

THE STORY OF ZERO

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CHAPTER 11: ZERO AND THE PUZZLE OF STRANDED ADPOSITIONS

1. Introduction*

In October 2010, Fritz Newmeyer posted the following question on the functionally-and typologically-oriented linguistics network *Funknet*:

"Does anybody know of a functional explanation (published or not) for why **preposition stranding** is so rare in the languages of the world? (I am referring to constructions such as 'Who did you talk to?', 'Mary was talked to', etc.) As far as I know, it exists only in Germanic, marginally in French, and possibly in some Niger-Congo languages. There are a number of functionally-oriented accounts of P-stranding in English, but I wonder if anybody has taken on the question of its rarity cross-linguistically".

At the time, the response I gave Fritz on *Funknet* was a rather ungainly three-prong promissory note spread over a number of postings, suggesting that his two-part puzzle was no puzzle at all. Rather:

- The affixing of stranded adpositions to verbs is not a typological rarity.
- It is the consequence of zeroing-out adpositionally-marked nominal arguments ('obliques') in various contexts of co-reference.
- It is found in languages that possess no alternative means for preserving adpositional case-marking in well known zero-marking contexts, often following the diachronic loss of alternative means for preserving the stranded adpositions.

This chapter is a belated attempt to deliver on that old promissory note. In the process, I will try to show how Newmeyer's puzzle of stranded adpositions is part and parcel of the story of zero. A more general methodological lesson may be drawn from this discussion, touching on both the typological and functional aspects of Newmeyer question: That in order to solve some seemingly compact puzzles one needs to sometimes re-construe them in a much broader context.

2. Stranded adpositions in relative clauses

2.1. Verb-stranded prepositions in English

The syntax of REL-clauses revolves around a universal **functional dilemma**, one that can be described as the **case-recoverability imperative**:

- (1) a. The **referential identity** of the zeroed-out argument inside the REL-clause is easily recovered from the immediate anaphoric context--the co-referent head noun.
- b. But how can one recover the **case-role** of the missing argument inside the REL-clause, given that the head noun is marked for its case-role in the **main** clause?

One can go on and enumerate the various syntactic-typological means by which languages solve the case-recoverability conundrum. [FN 1] In the current dialect of English Newmeyer refers to, the problem is handled differently for the three main argument-types--subject, direct object, and prepositional object ('obliques'). For the subject, the case-role is recoverable from the case-marked REL-pronoun ('subordinator'), combined with the SVO word-order. The direct object-role, in turn, is recoverable from default zero-marking and the OSV word-order. Lastly, the various oblique case-roles are recoverable from the stranded preposition. When the clause is bi-transitive, the stranded preposition most commonly follows the direct object, as in (2d) below:

(2) a. **Main bi-transitive clause:**

He gave the book to Mary

b. **Subject REL-clause (SVO):**

The man [**who** gave the book to Mary]

c. **Direct-object REL-clause (OSV):**

The book [John gave to Mary]

d. **Prepositional-object REL-clause:**

The woman [John gave the book **to**]

When the oblique object appears in an intransitive clause, the stranded preposition is a suffixed to the verb itself as a **verb clitic**, as in:

(3) a. The woman he talked-**to**

b. The boy she argued-**with**

c. The house she lived-**in**

d. The school she went-**to**

e. The town she comes-**from**

f. The road she came-**by**

g. The knife she cut-it-**with**

h. The boy she made-it-**for**

Older dialects of English, one of them still in use but considered somewhat un-colloquial, had other means of preserving the preposition, by prefixing it to the REL-pronoun/subordinator, most often a **WH-pronoun**. Thus compare, respectively:

(4) a. The woman **to**-whom he talked

b. The boy **with**-whom she argued

c. He house **in**-which she lived

d. The school **to**-which she went

e. The town **from**-which she came

f. The road **by**-which she drove

g. The knife **with**-which she cut it

h. The boy **for**-whom she made it

This strategy was already well established in written English by late-18th-Century. As an illustration, consider REL-clauses in Adam Smith's *The Theory of Moral Sentiment*. In Smith's written genre, subject REL-clauses modifying human head nouns are marked with *who*; those that modify non-human head nouns are marked with *which*, with *that* reserved to cases where the head noun is non-referring. Thus consider:[FN 2]

- (5) a. ...those faithful friends **who** interest us...
 b. ...ulcers **which** are exposed...
 c. ...some good or bad fortune **that** has befallen a person...

Direct object REL-clauses with human head nouns are marked with *whom*, and those with non-human head nouns with *which*, again alternating with *that* for non-referring head nouns, as in:

- (6) a. [hypothetical] ...the wretches **whom** they are observing... [FN 3]
 b. ...the anguish **which** humanity feels...
 c. [hypothetical] ...whatever anguish **that** humanity may feel... [FN 4]

In the vast majority of oblique REL-clauses in Smith's text, the stranded preposition is prefixed to the WH-pronoun subordinator, primarily 'whom' for human heads and *which* for inanimate heads. Thus:

- (7) a. ...those **with whom** he is angry...
 b. ...the person **in whom** we observe them...
 c. ...the man **from whom** they appear to be in such danger...
 d. ...other person **for whom** we are concerned...
 e. ...every passion **of which** the mind of man is susceptible...
 f. ...the calamities **to which** the condition of morality exposes mankind...
 g. ...the human breast, **from which** reason and philosophy will...attempt to defend it...
 h. ...situations **from which** it arises...
 i. ...in that **in which** they appear to ourselves...
 g. ...the standards and measures **by which** he judges of mine...
 k. ...that change of situation, **upon which** their sympathy is founded...

Only in a few instances does Smith employ other relativization strategies. The first one involves a transitional **hybrid construction**, with verb-stranded prepositions coexisting with the WH-pronoun subordinator, as in:

- (8) a. ...the wretches **whom** they are looking **upon**...
 b. ...one **whom** in all the passions of the heart we can entirely sympathize **with**...
 c. ...the sentiment **which** it gives occasion **to**...
 d. ...the relation **which** they stand **in**...
 e. ...our preceding experience of **what** our sentiments would commonly correspond **with**...

Example (8e) also illustrates Smith's fairly consistent use of the WH-pronoun *what* to mark **headless REL-clauses** with non-human head nouns, as in:

- (9) a. **Subject:** ...the utility of those qualities...is **what** first recommended them to us...
 b. **Direct object:** ...by conceiving **what** we ourselves should feel...
 c. **Oblique:** ...inform us **of what** he suffers...
 d. **Oblique:** ...coincide **with what** he feels...

Written 18th Century English had another, perhaps older, strategy for stranding prepositions on the REL-subordinator--suffixing them to the invariant locative WH-pronoun *where*. This pattern may have been largely phased out by the late-18th Century. Thus, in the Adam Smith text noted above, not a single example of this pattern was found. In the entire text of the *Declaration of Independence* and *Constitution of the United State*, including the first 14 amendment, only 5 examples of this pattern are found:[FN 5]

- (10) a. ...the Emoluments **whereof** shall have been encreased...
 b. ...in Witness **whereof** We have hereonto subscribed our Names...
 c. ...for crimes **whereof** the party shall have been duly convicted...
 d. ...the State **wherein** they reside...
 e. ...**whereby** the Legislative Powers...have returned to the People at large...

In contrast, the pattern employing the WH-pronouns *which/whom*, with the stranded prepositions prefixed to the pronoun, predominates in the same text, with 11 examples:

- (11) a. ...the Forms **to which** they are accustomed...
 b. ...during the Time **for which** he was elected...
 c. ...to that House **in which** it shall have originated...
 d. ...the other House, **by which** it shall likewise be considered...
 e. ...Every Order, Resolution, or Vote, **to which** the Concurrence of the Senate and House of Representative be necessary...
 f. ...two Persons, **of whom** one at least should not be an inhabitant of the same State...
 g. ...the Day **on which** they shall give their Voters...
 h. ...the Period **for which** he shall have been elected...
 i. ...the State **from which** he fled...
 j. ...the Party **to whom** such Service of Labour may be due...
 k. ...all or any **of which** articles...

In an earlier 18th Century text, published in 1732, one finds roughly an equal number of the *where*-P pattern, as in (10), and the P-*which*/P-*whom* pattern, as in (7), (11), but no example of the V-stranding pattern. What is more, the range of prepositions suffixed to *where* is much wider in this earlier text. Thus:[FN 6]

- (11) a. ...the Character **wherewith** the Jesuits make is their Business to brand me...
 b. ...the Rule **whereby** they squared their own Conduct...
 c. ...the different Conditions **wherein** I have been found...
 d. ...some of them **wherewith** I am not well acquainted...
 e. ...**whereof** I will pass on from my Life...
 f. ...**wherefore** I will pass on from my life...
 g. ...**wherefore** I only answer'd...
 h. ...the Consequences **whereof** I was entirely ignorant...
 i. ...the Consequences **whereof** I did not well apprehend...
 j. ...no doubt disturbed Father Girard's Tranquility; **wherefore**...he brought me...
 k. ...his Principles, **wherein**, since..., consisted all his Direction...
- (12) a. ...four children, **of whom** I am the youngest...
 b. ...she gave me those Instruction **of which** Children are capable...
 c. ...a Mercy **for which** I ought to thank God...
 d. ...I answer'd him....; **to which** he reply'd...
 e. ... I declared to Father Girard that...; **to which** he answer'd...
 f. ...I found myself utterly incapable of Praying; **of which** I gave an account...
 g. ...I often had fits; **during which** Father Girard never call'd any Assistance...
 h. ...that certain Things pass within our Souls,
 to which we ought never to give any Attention...
 i. ...he made me strip to my Shift, **in which** Condition he embraced me...
 j. ...although that is a Custom **from which** they never recede...
 k. ...I felt a Sort of Pain which was new to me; **after which** he help'd to dress me...

A similar transitional situation is found in Shakespeare's *Coriolanus*, ca. a century earlier, where in the first 100 pp. of the text, 3 example of the old *where-P* patterns were found:

- (13) **Where-P relativization pattern:**
 a. ...that natural competency **whereby** they live...
 b. ...for corn at their own rates; **whereof**, they say, the city is well stocked...
 c. ...rejoice in that absence **wherein** he won honors...

