

**CORRIGENDUM<sup>1</sup>**  
compiled by Jonathan Weare  
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**Errata:**

<u>Page</u>	<u>Line</u>	<u>Current Text</u>	<u>Correct Replacement Text</u>
26	9	$x$	$X$
	9	$y$	$Y$
34	18	$0$ [italic]	$0$ [roman]
37	14	(1.13)	(1.37)
51	17	of subsets of $\mathbf{R}^N$	of some subsets of $\mathbf{R}^N$
54	19	closedness of $S$	compactness of $S$
78	2		$p \neq 0$ [additional text]
85	22	Let $X^h$ and	Let $X^h = \mathbf{R}_+^N$ and
91	32	Note that under C.IV and CVIII, $p^\circ \cdot \tilde{D}^i(p^\circ) > p^\circ \cdot x$ .	<b>case 1:</b> If $p^\circ \cdot \tilde{D}^i(p^\circ) < \tilde{M}^i(p^\circ)$ then by continuity of $\tilde{M}^i(\bullet)$ and $p^v \rightarrow p^\circ$ , for $v$ large we have $p^v \cdot \tilde{D}^i(p^\circ) < \tilde{M}^i(p^v)$ . In this case let $w^v = \tilde{D}^i(p^\circ)$ . <b>case 2:</b> If $p^\circ \cdot \tilde{D}^i(p^\circ) = \tilde{M}^i(p^\circ)$ then by C.VIII $p^\circ \cdot \tilde{D}^i(p^\circ) > p^\circ \cdot \hat{x}$
96	2	Chapter 5	Chapter 4
	2	Chapter 6	Chapter 5

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97	10	Chapter 6	Chapter 5
	11	Chapter 5	Chapter 4
	17	and 6.2	and 4.1
	22	and 6.2	and 4.1
98	24	$y \in Y$	$y \in Y$
114	17	$ \bar{y}^{0j} $	$ \bar{y}^{vj} $
115	10	$y^v, y^{v1}, y^{v2}, \dots, y^{vj}$	$y^v, y^{v1}, y^{v2}, \dots, y^{vj}, \dots, y^{v\#F}$
124	17	we must have $D^i(p) \succ_i \tilde{D}^i(p)$	there exists an $x^i \in B^i(p) \cap X^i$ with $x^i \succ_i \tilde{D}^i(p)$
	18	$\alpha D^i(p) + (1 - \alpha)\tilde{D}^i(p)$	$\alpha x^i + (1 - \alpha)\tilde{D}^i(p)$
	19	$\alpha D^i(p) + (1 - \alpha)\tilde{D}^i(p)$	$\alpha x^i + (1 - \alpha)\tilde{D}^i(p)$
135	18	by theorems 8.3(b) and 9.1(b)	by theorem 8.3(b)
139	5	$y^{si}$	$y^{sj}$
139	26	$M^i(p) = (1 - \tau)p \cdot (r^i - x^i)_+ + T,$	$M^i(p) = p \cdot r^i - \tau p \cdot (r^i - x^i)_+ + \sum_{j \in F} \alpha^{ij} p \cdot y^j + T, 0 < \tau < 1,$
139	29	$T = (1/H)\tau \sum_{i=1}^H \left( p \cdot (r^i - x^i)_+ \right)$	$T = (1/\#H)\tau \sum_{i=1}^H \left( p \cdot (r^i - x^i)_+ \right)$
145	2	Assume C.IV and C.V	Assume C.I, C.II, C.IV, and CV
148	9,10	nonnegative elements of $Y + \{r\}$ . We will denote this set as $B = (Y + \{r\}) \cap \mathbf{R}_+^N$ , a convex set.	nonnegative elements of $Y + \{r\}$ including free disposal. We will denote this set as $B = (Y + \{r\} + \mathbf{R}_+^N) \cap \mathbf{R}_+^N$ , a convex set, where $\mathbf{R}_+^N$ is the nonpositive quadrant of $\mathbf{R}^N$ .
148	21	Let $B = Y + \{r\}$ .	Let $B = (Y + \{r\} + \mathbf{R}_+^N) \cap \mathbf{R}_+^N$ .
150	3		$p_k = 0$ for $k$ so that $\sum_{i \in H} x_k^{*i} < \sum_{j \in F} y_k^{*j} + r_k$ . [additional text]
150	3	<i>bolds</i>	<i>holds</i>

