

Self-Adaptation

1974/75

The critical claim (Schwefel 1987, 1992):

Self-adaptation of strategy parameters works

- without exogenous control,
- by recombining / mutating the strategy parameters,
- by exploiting the implicit link between fitness and useful internal model.

Necessary conditions:

- Generation of a surplus $\lambda > \mu$,
- (μ, λ) -selection (to guarantee extinction of misadapted individuals),
- a not too strong selective pressure (e.g., (15,100); $\lambda/\mu \approx 7$ turns out to be useful, but μ has to be clearly larger than 1),
- recombination also on strategy parameters (especially: intermediate recombination).