As against 11 examples of the *P-WH-pronoun* pattern:

- (14) **P-WH-pronoun relativization pattern:**
 a. ...Fame, **at which** he aims,
 b. **in whom** already he's well graced...
 c. ...to a cruel war I sent him; **from whence** he returned...
 d. ...seven years of health; **in which time** I will make a lip at the physician...
 e. ...the good patrician must be visited; **from whom** I received only greetings...

- f. ...doubt not the commoners, **for whom** we stand...
- g. ...the multitude; **of which** we being members, should bring ourselves to be...
- h. ...you show too much of that **for which** the people stir...
- i. ...if you will pass **to where** you are bound...
- j. ...the people, **in whose power** we were elected theirs...
- k. ...a word or two; **to which** will turn you to no further harm...

In addition, however, a transitional blend pattern has the V-stranded preposition co-existing with the WH-pronoun subordinator:

(15) **WH-pronoun & verb-stranded P:**

- a. ...d disdain the shadow **which** he treads **on** at noon...
- b. ...a kinder value of the people **that** he hath **thereto** prized them **at**...
- c. ...our then dictator, **whom** with all praise I point **at**...
- d. ...his worthy deeds did claim no less than **what** he stood **for**...
- e. ...you must inquire your way, **which** you are out **of**...
- f. ...sedition, **which** we ourselves have plough'd **for**...

In sum, the stranding of prepositions as verb-suffixes in English oblique REL-clauses developed as the latest alternative to two older patterns. In both of those, the prepositions were affixed to WH-pronouns marked, initially, for a limited range of case-roles. In the earlier pattern, the prepositions were suffixed to *where*. In the later pattern, they were prefixed to *whom* or *which*. And the new--current--pattern of verb-stranded prepositions developed in the very same functional context--where the co-referent argument inside the REL-clause is zeroed out, precipitating a case-recoverability problem (1).[FN 7]

2.2. Typological alternative to verb-stranded adpositions

As noted above, suffixing the stranded preposition to the verb is but the latest relativization strategy in English, replacing two earlier alternative patterns. The verb suffix position of the preposition is, further, a natural consequence of the VO syntax of English, where oblique objects either post-verbal and, in bi-transitive verbs, follow the direct object. In this section we will survey three alternative typological solutions to the case-role recoverability imperative (1).

2.2.1. Anaphoric pronoun-affixed preposition: Hebrew

Hebrew is a VO language where REL-clauses follow the head noun and all oblique objects, as well as the definite-accusative, are marked with prepositions. In subject REL-clauses, the case-role recoverability imperative (1) is handled by the obligatory subject pronominal agreement on the verb, available in most verbal paradigms (see chs 3 above). In direct-object REL-clauses, the same **default-zero** cum OSV-order strategy is employed as in English, with an optional anaphoric pronoun carrying the definite-accusative preposition. Thus consider:

(16) **Main-clause anaphora****REL-clause**a. **Subject**

hi ba'-a hena
she came-3sf here yesterday
 'She came here yesterday'

ha-isha **she**-ba'-a hena
 the-woman **REL**-came-3sf here
 'the woman who came here yesterday...'

b. **Direct-object**

Yo'av qana 'ot-o
 Y. bought/3sm ACC-3sm
 'Yoav bought it'

ha-sefer **she**-Yo'av qana (ot-o)
 the-book **REL**-Y. buy/PA/3s ACC-3sm
 'the book Yoav bought'

For all oblique REL-clauses, the post-verbal anaphoric pronoun carrying the preposition is obligatory. Thus consider:

(17) **Main-clause anaphora****REL-clause**a. **Dative**

Yo'av maqshiv l-a
 Yoav listens/sm to-her
 'Yoav listens to her'

ha-isha **she**-Yo'av maqshiv l-a
 the woman **REL**-Y. listens/3sm to-3sf
 'the woman Yoav listens to'

b. **Associative**

Yo'av šavad 'it-a
 Y. worked/3sm with-her
 'Yoav worked with her'

ha-'isha **she**-Yo'av šavad 'it-a
 the woman **REL**-Y. worked/3sm with-3sf
 'the woman Yoav works with'

c. **Allative**

Mira naš-a 'el-av
 M. travel-3sf to-3sm
 'Mira traveled to him'

ha-'ish **she**-Mira naš-a 'el-av
 the-man **REL**-M. drove-3sf to-3sm
 'The man Mira traveled to'

d. **Ablative**

hi' barh-a mimen-o
 she escaped/3sf from-3sm
 'Mira escaped from him'

ha-'ish **she**-hi barh-a mimen-o
 the-man **REL**-she escaped-3sf from-3sm
 'the man she escaped from'

e. **Locative**

hu' ŧipes šal-av
 he climbed/3sm on-3sm
 'he climbed on it'

ha-baytit **she**-hu ŧipes šal-av
 he-house **REL**-he climbed/3sm on-3sm
 the house he climbed on'

f. **Instrumental**

hi' ŧafra 'it-a
 'she sewed/3sf with-3sf
 'she sewed with it'

ha-mahaŧ **she**-hi ŧafra 'it-a
 the-needle **REL**-she sewed/3sf with-3sf
 'the needle she sewed with'

g. **Genitive**

hars-u	'et-ha-bayit	shel- a	ha-'isha	she -hars-u	'et-a-bayit	shel- a
ruin-3pm	ACC-the-house	of- her	the-woman	REL -ruined-3pm	ACC-the-house	of- 3sf
'they demolished her house'			'the woman whose house they demolished'			

One must note, however, that the anaphoric pronoun strategy used in Hebrew oblique-object relativization may well be just a minor variant of the verb-stranding strategy in English. This is so because the *prep-pro* compounds in (14) above bears all the marks of being **verb clitics**: They are short, de-stressed and overwhelmingly verb-adjacent. These features are obscured by the writing system. To test the feasibility of this, examples of oblique REL-clauses in A.B. Yehushua's highly colloquial part-I of the novel *Mr. Mani* were inspected. In the first 30 pp. of the novel, the *prep-pro* compounds in 10 of the 12 examples were verb-adjacent. That is:

(18) **Adjacent prep-pro in oblique REL-clauses:**

- a. ...yesh hamon zkhuyot... she-'anakhnu aflu lo' shamaʕnu **ʕaley-hem...**
 be many rights REL-we even NEG heard/1p **on-3pm**
 '...there are many benefits...we haven't heard **about...**'
- b. ...le-'avi-v,... she-hu' lo' matzliah... le-hodiaʕ **l-o...**
 to-father-3sm REL-he NEG manage/sm to-make.know **to-3sm**
 '...to his father... whom he is hasn't managed to make-known **to...**'
- c. ...l-a-rehov shel ha-'aba' shel-o, she-nikhnasti **'el-av...**
 to-the-street of the-father of-3sm REL-entered/1s **to-3sm**
 '...to his father's street, that I entered **into...**'
- d. ...ha-shrafrat ha-qatan she-ʕolim **ʕal-av...**
 the-stool the-little REL-climb/3p **on-3sm**
 '...the little stool that one climbs **on...**'
- e. ...ha-sefer ha-ze, she-hu' qore' **b-o...**
 the-book the-that REL-he read **in-3sm**
 '...that book, that he read **in...**'
- f. ...ha-shkhuna... she-hu' noseaʕ **'eley-ha...**
 the-neighborhood REL-he drive/3sm **to-3sf**
 '...the neighborhood... he is driving **to...**'
- g. ...madregot 'ahoriyot she-yordim **ba-hen...**
 stairs back REL-go.down/mp **in-3pf**
 '...back stairs that one goes down **by...**'

- h. ...misdersonot... she-mitrotsetsim **ba-hem** lovshey glimot...
 corridors REL-scurry/mp **in-3pm** wearers/of gowns
 '...corridors where gowned men scurry **in...**'
- i. ...ha-heder ha-ze, she-samu **b-o** shlosa 'arbaʕa safsalim...
 the-room the-that REL-put/3p **in-3sm** three four benches
 '...that room, where they put three four benches **in...**'
- j. ...b-a-zaqan shel-o... she-ʕadayin ka-nir'e lo' hitzliaʕ le-hiotragel **'el-av...**
 in-the-beard of-3sm REL-yet as-seems NEG succeeded/3sm to-get.used **to-3sm**
 '...in his beard... that apparently he hadn't yet got used **to...**'

The two exceptions where the *prep-pro* compound was not verb adjacent were:

- (19) a. ...ma qara ʕim-'avi-v she-ha-qesher **it-o** nutaq...
 what happened/3sm with-father-3sm REL-the-contact **with-3sm** disconnected/3sm
 '...what happened with his father **with whom** contact was lost...'
- b. ...ha-heder she-**mimen-o** zaraq **'ot-i...**
 the-room REL-**from-3sm** threw/3sm **ACC-1s**
 '...the room he threw me **from...**'

In the first (19a), the *prep-pro* compound is adjacent to the de-verbal first part of the compound predicate 'disconnect contact'. In the second (19b), the ablative *prep-pro* compound competes for verb adjacency with the accusative, which invariably wins by the hierarchic rule *dative > accusative > others*.

The strong pressure for verb adjacency of the *prep-pro* compound can be also seen, lastly, in subject REL-clauses that contain non-focal oblique objects. Thus consider:

(20) **Adjacent prep-pro in subject REL-clauses:**

- a. ...ze ma she-qara **l-i** be-yrushalayim...
 this what REL-happened/3s **to-1s** in-Jerusalem
 '...this is what happened to me in Jerusalem...'
- b. ...kol davar she-ʕover **ʕal-ay...**
 ...every thing REL-passes/sm **on-me...**
 '...everything that happens to me...'
- c. ...'ha-yoʕetset.... she-nishleʕa... le-ʕapel **b-anu...**
 the-councilor REL-was.sent/3sf to-care **in-1p**
 '...the councilor...that was sent...to care for us...'

