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CORRECTIONS TO THE PAPERS "AN EXAMPLE OF A LOCALLY UNBOUNDED COMPLETE EXTENSION OF THE p-ADIC NUMBER FIELD" AND "ON TOPOLOGICAL FIELDS"

(Colloquium Mathematicum 30 (1974), p. 105-108, and 29 (1974), p. 119-146)

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The author feels bound to state that in his first named paper Theorem 3 is wrong and Theorem 2, which has been deduced from Theorem 3, remains unproved. A trivial mistake in the proof of Theorem 3 occurs on p. 106, line 13 from below. Namely, from $R = aR + VR$ it does not follow that $aR = R - VR$. The statement of Theorem 3 is inconsistent with the following result of Zobel (1):

The completion of the rational number field Q in a locally unbounded field topology (Mutylin's example) is a proper integral domain in which the only invertible elements are those of $Q^{\times}$.

What has been actually proved in the first paper is the following

THEOREM. *For every complete non-trivially normed field k, the completion of the rational function field $k(x)$ in the topology $\mathcal{T}$ defined on p.* 105 *is a locally unbounded integral domain containing k as a discrete subfield.*

And here are the corrections to the second paper:

p. 120, line 3 from below, instead of "$A \cdot B$, where" it should be "AB";

p. 120, line 2 from below should be deleted;

p. 121, line 8 from above, "bounded" should be omitted;

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(1) R. Zobel, *Direkte Gruppen- und Ringtopologien*, Dissertation, Braunschweig 1973.

p. 125, line 7 from above, instead of "any proper topological field" it should be "any proper locally compact topological field";

p. 136, line 9 from below, instead of "Zelinsky [185]" it should be "Kowalsky [84] and Williamson [174]", and the sentence "In his example the topology was minimal." should be omitted.

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