# Post Optimal Analysis
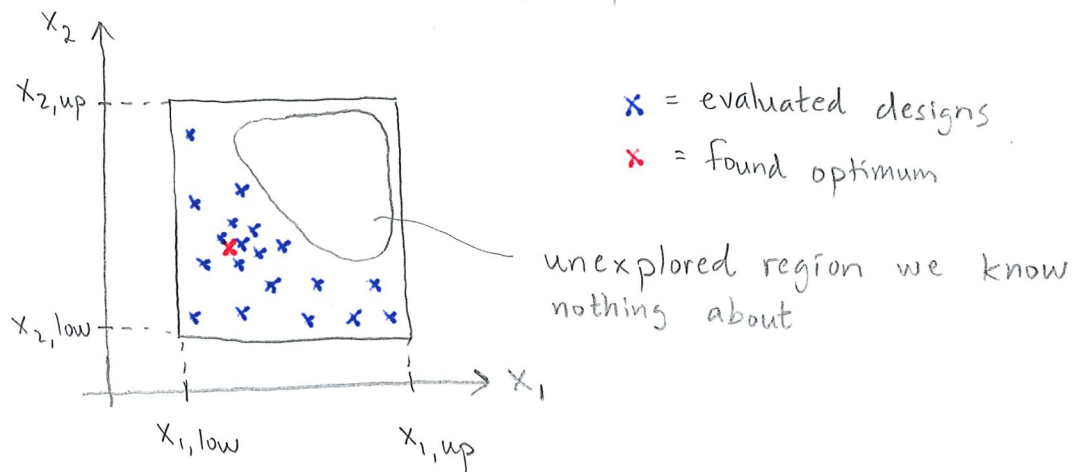
* Examine the optimization
* Is the result credible?

## Convergence History
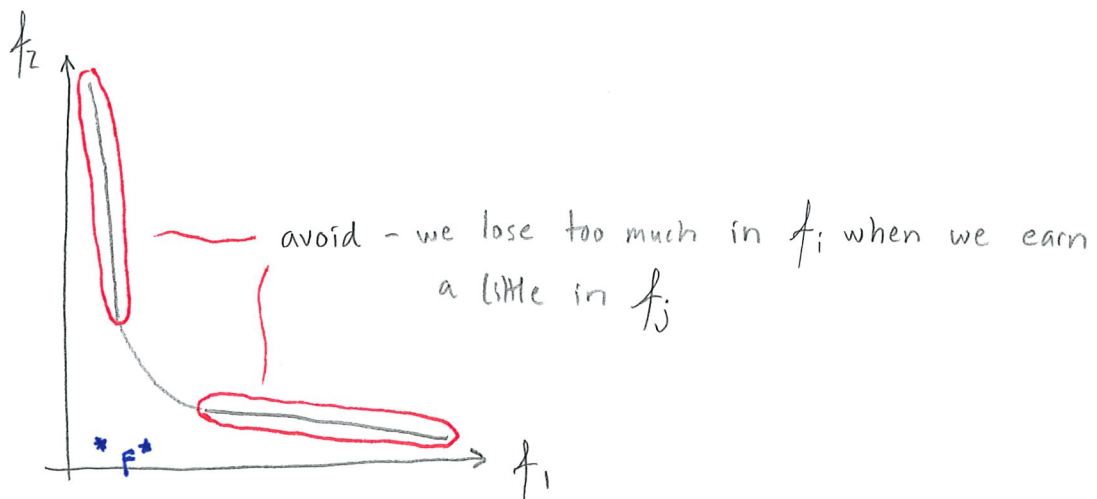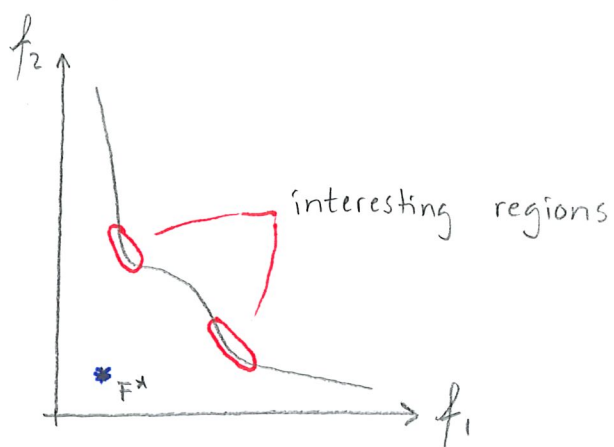
* Have we explored the design space?



$x = $ evaluated designs
$x = $ found optimum

unexplored region we know nothing about
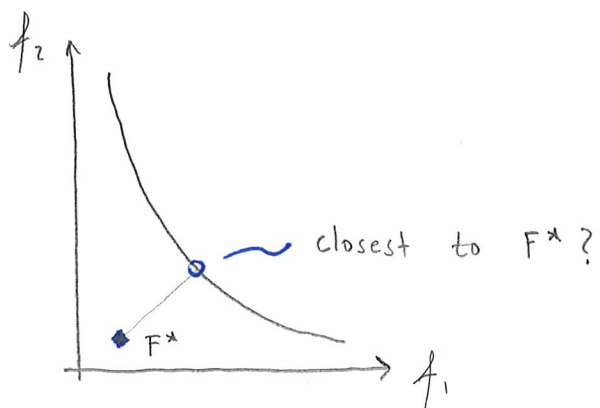
* Is the convergence speed reasonable?
  → Too fast probably means that we have unexplored regions

# Choosing a solution



closest to $F^*$ ?



interesting regions



avoid — we lose too much in $f_i$ when we earn a little in $f_j$

# Choosing a Solution

* We would like to use graphs as decision support

* It is difficult to interpret/show more than 4
  entities:

  $\rightarrow$ x-axis
  $\rightarrow$ y-axis
  $\rightarrow$ color
  $\rightarrow$ size

* Aggregate similar objectives together to reduce the
  number of entities, for example performance vs. cost.

  $$F_{12}(x) = \frac{f_1}{f_{10}} + \frac{f_2}{f_{20}}$$

  motorcycle example:

  $\frac{acc}{acc0} + \frac{velo}{velo0}$

  (graph with vertical axis labeled by the expression above and horizontal axis labeled "Range", showing a decreasing curve)