- d. ...me-ha-pli'a ve-ha-bilbul she-naflu **ʕal-av...**
 from-the-wondering and-the-confusion REL-fell/3p **on-3sm**
 '...from the wondering and confusion that fell upon him...'
- e. ...ve-hi' gam she-hitsila **'ot-o...**
 and-she also REL-saved/3sf **ACC-3sm**
 '...and she's also the one who saved him...'
- f. ...sherut ha-milu'im she-mehake **l-o...**
 service/of the-reserves REL-wating/sm **to-3sm**
 '...the reserve service that is awaiting him...'
- g. ...shtey zqenot qtanot sfaradiyot... she-ba'u le-nahem **'ot-o...**
 two old/fp tiny/fp Spanish/fp REL-came/3p to-console **ACC-3sm**
 '...two little old Spanish ladies that came to console him...'
- h. ...gam lo'-mudaʕ nosaf, she-meshabesh **'ot-o...**
 also NEG-known added/sm REL-confuse/sm **ACC-3sm**
 '...another unconscious (thing) that messes him up...'

2.2.2. Post-positions affixed to the REL-subordinator: Ute

Ute REL-clauses are historically nominalized, with the verb marked by either one of two suffixes, distinguish between subject and object nominalization. Thus consider:[FN 8]

(21) a. **Main clause:**

'áapacḥi ṭakuavi ṭaka-qha
 boy/S meat/O eat-PA
 'the boy ate the meat'

b. **Subject nominalization (headless REL-clause):**

ṭakuavi ṭaka-qha-**ṭu**
 meat/O eat-PA-**NOM**
 'the meat eater', 'the one who ate the meat'

c. **Subject REL-clause:**

'áapacḥi 'u ṭakuavi ṭaka-qha-**ṭu**
 boy/S the/S meat/O eat-PA-**NOM**
 'the boy who ate the meat' (hist.: 'the boy eater of the meat')

d. **Object nominalization (headless REL-clause):**

'áapachi 'uway ṭaka-qha-**na**
 boy/G the/G eat-PA-**NOM**
 'what the boy ate', lit. 'the boy's eating'

e. **Object REL-clause:**

takuavi 'uru 'áapachi 'uway tuka-qha-**na**
 meat/S the/S boy/G the/G eat-PA-**NOM**
 'the meat that the boy ate' (hist.: 'the meat of the boy's eating')

In oblique-object REL-clauses, the same object-nominalizing suffix *-na* is used as in (21d,e) above. To solve our functional imperative (1), stranded post-positions are suffixed to an invariant 'carrier' morpheme *pH-*, historically a reduction of the inanimate WH-pronoun *'ipH* 'what?'. Thus consider:

(22) a. **Main clause--locative**

takuavi tuka'napu-**vwan** wachuka
 meat/S table/O-**on** be/IMM
 'the meat is on the table'

b. **REL-clause:**

tuka'napu 'uru pu-**vwan** takuavi 'uru wachuka-**na**
 table/S the/S REL-**on** meat/G the/G be-**NOM**
 'the table on which the meat is' (hist.: 'the table of the book's being on')

c. **Main clause--allative (inanimate):**

mamachi kani-**vee-tu** puni'ni-kya
 woman/S house/O-**at-DIR** look-PA
 'the woman looked at the house'

d. **REL-clause:**

kani 'uru pu-**vaa-tu** mamachi 'uway puni'ni-kya-**na**
 house/S the/S REL-**at-DIR** woman/G the/G looke-PA-**NOM**
 'the house the woman looked at' (hist.: 'the house of the woman's looking at')

e. **Main clause--dative (animate):**

'áapachi mamachi-**vee-chu** 'apagha-qa
 boy/S woman/O-**at-DIR** talk-PA
 'the boy talked to the woman'

f. **Rel-clause:**

mamachi 'u pu-**vaa-chu** 'áapachi 'uway 'apagha-qa-**na**
 woman/S the/S REL-**at-DIR** boy/G the/G talk-PA-**NOM**
 'the woman that the boy talked to' (hist.: 'the woman of the boy's talking to')

g. **Main clause--associative:**

mamachi 'áapachi-**wa** wúuka-qa
 woman/S boy/O-**with** work-PA
 'the woman worked with the boy'

h. **REL-clause:**

'áapachi 'u pu-**wa** mamachi 'uway wúuka-qa-**na**
 boy/S the/S REL-**with** woman/G the/G work-PA-**NOM**
 'the boy that the woman worked with' (hist.: 'the boy of the woman's working with')

i. **Main clause--instrumental:**

'áapachi wiichi-**m** tukuavi chaqhavi'na-qa
 boy/S knife-**with** meat/O cut-PA
 'the boy cut the meat with a knife'

j. **REL-clause:**

wiichi 'uru **pH-m** 'áapachi 'uway tukuavi chaqhavi'na-qa-**na**
 knife/S the/S REL-**with** boy/G the/G meat/O cut-PA-**NOM**
 'the knife that the boy cut the meat with'
 (hist.: 'the knife of the boy's cutting the meat with')

The Ute strategy of suffixing the stranded post-positions to an invariant REL-subordinator is essentially the same as the older English strategy of suffixing prepositions to the invariant WH-pronoun *where*. Indeed, historically the subordinator *pH-* is probably a shortened version of the inanimate WH-pronoun *'ipH* 'what?'

2.2.3. **Case-marked REL-pronouns and stranded prepositions: German**

In German, case-inflected demonstrative pronouns were recruited to act as REL-pronouns ('subordinators'), first via the **Y-movement** ('emphatic topicalization') construction used in non-restrictive REL-clauses, which were then converted to restrictive REL-clauses. Thus:[FN 9]

(23) a. **Simple clause:**

Martin hat **dem** Mann **das** Buch gegeben
 M. has **the/DAT** man **the/ACC** book given
 'Martin gave the book to the man'.

b. **Y-movement clause–NOM:**

DER hat das Buch dem Mann gegeben
THAT/NOM has the/ACC book the/DAT man given
 'That one gave the book to the man'.

c. **Y-movement clause-ACC:**

DAS hat Martin dem Mann gegeben
THAT/ACC has Martin the/DAT man given
 'That one Martin gave to the Man'.

d. **Y-movement-DAT:**

DEM hat Martin das Buch gegeben
THAT/DAT has Martin the/ACC book given
 'To that one Martin gave the book'.

(24) **Non-restrictive (parenthetical) REL-clauses:**a. **Nominative:**

Ich kenne die Frau, **DIE** hat dem Mann das Buch gegeben.

I know the woman, **THAT/NOM** has the/DAT man the/ACC book given

'I know the woman, the one who gave the book to the man'.

(Hist.: 'I know the woman. *that one* gave the book to the man').

b. **Accusative:**

Ich kenne das Buch, **DAS** hat Martin dem Mann gegeben.

I know the book, **THAT/ACC** has Martin the/DAT man given

'I know the book, the one that Martin gave to the man'.

(Hist.: 'I know the book. *That one* Martin gave to the man').

c. **Dative:**

Ich kenne den Mann, **DEM** hat Martin das Buch gegeben.

I know the/ACC man, **THAT/DAT** has Martin the/ACC book given

'I know the man, the one that Martin gave the book to'.

(Hist.: 'I know the man. *That one* Martin gave the book to').

(25) **Restrictive REL-clauses:**a. **Nominative:**

Ich kenne die Frau **die** dem Mann das Buch gegeben hat.

I know the woman **that/NOM** the/DAT man the/ACC book given has

'I know the woman who gave the book to the man'.

b. **Accusative:**

Ich kenne das Buch **das** Martin dem Mann gegeben hat.

I know the book **that/ACC** Martin the/DAT man given has

I know the book that Martin gave to the man'.

c. **Dative:**

Ich kenne den Mann **dem** Martin das Buch gegeben hat

I know the/ACC man **that/DAT** Martin the/ACC book given has

'I know the man to whom Martin gave the book'.

German demonstrative pronouns, however, are marked for only a restricted range of case-roles (nominative, accusative, dative, genitive). And German has over the years developed many prepositions to mark more finely nuanced case-roles. In REL-clauses those prepositions, now stranded due to the zeroing of the co-referent argument, are **prefixed** to the demonstrative subordinator, enriching its case-marking range the same way they enriched the WH-pronoun subordinators in earlier dialects of English. Thus (Bernd Heine, i.p.c):

(26) a. **Instrumental (main clause):**

Der Junge hat das Fleisch **mit** einem Messer geschnitten.

the boy has the meat **with** a knife cut.

'The boy cut the meat with a knife'

b. **Instrumental (REL-clause):**

Das Messer **mit dem** der Junge das Fleisch geschnitten hat.

the knife **with that/DAT** the boy the meat cut has

'the knife the boy cut the meat with'

c. **Associative (main clause):**

Die Frau hat **mit** dem Jungen gearbeitet.

the woman has **with** the boy worked

'The woman worked with the boy'

d. **Associative (REL-clause):**

Der Junge **mit dem** die Frau arbeitet hat

the boy **with that/DAT** the woman worked has

'the boy the woman worked with'

e. **Locative (main clause):**

Der Junge legte das Buch **auf** den Tisch

the boy put the book **on** the table

'The boy put the book on the table (locative)'

f. **Locative (REL-clause):**

Der Tisch **auf den** der Junge das Buch legte

the table **on that/ACC** the boy the book put

'the table the boy put the book on'

g. **Benefactive (main clause):**

Der Junge sang **für** die Frau

the boy sang **for** the woman

'The boy sang for the woman'

h. **Benefactive (REL-clause):**

Die Frau **für die** der Junge sang

the woman **for that** the boy sang

'the woman the boy sang for'

In spoken Southern German dialects (Bavaria, Austria), the case-marked demonstrative pronouns have been conflated into one invariant WH-pronoun--now REL-subordinator--*wo* 'where'. This new subordinator then takes over as the carrier for the stranded prepositions--this time as **suffixes**, much like the older English pattern with the invariant *where*. This pattern is used for at least some inanimate prepositions, as in the instrumental (Bernd Heine, i.p.c.):

(27) Das Messer **wo-mit** der Junge das Fleisch geschnitten hat.

the knife REL-**with** the boy the meat cut has

'the knife the boy cut the meat with'

2.2.4. Piggy-backing on an applicative promotional system: KinyaRwanda

KinyaRwanda, a Lake-Bantu language, has an applicative system via which various oblique objects can be promoted to direct-objecthood, leaving their preposition stranded--since direct-objects in Bantu, much like in English, are morphologically unmarked. Having been tossed off their original nominal perch, the stranded prepositions suffix themselves to the verb--given their post-verbal position in a VO language. Thus (Kimenyi 1976):

