OBLIGATIONS AND OPTIONS IN DIALOGUE

Jens Allwood
Dept. of Linguistics, University of Göteborg

1.   Purpose

This paper is a development and clarification of certain ideas put forth in Allwood & Haglund 1991 and its aim is to explore some ways in which deontic notions like obligation and option can be used to analyze some of the dependencies and regularities which exist in dialogue.

2.   Obligations and options of a dialogue contribution

A dialogue can be said to consist of the successive communicative contributions (utterances) made by the participants in the dialogue, With the possible exception of the first and the last contribution, each contribution is both backward directed to the preceding contributions and forward directed to the next contribution. With regard to obligations and options, this gives rise to the following functional structure of a contribution.

1.   Obligated (functions obligated by the (immediately) preceding discourse)
2.   Optional (functions which are not obligated by preceding discourse and not obligating for the following contribution)
3.   Obligating (functions which are obligating for the (immediately)   succeeding discourse

Each contribution with all its functions is influenced by certain global and local influencing factors (cf. Allwood 1984). Among the local factors, the discourse which precedes a given expression (in particular the immediately preceding expression) is particularly important.

The obligated functions of a contribution are, thus, those functions of the contribution which, in a given context, meet certain obligating functions of the preceding discourse. Three main sources of obligating and obligated functions may be distinguished (cf. Allwood, 1978 and Allwood, Nivre & Ahlsén, 1990; Allwood 1976 and Grice 1975).

1. Obligations deriving from general rational and ethical requirements on human communication.

2. Obligations arising from requirements of interactive communication management

3. Obligations arising from requirements generated primarily by the interaction of the evocative dimensions of (non-management directed) communicative acts with the embedding (activity) context.

Below, we will in some more detail consider these three sources of obligation.

3.   Requirements of a general rational and ethical nature

Since the appearance of the work of Grice (e.g., Grice, 1975), there has been widespread consensus that human communication conforms to certain general rational maxims, which Grice, following Kant, called the maxims of quality, quantity, relation, manner and cooperation (cf. Kant, 1975). Continuing the Kantian way of thinking, these maxims can also be said to correspond to basic requirements (Kant would have said preconditions) of rational communication. In Allwood, 1976, it was suggested that the maxims provided by Grice could be replaced by another set of maxims called "maxims of rational motivated action", which were less overlapping and more exhaustive. In particular, it was claimed that Grice's maxims although presented as rational were, in fact, also ethical in nature. It was further claimed that ideal cooperative communication involves not merely cognitive rational consideration but also ethical consideration. For example, on ethical grounds, it is fairly unproblematic to condemn lying, hurting others or being unhelpful. whereas this is much more difficult on purely rational grounds.

However, neither rationality nor ethics are necessary ingredients of human communicative behavior. We sometimes behave irrationally or unethically, e.g., are unhelpful, lie or hurt others. Rather rationality and ethics are qualities which perhaps always are desirable and therefore in most circumstances become expectable obligations. We are socially obliged to behave ethically and rationally but can also choose not to do so.

These very general requirements are now superimposed on more specific requirements deriving from communication and specific social activities.

4.   Requirements of interactive communication management

In order to reach its goal - "mutual understanding" or "shared information" (in the service of a particular social activity), communication needs to be managed. This management must be attuned to basic physical and biological constraints as well as to the general rational and ethical requirements discussed above. For the present purposes, let me mention three types of communication management for which there, in different

languages, are systematic but partly distinct acoustic and bodily means of giving and eliciting relevant information.

1. Basic communication feedback (Allwood, Nivre and Ahlsén, 1992), which concerns whether sender and receiver are willing and able to
    .   continue (start or end) communicating
    .   perceive the message which is communicated
    .   understand the message which is communicated
    .   attitudinally and behaviorally react to the message.

2. Turn management (Sacks, Schegloff and Jefferson, 1974) which concerns the mechanisms for distribution of the rights and obligations to communicate (more properly, for distributing the sender and receiver roles). Turntaking functions include: having - not having a turn, taking (interrupting) - refusing a turn, accepting-giving up a turn, keeping-losing a turn and assigning a turn. As we can see, turntaking is, thus, conceptually related to the ability and willingness to continue communication which is also an important part of what is signalled by the linguistic feedback system .

