Layers of Joint Commitments in Interpersonal Communication

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Abstract

We propose a theory of communicative interactions based on the idea that it is constitutive of interpersonal communication to create and manage a fragment of social reality. We define such a fragment in terms of joint commitments of the interactants, and analyze how these commitments are made in a conversation. We distinguish between three layers of joint commitments: those that regulate the embedding activity of the conversation; those that constitute the joint meaning of communicative acts; and those that concern the target of the conversation. We argue that joint commitments are created in a concrete situation by producing and negotiating interpersonal affordances, which allows the interactants to retain suitable freedom of movement. Finally, we analyze some relationships between our conception of communicative acts and illocutionary acts.

Keywords: Interpersonal communication; communicative act; interpersonal reality; joint commitment; joint meaning.

Introduction

Fifty years since the publication of Austin's *How to Do Things with Words* (1962), the idea that human communication is to be regarded as a form of action has gained universal acceptance. However, there are reasons to doubt that Speech Act Theory (as developed, among others, by Searle, 1969; Schiffer, 1972; Bach & Harnish, 1979; and Alston, 2000) provides an adequate treatment of real communicative interactions. Reasons for skepticism have been put forward, for example, by Levinson (1981), Clark (1996), and Mey (2001); Mey, in particular, proposes to replace the notions of illocutionary and perlocutionary acts of Speech Act Theory with that of a pragmatic act, understood as the situated performance of a concrete act of communication.

As of today, no situated approach to communication can boast the generality and depth of Speech Act Theory. It may be argued that attaining such a result is an impossible mission, insofar as a situated standpoint is by its very nature sensitive to concrete particulars, which clashes with the quest for generality; nevertheless, we believe that significant results can be achieved by suitably choosing the theory's 'field of view.' In the attempt to move forward in this direction, in this paper we confine our interest to processes of *interpersonal communication*, aiming to clarify: (i), what concept of a situation is suited for dealing with interpersonal communication; and (ii), what relationships hold between the performance of a single act of interpersonal communication, the interaction process to which the act belongs, and the situation in which such an interaction is couched.

Our approach is centered on a normative concept, namely, *joint commitment*. The importance of normative concepts in general, and of commitment in particular, has been highlighted in various areas of research related to human communication, like dialogue theory (Hamblin, 1970; Walton & Krabbe, 1995), philosophy of language (Brandom, 1994; Alston, 2000; Searle, 2010), and computer-based interaction (Winograd & Flores, 1986). Nevertheless, the foundational role of commitment in theories of communication is still insufficiently appreciated. At least in part this may be due to the fact that, as remarked by Harnish (2005), we still lack a widely accepted treatment of commitment, comparable to the theories of epistemic and volitional mental states, like belief, desire, and intention.

We found, however, that a theory of commitment suitable for our goals is offered in the work of Margaret Gilbert (1989, 1996, 2000, 2006). We rely on Gilbert's concept of joint commitment to define *interpersonal reality* as a major component of a social situation. In our view interpersonal communication functions as the main source of interpersonal reality, through the creation and management of suitable *affordances*; this approach leads us to propose a novel point of view on several fundamental concepts related to communicative action, like meaning and uptake.

The paper is structured as follows. In the next section we introduce a concept of interpersonal communication and present our view of a situation, with particular regard to its interpersonal component, based on the concept of joint commitment. In the following section we give a concise introduction to joint commitment. Subsequently we delineate a theory of communicative acts, and then analyze some relationships between communicative acts, and speech acts as conceived in Speech Act Theory. Finally we draw some conclusions and describe directions for further research.

The Social Situation

We take interpersonal communication to be a form of communication between *individual selves*. By this we mean that interpersonal communication is 'person-to-person' (rather than in broadcast, like in the case of mass communication), strongly related to the personal identity of the interactants

and to the interpersonal relationship holding between them, and only marginally sensitive to institutionalized roles (contrary to the case of institutional communication).