(28) Dative-benefactive (obligatory promotion):

a. *DO = patient:

*Yohani y-ooher-eje ibaruwa **ku**-Maria
John 3s-send-ASP letter **DAT**-Mary

b. DO = dative-benefactive:

Yohani y-ooher-**er**-eje Maria ibaruwa
John 3s-send-**BEN**-ASP Mary letter
'John sent Mary a letter'

(29) Locative 'to':

a. DO = patient:

umugore y-ooher-eje umubooyi **ku**-isoko
woman she-send-ASP cook **LOC**-market
'The woman sent the cook to the market'

b. DO = locative:

umugore y-ooher-**eke-ho** isoko umubooyi [FN 10]
woman 3s-send-ASP-**LOC** market cook
'The woman sent to the market the cook'

(30) Locative 'in':

a. DO = patient

umugore y-ooher-eje umubooyi **mu**-isoko
woman she-send-ASP cook **LOC**-market
'The woman sent the cook into the market'

b. DO = locative:

umugore y-ooher-**eke-mo** isoko umubooyi [FN 11]
woman 3s-send-ASP-**LOC** market cook
'The woman sent into the market the cook'

(31) **Instrument:**a. **DO = patient:**

umugabo ya-tem-eje igiti **n(i)**-umupaanga
 man 3s-cut-ASP tree **INSTR**-saw
 'The man cut the tree with a saw'

b. **DO = instrument:**

umugabo ya-tem-ej-**eesha** umupaanga igiti
 man 3s-cut-ASP-**INSTR** saw tree
 'The man used the saw to cut the tree'

(32) **Manner:**a. **DO = patient:**

Maria ya-tets-e inkoko **n(a)**-agahiinda
 Mary 3s-cook-ASP chicken **MANN**-sorrow
 'Mary cooked the chicken with regret'

b. **DO = manner:**

Maria 3s-tek-**an**-ye agahiinda inkoko
 Mary she-cook-**MANN**-ASP sorrow chicken
 'Mary with regret cooked the chicken'

(33) **Associative:**a. **DO = patient:**

umuhuungu ya-riimb-jye ururiimbi **na**-umugore
 boy 3s-sing-ASP song **ASSOC**-woman
 'The boy sang the song with the woman'

b. **DO = associative:**

umuhuungu ya-riimb-**an**-ye umugore ururiimbi
 boy 3s-sing-**ASSOC**-ASP woman song
 'The boy sang with the woman a song'

As the reader may note, in only two locative cases, (29) and (30) above, does the actual preposition (*ku-*, *mu-*, respectively) become suffixed to the verb, augmented with the vowel *-o*. In another case, the associative (33), the verb suffix *-an-* is a reflex of the preposition *na-* 'with'. This is clearer in other core-Bantu language, as in Bemba:[FN 12]

(34) a. **Transitive:**

umuana a-a-mona umukashi
 child 3s-PA-see woman
 'the child saw the woman'

b. **Reciprocal:**

umuana **na**-umukashi ba-a-mona-**na**
 child **and**-woman 3p-PA-see-**REC**
 'the child and the woman saw each other'

c. **Intransitive:**

umuana a-a-bomba **na**-umukashi
 child 3s-PA-work **with**-woman
 'the child worked with the woman'

d. **Joint action:**

umuana **na**-umukashi ba-a-bomba-**na**
 child **and**-woman 3p-PA-work-**REC**
 'the child and the woman worked together'

In all the other cases, Rwanda recruits well-known Bantu verb suffixes ('verb extensions')[**FN 13**] to code the case-role of the lost preposition--the *applicative-benefactive* in (28), the *causative* in (31), and the *associative* in (32) and (33), above.

The REL-clause system of KinyaRwanda piggy-backed on the applicative system described above, by imposing a relational constraint on relativization: **only direct-objects** can be the focus--co-referent zeroed-out argument--of object REL-clauses. This constraint automatically strands the case-marker of zeroed-out argument on the verb, much like stranded prepositions in English.

In subject and patient-DO REL-clauses, no verb-coding is needed, and a word-order strategy similar to that of English is used:

- S-V(-O) = subject REL-clause
- O-S-V = object REL-clause

Thus consider (Kimenyi 1976):

(35) a. **Simple main clause:**

umugabo ya-mon-e abagore
 man 3s-see-ASP women
 'the man saw the women'

b. **Subject REL-clause:**

umugabo **u**-a-kubis-e abagore
 man **3s/REL**-PA-hit-ASP women
 'the man who hit the women'

c. **Patient-DO REL-clause:**

abagore umugabo y-a-mon-e
 women man 3s-PAST-hit-ASP
 'the women that the man saw'

In oblique object relativization, the object must be promoted to DO, and thus gains verb-coding of its case-role. Thus compare (28)-(33) above to, respectively:

(36) a. **Dative-benefactive:**

umugore Yohani y-ooher-**er**-eje ibaruwa
 woman John 3s-send-**BEN**-ASP letter
 'the woman that John sent the letter to'

b. **Allative:**

isoko umugore y-ooher-eje-**ho** umubooyi
 market woman 3s-send-ASP-**LOC** cook
 'the market the woman sent the cook to'

c. **Ingressive:**

isoko umugore y-ooher-eje-**mo** umubooyi
 market woman she-send-ASP cook
 'the market that the woman sent the cook into'

d. **Instrumental:**

umupaanga umugabo ya-tem-ej-**eesha** igiti
 saw man 3s-cut-ASP-**INSTR** tree
 'the saw the man cut the tree with'

e. **Manner:**

agahiinda Maria ya-tek-**an**-ye inkoko
 sorrow Mary 3s-cook-**MANN**-ASP chicken
 'the regret with which Mary cooked the chicken'

f. **Associative REL-clause:**

umugore umuhuungu ya-riimb-**an**-ye ururiimbi
 woman boy 3s-sing-**ASSOC**-ASP song
 'the woman with whom the boy sang the song...'

In sum, the stranding of adpositions on verbs in REL-clauses is neither a functional mystery nor a typological white swan. Rather, it is one of the alternative typological means by which languages respond to the very same functional imperative (1)--preserving the case-marking of the zeroed-out argument in complex syntactic environments. And since grammaticalized case-markers tend to be bound morphemes, they cliticize to whatever stressed word that is adjacent and available.

3. Stranded adpositions in WH-questions

3.1. Verb-stranded prepositions in English

At first blush, WH-questions seem to not involve the zeroing-out of arguments, but strictly speaking **pronominal replacement**. One could of course indulge in a formal quibble, splitting replacement into two steps--'deletion' and 'reinstatement' at a new location. A complex diachronic argument could also be raised, suggesting that WH-question are historically derived from cleft-focus clauses, which in turn involve REL-clause structure. On occasion, a language can be caught at the point where the chain of evidence for this complex diachronic development of is still visible. This can be seen in Kihungan, a Western Bantu language. Thus consider (Takizala 1972):

(37) a. **Simple main clause:**

kipes ka-swiim-in kit
 K. 3s-buy-PA chair
 'Kipes bought a chair'

b. **Object REL-clause:**

kit ki a-swiim-im Kipes
 chair that 3s/REL-buy-PA K.
 'the chair that Kipes bought'

c. **Paratactic cleft-focus:**

kwe kít, kiim ki a-swiim-in Kipes
 be chair thing DEM 3s/REL-buy-PA K.
 'It's *a chair*, the thing that Kipes bought'

d. **Partially-simplified paratactic cleft-focus:**

kwe kít, ki a-swiim-in Kipes
 be chair DEM 3s/REL-buy-PA K.
 'It's a chair, what Kipes bought'

e. **Syntactic cleft-focus:**

kwe kít ki a-swiim-in Kipes
 be chair that 3s/REL-buy-PA K.
 'It's *a chair* that Kipes bought'

f. **Paratactic WH-question:**

kwe khí, kiim ki a-swiim-in Kipes?
 be what thing DEM 3s/REL-buy-PA K.
 'It's *what*, the thing that Kipes bought?'

g. **Simplified paratactic WH-question:**

kwe khí, ki a-swiim-in Kipes?
 be what DEM 3s/REL-buy-PA K.
 'It's *what?* what Kipes bought?'

h. **Semi-syntactic WH-question:**

kwe khí ki a-swiim-in Kipes?
 be what that 3s/REL-buy-PA K.
 'It's *what* that Kipes bought?'

i. **Syntactic WH-question:**

khí Kipes ka-swiim-in?
 what Kipes 3s-buy-PA
 'What did Kipes buy?'

The canonical SVO order of Kihungan is seen only in the main clause (37a) and the fully simplified WH-question (37i), as does the use of the main-clause subject-agreement pronoun *ka-*. All other construction in (37) display the OVS ('subject post-posing') word-order characteristic of object REL-clauses, as well as the REL-clause subject-agreement pronoun *a-*. Both of these features bear witness to the complex diachronic origin of the syntactically simplified WH-question (37i).

Diachronic source aside, WH-questions share the functional problem (1) of zeroed-out arguments of REL-clause: By replacing the original nominal with a WH-pronoun and then fronting it, a **case-recoverability** problem arises. Case-inflected WH-pronouns take care of part of the problem, but English is a good example of how the inventory of case-marking prepositions soon outstrips the inventory of case-inflected WH-pronouns. So how should those more-specific preposition be preserved? The solution in current idiomatic English is to suffix them to the verb. Thus compare:

(38) case-role	main clause	WH-question
a. Subject:	She did it	Who did it?
b. DO/AN.:	She saw him	Who(m) did she see?
c. DO/INAN.:	She saw it	What did she see?
d. Manner:	She did it this way	How did she do it?
e. Time:	She did it yesterday	When did she do it?
f. Vague-LOC:	She was at home	Where was she?

g. Specific-LOC:	She went to Houston	Where did she go- to ?
h.	She comes from Houston	Where does she come- from ?
i.	She went into the house	Which house did she go- into ?
j.	She majored in math	What did she major- in ?
k.	She fell out of her bed	Which bed did she fall- out-of ?
l. Reason:	She did-it for a lark	What/why did she do-it- for ?[FN 14]
m. Purpose:	She dances for tips	What does she dance- for ?
n. Benefactive:	She preened for Joe	Who did she preen- for ?
o. Instrumental:	She cut it with a shovel	What did she cut-it- with ?[FN 15]
p. Associative:	She slept with Joe	Who did she sleep- with ?

