

Bibliography I. Coivs\*

A.M.Z.

A. Introductory remarks

A coiv (connection-of-ideas verb) is an English verb that occurs in the frame

- (1) S \_ ((to) NP) S

that is, simultaneously with sentential (or indisputably desentential) subject and object, as in

- (2) That he had a false beard on suggested (to us)  
that he was a spy.  
(3) Her learning to speak Mandarin fluently showed (the  
sceptics) how successful operant conditioning  
could be.

Such sentences assert that the proposition expressed by the subject clause supports a conclusion, expressed by the object clause. Different verbs describe different degrees of support, different attitudes towards the conclusion, and different types of relationships between the two propositions.<sup>1</sup> Because of their occurrence in (1), Ross 1973:549 calls coivs bisentential verbs.<sup>2</sup>

A coiv's subject clause is always understood factively. Coivs in (1) are stative.

Nearly all coivs can occur with agentive subjects:

- (4) Margaret suggested (to us) that he was a spy.  
(5) George showed (the sceptics) how successful operant  
conditioning could be.

(in which case the coiv is nonstative and differs in meaning from the verb in (1)). The few which do not are marked (-A) in the list below. The occurrence of coivs with both factive and agentive subjects makes them a subclass of the FA (factive-agentive) verbs (Stampe 1968:137f.); because coivs, unlike the 'psych' FA verbs frighten, astonish, etc., can take that-clauses as objects with both factive and agentive subjects, Stampe calls coivs FA-t verbs.

All coivs can occur with concrete subjects:

- (6) The blood on the staircase reminds me that  
caution is necessary with this fellow.  
(7) His false beard guaranteed that he would be  
stopped at the border.

The coivs in the list below are classified according to their ability to occur with human objects (whether marked by to, as in (2), or unmarked, as in (3)) when they also have sentential objects. Such human objects are referred to as dative in the following discussion. The occurrence of coivs with simultaneous dative objects and phrasal objects is discussed in section B.

#### Coivs

1. Dative obligatory (unmarked only): acquaint with, awaken to, apprise of, assure, convince, inform, instruct, notify, persuade, remind; various complex constructions, like let one know/realize ..., make one think/realize/believe..., make one sure/certain/convinced..., cause/require one to believe/suppose...
2. Dative perhaps obligatory (unmarked only): teach, tell, warn.
3. Dative optional
  - a. Unmarked: guarantee, show.
  - b. Marked: argue, betray, communicate, convey, demonstrate, emphasize, establish, explain, hint, illustrate, imply, indicate, intimate, make a case, mean, proclaim, prove, reveal, say, signal, signalize, signify, suggest, testify; questionable point out, betoken (-A), denote (-A); various complex constructions, like be/give<sup>3</sup> a sign/an indication/proof/evidence..., make it clear/known/understandable....
4. Dative perhaps permitted (marked only): foretell, point to, predict, verify.
5. Dative prohibited: entail (-A), insure, make it sure/certain..., necessitate (?-A), presuppose.

Most coivs occur as parenthetical verbs, as in

(8) Douglas, Shirley hinted (to us), was a Lapsarian.

Preserving the classification above, I list my judgments:

#### Parenthetical coivs

1. All except acquaint and awaken (dative obligatory).
2. All. Dative obligatory for tell, optional for teach and warn.
3. a. Both. Dative optional.  
b. All except make a case, mean, signalize, signify, perhaps betray, and the marginal betoken and denote. Dative optional.
4. All except point to. Dative optional.
5. None.

Also, many coivs occur as quotatives, as in

- (9) 'I'd like to see your macramé', Derek reminded (her).

Again, I give my judgments, using the same classification:

Quotative coivs

1. Apprise, assure, inform, notify (dative obligatory); instruct, remind (dative optional)
2. Tell (dative obligatory), teach, warn (dative optional).
3. Dative optional:
  - a. guarantee
  - b. argue, communicate, emphasize, explain, indicate, proclaim, reveal, say, suggest, testify, point out, and perhaps hit, intimate, and signal.
4. Predict (dative optional), foretell and perhaps verify (dative prohibited).
5. None.