Interpersonal communication can take place in a variety of settings, like for example face-to-face conversations, phone conversations, mail exchanges, or interactions through online social networks. In this paper we concentrate on the *basic setting* (Clark, 1996), to wit, face-to-face conversations; moreover, for the sake of simplicity we shall confine to conversations involving two agents.

Interpersonal communication typically occurs in the context of some *embedding activity* (Bunt, 1998), jointly carried out by the interactants, like for example making dinner, sailing a ship, or writing a paper together. In the limiting case of a pure conversation, the whole embedding activity coincides with the communication process. The embedding activity is a major component of the *global situation*, in which interpersonal communication is couched. Intuitively, we can think of the global situation as the set of all states of affairs which affect, or are affected by, the interaction. Such states of affairs (be they physical, psychological, or social) function as resources and constraints for action, and often are themselves the result of the ongoing activity.

At every moment, a situation presents a range of *affordances* (Gibson, 1979; Norman, 1988; Carassa et al., 2005), that is, of action possibilities that are perceived by the agents. To a large extent, agents carry out an interaction by exploiting the affordances offered by the current situation, and by creating new affordances for further exploitation. It is important to remark that the global situation cannot be identified with the externally observable, spatio-temporal slice of the world in which the interaction takes place: the mental representations of the interactants typically bring into relevance states of affairs that are far away in time and space, like for example significant events belonging to previous interactions.

In our analysis we concentrate on the social component of the global situation, which we call the *social situation* More precisely, we take the social situation to consist of *social reality*, understood as the collective acceptance or recognition of *deontic powers*, like obligations, rights, and so on (Searle, 2010). Our definition is justified by various reasons, and in particular by the fact that the social situation: (i), is amenable to a general theoretical treatment; (ii), accounts for a remarkable variety of communicative phenomena; and (iii), presents interesting dynamics, in that it both affects, and is continually modified by, communicative action.

It is useful to distinguish between two roughly disjoint components of social reality: (i), *superpersonal reality*, constituted by the deontic powers attributed to an agent by a superpersonal entity (like society at large, a legislature, an organization, etc.), and typically associated to the roles played by the agent within some institutional structure; and (ii), *interpersonal reality*, constituted by the deontic powers informally created by people for themselves in everyday interactions. Both types of social reality involve deontic powers, but there is an important difference: with superpersonal reality, the agents typically recognize certain deontic powers that they did not contribute to create; on the contrary, interpersonal deontic powers are created by the very same agents who are bound by them.

As far as interpersonal reality is concerned, we submit that the creation and maintenance of deontic powers is based on *joint commitments*, that are negotiated by the relevant agents through communicative action (Carassa & Colombetti, 2009c). In the next section we provide an introduction to the concept of joint commitment, mainly based on the work of Margaret Gilbert (in particular 1996, Part III; 2000, Chapter 4; and 2006, Chapter 7).

Joint Commitment

According to Gilbert, all genuinely collective phenomena (like joint activities, collective beliefs, group feelings, social conventions, and so on) involve a special kind of commitment, namely, a *joint commitment*. An agent may be personally committed to do *X*, for example as a result of an individual decision: such a decision may be rescinded, but failing this the agent is committed to do *X*. Being committed to do *X* is a desire-independent reason (although in general not a sufficient cause) for the agent to do *X*; however, in the personal case the agent is the only 'owner' of the commitment, and can rescind it as he or she pleases. Contrary to personal commitments, a joint commitment is a commitment of two or more agents, called the *parties* of the joint commitment, to engage in a common project 'as a single body.' The main difference between personal and joint commitments is that a joint commitment is not separately owned by its parties, but is, so to speak, collectively owned by all the parties at the same time.

According to Gilbert, to establish a joint commitment to do *X* it is necessary and sufficient that every party expresses his or her readiness to be so committed, in conditions of common knowledge; such common knowledge may derive from an explicit agreement, but also from less structured interactions and, in many cases, from the shared understanding of a culturally meaningful context.