151	33	$M^i(p) = p \cdot \hat{r}^i - \tau p \cdot (r^i - x^i)_+ + T$	$M^i(p) = p \cdot r^i - \tau p \cdot (r^i - x^i)_+ + T$
164	8	$\sum_{h \in H} \sum_{q=1}^Q x^{h,q} = \sum_{h \in H} \sum_{q=1}^Q r^h.$	$\sum_{h \in H} \sum_{q=1}^Q x^{h,q} \leq \sum_{h \in H} \sum_{q=1}^Q r^h.$
164	10	$\frac{1}{Q} \sum_{h \in H} \sum_{q=1}^Q x^{h,q} = \sum_{h \in H} r^h.$	$\frac{1}{Q} \sum_{h \in H} \sum_{q=1}^Q x^{h,q} \leq \sum_{h \in H} r^h$
165	4	$\sum_{h \in H} \bar{x}^h = \sum_{h \in H} \frac{1}{Q} \sum_{q=1}^Q x^{h,q} = \frac{1}{Q} \sum_{h \in H} \sum_{q=1}^Q x^{h,q} = \sum_{h \in H} r^h.$	$\sum_{h \in H} \bar{x}^h = \sum_{h \in H} \frac{1}{Q} \sum_{q=1}^Q x^{h,q} = \frac{1}{Q} \sum_{h \in H} \sum_{q=1}^Q x^{h,q} \leq \sum_{h \in H} r^h.$
166	15	Theorem 2.14	Theorem 14.2
167	4,5	(We ignore for convenience regions where $\Gamma^i$ may coincide with a boundary derived from $X^i$ )	(We ignore for convenience regions where $\Gamma^i$ may coincide with a boundary derived from $X^i$ . A more precise statement is that -- under C.IV, C.V -- $\Gamma^i$ and $\Gamma$ have non-empty interiors and $0 \notin \text{interior}(\Gamma)$ )
167	15	H-Q	Q-H
201	21	For functions (point-valued correspondences) they are equivalent	For functions (point-valued correspondences) into a compact range they are equivalent
211	6	$\min_{y \in \varphi(x)}  f^v(x) - y  < 1/v$	$\max_{x \in S} \min_{x^v \in S, y^v \in \varphi(x^v)}  (x, f^v(x)) - (x^v, y^v)  < 1/v$
212	7	$\min_{y \in \varphi(x)}  f^v(x) - y  < 1/v$	$\max_{x \in S} \min_{x^v \in S, y^v \in \varphi(x^v)}  (x, f^v(x)) - (x^v, y^v)  < 1/v$
212	12-16	We have $f^v(x^v) = x^v \dots$ and we have $x^* \in \varphi(x^*)$ .	We have $f^v(x^v) = x^v$ . Recall that there is $y^v \in \varphi(x^v)$ so that $ (x^v, f^v(x^v)) - (x^v, y^v)  < 1/v$ . Then $x^v, y^v \rightarrow x^\circ$ . But by upper hemicontinuity of $\varphi(\cdot)$ , the properties $x^v \rightarrow x^\circ$ , $y^v \in \varphi(x^v)$ , $y^v \rightarrow x^\circ$ , imply $x^\circ \in \varphi(x^\circ)$ . Hence, choose $x^* = x^\circ$ and we have $x^* \in \varphi(x^*)$ . QED
214	2	semicontinuous	hemicontinuous at each $x \in \mathbf{R}$
217	Fig 17.1	$S^v(p^v)$	$S^j(p^j)$

221	3	$\max[ax, by]$	$ax + by$
225	22		$x' \in \text{interior}(X^i)$ [additional text]
226	8	But then by	Without loss of generality, let $x' \in \text{interior}(X^i)$ . But then by

Note on sections 17.3-17.4: many of the results in these sections rely on our choice of boundary,  $c$ , and therefore require assumptions P.I-P.IV. This correction concerns Theorems 17.2-17.6, Lemmas 17.4, 17.5, 17.7, and 17.8.

### **Revised Assumptions:**

*The following results are valid as stated, but not all of the assumptions listed in the text are required.*

Lemma 10.1	Can delete C.V and C.VII.
Theorem 12.1	Can delete C.V.
Lemma 12.1	Can delete C.I, C.III, C.V, and C.VI.
Theorem 12.2	Can delete P.II-P.IV, inasmuch as the Separating Hyperplane Theorem requires only that A and B be non-empty, convex, and disjoint.
Corollary 12.1	Can delete P.II-P.IV.