# valueless\_by\_exception

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## Summary ("tl;dr")

variant's corrupted\_by\_exception() should be called valueless\_by\_exception(). It's been discussed by the committee (a lot) and polled (https://docs.google.com/forms/d/1DE3ebnyeDKA2KUp0tRdZBYtkFotpgviq6VJAVeheKfg/viewanalyti cs?usp=form\_confirm) and there is consensus (as of writing!) for valueless by exception.

### Motivation

std::experimental:variant's function corrupted\_by\_exception() is poorly named. In particular:

- 1. Regulated Industries it has been suggested that "corrupted" may scare away usage in tightly regulated industries with stringent code reviews
- 2. "corrupted" isn't correct the variant object is not "corrupted" in the way memory, for example, gets corrupted by UB such as out-of-bounds writes

However, there are good aspects to the name:

- 1. it is long and hard to type. This is typically not good, but in this case, similar to "reinterpret\_cast", some things *should* be hard to type,
- 2. A hard-to-type name is part of the "the Kona Kompromise". Those who compromised on a rarely-invalid variant (instead of a never-invalid variant) really want a don't-type-this name
- 3. it is easy to grep for. If you don't want something overused, make it easily found and "policed"
- 4. "by\_exception" correctly explains what happened, why it should rarely happen, and why it is most likely handled when the exception is thrown (and not needed in "normal" code)

## **Design Decisions**

- 1. 1-4 as above. It should be an ugly name.
- 2. "valueless" is correct the variant has no value. "corrupted" is not quite correct.
- 3. A shorter name, such as just valueless(), seems carelessly inconsistent with names like
  has\_value() (suggested for optional/any in P0032R0), whereas valueless\_by\_exception() looks
  purposely inconsistent, not carelessly inconsistent.
- 4. purposely inconsistent can be a good thing, when you want developers to question and understand why/how the underlying behaviour is inconsistent

#### **Technical Specifications**

:%s/currupted\_by\_exception/valueless\_by\_exception/g

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