Chapter 15

THE SEMANTICS/PRAGMATICS DISTINCTION FROM THE GAME-THEORETIC POINT OF VIEW

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This study examines the conceptual interplay between semantic and pragmatic aspects of linguistic meaning from the game-theoretic standpoint, and finds a negative result: that which is semantic and that which is pragmatic in language cannot be distinguished by means of the rule-governed and structural features of game theory. From that perspective, the sole difference is whether players entertain epistemic relationships with respect to the solution concepts and strategy profiles in the game-theoretic analysis of linguistic meaning. This means that, theoretically, the distinction is illusory.

1 ASSUMPTIONS

Let me start by outlining a few underlying assumptions that need to be acknowledged at the outset. First, I take meaning to loom in the relational action structure or the form that is essential in depicting games in their extensive forms. An extensive form of a game is a tree structure that lays bare the individual actions of the players as well as their responses to the actions of their adversaries. These games may be correlated with various things, such as formulas of logic, propositions, declarative and non-declarative assertions in natural language, or even some iconic and visual representations of our cognitive apparatus. One might be well advised to use the term ‘signs’, though this requires a separate argument which is beyond the scope of this paper.

In any event, that the structure is relational means that it is built from recurring interactions between those who utter and those who interpret the assertions. That the structure is extensive means, in the usual game-theoretic nomenclature, that it concerns not only the actual, but also the possible and counterfactual actions—the relational alternatives or referential multiplicities—of any particular or actual play of the game. Nevertheless, it is not the actions as such that correspond to the meaning, but the strategies, the exercise of which gives rise to actions.

That meaning is preserved in interactive structures has been prevalent throughout human inquiry. During the last fifteen years or so, interest in interaction has greatly expanded, bringing together masses of theoreticians and practitioners to bear on the topic. Computer scientists have
begun looking closely into the idea to develop a general theory of semantics for programming languages (Abramsky, 2006). Linguists have incorporated interaction into their evolutionary and diachronic arguments for semantic and pragmatic change, though less often into game-theoretic outfits. For philosophers, the idea represents a time-honoured view of human discourse that has appeared in various metaphysical and logical guises ever since Plato’s dialogues (Pietarinen 2003b, 2007a).

The individual disciplinary boundaries are not of too great a concern here; in each case the underlying terminology and the mathematical formalism is liable to be quite different, and geared to specialised theories. Yet the goal of the interdisciplinary enterprise is common: to get at the heart of meaning by methods that share general features, such as those analogous with how humans seem to accomplish this, through those concrete communicational and interactive practices and processes that take place between multiple agents with the application of multiple cycles of encounters throughout historical and evolutionary time.

The second assumption is that we can engage in semantics and pragmatics by applying the unifying conceptual framework, tools, and methods provided by game theory. We can engage in semantics, and indeed there is a time-honoured theory for doing so, by what is known in the trade as game-theoretic semantics (GTS; see Hintikka 1973, Hintikka & Kulas 1983, and papers by Clark, Pietarinen, Sandu and Scheffler in this volume, among others). Its motivations date back to certain venerable ideas in the history of philosophy, including Wittgenstein’s language games (Wittgenstein 2000–, see the papers in this volume by Di Chio & Di Chio, Pietarinen and Sowa), Peirce’s model-theoretic approach to logic (Peirce 1967, Pietarinen 2005b), and Kant’s transcendental argument (Hintikka, 1973).

It is nearly as evident that we can study pragmatics by game-theoretic means. Such a methodology is cogently suggested by formal developments upon Grice’s programme (Hintikka 1986, Parikh 2006). What is more, game-theoretic analyses of communication prompted, for the most part, by Lewis (1969), have burgeoned of late (see e.g. Allott 2006, Benz et al. 2006, Pietarinen 2006c, and papers in this volume by Guldborg Hansen, Alonso-Cortés and Miyoshi). This assumption is more contentious, however, since while linguistic interactions resonate closely with those of strategic interactions in anticipating the actions of others in order to increase, say, your communicative fitness, few agree on what the admissible, preferred ways of implementing this resemblance are or what they should be.

Pertinent questions include the following: What is the linguistic content of what actions represent? Are payoffs something that ought to be assigned to sets of such actions or do they go best with entire strategy profiles? Are there notions, such as Gricean intention or speaker’s meaning, that do not naturally arise in, or are not well amenable to, game-theoretic analysis after all?

One of the consequences of this second assumption is that we can study semantics as well as pragmatics not only in terms of some well-chosen tools and methods of game theory but in terms of the logical and linguistic theory of GTS. And so it could as well be called game-theoretic pragmatics (see one of the early studies in this regard by Almog 1982, cf. Pietarinen 2001a).

Let me briefly justify. First, arguments for the usefulness of game theory in linguistic studies range over an area traditionally conceived as pertaining partly to the semantic and partly to the pragmatic study of meaning. GTS draws no a priori distinction between the two areas, however. The sundry postulation in the tradition of GTS has been that the classes of games that it studies and applies to various linguistic phenomena are strictly competitive rather than cooperative, and that the payoff structure is, for this reason, much simpler.