Fiore, Marcelo; **Voevodsky, Vladimir**
Lawvere theories and C-systems. (English) Zbl 07186901
Proc. Am. Math. Soc. 148, No. 6, 2297-2315 (2020).

C-systems as they are were introduced in [*V. Voevodsky*, Contemp. Math. 658, 127–137 (2016; Zbl 06607949)] as a slightly modified version of contextual categories in [*J. Cartmell*, Ann. Pure Appl. Logic 32, 209–243 (1986; Zbl 0634.18003)]. A C-system is a category CC with a function $l : CC \to \mathbb{N}$ called the *length function* and a number of other structures. An *l-bijective* C-system is a C-system such that its length function is a bijection. This paper constructs a functor from the category of Lawvere theories [*F. W. Lawvere*, Repr. Theory Appl. Categ. 2004, No. 5, 1–121 (2004; Zbl 1062.18004); Proc. Natl. Acad. Sci. USA 50, 869–872 (1963; Zbl 0119.25901)] to the category of l-bijective C-systems and a functor in the opposite direction, showing that they are mutually inverse isomorphisms of the corresponding categories.

Reviewer: Hirokazu Nishimura (Tsukuba)

MSC:

18C10 Theories (e.g., algebraic theories), structure, and semantics
18C50 Categorical semantics of formal languages
08C99 Other classes of algebras
03F50 Metamathematics of constructive systems

Software:

GitHub; UniMath

Full Text: DOI

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