3. Sequential structuring (cf. Sacks and Schegloff 1973) (of communicative acts, subactivities, topics, etc.); since this last type of management function concerns, for example, entering or leaving subactivities of an activity, it is often globally determined by the activity as a whole.

Each contribution has one or more positive or negative feedback and turntaking function. The realization of these functions can be explicit through special linguistic mechanisms or implicit by presupposing particular feedback and turn management functions. Some contributions, besides feedback and turn management, also have global sequential structuring functions.

If communication is to be ethical and rational, the three types of communication management are required. Since we can assume that there is a universal will to make human interaction as rational and ethical as possible, management requirements will often become obligations.

The obligations of feedback and turn management are met through the pairing of obligating and obligated aspects of adjacent contributions with regard to continuation, perception, understanding and reaction, (for feedback) and by assuming the sender or receiver role (for turn management).

Feedback, turn management and sequencing are required features of all communicative interaction but options exist as to:

.   whether the information about these features is implicit or explicit
.   what type of explicit (or implicit) information is chosen

Note that a consequence of this view, where responding often becomes an obligation, is that also a refusal to communicate will count as giving information, for example, as negative information about the wish to continue.

5.   Requirements related to Communicative Acts

The third source of obligations we will consider are obligations connected with particular communicative acts. Perhaps the best way of illustrating this is to present a table (table 1) of these obligations as they are related to the stereotypical expressive and evocative functions of the four moods declarative, interrogative, imperative and exclamative, cf. also Allwood, 1976).

Table 1.   Mood Functions

Mood	Expressive	Evocative
Declarative The door is open	Judgement (Belief)	Shared judgement (Belief)
Interrogative Is the door open?	Wonder Desire for information	Answer Giving desired information
Imperative Open the door!	Desire	Satisfaction of desire
Exclamative An open door!	Arbitrary other attitudes	Attention

The claim made by the table is that the declarative, *the door is open,* stereotypically is used to express a judgement by a speaker with the evocative intention of getting a listener to share the judgement. Similarly, an interrogative like, *Is the door open,* stereotypically is used to express an act of wonder, connected to a desire for information, with the evocative intention of receiving the desired information from the listener, etc. When contributions realizing the stereotypical combinations of the expressive and evocative functions of the four moods are used for communication in some social activity, certain stereotypical expectations are generated. These expectations can under certain contextual (activity) conditions, for example, where power and authority are involved, become fairly strong obligations.

A more careful analysis shows that the strength of these obligations is the result of the interaction of mood functions with (i) considerations of rational motivated action, ethics and cooperation, (ii) language specific conventions and (iii) activity requirements and conventions.

The obligations pertain both to the sender role and to the receiver role. We will consider a simplified case where the mood corresponds to an actual speech act with the functions given in the table above. When this is not the case - what obligations arise is more unclear.

1. Sender obligations:

    A. Obligations of sincerity i.e., that the sender should have the attitudes which are expressed by the communicative acts he is using.

    B. Obligations of motivation or grounding, which concern the sender's backing for what he is communicating.

    C. Obligations of consideration, which concerns his consideration of the receiver's ability to handle the evocative intentions of his contributions.

2. Receiver obligations:
    These are obligations contracted by the receiver by participating in a dialogue. They regulate the receiver's reaction to the evocative intentions of the sender's preceding contribution.

    A. Obligations of consideration. The receiver should consider the sender and continuously evaluate whether he is willing and able to continue, perceive and understand. He should also evaluate whether and how he is willing and able to respond to the evocative intentions of the preceding contribution.

    B. Obligation of response. The receiver would then act in accordance with the evaluation and give some form of response to the sender. When there is an expectation of evaluation and response "no response" is also considered a form of response.

If the dialogue partners are very cooperative and polite or if one of them is in a subordinate position to the other, the evocative intentions of the sender will tend to become obligating for the receiver. What this means is that he will defocus the question of his own willingness and, if he is able, try to carry out the evocative intentions of the sender and give cooperative responses.

If we connect the mood functions with cooperative sender and receiver obligations, the result generated might, for example, be the one shown in table 2.