In all instances of verb-stranded preposition (38g-p) above, the WH-pronoun lacks case-role specificity, and the stranded preposition is then pressed into service. And as in REL-clauses, earlier above, it is the VO word-order of English that dictate the post-verbal position of the stranded preposition. To illustrate this, consider the rather minuscule sample of oblique WH-questions in the entire text of Shakespeare's *Coriolanus*, given in (39) below. The first of those, (39a), is reminiscent of the transitional blend pattern found in REL-clauses, above, presaging the later verb-stranding of prepositions. The second (39b) recapitulates another REL-clause pattern.[FN 16]

(39) **Oblique WH-questions in *Coriolanus***

a. **Prefixed prepositions:**

...**In what** enormity is Marcius poor **in**, what you two have not in abundance?...?

...**From whence?** From Rome...

b. **Suffixed prepositions:**

...**Wherefore?** **Wherefore?**...

3.2. Stranding adpositions on WH-pronoun

3.2.1. Ute

Ute has a large array of WH-pronoun, marking animacy, number, referentiality and case-role contrasts. If the WH-pronoun is fronted, it is quite natural to express the rest of the clause as a nominalized cleft structure, i.e. a REL-clause, (see (16) above). This is reminiscent of the Kihgungan situation in(37) above. Thus consider:[FN 17]

(40) Declarative	WH-question
=====	=====
a. Subject (an.): 'áapachĭ tǎkuavi tǎka-qha boy/S meat/O eat-PA 'the boy ate the meat'	'áa-'ara tǎkuavi tǎka-qha-tǔ? WH/AN/S -be meat/O eat-PA-NOM 'who ate the meat?'
b. Subject (inan.): 'aghochĭ qopoqhĭ-kya dish break-PA 'the dish broke'	'ípǔ-'ara qopoqhĭ-kya-tǔ? WH/INAN/S -be break-PA-NOM 'What broke?'
c. Object (inan): -----	'ípǔ-a-'ara 'áapachi tǎka-qha-na? WH/INAN-O -be boy/G eat-PA-NOM 'what did the boy eat?'
d. Object (an.): 'áapachĭ mamachi pǔnikya-qha boy/S woman/O see-PA 'The boy saw the woman'	'áa-y-'ara 'áapachi pǔnikya-qha-na? WH/AN-O -be boy/G see-PA-NOM? 'Who did the boy see?'

In oblique-object questions, the WH pronoun must carry the post-position originally belonging to the zeroed-out noun. When the WH-pronoun is placed after the subject, in a pre-verbal position, it is more natural to express the rest of the clause as a finite main clause. Thus:[FN 18]

(41) Declarative	WH-question
=====	=====
a. Locative (vague): mamachĭ kani- vee 'uni'ni woman/S house- at be/IMM 'The woman is at the house'	mamachĭ ' aghaa -va 'uni'ni? woman/S WH/INAN-at be/IMM 'Where is the woman?'

b. **Locative (on):**

tukuav_i tuka'napu-**vwan** wachuka
meat/S table/O-**on** be/IMM
'the meat is on the table'

tukuav_i 'aghaa-**van** wachuka
meat/S WH/INAN-**on** be/IMM
'Where-on is the meat?'

c. **Allative:**

mamachi kani-**vee-tukh** pagay-'way
woman/S house/S-at-to walk-IMM
'The woman is walking to the house'

mamachi 'agha -**vaa-tukh** paghay-'way?
woman/S WH/INAN-**at-to** walk-IMM
'Where-to is the woman walking?'

d. **Ablative:**

kani-**vee-tu-mana-kway** paghy-'way
house/O-at-DIR-leave-go walk-IMM
'(s/e) is walking from the house'

'agha-**vaa-tu-mana-kway** paghay-'way?
WH/INAN-**at-DIR-leave-go** walk-IMM
'Where-from is (s/he) walking?'

e. **Directional/dative:**

mamachi-**vee-chu** 'apagha-y
woman/O-**at-DIR** talk-IMM
'(s/he) talked to the woman'

'áay-**vee-chu** 'apagha-y?
WH/AN-O-**at-DIR** talk-IMM
'Who is (s/he) talking to?'

g. **Associative:**

'áapachi-**wa** wúuka-qha
woman/S boy/O-**with** work-PA
'(s/he) worked with the boy'

'áa-y-**wa** wúuka-qha?
WH/AN-O-**with** work-PA
'Who did (s/he) work with?'

i. **Instrumental:**

wiichi-**m** tukuavi chaqhavi'na-qa
knife-**with** meat/O cut-PA
'the boy cut the meat with a knife'

'ip_u-**m** tukuavi chaqhavi'na-qa?
WH/INAN/O-**with** meat/O cut-PA
'What did (s/he) cut the meat with?'

3.2.2. **Hebrew, Spanish**

A similar strategy of affixing the adpositions--in this case prepositions--to the WH-pronoun is found in Hebrew:

(42) **Declarative**a. **Accusative**

ra'-iti 'ot-a sham
saw/1s ACC-3sf there
'he saw her'

b. **Dative**

hi' amr-a l-o 'et-ze
she told-3sf to-3sm ACC-it
'she told it to him'

WH-question

'et-mi ra'-ita sham?
ACC-who saw-2sm there
'what did he see'

le-mi hi' amra 'et-ze?
to-who she told-3sf ACC-it
'who did she tell it to?'

c. **Locative**

hu' yashav **ʕal-ze**
 he sat/3sf-it **on-it**
 'he was sitting on it'

ʕal-ma hu' yashav?
on-what he sat/3sm
 'what was he sitting on?'

d. **Associative**

hi' ʕoved-et **'it-it**
 she work-sf **with-3pm**
 'she works with them'

ʕim-mi hi' ʕoved-et?
with-who she work-sf
 'who does she work with?'

e. **Instrumental**

hatax-ti 'et-ze **b-a-sakin**
 cut-1s ACC-it **with-the-knife**
 'I cut it with a knife'

be-ma hatax-ta 'et-ze?
with-what cut-2sm ACC-it
 'what did you cut it with?'

The same pattern is seen in Spanish, again with prepositions:

(43) **Declarative****WH-question**a. **Human-accusative**

vi **a** mi mamá
 saw/1s **ACC/AN** my mother
 'I saw my mother'

a quien viste?
ACC/AN who saw/2s
 'who did you see?'

b. **Dative**

se lo dijo **a** Juan
 DAT it told/3s **DAT J.**
 's/he told it to Juan'

a quien se lo dijo?
DAT who **DAT** it told/3s
 'who did s/he tell it to?'

c. **Locative**

vinieron **de** Madrid
 came/3p **from** Madrid
 'they came from the house'

de donde vinieron?
 from where came/3p
 'where did they come from?'

d. **Associative**

trabajaba **con** sus hijos
 work/IMPF/3s with her/his sons
 's/he worked with her/his sons'

con quien trabajaba?
with who work/IMPFV/3s
 'who did s/he work with?'

e. **Instrumental**

lo cortó **con** el machete
 it cut/3s with the machete
 's/he cut it with the machete'

con qué lo cortó?
with what it cut/3s
 'what did s/he cut it with?'

Why Ute, Hebrew and Spanish have persisted with affixing the stranded adpositions to the WH-pronoun while English changed--between Shakespear's time and the present--to verb-stranded prepositions, remains for the moment an open question.

3.3.3. German

In standard German, the prepositions are prefixed to the WH-pronoun, as in Hebrew and Spanish. Thus (Werner Heiber, i.p.c.):

(44) a. **Declarative clause:**

Martin hat **dem** Mann **das** Buch gegeben
 M. has **the/DAT** man **the/ACC** book given
 'Martin gave the book to the man'.

b. **Nominative WH-Q:**

Wer hat dem Mann das Buch gegeben?
who/NOM has the/DAT man the book given
 'Who gave the book to the man?'

c. **Accusative WH-Q (inanimate):**

Wass hat Martin dem Mann gegeben?
what has M. the/DAT man given
 'What did Martin give the man?'

d. **Accusative WH-Q (human):**

Wen hat Martin gesehen?
who/ACC has M. seen
 'Who did Martin see?'

e. **Dative WH-Q**

(zu)-wem hat Martin das Buch gegeben?
to-who/DAT has M. the book given
 'Who did Martin give the book to?'

f. **Instrumental, declarative:**

Der Junge hat das Fleisch **mit** einem Messer geschnitten.
 the boy has the meat **with** a knife cut.
 'The boy cut the meat with a knife'

g. **Instrumental WH-Q:**

Mit-wass hat der Junge das Fleisch geschnitten?
with-what has the boy the meat cut
 'What has the boy cut the meat with?'

h. **Associative, declarative:**

Die Frau hat **mit** dem Jungen gearbeitet.
 the woman has **with** the/DAT boy worked
 'The woman worked with the boy'

i. **Associative WH-Q:**

mit-wem hat die Frau gearbeitet?
 with-who/DAT has the woman worked
 'Who did the woman work with?'

- j. **Benefactive, declarative:**
 Der Junge sang **für** die Frau
 the boy sang **for** the woman
 'The boy sang for the woman'
- k. **Benefactive, WH-Q:**
für-wem hat der Jungen gesungen?
for-who/DAT has the boy sung
 'Who did the boy sing for'
- l. **Locative ('on'), declarative:**
 Der Junge legte das Buch **auf** den Tisch
 the boy put the book **on** the table
 'The boy put the book on the table (locative)'
- m. **Locative (non-specific), WH-Q:**
Wo hat der Junge das Buch gelegt?
where has the boy the book put
 'Where did the boy put the book?'
- n. **Locative (specific), WH-Q:**
Auf-wass hat der Junge das Buch gelegt?
on-what has the boy the book put
 'What did the boy put the book on?'
- o. **Locative ('in'), declarative:**
 Der Junge sitzt **im** Zimmer
 the boy sits **in** room
 'The boy is sitting in the room'
- p. **Locative (specific), WH-Q:**
im-welchem zimmer zitzt der Junge?
in-which/DAT room sits the boy
 'In which room is the boy sitting?'

