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0. INTRODUCTION. In this paper we make a few elementary observations about the semantics and syntax of the English interrogative phrases *how come* and *what for*, in such sentences as

    (1) How come there is a mark on this page?
    (2) What is there a mark on this page for?
    (3) How come she just screamed?
    (4) What did she just scream for?[1]

We argue that, semantically, these idiomatic phrases together cover the domain of the simple interrogative *why*. *How come* questions cause; *what for* questions purpose. Syntactically, sentence initial *how come* is an adverbial associated with the main clause of the sentence, while sentence initial *what* of *what ... for* may be associated with any clause.[2]

1. SEMANTICS. Aside from their colloquial flavor, both *how come* and *what for* are reason adverbials, like standard *why*. Thus, to

    (5) There is a mark on this page for some reason.

or

    (6) There is some reason for there being a mark on this
          page.

there correspond (1), (2), and

    (7) Why is there a mark on this page?

Likewise, to

    (8) She just screamed for some reason.

or

    (9) There is some reason for her just having screamed.

there correspond (3), (4), and

    (10) Why did she just scream?

Many speakers of English perceive, on reflection, a meaning distinction between (1) and (2), and feel that (7) expresses both of these meanings. The declarative sentence in (5) or (6) is similarly ambiguous; the noun *reason* may refer to an external explanation, i.e. a cause, or to an intention on the part of some agent, i.e. an end or purpose. In the same way, a sentence with *because* beginning

    (11) There is a mark on this page because ...

may describe either cause or purpose, so that

    (12) There is a mark on this page because the dye in the
          binding ran.

is an answer to (7) or (1), but not (2), while

(13) There is a mark on this page because I wanted you to be sure to read it.

is a natural answer to (7) or (2); it is also a possible answer to (1), as we shall see below.

We are then claiming that *what for* is an adverbial like *cleverly*, requiring that the sentence with which it is associated contain an Agent, in the Fillmore 1968a sense, hence that the predicate of this sentence describe a situation that can be controlled by a human being. These restrictions can be seen in the difference between

(14) How come George is tall?

(15) How come you feel cold?

which are perfectly acceptable (heredity and a draft, respectively, might be the explanations), and the relatively strange

(16) ?What is George tall for?

(17) ?What do you feel cold for?

which are odd because one's height and sensations of temperature are not controllable matters; to interpret (16) or (17) one must suppose that George has somehow managed to manipulate his height or adjust his perception of warmth independent of his surroundings. There is a distinction even in the case of controllable situations, depending upon whether or not the sentence can be interpreted as implicating an Agent. Fillmore (1968b) has pointed out that sentences like

(18) Ernest was hit with a bat.

and

(19) Ernest was hit by a bat.

differ in that (18) has an underlying unspecified Agent, which is deleted by transformation, whereas (19) has no Agent in its deeper structure. Consequently it should be the case that (18), but not (19), can be questioned comfortably with *what for*, and this seems to be true:

(20) What was Ernest hit with a bat for?

(21) ?What was Ernest hit by a bat for?

Informants confronted with (21) tend to say that the bat in question is a nocturnal flying mammal with agressive intentions toward Ernest, if they accept the sentence at all.

In the same vein, many speakers of English distinguish the verbs *fail (to)* and *refrain (from)* by requiring only the latter to occur with an Agent (roughly, one refrains by exerting some effort, but may fail by omission as easily as by commission). Consequently only *refrain (from)* should occur comfortably with *what for*, and this appears to be the case.

(22) What did Elizabeth refrain from answering for?

(23) ?What did Elizabeth fail to answer for?

The way in which an Agent is implicated in *what for*

sentences may be indirect, mediated by an element like *let* or *get* that does not appear on the surface. Thus,

(24) What is the door open for?

is grammatical, despite the absence of an Agent in any remote structures for

(25) The door is open.

The interpretation of (24) is essentially that of

(26) For what purpose has someone $\begin{cases} \text{let the door stay open} \\ \text{gotten the door to be ope} \end{cases}$

That is, the speaker of (24) supposes that someone is responsible for the door's being open, either by refraining from altering its state or by bringing it to that state, and he supposes that the responsible person has some purpose in doing this; the speaker of (24) is inquiring after this purpose. We assume that an element like *let/get* is explicit in a remote structure for (24) and is deleted transformationally, just as such an element is deleted in the derivation of sentences like

(27) I tried to be arrested.

(28) I condescended to be arrested.

treated by Perlmutter (1968:sec.2.1.1).

