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Distributive laws, bialgebras, and cohomology. (English) [Zbl 0866.18008](#)

Loday, Jean-Louis (ed.) et al., Operads: Proceedings of renaissance conferences. Special session and international conference on moduli spaces, operads, and representation theory/operads and homotopy algebra, March 1995/May–June 1995, Hartford, CT, USA/Luminy, France. Providence, RI: American Mathematical Society. Contemp. Math. 202, 167-205 (1997).

The paper starts by briefly reviewing the concepts needed for triple cohomology. Distributive laws between triples and between a triple and a cotriple are then discussed and the computation of the cohomology of the resulting algebras and bialgebras using double complexes is explained. Many examples, including Poisson algebras and Lie bialgebras are given to elucidate the abstract machinery.

Everything is then reworked from the ground up using operads, which yields computationally useful cohomology theories. The interplay between the abstraction of categorical triples and the classicism of operads is the heart of the paper.

For the entire collection see [[Zbl 0855.00018](#)].

Reviewer: [M.Markl \(Praha\)](#)

MSC:

18C15 Monads (= standard construction, triple or triad), algebras for monads, homology and derived functors for monads

18G99 Homological algebra in category theory, derived categories and functors

Cited in **1** Review
Cited in **16** Documents

Keywords:

[distributive laws](#); [triple cohomology](#); [cotriple](#); [bialgebras](#); [operads](#)