Noun phrases with coordinated nouns, such as *five linguists and philosophers*, exhibit a range of unusual syntactic and semantic properties. Syntactically, unexpected agreement patterns result when coordinated nouns share a determiner: in examples like *this/a man and woman*, a singular determiner must be used, even though the full phrase behaves like a plural phrase (*this/*these man and woman are/*is my friends*). Semantically, such examples can display several readings. A simple boolean reading is available for an example like *my friend and colleague* when it refers to a single individual, or for *five linguists and philosophers* when it refers to five individuals, each of whom is both a linguist and a philosopher. Many but not all such examples have a reading paraphrasable by repeating the determiner, as in an example like *a man and woman*, which refers to two individuals and can be paraphrased as *a man and a woman*; in a parallel way, *five linguists and philosophers* can refer to a group of five linguists and five philosophers. In some cases a third reading seems also to be available: *five linguists and philosophers* can also refer to five individuals, some of whom are linguists and the rest philosophers. This threefold ambiguity is not accounted for by most theories, and calls for a rethinking of the semantic treatment of coordinate structures and a reexamination of coordination at the syntax-semantics interface.