (2002) has independently concluded that the applicative head is not a phase.

Further evidence that the applicative head is not a phase: it does not block a QP from crossing it.

(47) A different teacher gave me every book.

every book > a different teacher   (Bruening 2001)

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