Finally, in spoken So. German dialects (Bavaria, Austria), one finds at least some examples where the preposition is **suffixed** to the variant subordinator *wo* 'where', as in REL-clause. Thus (Bernd Heine, i.p.c.):

- (45) a. **Instrumental, declarative:**
 a. Der Junge hat das Fleisch **mit** der Messer geschnitten
 The boy has the meat **with** the knife cut
 'The boy cut the meat with the knife'
- b. **Instrumental, REL-clause:**
 Das Messer **wo-mit** der Junge das Fleisch geschnitten hat.
 the knife **WH-with** the boy the meat cut has
 'the knife the boy cut the meat with'

c. **Instrumental, WH-question:**

Wo-mit hat der Junge das Fleisch geschnitten?
 where-with the boy the meat cut
 'What did the boy cut the meat with?'

This pattern is identical to the older English pattern in both REL-clauses and WH-questions (see above).

4. Stranded adpositions in passive clauses

4.1. Preamble: Passive voice

The passive is one of the three main **de-transitive voice** construction, all of which can be defined functionally in terms of the relative topicality of the main clausal arguments:[FN 19]

(46) **Topicality and voice:**

- a. **Active:** AGT > PAT (default norm)
- b. **Inverse:** PAT > AGT (mild demotion of agent)
- b. **Passive:** PAT >> AGT (radical demotion of agent)
- d. **Antipassive:** AGT >> PAT (radical demotion of patient)

A more fine-grained definition of the passive-voice clause is (Shibatani 1985):[FN 20]

(47) **Functional definition of passive voice**

- a. In the passive-voice the subject/agent of the active is radically de-topicalized, most commonly by complete deletion.
- b. One of the remaining arguments then assumes the role of topic of the passive clause, whether by default or by explicit syntactic promotion to subjecthood.

The most general syntactic-typological feature of passives divides them into **promotional** vs. **non-promotional** passives. That is:[FN 21]

(48) **Major typological division of passives**

- a. **Non-promotional passive:**
 The topic-of-passive argument retains the same syntactic case-role as in the active.
- b. **Promotional passive:**
 The topic-of-passive argument assumes the subject/nominative. case-role.

4.2. Non-promotional passive

It should be immediately obvious that non-promotional passives bypass our functional imperative (1), the original functional impetus for stranded adpositions--since all surviving

arguments in such agent-deletion passives retain their original case marking. As an illustration of this, consider the Ute impersonal passive.[FN 22]

(49)	active	passive
a.	Transitive: 'áapachĭ t̩kuavi t̩ka-qha boy/S meat/O eat-PA 'the boy ate the meat'	t̩kuavi t̩ka- ta -qha meat/O eat- PASS -PA 'the meat was eaten', someone ate the meat'
b.	Intransitive: mamachĭ wii-kya woman/S dance-PA 'the woman danced'	wii- ta -qha dance- PASS -PA 'someone danced'
c.	Intransitive: mamachĭ 'áapachi- vee-chu p̩ni'nĭ-kya woman/S boy/O- at-DIR look-PA 'the woman looked at the boy'	'áapachi- vee-chu p̩nin'nĭ- ta -qha boy/O- at-DIR look- PASS -PA 'someone looked at the boy'
d.	Intransitive: 'áapachi-ukh wiichi- m chaqhavi'na-qha boy/S-it knife/O- with cut-PA 'the boy cut it with a knife'	wiichi- m -ukh chaqhavi'na- ta -qha knife/O- with -it cut- PASS -PA 'someone cut it with a knife'
e.	Intransitive: mamachĭ na'achichi- wa wii-kya woman/S girl/O- with dance-PA 'the woman danced with the girl'	na'achichi- wa wii- ta -qha girl/O- with dance- PASS -PA 'someone danced with the girl'

When the corresponding active clause is bi-transitive, either the patient/direct-object or oblique/post-positional argument may be the topic-of-passive, pending on word-order. Thus compare:

- (50) a. **Active:**
mamachĭ wiichi t̩ka'nap̩-**vwan** wach̩-ka
woman/S knife/O table/O-**on** put-PA
'the woman put the knife on the table'
- b. **Passive--DO topic:**
wiichi t̩ka'nap̩-**vwan** wach̩-**ta**-qha
knife/O table/O-**on** put-**PASS**-PA
'the knife was put on the table'
- c. **Passive-IO topic:**
t̩ka'nap̩-**vwan** wiichi wach̩-**ta**-qha
table/O-on knife/O put-**PASS**-PA
'on the table someone put a knife'

Languages with promotional passives that allow an extensive range of non-patient objects to become the subject of the passive are, invariably, those that have an extensive promotion-to-DO mechanisms--with verb-coding of the semantic role of the non-patient DO on the verb. As in the case of relativization, promotion-to-DO is then coupled to passivization. As an example, consider again, KinyaRwanda (Kimenyi 1976):

(57) a. **Active, DO = dative-benefactive:**

Yohani y-ooher-er-eje Maria ibaruwa
 John 3s-send-BEN-ASP Mary letter
 'John sent Mary a letter'

b. **Passive:**

Maria y-ooher-er-ej-we ibaruwa
 M. 3s-send-BEN-ASP-PASS letter
 'Mary was sent a letter' **Allative:**

c. **Active, DO = allative:**

umugore y-ooher-eke-ho isoko umubooyi
 woman 3s-send-ASP-LOC market cook
 'The woman sent to the market the cook'

c. **Active, DO = ingressive:**

umugore y-ooher-eke-mo isoko umubooyi
 woman 3s-send-ASP-LOC market cook
 'The woman sent the cook into the market the cook'

d. **Passive:**

isoko ry-ooher-ej-we-ho umubuyi
 market 3s-send-ASP-PASS-LOC
 'The marked was sent-to the cook'

e. **Active, DO = instrument:**

umugabo ya-tem-ej-eesha umupaanga igiti
 man 3s-cut-ASP-INSTR saw tree
 'The man used the saw to cut the tree'

f. **Passive:**

umupanga wa-tem-ej-esh-wa igiti
 saw 3s-cut-ASP-CAUS-PASS tree
 'The saw was used to cut the tree'

g. **Active, DO = manner:**

Maria ya-tek-an-ye agahiinda inkoko
 Mary she-cook-MANN-ASP sorrow chicken
 'Mary with regret cooked the chicken'

h. **Passive:**

agahiinda ga-tek-**an-ye-we** inkoko
 sorrow 3s-cook-**MANN-ASP-PASS** chicken
 'Regret was used to cook the chicken'

i. **Active, DO = associative:**

umuhuungu ya-riimb-**an-ye** umugore ururiimbi
 boy 3s-sing-**ASSOC-ASP** woman song
 'The boy sang with the woman a song'

j. **Passive:**

umugore ya-riimb-**an-ye-we** ururiimbi
 woman 3s-sing-**ASSOC-ASP-PASS** song
 'the woman was sung-with a song'

A more extensive system of coupling the verb-coding of case-roles with passivization can be seen in Philippine languages. A somewhat more restricted system, reminiscent of Kinyarwanda, is found in Indonesian.[FN 25]

5. **Y-movement**

My previous impression had been that **Y-movement** ('contrastive topicalization') in English--unlike **L-dislocation**--involves the fronting (and stressing) of the entire NP or PP, including the preposition, as in, e.g.:

- (58) a. To *him* I gave a sandwich, to *her* (I gave) a burrito.
 b. With *Joe* I had coffee, with *Bill* (I had) a beer.

That is, until one encounters this lone example in Shakespeare's *Coriolanus* of Y-movement with a verb-stranded preposition:

- (59) ...Coriolanus he would not **answer to**...
 (= He would not answer to Coriolanus)

One then begins to wonder whether native speakers would accept the examples of stranded prepositions in Y-movement, as in:

- (60) a. **Fronted PP:**
To *him* I gave coffee, **to** *her* (I gave) cigarettes.
 b. **Stranded P:**
 ?*Him* I gave coffee **to**, *her* I gave cigarettes **to**

c. **Fronted PP:**

To *this* store I drive every day, **to** *that* one I hardly ever go.

d. **Stranded P:**

?*This* store I drive-**to** every day, *that* one I hardly ever go-**to**.

e. **Fronted PP:**

With *Joe* I work, **with** *Jill* I play.

f. **Stranded P:**

Joe I work-**with**, *Jill* I play-**with**.

g. **Fronted PP:**

At the *house* I work every day, **at** the *barn* (I work) only once week.

h. **Stranded P:**

?The *house* I work **at** every day, the *barn* I work **at** only once a week.

Hebrew seems to prefer Y-movement with the fronted PP. Y-movement with a stranded preposition, prefixed to an anaphoric pronouns as in REL-clauses, seems to suggest L-dislocation, with a pause and a different intonation pattern. Thus compare:

(61) a. **Fronted PP:**

le-*Yo'av* natati kafe, **le**-*Yemima* (natati) sigaryot
to-Y. gave/1s coffee **to**-J. (gave/1s) cigarettes
 'To *Yoav* I gave coffee, to *Jemima* (I gave) cigarettes'

b. **Stranded P:**

?*Yo'av* natati-**l-o** kafe, *Yemima* natati **la** sigaryot
 Y. gave-1s-**to-him** coffee J. gave/1s **to-her** cigarettes
 '*Yoav* I gave him coffee, *Jemima* I gave her cigarettes'

c. **L-dislocation:**

Yo'av, natati **l-o** kafe. *Yemima*, natati **l-a** sigaryot
 Y. gave/I **to-him** coffee J. gave/1s **to-her** cigarettes
 '*Yoav*, I gave him coffee. *Jemima*, I gave her cigarettes'

In Biblical Hebrew, examples such as (61b) are unattested. Rather the whole prepositional phrase is fronted, like (61a), as in:

(62) a. ...u-**li**-shem yulad...

and-**to**-Shem was.born

'...and to Shem were born (children)...' (Gen. 10.21)

b. ...u-**li**-šever yulad shne banim...

and-**to**-Eber was.born two sons

'...and to Eber were born two sons...!' (Gen. 10.25)

- c. ...u-**m+**'eleh nifr+du ha-goyim...
 and-from-those separated the-peoples
 '...and from those the (various) peoples separated...' (Gen. 10.32)

To the extent that strand-preposition examples like (60b,d,f,h) in English are acceptable, it seems that adpositions can be stranded not only in zero-anaphoric contexts like REL-clauses or replacement contexts like WH-questions, but also in contexts of 'movement', 'extraction' or 'promotion' like applicatives, passives and Y-movement.

