

Doc. No.: X3J16/96-0200  
WG21/N1018  
Date: November 7, 1996  
Project: Programming Language C++  
Reply To: Sandra Whitman  
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## Clause 19 (Diagnostics Library) Issues List - Version 3

### Revision History

Version 1 - May 22, 1996: Distributed in pre-Stockholm mailing.  
Version 2 - July 15, 1996: Distributed in post-Stockholm mailing.  
Version 3 - November 7, 1996: Distributed in pre-Hawaii mailing.

### Introduction

This document is a summary of the issues identified in Clause 19. For each issue the status, a short description, and pointers to relevant reflector messages and papers are given.

### Active Issues

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Work Group: Library Clause 19  
Issue Number: 19-002  
Title: Derived exception classes in <stdexcept> are broken.  
Sections: 19 Diagnostics Library [lib.diagnostics]  
Status: active  
Description: Kevlin Henney in c++std-lib-4925:

```
>As currently specified all the derived exception classes in
><stdexcept> are broken. Consider:
>
>   try
>   {
>       throw logic_error("undefined behaviour");
>   }
>   catch(logic_error &ex)
>   {
>       cerr << ex.what() << endl;
>   }
>
>The string passed to logic_error is a temporary that is destroyed as
the
>stack unwinds. No surprises there, except that the postcondition for
all
>the exceptions in <stdexcept> states
>
>   "Postcondition: what() == what_arg.data()"
>
>Implying an implementation of
>
>   class logic_error
>   {
>   public:
>       logic_error(const string& what_arg) : ptr(what_arg.data()) {}
>       virtual const char *what() const { return ptr; }
>   private:
>       const char *ptr;
>   };
```

>  
>Clearly (I hope) string content equality rather than pointer equality  
was  
>intended:  
>  
> "Postcondition: strcmp(what(), what\_arg.c\_str()) == 0"  
>  
>As an aside, it seems that an implementation is not entitled to add  
any  
>extra info (eg. "logic\_error: " prefix), which in some ways is a  
shame.

#### Proposed Resolution:

Change Postcondition sections in 19.1.1 [lib.logic.error],  
19.1.2 [lib.domain.error], 19.1.3 [lib.invalid.argument],  
19.1.4 [lib.length.error], 19.1.5 [lib.out.of.range],  
19.1.6 [lib.runtime.error], 19.1.7 [lib.range.error],  
19.1.8 [lib.overflow.error], 19.1.9 [lib.underflow.error]

from: Postcondition: what() == what\_arg.data()  
to: Postcondition: strcmp(what(), what\_arg.c\_str()) == 0

Requestor: Kevlin Henney, Kevlin@two-sdg.demon.co.uk  
Owner: Sandra Whitman  
Emails: c++std-lib-4925.  
Papers: None.

#### Closed Issues

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Issue Number: 19-001  
Title: Use and Treatment of Clause 19 Predefined Exceptions  
Inconsistent  
Last Doc.: N0936R1=96-0118R1  
Resolution: closed, no action (Stockholm)