

Corrections for the book CONVEX OPTIMIZATION THEORY,
Athena Scientific, 2009, by Dimitri P. Bertsekas

Last Modified: 11/5/10

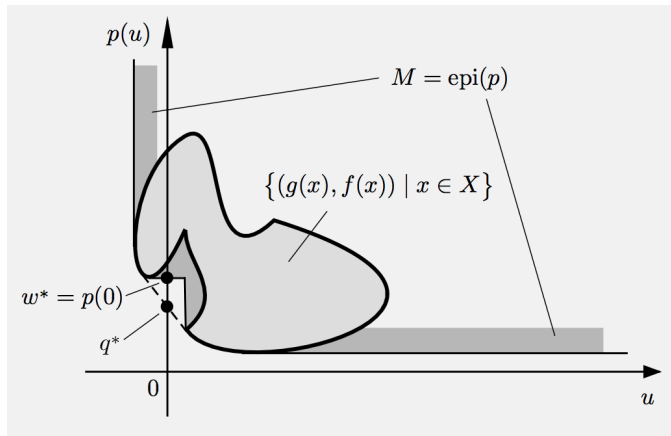
p. 78, (Figure 1.5.8) At the top of the figure change “Hyperplane H that” to “Hyperplane that”

p. 78, (+1) Change “since P and \overline{C} lie in the opposite closed halfspaces of H ” to “[if $\bar{x} \in P \cap \text{ri}(\overline{C})$ then $\bar{x} \in D \cap \text{ri}(\overline{C})$, a contradiction since D and $\text{ri}(\overline{C})$ lie in the opposite closed halfspaces of H and $H \cap \text{ri}(\overline{C}) = \emptyset$ ”

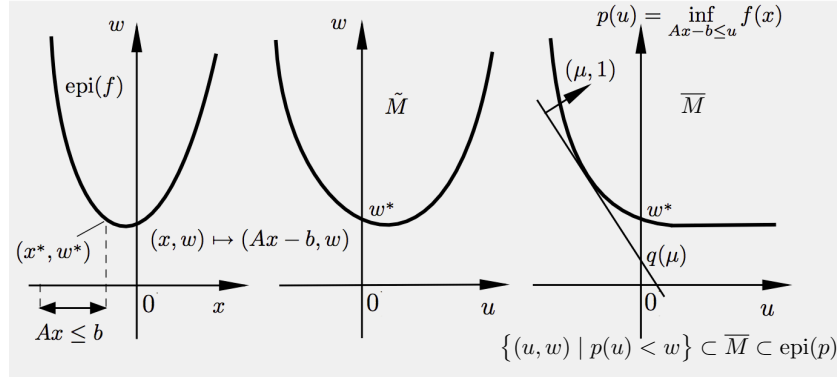
p. 78, (-8) Change “(since otherwise 0 would be in the interior of P , which is impossible since $0 \in H$ and P lies in a closed halfspace of H)” to “[since otherwise 0 would be in the interior of P ; then, by the Line Segment Principle, for any $\bar{x} \in \text{ri}(\overline{C})$ the line segment connecting 0 and \bar{x} contains points in $\text{ri}(D) \cap \text{ri}(\overline{C})$, a contradiction of the fact that H properly separates D and \overline{C}]”

p. 79, (+5) Change “ $0 \in \overline{C}$ ” to “ $0 \in \overline{C} \cap M$ ”

p. 140 Fig. 4.2.2 should be corrected as follows:



p. 157 Fig. 4.5.2 should be corrected as follows:



p. 157 Last line of caption of Fig. 4.5.2 should read as follows:

“Also \bar{M} is related to the perturbation function $p(u) = \inf_{Ax - b \leq u} f(x)$ as follows:

$$\{(u, w) \mid p(u) < w\} \subset \bar{M} \subset \text{epi}(p).$$

In particular, we have $w^* = p(0) = \inf_{Ax \leq b} f(x)$.”

p. 157, (-6) Change “equal” to “related”

p. 157, (-2,3) Change these two lines to “(cf. Fig. 4.5.2). The min common value is equal to $p(0)$, the optimal value:”

p. 176, (+4,5) Change “ $\sum_{j=0}^{\bar{r}}$ ” to “ $\sum_{j=1}^{\bar{r}}$ ”

p. 198, (+6) Change “ $\sup_{d \in \mathbb{R}^n} \{d'y - f'(x; d)\}$ ” to “ $\sup_{d \in \mathbb{R}^n} \{d'y - f'(x; d)\} \leq 0$ ”

p. 231, (+15) Delete the sentence “A symmetric ... (nonnegative, respectively)”

p. 237, (+7) Change “Prop. A.2.6(b)” to “Prop. A.2.6(c)”