6. Adposition prefixed to verbs

6.1. Romance and Germanic: The zero of antipassive

In this last section I will discuss a phenomenon that is well known in both Romance and Germanic languages--the incorporation of preposition as **verb prefixes**, a historical process that has resulted in the rise many new lexical verbs. This old diachronic process is strongly associated with the old **OV word-order** of Indo-European. Its more recent mirror-image recapitulation, during the current period of VO syntax in English, involves the incorporation of preposition as **verb suffixes**. As an illustration, consider the lexicalized end-products of the old process:

(63) Prepositions prefixed to Latin-derived English verbs: suggested old concrete meanings

'close'	'hold'	'build'	'call'	'press'	'turn' (?)	
in-clude	main-tain	con-struct	ex-claim	ex-press	in-verse/vert	
ex-clude	ob-tain	de-struct	de-claim	im-press	ad-verse/vert	
pre-clude	de-tain	in-struct	re-claim	de-press	re-verse/vert	
con-clude	re-tain	ob-struct	pro-claim	re-press	con-verse/vert	
se-clude	per-tain	re-struct(ure)	ac-claim	com-press	tra-verse	
oc-clude	con-tain		pro-claim	op-press	sub-verse/vert	
	at-tain		dis-claim	sup-press	extro-vert	
	enter-tain		de-claim		per-verse/vert	
	abs-tain					
'carry'	'bend'	'pull'	'breathe'	'form'	'throw'	'stand' (?)
com-port	ex-tend	ex-tract	in-spire	re-form	e(x)-ject	ex-cede
ex-port	in-tend	de-tract	ex-spire	in-form	in-ject	re-cede
im-port	con-tend	re-tract	re-spire	de-form	ob-ject	con-cede
de-port	dis-tend	con-tract	con-spire	con-form	re-ject	suc-cede
re-port	at-tend	at-tract	a(d)-spire		de-ject(ed)	pre-cede
sup-port		sub-tract	per-spire		pro-ject	inter-cede
					tra-ject(ory)	de-cedent

(64) Prepositions prefixed to German- derived English verbs

- a. **For(e)**: forget, forgive, forego, forlorn, forbid, forsake, foretell, foreclose, forecast, foredoom, forewarn, foreswear, foregather, forerunner, foresee, forestall,
- b. **Over**: overcome, overload, overbearing, oversee, override, overlay, overpass, overtake, over-state, overpay, over-run, overwhelm, over-indulge, over-compensate, over-emphasize
- c. **In**: inbreed, inhale, input, income, inlay, instill, install, incur
- d. **Out**: outgoing, outreach, outlier, outlive, output, outcast, outrank, outrun, outpour, outrage, outflow, outfit, outflank, out-grow, outlet, outlast, outlook, outplay, outreach, outreach, outset, outstanding, outwit,
- e. **Under**: understand, undergo, underlie, undergird, undermine, underbid, undercut, understate, underwrite, undertake

Examples of the more recent mirror-image pattern can be seen in:

(65) Post-verbal incorporation of English prepositions:

- a. The window broke
- b. The meeting broke **up** (early)
- c. Her car broke **down** (on the freeway)
- d. Her skin broke **out** (in a rash)
- e. He turned (and left)
- f. (So finally) he turns **up** (in Las Vegas)
- g. They turned **in** (for the night)
- h. It turned **out** (that she was right)
- i. She worked (hard)
- k. It worked **out** (just fine)
- l. They worked **out** (in the gym)
- m. He worked **up** a sweat
- n. They broke the furniture
- o. She broke **up** their engagement
- p. They broke him **in** (gradually)
- q. Break it **down** for us into manageable chunks, will you.
- r. He turned the key
- s. He turned the key **over** (to her)
- t. They turned her **down** (for the job)
- u. She turned **in** her report
- v. They shut the door
- w. She shut him **up**
- x. They shut the plant **down**
- y. We shut them **out** completely
- z. He shut the water **off**.

Since prepositions prototypically mark the case-role of nominals, what are they doing affixed to verbs in simple main clauses? This synchronic-typological puzzle can be factored out into two diachronic questions:

- What was the original construction involving a prepositional phrase?
- What zeroing process then removed the nominal and left the preposition stranded?

There are, universally, two types of zeroes in language. First, our well-known **anaphoric** zero in the context of adjacent preceding mention (see chs 1,2). And second, the less-known **cataphoric** zero seen in both passives ('agent deletion') and antipassives ('object deletion'), both in the context of **lower topicality**. The reason why these two most-iconic syntactic processes tend to fly under the language typologist's radar is because of their utter ubiquity. Consider first the zero-agent passive of Sherpa (and many other S.E. Asia languages):

(66) a. **Expressed agent of active:**

ti mi-ti-gi chenyi chaq-sung
 DEF man-DEF-ERG cup/ABS break-PA/EV
 'The man broke the cup'

b. **Zero agent:**

chenyi chaq-sung
 cup/ABS break-PA/EV

(i) **Active interpretation:** 'S/he broke the cup'

(ii) **Passive interpretation:** 'The cup was broken', 'Someone broke the cup'

As Shibatani (1985) has noted, the passive prototype is agentless. Even promotional passives, as the English BE-passive, which technically can have an oblique agent, are mostly agentless in discourse. [FN 26] The agent-of-passive is most commonly zeroed out because it is unimportant (non-topical). But sometimes the boundary between low topicality ('unimportance') and predictability ('accessibility')--either from the anaphoric context or from habitual/generic/cultural knowledge--can be blurred. Thus, consider the following examples from a work of fiction (Trout 1974):

(67) a. ...The first ship..., the Golden Goose, **had been revved up** to top speed...

b. ...It began barking loudly... Simon tried to ignore him. Then he **became annoyed**...

c. ...He went into the Hwang Ho... The stellar maps **were stored** in...

In (67a), the agent of 'revved up' is predictable from the **habitual** knowledge that 'pilots rev up flying machines' engines'. In (67b), the agent of 'become annoyed' is accessible from the immediate **anaphoric** context--'it (the dog) began barking loudly'. In (67c), the previous Chinese pilots of the spaceship Hwang Ho were described several paragraph earlier, and by inference those were the agents of 'stored'. In all three cases, the perfectly accessible agent was unimportant (non-topical) at the discourse juncture where the passive clause was used.

Since we are dealing now with stranded **prepositions**, however, their zeroed-out nominal must have been an **object** rather than a subject/agent. So that the zeroing-out process must have involved an **antipassive**, not a passive. In this context, consider now the innocuous **zeroed-out direct-objects** in the English antipassives below:

- (68) a. **Active:** She drank her whiskey in one gulp
 b. **Antipassive:** She drank (a lot, like a fish)
 c. **Active:** He hunted the deer
 d. **Antipassive:** He hunts (every fall, in the mountains)
 e. **Active:** She read the memo
 f. **Antipassive:** She reads (a lot, often, in bed)
 g. **Active:** She understood the question
 h. **Antipassive:** They explained it to her, and she understood (what he said)

In (68b) the object is the habitual, stereotypic 'liquor'. In (68d) it is the stereotypic 'game animals'. In (68f) it is the stereotypical 'book', 'magazine' or 'paper'. And in (68h) it is the anaphorically accessible 'talk' or 'what he said'. Either way, the object is unimportant at the point in discourse where the antipassive is used.

Consider, lastly, the equally innocuous zero-object antipassive, this time applied to the **prepositional object**:

- (69) a. The hill was just ahead. All he needed to do was go **up** (the hill)
 b. She saw the room was empty, so she went **in** (the room)
 c. The door was open, so she went **out** (of the door)
 d. She saw a flower on the ground, so she leaned **over** (the flower)
 e. She stopped by the bed and looked **under** (the bed)
 f. We were at the house when she came **by** (the house)
 g. It was a tall wall, but she still managed to climb **over** (the wall)

This is, I suggest, the context within which the lexicalized pre-verbal preposition in Romance and Germanic begin to make sense--give the earlier Indo-European OV syntax. This is also where the more-recent post-verbal stranding of prepositions in English, as in (65) above, begins to make sense in the current VO syntax of English.