B. The literature

Several coivs (explain, imply, mean, predict, presuppose, prove, say, signify, verify) have been of philosophical interest and have therefore received considerable discussion in the philosophical literature. However, little of this material bears on general semantic or syntactic properties of the class. The extensive treatment of mean, for instance, largely concerns examples like

- (10) 'Indolent' means lazy.

for which there are no analogues with other coivs.

Stampe 1968 examines the grammar of mean to support two philosophical theses: (a) that objects of mean are not referring expressions and (b) that sentences like

- (11) A lantern placed in the tower means that the invasion is by sea.

are ambiguous, having one reading with the syntactic source

- (12) By a lantern placed in the tower Agent means that the invasion is by sea.

(supporting the philosophical analysis of 'nonnatural' mean by Grice 1957; cf. also Grice 1968) and another with the syntactic source

- (13) The fact that there is a lantern placed in the tower means that the invasion is by sea.

Stampe is careful to indicate a number of ways in which mean has properties different from other coivs. Davis 1970 criticizes Stampe's (a) arguments and supports the contention that (11) is transformationally related to (12), but argues further that (12) derived from

- (14) Agent uses a lantern placed in the tower to mean that the invasion is by sea.

or

- (15) Agent uses a lantern placed in the tower, by which Agent means that the invasion is by sea.

Coivs figure, without detailed comment, in some early transformational works; Lees 1960:23 lists two subclasses (' $V_{t412}$  demonstrate, mean, prove, show, signify, ...' and ' $V_{t43}$  convince, inform, persuade, tell'). A Harris-transformational description (Vendler 1968:74 lists coivs in what is essentially the factive-agentive class: ' $Ct_{ad}^V$ : surprise, astonish, shock, imply, entail, indicate' (where  $Ct$  indicates a container element for a nominalization,  $V$  that the container is a verb, + that the nominalization appears in subject rather than object position,  $ad$  that the nominalization can be either a that-clause or Poss-ing complement). Oddly enough, coivs do not seem to be mentioned as a class in the Indiana University lists of word classes (Alexander and Kunz 1964, Bridgeman et al. 1965), the Kiparskys' discussion of factivity (Kiparsky and Kiparsky 1970), or the UCLA grammar (Stockwell, Schachter, and Partee 1973).

G. Lakoff 1968:21f., citing a personal communication from Rosenbaum, claims that

- (16) It suggests itself to me that Harry is a liar.

supports Lakoff's criticism of Rosenbaum's earlier treatment of subject movement, because this treatment requires Extraposition to precede Reflexivization, whereas the derivation of (16) requires Reflexivization to precede Extraposition.<sup>4</sup> But Postal ms.: sec. I.D argues that the Lakoff criticism depends upon the (inadequate) view that Reflexivization is a replacement rule requiring full constituent identity and that in any event, the reflexive in (16) 'does not seem to correspond to any argument in logical structure'.<sup>5</sup>

Lee 1969:52 lists verbs taking 'subject' by-clauses, as in

- (17) The bloodstain proved to us that Max was the murderer by being of Type AB.

His class II (prove, demonstrate, show, verify, imply, foretell, emphasize, guarantee, betray) contains only coivs, and his class IV contains some (persuade, remind, convince, teach; but order, encourage, challenge, force, doom are not coivs). Lee speculates that all the subject by-clause verbs 'are causative and take sentential objects'. In later sections (6 and 7) he argues that

sentences with subject by-clauses are derived by extraction from a subjectless structure--for (17), roughly

- (18)  $\emptyset$  proved to us [that Max was the murderer] by  
[the bloodstain be of Type AB]

(cf. (12)). In Lee 1971 it is argued that 'the verbs in indirect causative constructions [like (2), (3), (6), (7), and (17)] are decomposable into cause plus another verb, but the verbs in direct causative constructions [like (4) and (5)] are not' (L-86); as in the earlier work, the subjects of indirect causatives are analyzed as deriving from by-clauses.

Bresnan 1970:304-5 appeals to coivs in an argument that complementizers subcategorize verbs, citing the contrast between the following:

- (19) For him to eat cabbage means nothing.  
(20) \*This means for him to eat cabbage.

and the ungrammaticality of

- (21) \*For him to eat cabbage means that he will be sick.