In view of the purpose of this article, the main feature of joint commitments is that they consist of *deontic relationships* between the parties. If a group is jointly committed to do something, then every party is obligated to all other parties to do their part, and has the right that all other parties do their parts. It is characteristic of joint commitments that such obligations are *created simultaneously*, when the joint commitment comes into force, and are *interdependent*, in the sense that each party is bound by the joint commitment only as long as the other parties are so bound. If and when all its obligations are fulfilled, a joint commitment is itself fulfilled; on the contrary, if one of its obligations is violated, the whole joint commitment is violated; as remarked by Gilbert (1996), violation by a party typically implies that the joint commitment becomes voidable by the other parties. Moreover, the obligations of a joint commitment are *persistent*, in the sense that they do not expire unless the joint

commitment is fulfilled or re-negotiated. Thanks to their persistence, joint commitments appear to exert a crucial function in human interaction, in that they provide collectively accepted desire-independent reasons for action, and thus make the future behavior of agents more stable and predictable.

The content of a joint commitment need not be an activity: a group of agents may also commit to a propositional attitude, like a belief or a desire, or to a value, a feeling, and so on; for example, the members of the Flat Earth Society are jointly committed to believing that the Earth is flat, and the components of a sports team are jointly committed to be proud of their victories. It is important to remark that all commitments, irrespective of their contents, are desire-independent reasons for action, and as such have a world-to-mind direction of fit. This is obvious for a commitment to do something, but may sound odd, for instance, in the case of a commitment to a belief. The reason is that in the case of an action commitment, both the commitment and its content have the same direction of fit, namely, world-to-mind; but in the case of a commitment to a belief, the commitment has a world-to-mind direction of fit, while its content has a mind-to-world direction of fit. This apparent conflict vanishes if one thinks that all types of commitments entail obligations, which in turn give a crucial contribution to the formation of intentions. For example, suppose that Ann is a member of the Flat Earth Society; then, to fulfill her join commitment, she ought to behave in certain ways, like referring to the North Pole as "the center of the Earth."

Joint commitments to beliefs (that following Gilbert, 1987, we call *collective beliefs*) play a key role in our theory of interpersonal communication. A collective belief that *p* (i.e., the joint commitment of a group to uphold as a body the belief that *p*) should not be confused with what is usually called *common* or *mutual belief*. Both collective and common beliefs are 'distributed' mental states, in the sense that they require all the members of a group to entertain certain mental states; there are, however, important differences between the two concepts. The first such difference is that a collective belief, being a joint commitment, is a source of obligations and rights; more precisely, if *p* is collective belief of group *G*, then every member of *G* is obligated to all other members to act as if p were common belief of G, and has the right against all other members of *G* that they behave accordingly. A further difference is that collective beliefs, contrary to common beliefs, are logically independent of what the relevant agents personally believe. As a limiting case, it is logically possible for a group of agents to hold the collective belief that *p*, while it is common belief of the same group that not-*p*. However, if a group of agents collectively believe that *p*, then all members of the group are obligated to behave as if *p* were common belief of the group (a situation that is well portrayed by Andersen's story of the Naked King).

Communicative Acts

Our approach takes the move from the following assumptions: (i), interpersonal communication is a situated activity, by which a group of agents create and manage a fragment of interpersonal reality; (ii), such interpersonal reality consists of those deontic powers that are collectively accepted by the very agents engaged in the interaction; (iii), collective acceptance consists of joint commitments of the same agents. As we have already pointed out, in this paper we restrict our treatment to face-to-face conversations involving two interactants, A and B. In the sequel we sketch the overall scheme of our theory.

Layers of interpersonal reality Interpersonal communication involves three layers of interpersonal reality (Carassa & Colombetti, 2009c). As we shall see, the bottom layer consists of the joint commitments of A and B concerning the current activity, which embeds the communicative interaction (and actually coincides with it, in the case of a pure conversation); the middle layer involves the construction of *joint meaning*, that is, the creation of joint commitments to the effect that certain communicative acts have been performed; and the top layer involves joint commitments concerning the *target* of the interaction.