Table 2.   Moods: functions and obligations

Mood	Expressive	Evocative	Sender related obligations	Receiver related obligations
Declarative	Belief	Belief	1. Actual belief 2. Evidence 3. Belief that R can understand and evaluate expressed judgement	1. Evaluation of ability and willingness concerning CPU and evocative intentions (ability and willingness to accept belief) 2. Response including (explicit or implicit) report on evaluation
Interrogative	Wonder	Answer	1. Actual wonder 2. Need for info. 3. Belief that R can provide it	1. Evaluation of ability and possibility to provide information 2. Response with (explicit or implicit) report on evaluation
Imperative	Desire	Satisfaction of desire	1. Actual desire 2. Need 3. belief that R can satisfy desire without risk to himself	1. Evaluation of ability and willingness concerning CPU and possibility to comply with desire 2. Response with (explicit of implicit) report on evaluation
Exclamative	Any attitude	Attention	1. Actual attitude 2. Need to express	1. Evaluation of ability and willingness concerning CPU and attention 2. Optional response with (explicit or implicit) report on evaluation

In the table, CPU indicates contact, perception and understanding, the three basic communicative feedback functions of interaction management. Let us illustrate the way the table is to be read by analyzing an example of a factual information seeking dialogue where a user (u) is trying to get information from a yellow pages system (s) (cf. Black et al., 1991).

(1)   U: I would like some information about Korean restaurants

        S: Unfortunately, there is no information available. We have no Korean restaurants listed in Göteborg. Would you like information about any other kind of restaurant?

Since we do not have the discourse preceding the user's contribution, we will abstain from commenting on it's backward directed (obligated) aspects. The remainder of the analysis could look like this.

User: I would like some information about Korean restaurants

- Mood: Indicative:Declarative   (This is part of a grammatical analysis, including here only mood and specification of mood)

- Optional (forward directed):
  - Communicative Act: Request
  - Expressive: Judgement (belief) concerning own likes and desires to the effect that the sender (user) has a desire for information
  - Evocative: That the receiver (system) believes that the sender has this desire and, since it is expected to be cooperative, tries to satisfy it

- Obligations generated by user's contributions:
  - Sender related obligations:
    1. The sender has the belief expressed.
    2. The sender has evidence for this belief, i.e., that the sender has a desire for information. If we see the user's utterance as a request, the corresponding obligations of sincerity and grounding are that the user has a desire for information and that this desire is grounded in a need.
    3. The sender believes the system can understand and believe him and concerning his expressed desire that the system will be willing and able to answer.

  - Receiver obligations:
    1. The receiver (system) should evaluate CPU and evocative intentions, i.e., evaluate whether it is able and willing to believe the sender's statement and whether it is willing and able to provide the desired information. (Since the system is commercially made to provide cooperative responses the question of willingness will not arise, only the question of ability.)

    2. Give response including explicit or implicit report on evaluation. If the evaluation is positive the desired information should be provided.

System: Unfortunately, there is no information available. We have no Korean restaurants listed in Göteborg. Would you like information about any other kind of restaurant?

- Mood: Indicative:Indicative:Interrogative: Yes/No-Question
- Communicative Act: Statement (excuse):Statement (explanation):Question
    (compensating offer)

- Backward directed (obligated) statement (excuse):
  - Interaction management:
    1. Implied CPU & turn acceptance
  - Evocative intentions of preceding contribution:
    1 Implied sharing of judgement concerning user's desire for information
    2. Explicit negative evaluation of ability to provide information thus justifying the fact that the desired information is not given
- Optional (forward directed):
  - Communicative Act: Explanatory statement:question giving offer
  - Expressive:
    1. judgement
    2 desire for information and willingness to provide beneficial compensatory action for receiver
- Evocative
    1. that receiver shares judgement and accepts excuse
    2. that receiver provides desired information and accepts willingness to compensate
- Obligations generated by system's contribution:
  - Sender related obligations:
    1. Sender has beliefs expressed (sincerity)
    2. Sender has evidence for beliefs, i.e., has searched data base (grounding)
    3. Sender has the desire for information and the willingness to provide beneficial action that he has expressed (sincerity)
    4. Sender has a reason for this desire and willingness, i.e., that it has the role of helpful information provider in a factual information seeking system (grounding)
    5. Sender believes receiver can understand and will be willing to respond (receiver consideration)

- Receiver related obligations:
    1. Evaluate CPU and evocative intentions, i.e., evaluate own willingness and ability to accept statement containing excuse as well as question containing offer
    2. Give response including report on evaluation and, if the evaluation is positive, give the information.

