CrossMark

ERRATUM

Erratum to: The Dold–Kan correspondence and coalgebra structures

W. Hermann B. Sore[1]

Erratum to: J. Homotopy Relat. Struct. (2016) 11:67–96 DOI 10.1007/s40062-014-0096-1

In Theorem 5.20 of original article, we have claimed to obtain a Quillen equivalence between the category of connected differential graded coalgebras and the category of connected simplicial coalgebras.

But a mistake has been recently discovered, prejudicing the proof of the announced result. Indeed, in the proof of Proposition 5.15 of original article, the identification $RT'_d = T'_s\Gamma$ that appears in the bijection

$$\mathbf{ScoAlg_c}(C, RT'_d(NW)) \cong \mathbf{ScoAlg_c}(C, T'_s\Gamma(NW))$$

is wrong. This identification should be considered though in the context of categories of monoids. It leads to a *wrong* description of the functor

$$T'_s(W) = \bigoplus_{n \geq 0} W^{\widehat{\otimes}n} = I(K) \oplus W \oplus \cdots \oplus W^{\widehat{\otimes}n} \oplus \cdots$$

as right adjoint to the functor $I'_s: \mathbf{ScoAlg_c} \to \mathbf{SVct_c}$.

Communicated by Guillermo Cortinas.

✉ W. Hermann B. Sore
hermann.sore@gmail.com

[1] Département de Mathématiques et Informatique, UFR/ST, Université Polytechnique de Bobo-Dioulasso, 01 BP 1091, Bobo-Dioulasso 01, Burkina Faso

We should instead consider Sweedler's cofree coalgebra functor as constructed in [1, Section 6.4] and extend it degreewise for a correct description of the right adjoint functor T'_s.

Consequently, we are not able to establish the isomorphism $H_*(NT'_s\Gamma(V)) \cong H_*(T'_d(V))$ in Lemma 5.18 of original article and this is a crucial point for proving Theorem 5.20 of original article.

Reference

1. Sweedler, M.: Hopf Algebras. W.A. Benjamin, New York (1969)