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Could selfish DNA create new proteins?

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Selfish DNA has been **defined** as DNA "with no phenotypic expression whose only 'function' is survival within genomes." In the 13 October *Science*, [<http://www.sciencemag.org/>] Ogata *et al.* find what appears to be selfish DNA lodged in the middle of 19 genes of *Rickettsia conorii* [<http://www.genomebiology.com/resolver.asp?PubMedID=9336669>], an intracellular bacterium of ticks (*Science* 2000, **290**:347-350). The repeats are palindromes that encode a mildly hydrophobic α helix surrounded by two extended or coil regions. This appears to be a non-functional module that has been inserted at the surface of a collection of unrelated proteins. Although the inserts probably do not provide a specific function, genetic drift from the original sequence could allow the evolution of new protein sequences, domains and functions.

References

1. Selfish genes, the phenotype paradigm and genome evolution.
2. *Science*, [<http://www.sciencemag.org/>]
3. Rickettsioses as paradigms of new or emerging infectious diseases.