Let us consider a real example of a pure conversation:[1]

(1a) A: Can I ask you something?
(1b) B: Sure.
(2a) A: Are you planning to get any stuff from Amazon shortly?
(2b) B: Not really.
(3a) A. There are a couple of books I need.
(3b) B: [in a slightly teasing tone] Ok, just send me the data.
(4a) A: Oh, thanks!
(4b) B: You're welcome, dear.

This exchange consists of a sequence of utterances, organized as four adjacency pairs, that we shall now analyze in details.

Setting up the embedding activity As we have already pointed out, we regard interpersonal reality as consisting of joint commitments. According to Gilbert, to make a joint commitment to *X* it is necessary and sufficient that A and B express their readiness to be so committed, in conditions of common knowledge. A first observation is that while a joint commitment binds its parties simultaneously, the process of creating the joint commitment is typically incremental, as it is highly improbable that all the parties express their readiness at the same time. Typically one of the agents, say A, will start expressing readiness, thus making what we call a *precommitment*. This precommitment functions as an *interpersonal affordance* for B, who may ignore it, express a matching readiness (thus transforming A's precommitment

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[1] Free translation from Italian. A and B are in the same room, working independently at their laptops; it is common practice of A and B that B carries out online purchases for A.

into a full-blown joint commitment of A and B), or deal with it otherwise.

A first example of this is pair 1a-1b. By utterance 1a, A expresses her readiness to engage in a conversational exchange with B, and this creates for B the interpersonal affordance to set up a conversation with A. B can now exploit such an affordance in different ways. A first possibility would be to ignore A's precommitment, and just keep silent:

(1b') B: –

Another possibility for B is to acknowledge A's precommitment, while refusing to turn it into a joint commitment; this result could be achieved, for example, by answering:

(1b") B: Not now, please, I'm in a hurry here.

Third, B can acknowledge A's precommitment, and accept to turn it into a joint commitment of A and B to engage in a conversation together, and this is what B does by uttering 1b. Such a joint commitment entails certain mutual rights and obligations, like the right to address further communicative acts to the other party, and the obligation to participate in the construction of joint meaning and in the negotiation of the target (see the following subsections). Note that even if B, by uttering 1b", would reject A's precommitment to set up a conversation, he would still implicitly acknowledge that he construed utterance 1a as creating such a precommitment, thus implying that joint meaning of 1a has been achieved; this would not be the case with response 1b' (silence).

It is important to remark that our treatment does not aim to provide a comparative evaluation of responses like 1b, 1b', and 1b", for example relative to a system of conversational rules. Indeed, keeping silent (like in 1b') would be considered inappropriate in most conversational situations; but this has to do with what we have called *superpersonal reality*, that is, with the normativity that is externally imposed on the current social situation. What we try to clarify, on the contrary, is what different responses actually contribute to the creation and maintenance of *interpersonal reality*, that is, to the normativity that is built by the interactants within the current situation.

Creating joint meaning Meaning is a highly controversial topic. For most speech act theorists, what an agent means by an utterance depends on their communicative intention, independently of what the addressee understands, and even of the actual existence of an addressee; for other, more socially-minded, theorists, meaning is in some important sense jointly constructed by the speaker and the addressee. In a previous paper (Carassa & Colombetti, 2009a) we have proposed to dissolve this apparent conflict of views by distinguishing between *speaker's meaning*, which is a function of the speaker's communicative intention, and *joint meaning*, which is collectively constructed by the speaker and the addressee. The joint meaning of an utterance, addressed by A to B, is the joint commitment of A and B to uphold as a body the belief that A's utterance has been produced with a given communicative intention. This implies that joint meaning is to be regarded as the collective belief of the speaker and the addressee, to the effect that a certain communicative act has been performed.

Going back to our example, we can notice that an utterance often gives an implicit contribution to the construction of joint meaning of previous utterances. After pair 2a-2b, it is still not established that 2a is meant by A as a pre-request, related to the target of getting some books from Amazon. But that this is the case becomes clear after 3a-3b; more precisely, utterance 3b: (i), implies that B construed 3a as an indirect request, and 2a as a related pre-request; (ii), conveys acceptance of the request; and (iii), suggests a way of carrying out the joint project that is now understood to be the target of the conversation. A different construal would be put forward, for example, by a response like:

(3b') B: Try Amazon Italy, delivery is free.

