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**Further remarks on reduced languages. (English. English
summary)**

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A binary relation R on an alphabet Σ is called an independence
relation if R is symmetric and nonreflexive. A language L over Σ
is said to be reduced with respect to an independence relation R
on Σ, if for no strings x and y in L we have $x = uabv$, $y = ubav$,
$u, v \in \Sigma^*$ and $(a, b) \in R$. A language reduced with respect to the
maximal independence relation on Σ—viz. $\{(a,b)|\ a, b \in \Sigma,\ a \neq b\}$—
is simply called reduced. For each family $\mathbf{F}$ of languages, $\mathbf{F}_R$ denotes
the subfamily of reduced languages in $\mathbf{F}$.

The authors show that it is decidable whether a regular language is
reduced. For each $\mathbf{F}$ that includes the family of linear languages it is
undecidable whether a given language from $\mathbf{F}$ belongs to $\mathbf{F}_R$. Finally,
a few characterizations of $\mathbf{F}$ in terms of $\mathbf{F}_R$ and language-theoretic
operations (union, morphism, inverse morphism) are established.

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