The semantic distinction between *how come* and *what for* is obscured somewhat by the fact that it is very difficult to concoct environments in which *what for* is acceptable, but not *how come*. The source of this difficulty is easy to see--human intention can usually be construed as an explanation for some state of affairs. My intention that a mark on a page should catch your attention serves to explain the appearance of a mark on the page, for example. But there are some contexts that require an intentive interpretation. One of these is the stressed uncontracted negative of

(29) Why did he *not* leave?

which must be interpreted as

(30) What was his purpose in not leaving?

that is, as

(31) What did he *not* leave for?

Causal *how come* is quite odd here:

(32) ?How come he did *not* leave?[3]

Another pure intentive context is in responses to sentences specifically communicating intentions, such as

(33) Do you want me to read you this letter?

(34) Shall I read you this letter?

(35) Would you like me to read you this letter?

(36) How about my reading this letter to you?

(37) Let me read you this letter.

To such sentences, the response *What for?* is perfectly natural, meaning 'Why should you?', that is, 'What purpose could you have in doing it?' The response *How come?* is definitely odd;

further examples in conversations:
(38) Q: Why don't I read you this letter?
     A: What for?/*How come?
(39) Q: Wouldn't you like to have me read you this letter?
     A: What for?/*How come?
(40) Q: Will you let me read you this letter?
     A: What for?/*How come?
and within these sentences:
(41) I promise you to read you the letter, although you
     might wonder $\begin{Bmatrix} \text{what for} \\ \text{?how come} \end{Bmatrix}$.

(42) I insist that you give me the diamonds, even if you
     can't imagine $\begin{Bmatrix} \text{what for} \\ \text{?how come} \end{Bmatrix}$.[4]

We therefore set up a division of REASON into CAUSE/PURPOSE,
manifested in questions as *how come/what for*, neutralized to *why*
(in questions) or *because* (elsewhere). Cause is a relation between
one state of affairs and another, purpose between the actions of
an agent and an (intended) state of affairs. In both cases the
first state of affairs temporally precedes the second and is in
some way an explanation of it.

It is a commonplace of the philosophy of science that explana-
tions are the answers to the question *why*? Yet the taxonomies
of explanation constructed by philosophers are of little lingui-
stic interest; as is so often the case, the purposes of philo-
sophers and linguists diverge at an early point. Nagel (1961:ch.2),
for instance, sees four principal classes of explanations--
deductive, probabilistic, functional or teleological, and genetic.
However useful these distinctions might be in elucidating
relationships between states of affairs, they do not appear to
correspond to linguistic categories.

Linguistically, several general observations of interest
can now be made. The first is that the English phrases *how
come* and *what for* divide the semantic domain of *why* without
residue, and that although in certain environments it is diffi-
cult to disentangle the two phrases, they are semantically
quite distinct. This suggests that the opposition cause/purpose
is a natural one.

A deeper observation concerns the internal relationships
of CAUSE and PURPOSE, both involving two states of affairs but
only the latter implicating an Agent. This is the relationship
between the principal senses of the 'connection-of-ideas' verbs
suggest, mean, imply, prove, demonstrate, and *show*; each of these
verbs has a pure relational sense, in

(43) Jeanne's eagerness to please $\begin{Bmatrix} \text{suggests} \\ \text{means} \\ \text{implies} \\ \text{proves} \\ \text{demonstrates} \\ \text{shows} \end{Bmatrix}$
     that we should use her.
as well as an intention sense, implicating an Agent, in
(44) He $\begin{Bmatrix} \text{suggested} \\ \text{meant} \\ \text{implied} \\ \text{proved} \\ \text{demonstrated} \\ \text{showed} \end{Bmatrix}$ that we should use Jeanne.

The two senses of *suggest*, etc., are somehow related in the
same way that CAUSE is related to PURPOSE.

2. SYNTAX. We consider first the case of *how come*. In
examples like
(45) How come Herman said Gwen ate the goldfish?
the adverbial *how come* can be associated only with the main
clause (verb *said*), not with the complement clause (verb *ate*).
The adverbials *why* and *what for*, in contrast, are ambiguous
with respect to their clause of origin:
(46) Why did Herman say Gwen ate the goldfish?
(47) What did Herman say Gwen ate the goldfish for?
may have either of two remote structures, roughly of the
following shapes (disregarding the interrogative component in
their meaning):
(48) [for some reason Herman said [Gwen ate the goldfish]]
(49) [Herman said [for some reason Gwen ate the goldfish]]
Now neither *how come* nor *what for* is restricted to main clauses,
for both may initiate questions at any depth of embedding:
(50) Margaret wondered how come Herbert grew piranhas.
(51) I realized that Margaret knew how come Herbert grew
     piranhas.
(52) You must have seen what she kept that rope for.
(53) I announced that you must have asked what she kept
     that rope for.
The restriction on *how come* is therefore that it cannot be
moved out of its clause.