To my knowledge, the constraints on subjects and objects (both phrasal and clausal) of coivs have never been investigated in detail.

Of the coivs, only the following seem to act as to-Dative Movement verbs when they have phrasal, rather than clausal, objects: promise, show, signal, teach, tell, and marginally explain. Green 1971:sec. IV.B.1 notes that although teach and show occur in both

- (22) Mary taught linguistics to the class.  
(23) Mary taught the class linguistics.

these sentences are not in general paraphrases, and for these two verbs the marked dative doesn't occur with abstract subjects and occurs with many fewer sorts of abstract objects than the unmarked dative (cf. Gruber 1965:sec. 7.2 on teach). In the next section she argues for the derivation of (22) and (23) from structures like those underlying (24) and (25), respectively:

- (24) Intending the class to learn linguistics, Mary  
taught the class.  
(25) Mary got the class to learn linguistics by teaching  
the class.

Also, in sec. III.C.2.e she suggests that explain (along with describe, recommend, recount) might be a for-Dative Movement verb rather than a to-Dative Movement verb. This leaves only promise, signal, and tell as clear to-Dative Movement coivs.

In a footnote (sec. IV.B.1), Green argues that the Internal Sentential NP Constraint, (3.27) of Ross 1967, is not responsible for the restriction involving abstract objects of teach and show.

In Ross 1973 it is maintained that the anomaly of sentences like

- (26) \*It proves/shows/indicates/suggests/means/implies/entails that he is unfond of me that his fingerprints were on my throat. (549)

is due to the Same Side Filter: 'No surface structure can have both complements of a bisentential verb on the same side of that verb' (554).

The relationship of coivs to the rules of Equi-NP-Deletion and Raising is of some interest. All the coivs of groups 1 and 2 in section A above govern Equi, with the exception of assure and the possible exception of inform. Note that Grosu 1971:ch. 3 claims that Equi-governing verbs are all decomposable into CAUSE TO COME TO X, where X is a construct, like INTEND, requiring identity between its subject and the subject of the S embedded in it. The remaining coivs (groups 3 and 4) govern Raising rather than Equi, if they govern either rule; a list is given below. Some also occur with as constructions (Postal ms. 1972:sec. VI.G):

- (27) Alice revealed that Jordan was the culprit.  
 (28) Alice revealed Jordan to be the culprit.  
 (29) Alice revealed Jordan as the culprit.

These are marked AS in the list.

Also, most Raising coivs are subject to the Dative Object Constraint (Postal ms. 1972:sec. IX.C), that only pronouns are natural in object position, although full NP objects moved out of object position (by Passive, for instance) are permitted:

- (30) We argued him to be the long-lost king of Barataria.  
 (31) \*We argued Ralph Merkin to be the long-lost king of Barataria.  
 (32) Ralph Merkin was argued to be the long-lost king of Barataria.

Coivs not subject to this constraint are marked -DOC in the list.

#### Raising coivs

3. a. guarantee, show  
 b. argue, betray (?AS), ?communicate, demonstrate (?AS, -DOC),  
establish (AS), ?illustrate, imply, indicate (AS), make  
a case (AS), prove (-DOC), reveal (AS, -DOC), ?signal,  
suggest (AS).
4. predict (AS, -DOC), verify (AS)
5. insure, presuppose (AS, -DOC).

## Footnotes

\*The work reported here was instigated by the 1970 Mathematical Social Sciences Board research seminar in mathematical linguistics, sponsored by the National Science Foundation and held in conjunction with the Linguistic Institute at the Ohio State University.

1. It is perhaps noteworthy that no coivs incorporate negation; deny, conceal, deemphasize, falsify, disprove, oppose, contraindicate, rebut, subvert, contravene, contradict, controvert, gainsay, disaffirm, impugn, repudiate, and so on do not fit in (1).

2. Bisentential verbs in this sense must be distinguished from various classes of verbs that have been argued in certain cases to have remote structures with sentential subjects and objects--for instance, causal impingement verbs, as in I hit/pushed the ball over the fence (Fillmore 1971:46-7); stative causatives, like cause, make, require, and two types of nonintentional accomplishments, kill [accidentally] and [animate subject] kill (Dowty 1972); psych verbs (McCawley 1972); and Flip-perception verbs (Rogers 1972).

