

Document	P1732R0
Date	2019-06-14
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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.

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 option 1

Primarily, the standard reserves the right to:

[...]

- * Make changes to existing interfaces in a fashion that will be backward compatible, if those interfaces are solely used to instantiate types and invoke functions. Implementation details (the primary name of a type, the implementation details for a function callable + `operator`, the way an operator is or is not overloaded) may not be depended upon.

[...]

Wording option 2

Primarily, the standard reserves the right to:

[...]

- + * Change the way operators are defined on types in the standard library + `operator` (between not overloaded, member overloaded and non-member overloaded).

[...]

Wording option 3

Primarily, the standard reserves the right to:

[...]

+ * Assume operators are only invoked using operator syntax (not function
+ syntax).

[...]

References

[1] [Hyrum's Law](#)