`Case intensional first-order logic: extensions = powers?'

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My talk falls into two parts. In the first part, I'll introduce a general logical framework for modality and quantification, called "Case-intensional first-order logic" (CIFOL). (This is a report on joint work with Nuel Belnap, forthcoming in the Journal of Philosophical Logic.) CIFOL combines first-order quantification and a universal S5 modality in a straightforward way and is meant to provide a neutral formal framework for discussing various metaphysical and scientific arguments. CIFOL's generality is made possible by an innovation due to Aldo Bressan: All terms (including definite descriptions, variables and constants) have an extension in each case (where the interpretation of the cases is left open; they do not need to be thought of as "possible worlds"), and an intension, which is the function from cases to the case-relative extensions. Predication is intensional (i.e, whether a predicate applies, may depend on more than what is so in a single case). This makes it possible to define a class of so-called absolute predicates, which allow the tracing of a thing from case to case without building into the logical framework metaphysical assumptions about "rigid designation" or "trans-world identity". Concrete individuals are thereby seen to be represented not by extensions, as in standard quantified modal logic (in which one tends to think in terms of "inhabitants of possible worlds"), but by intensions. This approach leaves the nature of the extensions completely unspecified -- their only systematic role is to figure in case-relative identity statements.
In the second part of the talk, which is chiefly exploratory and quite tentative, I will try to see whether CIFOL's professed neutrality makes it possible to use power structures as the basis for case-relative extensions, and what would follow from such an attempt for the representation of concrete individuals.