1011-20-122 **Laura I Ciobanu*** (`ciobanu@math.auckland.ac.nz`), Department of Mathematics, University of Auckland, Private Bag 92019, Auckland, New Zealand, and **Warren Dicks** (`dicks@mat.uab.es`), Department de Matematiques, Universitat Autonoma de Barcelona, Bellaterra, E-08193 Barcelona, Spain. *Examples of retracts in a free group that are not the fixed subgroup of any group of automorphisms.*

Let F be a free group of rank at least three. We show that some of the retracts of F studied by Martino-Ventura are not equal to the fixed subgroup of any group of automorphisms of F. This shows that, in F, there exist subgroups that are equal to the fixed subgroup of some set of endomorphisms but are not equal to the fixed subgroup of any set of automorphisms.

Moreover, we determine the Galois monoids of these retracts, where by the Galois monoid of a subgroup H of F we mean the monoid of all endomorphisms of F that fix H. (Received August 22, 2005)

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