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ERRATUM TO "A NEW CONCEPT OF CONVERGENCE SPACE"

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Karsten **Evers**

University of Rostock, Dept. of Math., Ulmenstraße 69, 18057 Rostock, Germany

Dieter **Leseberg**

Freie Universität Berlin, Dept. of Math., Arnimallee 3, 14195 Berlin, Germany

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[1], Th. 4.19 and Cor. 4.20 states that the category of pointed b-convergence spaces is cartesian closed. Unfortunately there is a little mistake in the theorem. Therefore Th. 4.19 should be read as follows (the proof is nearly the same as in [1] and therefore left to the reader):

Theorem 4.19. *For two pb-convergence spaces* $(\mathcal{B}^X, \tau_X)$ *and* $(\mathcal{B}^Y, \tau_Y)$ *consider the set* $[\mathcal{B}^X, \mathcal{B}^Y]_{\mathrm{pb}}$ *of b-continuous functions* $f : X \to Y$ *from* $(\mathcal{B}^X, \tau_X)$ *to* $(\mathcal{B}^Y, \tau_Y)$*. We define a b-convergence on the corresponding B-set* $\mathcal{B}^{Y^X} := \{B^* \subseteq Y^X \mid \forall B \in \mathcal{B}^X\colon B^*(B) \in \mathcal{B}^Y\}$ *by setting for each* $B^* \in \mathcal{B}^{Y^X} \setminus \{\emptyset\}$*:*

E-mail addresses: karsten.evers@uni-rostock.de, email.leseberg@zedat.fu-berlin.de

$$\tau(B^*) := \big\{\mathfrak{U}^* \in \mathrm{FIL}([\mathcal{B}^X, \mathcal{B}^Y]_{\mathrm{pb}} \times [\mathcal{B}^X, \mathcal{B}^Y]_{\mathrm{pb}}) \mid \exists\, f \in B^* \,\forall\, B \in \mathcal{B}^X \forall\, \mathfrak{U} \in \\ \in \tau_X(B) \,:\, \mathfrak{U}^*(\mathfrak{U}) \in \tau_Y(f(B))\big\},$$

where $\mathfrak{U}^*(\mathfrak{U})$ *denotes the filter generated by the set* $\{U^*(U) \mid U^* \in \mathfrak{U}^* \wedge \wedge\, U \in \mathfrak{U}\}$, *with* $U^*(U) := \{(f_1(x_1), f_2(x_2)) \mid (f_1, f_2) \in U^* \wedge (x_1, x_2) \in U\}$ *and* $B^*(B) := \{f(b) \mid f \in B^* \ \wedge\ b \in B\}$.

Further we set $\tau(\emptyset) := \{P([\mathcal{B}^X, \mathcal{B}^Y]_{\mathrm{pb}} \times [\mathcal{B}^X, \mathcal{B}^Y]_{\mathrm{pb}})\}$.

Then τ *is the natural function space structure on* $[\mathcal{B}^X, \mathcal{B}^Y]_{\mathrm{pb}}$ *in* **pb-CONV**.

References

[1] LESEBERG, D.: A new concept of convergence space, *Mathematica Pannonica* **19**/2 (2008), 291-303.