Document	P1732R1
Date	2019-07-26
Author	CJ Johnson <johnsoncj@google.com>
Audience	Library Evolution Working Group (LEWG), Library Working Group (LWG)

Do not promise support for function syntax of operators

From Hyrum's Law [1]:

> With a sufficient number of users of an API,
> it does not matter what you promise in the contract:
> all observable behaviors of your system
> will be depended on by somebody.

Updates over revision 0

- Removed extra wording options, settling on the only remaining proposed option, thanks to input from Walter Brown.

Proposal

In the Library Evolution Working Group (LEWG) room of the Kona 2019 ISO C++ meeting, it was mentioned that the only supported way to invoke operators on types in the standard library is operator syntax. Function syntax is not supported. This paper proposes updating SD-8 to convey this information to users of the standard library.

For clarity...

Unsupported: `x.operator+(y)`, `operator+(x, y)`

Supported: `x + y`

Wording

```
  Primarily, the standard reserves the right to:

  [...]

+ * Assume operators are applied to their operands via pre-, post-, or infix
+   expressions only, as appropriate to the operator (i.e., operators are never
+   applied via any function call).

  [...]
```

References

[1] Hyrum's Law