

# 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/1DE3ebnyeDKA2KUp0tRdZBYtkFotpgviiq6VJAVeheKfg/viewanalytics?usp=form\\_confirm](https://docs.google.com/forms/d/1DE3ebnyeDKA2KUp0tRdZBYtkFotpgviiq6VJAVeheKfg/viewanalytics?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/corrupted_by_exception/valueless_by_exception/g
```

## Acknowledgements

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