After having treated the obligations in some detail, let us now briefly turn to options. The options connected with communicative action concern:

(i)   whether to engage in communicative action over and above interactive management obligations

(ii)   choice of type of communicative action compatible with restrictions given by general and specific, global and local, collective and individual determining factors (cf. Allwood, 1984).

The choice of communicative act is, thus, always regarded as optional, within the degrees of freedom given by the influencing factors. This is the reason why the label optional, in the example discussed above, has been used to characterize those of the user's and system's communicative acts which are not bound by the preceding contributions.

6.   Obligations, options, requirements, assumptions, preferences

Instead of the concepts "obligated", "obligating" and "optional" which make a rather strong assumption about the relations which can hold between utterances in discourse, we could have chosen concepts which would have characterized these relations in a different and often somewhat weaker way. More specifically, we could have spoken about preferences (cf. Sacks et al., 1974) assumptions, expectations or requirements instead of obligations. For mainly methodological reasons, we have, however, chosen obligations. The methodological reason is that the use of this concept to characterize relations between contributions makes a strong claim about their contractual (cf. Rommetveit , 1974) glue-like character. This claim can subsequently be modified in favor of concepts which characterize the relations in different or weaker terms (see, for example, Bunt , 1993 where the term reactive pressure was used).

The choice between the concepts mentioned above is, however, not mutually exclusive. Because of their differences, it is relatively easy to point to cases where several of them might be needed, as in the following:

A: could you come here
B: yes (moves towards A)

A possible analysis of the relations between A's and B's utterances is to say that A's utterance is a request couched in the form of a yes/no question, which has an obligated response, a *yes* or a *no*, and as a preferred response a *yes*. If analyzed in this way, we could, thus, for example, make use of the distinction between obligations and preferences.

7. Obligations, options, backward-forward orientation, boundedness, novelty of information and thematisation

The concepts of obligation and option are also related to the distinctions between backward-looking and forwarding-looking (cf. Heritage, 1984) bound and free, response and initiative (Linell and Gustavsson, 1987), old and new, topic and comment which have been proposed by different authors to capture various aspects of the way in which each new utterance in a dialogue, both is connected to earlier discourse and unconnected in the sense that it contributes something new. Just as above, I suspect that the mentioned pairs of terms do not cover the same aspects of the interrelatedness of discourse and that, therefore, a very fine-grained analysis could make use of all of them in slightly different ways.

The concepts chosen here are related to the mentioned concepts roughly in the following way:

With regard to forward and backward orientation, all parts of an utterance can be potentially relevant in both directions, however, the obligated functions are mainly backward-looking and the obligating functions are mainly forward-looking. The optional functions have a lesser bias in either direction but are, if anything, slightly more forward-looking. Concerning the distinction bound-free, the obligated functions are bound by preceding discourse. Similarly, the obligated functions are most responsive and least initiating while the optional and obligating functions are least responsive and most initiating. Finally, the obligated functions of an utterance are perhaps to a greater extent than the optional and obligating functions related to information which is old or in topic or theme position, while the inverse holds for information which is new or in comment or rheme position.

8. Possible rules and regularities

Let us now turn to a consideration of what kind of regularities have been noted so far and to the question of whether rules could be formulated for these regularities and the supplementary question of the nature of these rules. One way of dividing the regularities observed would be the following:

1. Regularities depending on relations within communicative contributions

2.   Regularities depending on relations between communicative contributions

3.   Regularities depending on relations between general and specific, global deter-
       mining factors (e.g., Gricean-like maxims and activity function) and local
       collective or individual features of communicative contributions (cf. Allwood
       and Haglund, 1991)

Rules corresponding to regularities of the first type would be rules of phonology,
morphology, syntax and semantic composition applying within and/or between the
syntactically and semantically maximal units of a communicative contribution. Rules of
this type could also concern the sequencing of pragmatic, semantic or syntactic maximal
units within a communicative contribution. Finally, rules of this type regulate the place-
ment of interactive (IA) and own communication (OC) management expressions in
relation to non-management oriented expressions. For IA management, what here is
involved, is mainly rules of addition and insertion, while OC management, in addition to
these, also requires rules of deletion and reordering, cf. also Allwood, Nivre, Ahlsén
1991).