Like in the case discussed in the previous subsection (concerning the joint action of setting up an embedding activity), also joint meaning is built by the speaker's creation of an interpersonal affordance, which can be exploited by the addressee to complete the construction of a joint commitment. This view is especially useful to deal with indirect speech; for example, A's utterance 3a creates affordances for B to interpret it in different ways: as an indirect request to buy some books for A; as an indirect request to put the speaker in condition of buying the books herself; as a mere expression of a wish; and so on. By response 3b, B offers to A an interpretation of 3a as a request to buy some books for her (and, by the same utterance, B accepts such a request). Then, by 4a, A implicitly accepts B's construal; but note that at this stage A still has the possibility of suggesting a different interpretation, for example by saying,

(4a') A: I think I can manage it, I just wanted to know if you want to add something to my order.

An addressee's contribution to the construction of joint meaning is obviously related to Austin's concept of *uptake*. In the Speech Act literature, uptake has been either completely neglected, or at most considered as the addressee's epistemic recognition of an intended illocutionary act. On the contrary, we advocate a normative concept of uptake, as the addressee's contribution to the construction of joint meaning, understood as a piece of interpersonal reality. Such a contribution we call *interpersonal uptake*.

Negotiating the target At the third layer of interpersonal reality, the target of the communicative interaction is negotiated. Also at this layer we understand interaction as the production of interpersonal affordances in the form of precommitments, which the addressee may ignore, accept (and thus transform into full-blown joint commitments), refuse, or otherwise negotiate. In our example, the target concerns B buying some books for A from Amazon. But that this is the case is fully established only with utterance 4a, where A accepts B's construal of 3a as an indirect request. All utterances preceding 4a provide relevant affordances in this direction, but still leave the interactants some freedom of movement.

The concept of *freedom of movement* is crucial to understand why communicative interactions are carried out by creating and managing affordances at different layers of interpersonal reality (Carassa & Colombetti, 2009b). In the last resort, what is at stake is negotiating the target: in our example, A has the personal goal of getting B to buy certain books for her; but this goal could also be achieved through a direct request, like for example:

(2a') A: Please buy me a few books from Amazon, I'll send you the data.

A first observation is that a direct request of this tenor conveys a presumption of authority of A over B, that would be inappropriate in the relevant social situation. This explains why A is willing to leave B some freedom of movement *at the target layer*, but is still insufficient to fully understand our example; indeed, the same result could be achieved by a direct request that explicitly acknowledges B's right to refuse, like:

(2a") A: I need a few books. You may buy them for me from Amazon, if you want.

The problem with such a request is that it leaves B two alternatives: accepting the request, which B may not want to do, or refusing it, which may be embarrassing. What we see in our example, instead, is that the locus of negotiation is moved from the target layer to the layer of joint meaning: after 3a, B is still free to construe it as an indirect request of buying the books for A, or in a different way, like for example as a weaker request of assistance (see 3b').

It is important to clarify that the target (i.e., B's concrete action of buying some books for A) is *not* part of the present situation: B's action will be performed at some future moment, after the current interaction has been terminated (by pair 4a-4b). On the contrary, the joint commitment of A and B, to the effect that such an action will be carried out, *is* part of the present situation, as it is here that the commitment is created. Interestingly, the commitment does not expire when the current interaction is terminated: as we have already remarked, the temporal persistence of joint commitments is essential to their function of making the future consequences of an interaction adequately stable and predictable.

Communicative vs. Speech Acts

Given the impact of Speech Act Theory on theories of communication, it is meaningful to confront a novel conception of a communicative act with that of a speech act. Here we shall consider four aspects related to Speech Act Theory: (i), the distinction between illocution and perlocution; (ii), the controversy between normativistic and naturalistic approaches; (iii), the distinction between communicative and conventional acts; and (iv), the treatment of indirect speech.