Why should *how come*, but not the very similar interrogatives
what for and *why*, fail to undergo movement out of its clause?
One possible explanation, suggested by the morphological compo-
sition of *how come*, is that *how come* represents a level of structure
in itself, mnemonically *how has it come about* (which also approxi-
mates the semantic content required). If this is the sort of

structure assigned to *how come*, then (45) is derived from something on the order of

(54) How did it come about that Herman said Gwen ate the goldfish?

and the failure of (45) to have an interpretation corresponding to the declarative

(55) Herman said how it came about that Gwen ate the goldfish.

results from the fact that the only question derivable from the structure of (55) is

(56) How did Herman say it came about that Gwen ate the goldfish?

That is, with a structure like that of (55) as a basis, standard rules will yield only (56), not (54), which must be assumed to have a distinct structure of its own.

The derivation of (45) from a structure like the one associated with (54) is further supported by a striking peculiarity of *how come* questions, their failure to condition subject-verb inversion. Compare

(57) How come she has read the book?

with normal wh-questions, for example,

(58) What has she read the book for?
(59) Why has she read the book?
(60) How has she read the book?
(61) How far has she read the book?

all of which exhibit inverted word order. The opposite orders are impossible:

(62) *How come has she read the book?
(63) *What she has read the book for?

The components of *she has read the book* in (57) have the order of an embedded clause (interrogative or otherwise), not of an interrogative main clause. This fact is accounted for if (57) is derived from a structure like that of

(64) How has it come about that she has read the book?

by means of a reduction of the main clause to *how come*, with concomitant elimination of the tense-bearing element in the main clause. Many speakers have, in fact, a clearly bisentential variant of (57):

(65) How come that she has read the book?

with the complementizer *that*.

What for exhibits an entirely different set of syntactic peculiarities, many of which we have already illustrated. The obvious source of *what for* is the full adverbial *for what purpose*, with aberrant deletion of the head noun *purpose* and the expected fronting of the wh-word *what*. A more complex analysis is suggested by some observations of Lees, which we will attempt to dismiss here.

Lees (1960:38), in a brief consideration of the conditions governing fronting of wh-phrases, remarks that 'when the nominal is an internal constituent of an adverbial prepositional phrase, it may not be pulled out ... Thus, from: John sent the package to Chicago, there is no: *What did John send the package to?, but only: Where did John send the package?; or similarly, from: He left it at the office. there is no: *What did he leave it at?, but only: Where did he leave it?' Taking Lees's constraint at face value, we should expect that *what* would not be movable out of the adverbial prepositional phrase *for what (purpose)*, so that wh-fronting would have to move the entire phrase, to yield

(66) for what (purpose) did you do that

from

(67) you did that for what (purpose).

As a result, a special rule would be required to extrapose the *for*, if

(68) What did you do that for?

is to be the product of the derivation. Lees's constraint forces a double movement analysis, it seems. We now argue that the double movement analysis involves severe technical difficulties, and anyway Lees's constraint does not need separate statement, because its effect is achieved by a careful statement of the wh-fronting rule.

First, the technical difficulties with the double movement analysis. The problem here is that the second movement rule is enormously hard to state, since its effect must be to return *for* to its original position, which is not necessarily the right end of the S headed by *what for*.

Some adverbials may follow *for*:

(69) What did Charles say Helen did that for last night?

(in which *what for* and *last night* are associated with *did that*, not with *say*)

(70) What does Charles want Helen to do *that* for this morning?

These may even be complex (although many speakers find such sentences less than fully acceptable):

(71) What did Charles say Helen did that for right after she was told not to?
(72) What does Charles want Helen to do *that* for before she gets the things she wants?

To move these instances of *for* to their positions in (71) and (72) would appear to require nothing less than an indication of where the adverbials were positioned before the operation of wh-fronting. The *for*-return rule thus not only lacks independent motivation, but also must have the effect of exactly undoing the wh-fronting rule.

What, then, supports Lees's formulation of the constraint on wh-fronting? There are numerous types of counterexamples to his formulation--cases of wh-words moved out of adverbial prepositional phrases: for instance,

(73) What did he leave the package on?

related to a structure like that of

(74) He left the package on the andiron.

and

(75) Whom did he walk between?

related to a structure like that of

(76) He walked between Aaron and Zachariah.

