1064-14-365 **Daniel Daigle*** (ddaigle@uottawa.ca), University of Ottawa, Department of mathematics, 585 King-Edward, Ottawa, Ontario K1N 6N5, Canada. *On factoring out the birational part of a morphism.*

Let us say that a morphism $f : \mathbb{A}^2 \to \mathbb{A}^1$ is *lean* if, for any factorization $\mathbb{A}^2 \xrightarrow{\beta} \mathbb{A}^2 \xrightarrow{f'} \mathbb{A}^1$ of f with β a birational morphism, β is actually an automorphism of $\mathbb{A}^2$. Then it is interesting to ask whether a given morphism $f : \mathbb{A}^2 \to \mathbb{A}^1$ can be factored as $\mathbb{A}^2 \xrightarrow{\beta} \mathbb{A}^2 \xrightarrow{f'} \mathbb{A}^1$ where β is birational and f' is lean. This question and variants of it are related to the notions of "good and bad field generators" and to the theory of birational morphisms $\mathbb{A}^2 \to \mathbb{A}^2$. We present some new results on birational endomorphisms of $\mathbb{A}^2$ with applications to the above question.

(Joint work with Pierrette Cassou-Noguès.) (Received September 14, 2010)