

# LIST OF MISTAKES

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ABSTRACT. This is an (incomplete) list of minor mistakes and errors in my papers.

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| 1. Iterated spans and classical topological field theories [Hau18] | I |
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### I. ITERATED SPANS AND CLASSICAL TOPOLOGICAL FIELD THEORIES [Hau18]

In **Remark 10.7**, the construction does not work for a general  $n$ -fold category object as claimed, only for  $n$ -fold Segal objects. To extract an  $n$ -fold monoid in the more general case, one should instead take a right Kan extension from the full subcategory of  $\Delta^{n, \text{op}}$  containing all objects  $([i_1], \dots, [i_n])$  such that at least one component  $i_j$  is 0. (Thanks to Manuel Krannich for pointing this out.)

### 2. HOMOTOPY-COHERENT ALGEBRA VIA SEGAL CONDITIONS [CH19]

**Example 14.23** is not correct in general. For one thing, an  $\infty$ -operad  $\mathcal{O}$  is not necessarily slim — the necessary objects of  $\mathcal{O}$  can be described as those lists  $(x_1, \dots, x_n)$  of objects of  $\mathcal{O}_{\langle 1 \rangle}$  such that there exists an active morphism  $(x_1, \dots, x_n) \rightarrow y$  for  $y \in \mathcal{O}_{\langle 1 \rangle}$ . The canonical saturated pattern  $\overline{\mathcal{O}}$  is only the entire Lawvere theory if  $\mathcal{O}$  is in fact slim, i.e. if every object admits such an active morphism. A simple counterexample is the  $\infty$ -operad with only unary operations obtained from an  $\infty$ -category  $\mathcal{C}$  (explicitly, this is  $\mathcal{C}^{\text{II}} \times_{\mathbb{F}_*} \mathbb{F}_*^{\text{int}}$  by [Lur17, Theorem 2.4.3.18]); the corresponding  $\infty$ -category of Segal objects in  $\mathcal{S}$  is just  $\text{Fun}(\mathcal{C}, \mathcal{S})$ , and the canonical pattern is clearly  $\mathcal{C}$  (with all objects elementary and only equivalences as inert morphisms), while the corresponding Lawvere theory is obtained by freely adding products to  $\mathcal{C}$ .

## REFERENCES

- [CH19] Hongyi Chu and Rune Haugseng, *Homotopy-coherent algebra via Segal conditions* (2019), available at [arXiv:1907.03977](https://arxiv.org/abs/1907.03977).
- [Hau18] Rune Haugseng, *Iterated spans and classical topological field theories*, *Math. Z.* **289** (2018), 1427–1488, available at [arXiv:1409.0837](https://arxiv.org/abs/1409.0837).
- [Lur17] Jacob Lurie, *Higher Algebra*, 2017. Available at <http://math.ias.edu/~lurie/>.

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