Corrigendum: Polymorphic Type Assignment and CPS Conversion

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It has come to our attention that there is an error in the proof of Theorem 6 on page 373 of the above titled paper [1]. Specifically, the term e_0' does not type check in the system named DM as required by the theorem, because the types of the variables c and t require the type constructor $\tau\,\mathsf{cont}$, which is not present in the core DM system.

To repair the theorem it is sufficient to weaken condition (2) of the theorem to require that the expression e be type checked in extensions of DM and DM+ with free type-constructor variables, which are transformed to themselves by the cbv type transformation. To repair the proof, treat the required type constructor cont as a free unary type-constructor variable declared in the context along with the ordinary variables c and t. Then, after transformation, replace all occurrences of $\tau\,\mathsf{cont}$ with $[\tau/t]||t\,\mathsf{cont}||_{cbv}$.

We are grateful to Hongwei Xi for pointing out this error.

References

[1] Robert Harper and Mark Lillibridge. Polymorphic type assignment and CPS conversion. *LISP and Symbolic Computation*, 6(4):361–380, November 1993.