CHAPTER 4

Towards a Grammar of System Networks

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1 Introduction

As our postmodern world moves away from hierarchical and linear structures to looser, more fluid and self-directed structures, there is a new type of logic and an increasing predilection for a new type of ‘writing’ to correspond to these changes: tables, charts, graphs, lists and, the focus of this chapter, system networks (but see also Trimbur and Press for a discussion of the history of multimodality, chapter 1 in this volume). A system is technical diagram which models choice and structure relations in any semiotic system. It is a finite set of options from which only one must be selected and each choice has a different structural pattern. To provide a brief illustration, speakers of English can choose between giving and demanding information, and the difference between the two lies in a different syntax, or realisation. That is, a declarative is recognised by the Subject preceding the Finite—She can write, whereas for interrogatives, the Finite precedes the Subject—Can she write? All this information is formalised as a system network resemioticised into various modes including symbols, lines and words. As can already be noted, the term system is ambiguous. It can either refer to a semiotic resource such as language in its entirety or it can refer to the small diagram which formalises the potential of the resource. However, they are the same concept operating on a different level (see Halliday & Webster, 2009, pp. 232–233). When the entire semiotic resource is referred to, the term is usually modified as in semiotic system, linguistic system or social system. The diagram is usually part of a system network. For some theorists, system networks are drawn (Henrici, 1981; Butt, 2001), built (Halliday, cited in Martin 2013) or written (Martin, 2013; Martin, 1987; Huddleston, 1981). For the purposes of this chapter, and in order to differentiate between conventional written discourse and the diagram, the term build is used when referring to the construction of the system.
This chapter aims to advance multimodal discourse pedagogy by developing a grammar of system networks that takes into account a range of semiotic systems, including language; it provides a complementary approach to teaching system network building whilst simultaneously flouting the ‘rules’ of this grammar and transforming system network building technology to account for the affordances of alternative semiotic systems. The choice to develop a grammar of system networks is not arbitrary. Rather, a growing body of multimodal investigations are now drawing on, and have successfully adapted, the theoretical underpinnings of Systemic Functional Linguistics (SFL) and Kress and Van Leeuwen’s (2006) semiotic principles for two-dimensional images when analysing other non-linguistic forms of communication such as music and sound (Van Leeuwen, 1999), toys (Kress & Van Leeuwen, 2006), film (O’Halloran, 2004; Baldry & Thibault, 2006), paintings (O’Toole, chapter 3 this volume), haircuts (McMurtrie, 2010) and architecture (for example McMurtrie, 2011, 2012; Ravelli, 2006; Ravelli & Stenglin, 2008; Stenglin, 2009). Many of these researchers use system networks in order to formalise the potential of a particular semiotic system. In addition to formalising the potential, system networks form an integral part of an argument (Butt, 2001), and this means that the diagrams must be built accurately. However, it is often taken for granted that we, veteran systemicists and students of multimodality, are able to do this. That is, there is an assumption that we understand the ‘grammar of system networks’. When instructions on how to build the networks are given, they usually include a verbal text describing an accompanying diagram; however, we also need to understand the correlation between elements within the system network. Therefore, an analysis of the relationship between the diagram and the verbiage describing the diagram as well as the interplay between verbal and non-verbal elements within the system networks is important. By undertaking such an analysis, this chapter complements other chapters in Multimodality in Writing. The state of the Art in Theory, Methodology and Pedagogy, as the book champions a social semiotic, multimodal approach to analysing texts and pedagogical processes (as done for example by Alshwaikh or Sidiropoulou, chapters 5 and 8 in this volume), and part of this process is reading, using and building up system networks.

The first part of this chapter explains some of the theory that is drawn upon, including the notion of intersemiosis and two of the fundamental tenets of SFL: metafunction and rank. This chapter then moves on to explore the intersemiotic complementarity between the verbal text from Huddleston’s (1981) article “System Features and their Realisations” and the corresponding diagram in the same article, explicating the ways in which the meaning in the verbiage is, or is not, expressed in the network (this chapter also refers to other systems