3. The constructions with give, unlike the simple verbs, occur with both marked and unmarked datives.

4. Also, since Extraposition can be argued to precede Pronominalization, (14) seems to prove that Reflexivization and Pronominalization must be distinct rules.

5. In fact, suggest is the only coiv that occurs in the construction in (16). Moreover, since sentential subjects of suggest are factive but its sentential objects are not, it would be remarkable if Reflexivization were applicable. Presumably, suggest itself is an 'absolute reflexive' (Lees and Klima 1963:24-6), like absent oneself and perjure oneself.

C. Items cited

- Alexander, D. and W. J. Kunz. 1964. Some classes of verbs in English. Linguistics Research Project, Indiana Univ.
- Bierwisch, Manfred and Karl Erich Heidolph (eds.). 1970. Progress in linguistics. Mouton, The Hague.
- Bresnan, Joan W. 1970. On complementizers: toward a syntactic theory of complement types. FLang 6.3.297-321.
- Bridgeman, Loraine I., Dale Dillinger, Constance Higgins, P. David Seaman, and Floyd A. Shank. 1965. More classes of verbs in English. Linguistics Research Project, Indiana Univ.
- Davis, Steven. 1970. Meaning and the transformational stew. FLang 6.1.67-88.
- Dowty, David R. 1972. Studies in the logic of verb aspect and time reference in English. Studies in Linguistics, Dept. of Linguistics, Univ. of Texas. Reprint of 1972 Ph.D. dissertation, Univ. of Texas.
- Fillmore, Charles J. 1971. Some problems for case grammar. Georgetown MSL 24.35-56.
- Green, Georgia M. 1971. A study in pre-lexical syntax: the interface of syntax and semantics. Ph.D. dissertation, Univ. of Chicago.
- Grice, H. Paul. 1957. Meaning. PhilRev 66.377-88. Reprinted in Strawson 1967:39-48, Steinberg and Jakobovits 1971:53-9, Travis and Rosenberg 1971:436-44.
- \_\_\_\_\_. 1968. Utterer's meaning, sentence-meaning, and word-meaning. FLang 4.3.225-42. Reprinted in Searle 1971:54-70.

- Grosu, Alexander. 1971. On coreferentiality constraints and Equi-NP-Deletion. OSU WPL 7.G1-G111. Reprint of 1970 M.A. thesis, Ohio State Univ.
- Gruber, Jeffrey. 1965. Studies in lexical relations. Ph.D. dissertation, M.I.T. Distributed 1970 by IULC.
- Kiparsky, Paul and Carol Kiparsky. 1970. Fact. In Bierwisch and Heidolph 1970:143-73. Reprinted in Steinberg and Jakobovits 1971:345-69.
- Lakoff, George P. 1968. Deep and surface grammar. Reproduction of 1966 ms., distributed by IULC.
- Lee, P. Gregory. 1969. Subjects and agents. OSU WPL 3.36-113.  
 \_\_\_\_\_ . 1971. Subjects and agents II. OSU WPL 7.Li-L118.  
 Text of: Subjects and agents, 1970 Ph.D. dissertation, Ohio State Univ.
- Lees, Robert B. 1960. The grammar of English nominalizations. IJAL 26.3, Part II.  
 \_\_\_\_\_ and Edward S. Klima. 1963. Rules for English pronominalization. Lg. 39.1.17-28. Reprinted in Reibel and Schane 1969: 145-59.
- McCawley, Noriko Akatsuka. Ms. 1972. Emotive verbs in English and Japanese.
- Postal, Paul M. Ms. 1972. On raising. To be published by MIT Press.
- Rogers, Andy. 1972. Another look at Flip-perception verbs. CLS 8.303-15.
- Rosenberg, Jay F. and Charles Travis (eds.). 1971. Readings in the philosophy of language. Prentice-Hall, Englewood Cliffs, N.J.
- Ross, J. R. 1967. Constraints on variables in syntax, Ph.D. dissertation, MIT. Distributed 1968 by IULC.  
 \_\_\_\_\_ . 1973. The Same Side Filter. CLS 9.549-67.
- Searle, John R. (ed.). 1971. The philosophy of language. Oxford Univ. Press, London.