Illocution and perlocution Our treatment of communicative acts situates itself at the illocutionary level. While this is obvious for the joint meaning layer, it may seem that the target layer is concerned with perlocution. But this is not the case, as we do not examine the mental processes that lead an addressee, for example, to accept or refuse a request; rather, we analyze how acceptance or refusal is made public through communication, and this concerns illocution.

In any case, our treatment of illocution departs from classical Speech Act Theory, in that we are interested in how the illocutionary force of an utterance is collectively constructed as a matter of joint meaning. A consequence is that communicative acts cannot be studied in isolation, but only in the flow of conversation.

Normativistic vs. naturalistic approaches Harnish (2005) contrasts normativistic and naturalistic theories of speech acts. According to the former (originated by Austin, 1962, and mainly developed by Searle, 1969, and Alston, 2000), to perform an illocutionary act is to produce an utterance in conformance with certain constitutive rules; according to the latter (mainly developed by Schiffer, 1972, and Bach & Harnish, 1979), to perform an illocutionary act is to produce an utterance with a reflexive communicative intention, which includes its own recognition by the addressee in its conditions of satisfaction.

It seems to us that our approach overcomes this opposition by recognizing the crucial importance of the normative dimension of communicative acts, but reducing it to a perfectly natural phenomenon, that is, the human cognitive ability to make joint commitments (see Carassa & Colombetti, 2009a, for a preliminary analysis of the role of reflexive communicative intentions in the creation of joint commitments).

Communicative vs. conventional acts According to normativistic theories, there is no essential difference between, say, asking a favor and pronouncing two persons man and wife: in both cases, an illocutionary act is performed in conformance with certain constitutive rules. Naturalistic theories, on the contrary, deal differently with the two types of illocutionary acts, because the addressee's recognition of the communicative intention is crucial in the former case, but not in the latter. This introduces a sharp distinction between *communicative* and *conventional* acts, as first proposed by Strawson (1964). In our view, the difference between these two types of illocutionary acts is related to the two kinds of social reality, that is, interpersonal reality (for communicative acts) and superpersonal reality (for conventional acts). What is at stake, then, is not so much a difference between types of illocutionary acts, but rather a difference between types of social situations. In the future, we plan to extend our treatment to conventional acts including superpersonal reality in our treatment of the social situation.

Indirect illocutionary acts In Speech Act Theory, an utterance like 3a is usually analyzed as realizing both a literal illocutionary act of the assertive type, and an indirect illocutionary act of the directive type. The inference from the literal to the indirect interpretation can be accounted for in terms of conversational implicature (Searle, 1975).

It is by no means obvious, however, that such a treatment provides a satisfactory view of what goes on in a real conversation. In uttering 3a, for example, even A may not be completely clear about her own communicative intention: is

she intentionally requesting B to buy the books for her, or is she suggesting that buying the books would be nice of B, or is she just presenting a state of affairs to B, in the hope that B will somehow help her? Not only this cannot be established by simply scrutinizing A's utterance; more importantly, A need not have a fully definite communicative intention: what A actually does is to create an interpersonal affordance for B to participate in the collective construction of joint meaning. If we are right on this, the classical theory of indirect illocutionary acts should be replaced by a different view, which highlights the power of situated communicative acts to create and manage interpersonal affordances at all layers of interpersonal communication (Carassa & Colombetti, 2009b).

Conclusions

We have argued that interpersonal communication is basically a matter of creating and managing a fragment of interpersonal reality. We dealt with interpersonal reality in terms of joint commitments, and analyzed how these are created in conversation. We distinguished between three layers of joint commitments, and argued that at each layer the relevant joint commitments are made by producing and negotiating interpersonal affordances in a concrete social situation, so that the interactants can retain suitable freedom of movement.

We believe that recognizing the central role of joint commitment in human interaction involves a crucial enlargement of the classical view of human cognition. Indeed, it is interesting to see that important contributions in this direction are being produced by empirically oriented research on the origin of human communication and cooperation (Tomasello, 2008; Gräfenhain et al., 2009).

