1153-18-47 **Brendan Fong*** (bfo@mit.edu) and **David I Spivak**. *Supplying bells and whistles in symmetric monoidal categories.*

It is common to encounter symmetric monoidal categories $\mathcal{C}$ for which every object is equipped with an algebraic structure, in a way that is compatible with the monoidal product and unit in $\mathcal{C}$. We define this formally and say that $\mathcal{C}$ *supplies* the algebraic structure. For example, the category Rel of relations between sets has monoidal structures given by both cartesian product and disjoint union, and with respect to either one it supplies comonoids. We prove several facts about the notion of supply, e.g. that the associators, unitors, and braiding of $\mathcal{C}$ are automatically homomorphisms for any supply, as are the coherence isomorphisms for any strong symmetric monoidal functor that preserve supplies. We also show that any supply of structure in a symmetric monoidal category can be extended to a supply of that structure on its strictification. (Received August 12, 2019)