6.2. Pre-verbal incorporation of Rama post-positions: Promotion to DO

Rama is an SOV language, with unmarked subject and direct-object and post-positionally-marked obliques. Some related Chibchan languages have their oblique objects following the verb (S-DO-V-IO). [FN 27] In Rama, obliques can either precede or follow the verb, with the fronted position reminiscent of promotion to DO ('dative shifting'). But in addition, the pre-verbal oblique can also cede its post-position to the verb, where the post-position becomes a **verb prefix**. Thus compare, for the dative (Craig 1986; Craig and Hale 1987):

- (70) a. **Post-verbal PP:**
 ngang an-tangi Juan-ya
 bed 3p-gave John-DAT
 'they gave the beds to John'

- b. **Pre-verbal PP:**
 ngang Juan-**ya** an-tangi
 bed John-**DAT** 3p-gave
 'they gave John a bed'
- c. **V-stranded post-position:**
 Rama **ya**-an-tangi
 Rama **DAT**-they-gave
 'they gave (it) to some Rama person'
- d. **V-stranded post-position, elliptic NP:**
 ngang **ya**-an-tangi
 bed **DAT**-they-gave
 'they gave (him/her) a bed'

And similarly for the associative (Tibbits 1987a, 1987b):

- (71) a. **Pre-verbal PP:**
 nah-**u** an-siiku
 1s-**with** 3s-come
 'they came with me'
- b. **V-stranded post-position:**
 sainsaina-dut **yu**-i-traali
 other-PL **with**-3s-go
 'he went with the others'

And likewise for variolus locatives:

- (72) a. **Post-verbal PP:**
 kiskis naing yu-i-siike nguu-**ki**
 tongs DEM with-3s-bring house-**in**
 'he brings the tongs into the house'
- b. **Pre-verbal PP:**
 kiskis naing beg-**ki** sut apakuli
 tongs DEM bag-**in** we put
 'we put the tong in the bag'
- c. **V-stranded post-position:**
 kiskis naing beg sut **ki**-apakuli
 tongs DEM bag we **in**-put
 'we put the tongs in a bag'
- d. **Post-verbal PP:**
 an-siiku ipang-**su**
 3p-come iland-**to**
 'they come to the island'

e. **Pre-verbal PP:**ipang-**su** an-siikuisland-**to** 3p-come

'they come to the island'

f. **V-stranded post-position:****su**-an-siiku**to**-3p-come

'they come over'

Example (72f) above hints at the possibility that V-stranding of post-positions may be an **antipassive** device in Rama. However, the bulk of the Rama examples of syntactic variation between N-suffixed and V-stranded post-positions suggest, rather, **promotion to DO**, indeed a syntactic mirror image of the KinyaRwanda situation (see above), with the verb-stranded post-position indicating that the erstwhile oblique has become the direct object. Possible support for such an interpretation comes from the frequency distribution of the presumed "promoted"--stranded post-position--form. Thus consider (Tibbitts 1987b):

(73) **Percent distribution of syntactic forms:**

case	PP		V-stranded		total	
	N	%	N	%	N	%
dative	21	48.8	22	51.2	43	100.0
associative	36	31.6	78	68.4	114	100.0
LOC-in	33	89.2	4	10.8	37	100.0
LOC-to	90	97.8	2	2.2	92	100.0

Human referents--associative, dative-benefactive--are universally more topical and more likely to be promoted to DO. In many languages such promotion is obligatorily. In contrast, non-human locatives tend to be non-topical and are seldom promoted to DO.[FN 28]

Tibbitts (1987b) next compared the average **anaphoric distance** of the two syntactic forms, measuring the distance, in # of clauses backwards, from where the antecedent appeared last in the preceding discourse. The results, while not fully consistent, again suggest that the object of the verb-stranded post-position is more topical.[FN 29]

(74) **Average anaphoric distance in # of clauses backward to the previous occurrence of the referent**

case	PP	V-stranded
dative	5.1	5.0
associative	8.5	1.9
instrument	10.2	3.7
LOC-in	12.9	1.0
LOC-to	10.8	6.5

Lastly, Tibbits (1987b) measured the average cataphoric **topic persistence** of the object in the two syntactic forms, in terms of the average number of times it is mention in the directly-following discourse. The results are again suggestive, tagging the "promoted" object--with verb-stranded post-position--as being more topical.

(75) **Topic persistence of the object in the subsequent discourse following its appearance in the two syntactic forms**

case	PP	V-stranded
dative	7.8	11.2
associative	2.6	11.8
instrument	1.1	7.5
LOC-in	0.5	1.1
LOC-to	1.3	3.0

With a puzzling distortion in the case of the dative, these results suggest that the stranding of post-positions on the verb in Rama is akin to promoting the oblique to direct object.

7. Discussion

Newmeyer's original question was a terrific service to typology. It prompted, leastwise for me, a wide-ranging search for the multiple grammatical context in which stranded prepositions can be found. In the course of the search, it became clear that a whole range of **zero-marking contexts** are involved here, all of them with a common denominator: Case-marking adpositions are detached from their zeroed-out nominal arguments, and must then find a new cliticization locus in order to preserve case-marking. But contexts of pronominal replacement (WH-pronouns) as well as topicality-changing 'movement' (dative-shifting, Y-movement, passive) or deletion (passive, antipassive) are also implicated. Answering Newmeyer's question without considering these multiple context would have been self-defeating, if one is interested in theoretical explanation.

We have noted, further, that stranding of adpositions on the verb is only one typological solution to the functional imperative that underlies the phenomenon--the need to preserve the case-marking of a zeroed-out or displaced nominals. The other typological solutions involved affixing the stranded adposition to a pronoun or to a subordinator. And over historical time, the very same language--English being a prime example--can switch from one typological solution to another.

Are verb-stranded adpositions a typological rarity? Yes, and no. But finding why some languages favor this pattern would require a much broader investigation of the availability of typological alternatives, and the intricate factors that govern the diachronic rise and fall of all alternatives.

Perhaps the most useful lesson to be learned from Newmeyer's original question is methodological: Language typology is both meaningless and incomplete when shorn of its functional and diachronic dimensions, dimensions that transform it from a purely classificatory, empiricist enterprise to a theoretical discipline.

Footnotes

*

I am indebted to Fritz Newmeyer for the original question as well as for many valuable comments and suggestions on an early version of the ms. I am also indebted to Bernd Heine and Werner Heiber for key German data.

1

See Givón (2001, ch. 14).

2

Counting all examples in the first 13 pp. of Smith (1756).

3

Not attested as such. Constructed by analogy with other examples.

4

Ibid.

5

Using the 2002 pocket edition edited and printed by The Cato Institute, pp. 9-50. The *Declaration* was dated July 4, 1776. The original *Constitution*, together with the first 12 amendments (*Bill of Rights*), was transmitted by Congress to the states for ratification in September 1787. The 14th amendment was ratified in July 1868.

6

Counted were the first 10 pp. of *A complete Translastion of The Sequel of the Proceedings of Marie Catherine Cadiere, against the Jesuit Father John Baptist Girard*, London, near the Horse Guards: J. Millan, 1732. The 2-volume book is a quality literary translation from the original French, constituting the judicial transcripts of a famous 1731 sex-scandal trial in Toulon and Aix en Provence, published in the Hague in 1732. The French of the period employed neither stranded-preposition REL-clause pattern, but only case-inflected WH-pronouns. The translation thus reflects the period English high-literate usage. A much less literary translation was also consulted, revealing a predominance of the *which/whom* pattern with prefixed stranded prepositions, the presumably-younger pattern that predominates in the Adam Smith and the U.S. Constitution texts.

7

It is of course of interest to ask why the shift in relativization patterns occurred. Whatever the answer may be, the attested text-distribution is rather typical of diachronic change in general; whereby multiple variants lurk about, one statistically dominant but both older and newer patterns still present in low frequency. Thus, both the relic *where*-P pattern and the innovative verb-P 'stranded' pattern appear as small minorities in late-18th-Century texts, where in P-*which*/P-*whom* pattern predominates. The history of English is more complex, though. Van Kemenade (1987) cites a single example of V-stranded preposition in Old English, in a simple clause with neither zero nor pronominal replacement nor movement:

& moni thing ham falled **to**
and many things them befallen **to**
'and many things happened to them'

He later cite many more examples of V-stranded prepositions in Middle English, but no text-frequency counts in either case. The question thus remains: Why is this construction, apparently viable in ME, go under the radar in written early Modern English?

8

For further details of Ute grammar see Givón (2011).

9

See discussion in ch. 7, above, as well as in Givón (2015, ch. 26).

10

The KinyaRwanda preposition *ku-* first undergoes lenition to *-hu* when suffixed, then the old Bantu relative suffix *-o* is added, yielding the final verb suffix *-ho*.

11

The preposition *mu-*, when suffixed to the verb and followed by the old Bantu relative suffix *-o*, becomes *-mo* (see also fn. 10).

12

Most Bantu verb suffixes ('extensions') are historically derived from verbs (Givón 20125, ch. 6). The reciprocal *-na* may be an exception, being related to the preposition *na-* 'with' > 'and'. However, comparative Niger-Congo evidence suggest that the preposition/conjunction *na-* was ultimately verb-derived too (Givón 2015, ch. 7).

13

For a discussion of the diachrony of the Bantu verb suffixes ('extentions') see again Givón (2015, ch. 6).

14

English anaphoric objects are, by all general criteria, already cliticized as verb suffixes (Givón 2002, ch. 3).

15

Ibid.

16

Shakespear's Tragedy of Coriolanus, with Preface and Glossary etc. by Israel Golancz, M.A., London: J.M. Dent, 1896 [first publ. in Folio of 1625]

17

For the entire complexity of the system, see (Givón 2011, ch. 14).

18

Ibid.

19

Where AGT here standing for either transitive agent or intransitive subject, and PAT for either transitive patient or transitive/intransitive oblique. For details see Givón (ed. 1994).

20

See also Givón (1982; ed. 1994).

21

See Givón (1982; 2015 ch. 17).

22

See Givón (2011, chs 10, 11)

23

For the distinction between semantic and pragmatic case and promotion to direct-object, see Givón (1984).

24

Out of morbid curiosity, I counted all the passives found in two of my all-time favorite texts, the first 10 pp. of Chomsky's *Language and Mind* (1968/1972), and the first 13 pp. of Louis L'Amour's *Shalako* (1962). Out of the total of 83 promotional BE-passives in Chomsky's text, 68 were of mono-transitive verbs and 13 of bi-transitive verbs. In all 81, the subject of the passive was the *patient* direct-object of the active. Only in two example was the subject of the passive a *prepositional object* with a stranded preposition, both involving an *intransitive* verb. The first of these examples is so convoluted, being a translated from the original Spanish, it fairly begs reproducing in full: "...by means of which some, without art or study, speak such subtle and surprising **things**, yet true, that **were** never before seen, heard or writ, no, nor ever so much as **thought of...**" (p. 9). And the second: "...**all of this**, it was argued, could **be accounted for** on "mechanical grounds"..." (p. 10). All passives in L'Amour's text involved promoted direct objects.

25

See extensive review in Givón (1979, ch. 3).

26

See text-frequency counts in Givón (1979, ch. 2).

27

For a comparative discussion of the diachronic typology of word-order in the Chibchan and Misumalpan languages of Meso-America, see Givón (2015, ch. 24).

28

The benefactive case in Rama is marked by a large, diachronically newer post-nominal word (*kama* or *king*) that never cliticizes, neither on the noun not on the verb.

29

For an extensive discussion and cross-linguistic application of this measure, as well as the subsequent cataphoric persistence measure, see Givón (ed. 1983).

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