Rules corresponding to regularities of the second type, which are the main concern of this
paper, could be called rules of expectable exchange obligations and are of two main
types:

1.   Obligations deriving from requirements of interactive communication
       management
2.   Obligations deriving from context bound evaluation of the evocative intentions
       of preceding contributions

Rules of the first type - rules of communicative interaction management are rules which,
in a context sensitive way, state requirements on interaction management. Rules of the
second type are rules which, in a context sensitive way, derive receiver obligations from
the evocative intentions of preceding contributions and state expectable correspondences
between cooperative receiver reactions and actual assumed receiver obligations.

Rules corresponding to the third type of regularities are also of several kinds:

1.   Rules which specify a given function or activity into subfunctions and/or
       subactivities (cf. above). The functional specification rules, thus, feed directly
       into the rules for CA exchange obligations.

2.   Rules stating restrictions and/or requirements on interactive task (communicative
       or otherwise) accomplishment.

11

3.   Rules for supplementing local sender and receiver obligations by deriving obligations from activity roles and general considerations of rational, motivated (ethical, cooperative) action.

4.   Rules stating restrictions and/or requirements on information update, e.g., co-reference restrictions, nonmonotonicity, etc.

5.   Rules stating restrictions and/or requirements on topic development, inference drawing, etc.

9.   Concluding remarks

What I hope to have achieved in this paper is a brief discussion of how the notions of obligation and option can be applied to contributions in dialogue. I have also discussed how these obligations can be seen as the effect of superimposing requirements based on rational, ethical action, communication management, particular communicative acts and particular social activities on each other. A consequence of this is that dialogue obligations are context-sensitive to precisely the requirements they derive from. What is obliged in one activity (or in relation to a particular type of communicative act) might not be so in another activity (or in relation to another communicative act). This, in turn, means that dialogue dependencies are not absolute but relative to the requirements they derive from.

References

Allwood J, 1976. Linguistic Communication as Action and Cooperation. *Gothenburg Monographs in Linguistics* 2. University of Göteborg. Department of Linguistics.

Allwood, J. 1980. On the Analysis of Communicative Action. In Brenner (ed.) *The Structure of Action*. Oxford: Blackwell.

Allwood, J. 1984. On Relevance in Spoken Interaction. In G. Kjellmer & S. Bäckman (eds.) *Papers on Language and Literature. Gothenhurg Studies in English* 60. University of Göteborg. Department of English.

Allwood, J. & Haglund, B. 1991. Communicative Activity Analysis of a Wizard of Oz Experiment. Internal report PLUS (A Pragmatics Based Language Understanding System), ESPRIT P5254.

Allwood, J. Nivre, J. & Ahlsén, E, 1990. Speech management - on the nonwritten life of speech. *Nordic Journal of Linguistics* 13, 3-48.

Allwood, J. Nivre, J. & Ahlsén, E. 1992. On the Semantics and Pragmatics of Linguistic Feedback. *Journal of Semantics* 9: 1-26.

Black, W. (ed.) 1991.PLUS: A Pragmatics Based Language Understanding System. Functional Design (ver.2.1), ESPRIT P5254.

Bunt, H. 1993. Discussion and Critique of the Discourse Model. Internal Report. PLUS (A Pragmatics Based Language Understanding System), ESPRIT P5254.

Grice, H. P. 1975. Logic and Conversation. In P. Cole & J.L. Morgan (eds.) *Syntax and Semantics III: Speech Acts.* New York: Academic Press, pp. 41-58.

Heritage, J. 1984. *Garfinkel and Ethnomethodology*. Cambridge: Polity.

Kant, I. 1975. *Die Drei Kritiken*. Stuttgart: Alfred Kroner Verlag.

Linell, P. & Gustavsson, L. 1987. Initiativ och respons. *Studies in Communication* 15, University of Linköping, Department of Communication Studies.

Rommetveit, R. 1974. *On Message Structure. A Framework for the Study of Language and Communication.* London: John Wiley & Sons.

Sacks, H. & Schegloff, E. 1973. Opening up closing. *Semiotica* 8, 289-327.

Sacks, H., Schegloff, E. & Jefferson, G. 1974. A simplest systematics for the organization of turn-taking for conversation. *Language* 50, 696-735.