In the future, we plan to develop our approach in two main directions: first, by extending our treatment to communicative interactions that are significantly affected by elements of superpersonal social reality, thus covering communication in institutional contexts; second, by providing a more articulated account of joint commitment, with the aim of showing how to extend the classical conceptual toolkit of Cognitive Science, in order to deal with the intrinsically normative nature of human interactions.

References

Alston, W. P. (2000). *Illocutionary acts and sentence meaning*. Ithaca, NY: Cornell University Press.

Austin, J. L. (1962). *How to do things with words*. Oxford: Clarendon Press.

Bach, K., & Harnish, R. M. (1979). *Linguistic communication and speech acts*. Cambridge, MA: MIT Press.

Brandom, R. B. (1994). *Making it explicit*. Cambridge, MA: Harvard University Press.

Bunt, H. C. (1998). Iterative context specification and dialogue analysis. In H. C. Bunt & W. J. Black (Eds.), *Abduction, belief, and context*. London: University College Press.

Carassa, A., & Colombetti, M. (2009a). Joint meaning. *Journal of Pragmatics*, *41*, 1837–1854.

Carassa, A., & Colombetti, M. (2009b). Situated communicative acts: A deontic approach. *Proc. CogSci 2009* (pp. 1382–1387), Amsterdam, July 2009.

Carassa, A., & Colombetti, M. (2009c). Creating interpersonal reality through conversational interactions. Presented at the *Inaugural Conference of the European Network of Social Ontology*, Constance, CH, 16-17 October 2009 (http://www.common.unisi.ch/pdf_pub5326).

Carassa, A., Morganti, F., & Tirassa, M. (2005). A situated cognition perspective on presence. *Proc. CogSci 2005* (pp. 510–516), Stresa, I, July 2005.

Clark, H. H. (1996). *Using language*. Cambridge: Cambridge University Press.

Gibson, J. J. (1979). *The ecological approach to visual perception*. Boston: Houghton Mifflin.

Gilbert, M. P. (1987). Modeling collective belief. *Synthese*, *73*, 185–204.

Gilbert, M. P. (1989). *On Social Facts*. London and New York: Routledge.

Gilbert, M. P. (1996). *Living together*. Lanham, MD: Rowman & Littlefield.

Gilbert, M. P. (2000). *Sociality and responsibility*. Lanham, MD: Rowman & Littlefield.

Gilbert, M. P. (2006). *A theory of political obligation*. Oxford: Clarendon Press.

Gräfenhain, M., Behne, T., Carpenter, M., & Tomasello, M. (2009). Young children's understanding of joint commitments. *Developmental Psychology*, *45*, 1430–1443.

Hamblin, C. L. (1970). *Fallacies*. London: Methuen.

Harnish, R. M. (2005). Commitments and speech acts. *Philosophica*, *75*, 11–41.

Levinson, S. C. (1981). The essential inadequacies of speech act models of dialogue. In H. Perret, M. Sbisà & J. Verschueren (Eds.), *Possibilities and limitations of pragmatics*. Amsterdam: Benjamins.

Mey, J. L. (2001). *Pragmatics* (*2ⁿᵈ ed.*). Oxford: Blackwell.

Norman, D. A. (1988). *The psychology of everyday things*. Basic Books, New York.

Schiffer, S. R. (1972). *Meaning*. Oxford: Clarendon Press.

Searle, J. R. (1969). *Speech acts*. Cambridge: Cambridge University Press.

Searle, J. R. (1975). Indirect speech acts. In P. Cole & J. L. Morgan (Eds.), *Syntax and semantics 3: Speech acts*. New York: Academic Press.

Searle, J. R. (2010). *Making the social world*. Oxford: Oxford University Press.

Strawson, P. F. (1964). Intention and convention in speech acts. *The Philosophical Review*, *73*, 439–460.

Tomasello, M. (2008). *Origins of human communication*. Cambridge, MA: MIT Press.

Walton, D. N., & Krabbe, E. C. W. (1995). *Commitment in dialogue*. Albany, NY: State University of NY Press.

Winograd, T., & Flores, F. (1986). *Understanding computers and cognition*. Norwood, MA: Ablex.