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Roman Kossak* (rkossak@gc.cuny.edu), Mathematics Ph.D. Program, The CUNY Graduate Center, 365 Fifth Avenue, New York, NY 10016. *Elementary pairs of models of PA.*

It is not a big exaggeration to say that most of model theory of arithmetic concerns pairs of the form (M, K) , where $K \prec M$. It would be a much too ambitious project to attempt any general classification of all such pairs, but some interesting restricted cases have been successfully studied. Much is known about the case where M is a countable recursively saturated elementary end extension of K . With small exceptions, the isomorphism type of (M, K) for such pairs can be recovered from the structure $(K, \text{Cod}(M/K))$, where $\text{Cod}(M/K)$ is the collection of those subsets of K which are coded in M . In the talk I will briefly survey the elementary end extension case, and I will report on the less explored case of cofinal extensions. This last topic is joint work with Henryk Kotlarski. (Received August 03, 2008)