An explanation for these facts is provided in a well-supported analysis suggested by Klima (1964), who proposed that the interrogative wh-words be derived from constituents of the same type as *some*, *any*, *no*, and *every*, and their compounds (*something*, *someone*, *somehow*, *someplace*, *sometime*, etc.). In this analysis, the nominal *what* is related to *something*, *who* to *someone* or *some people*, *where* to *someplace*, and so on. The oddness of Lees's examples

(77) *What did John send the package to?

(78) *What did he leave it at?

corresponds to the oddness of

(79) *John sent the package to something.

(80) *He left it at something.

and the acceptability of (73) and (75) corresponds to the acceptability of

(81) He left the package on something.

(82) He walked between some people.

Consequently there is no reason to suppose that a general constraint bars the removal of *what* (*purpose*) from its prepositional phrase, *for what* (*purpose*), and the double movement treatment is not required.

We now turn to the ordering of wh-fronting and the rule that deletes the element *purpose*. The paradigm is as follows:

(83) For what purpose did he eat mudpies?

(84) ?What purpose did he eat mudpies for?

(85) *For what did he eat mudpies?

(86) What did he eat mudpies for?

The obvious analysis is to suppose that wh-fronting applies first, that *purpose* is deleted when it occurs following a sentence-initial *what*, and that the deletion is optional for some speakers. In this analysis, (85) illustrates a deletion in the wrong environment, and (84) a failure to delete (for those who allow it).

Finally we note that although the parts of *what for* are discontinuous in the examples that come first to mind, there are cases in which they occur together:

(87) My brother told me he wanted popsicle sticks, but I couldn't understand what for.

(88) The dean had vaseline on his face, and I was the only person who knew what for.

The rule in operation here is a very interesting deletion rule, called Sluicing by Ross (1969), who argues that the deletion follows wh-frontings, so that in examples like (87) and (88) sluicing has had the effect of reuniting the parts of *what for*, through intermediate stages like

(89) My brother told me he wanted popsicle sticks, but I couldn't understand what he wanted popsicle sticks for.

(90) The dean had vaseline on his face, and I was the only person who knew what the dean had vaseline on his face for.

Under certain conditions, Sluicing deletes all the material after an initial wh-word in an embedded question, up to a final preposition (e.g. the *for* of *what for*) or certain other constituents.[5]

(91) He murdered his wife, and everyone is asking why not his mother-in-law too.

(92) He tells me he likes to travel, but I can't imagine where without a Eurailpass.

Sluicing apparently also accounts for various short interrogative responses in conversations (since the constraints on these are the same as the constraints on sluicing within the sentence):

(93) A. Dick murdered his wife.

  B. ⎧ Why? ⎫
      ⎪ How come? ⎪
      ⎨ What for? ⎬
      ⎩ Why not his mother-in-law too? ⎭

(94) A. Dick murdered his wife with a pitchfork this morning.

  B. ⎧ Why with a pitchfork? ⎫
      ⎨ How come today of all days? ⎬

NOTES

[1]This sentence illustrates an ambiguity between an interpretation of *what ... for* as an adverbial of reason and an interpretation in which *what* represents an object NP. Only on the latter reading can (4) be paraphrased as

(i) What was it that she just screamed for?

Just so,
   (ii) What did you go to the grocery for?
has both a reason interpretation and a reading paraphrased by
   (iii) What did you go to the grocery to get?
or
   (iv) What was it you went to the grocery for?
Henceforth we shall ignore the non-reason interpretation of
what ... for questions.
   [2]Subject, of course, to familiar constraints on movement
rules, as treated in Ross 1967.
   [3]*How come he didn't leave?* is entirely acceptable, but
does not require an interpretation in which the subject's
failure to leave is intentional.
   [4]The specific restriction illustrated in (38)-(42) is one
barring certain cause adverbials as modifiers of performative
verbs. This restriction on *because* has been discussed by
Davison (1970). Compare the somewhat odd
   (i) ?Because you're a nice guy, I promise you to read
        you the letter.
with
   (ii) Since you're a nice guy, I promise you to read you
        the letter.
   [5]A constituent must not interrupt *what for*, however. Compare
(91) with
   (i) *He murdered his wife, and everyone is asking what
        with a pitchfork for?
But this is a general fact about split prepositional phrases
in sluiced sentences; compare (92) with
   (ii) He tells me he likes to travel, but I can't imagine
        where to.
   (iii) *He tells me he likes to travel, but I can't imagine
        where without a Eurailpass to.
The result of Sluicing is less unsatisfactory when the adverbial
follows *what for* or *where to*:
   (iv) ?I realize he murdered his wife, but I can't imagine
        what for with a pitchfork.
   (v) ?He has been going places all afternoon, but no one
        knows where to at two o'clock.

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