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ERRATUM TO "ON FREE TOPOLOGICAL ALGEBRAS"

by Hans-E. PORST

In my paper [Por], published in these *Cahiers*, the following result of [Bur] is used:

PROPOSITION. *If X is a Tychonoff space, then the free topological algebra $G_A X$ (with respect to a given variety A over X) is Tychonoff again.*

Burgin's proof of this result is basically the following:

(1) Given a Tychonoff space X with Stone-Cech compactification $\beta: X \rightarrow \beta X$, the homomorphism $G_A \beta: G_A X \rightarrow G_A \beta X$ induced by β is topologically an embedding. (2) For Y compact Hausdorff $G_A Y$ is Tychonoff.

Argument (1) of the above proof however is not sound, which unfortunately came to my attention only recently; a counterexample - with $X = \mathbb{R}$ and groups as the variety under consideration - is given in [HMT].

Nevertheless, in certain situations the Proposition will hold: since $G_A X$ is functionally Hausdorff (see [Por]), $G_A X$ is Tychonoff for $A = \mathbf{Groups}$, but an underlying group-structure is not necessary, since the result remains true for example for $A = \mathbf{Semigroups}$.

Anyway, at this stage, we cannot prove the implication (i) \Rightarrow (iii) of our Theorem (2.7) as given in [Por]; hence in (2.7 (iii)) the word "Tychonoff" should be replaced by "functionally Hausdorff".

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