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Pathname Resolution Rationale. *(This subclause is not a part of P1003.2b)*

P1003.1a now includes symbolic links in pathname resolution and a number of concepts are automatically inherited in POSIX. 2 by this inclusion. The large majority of standard utilities resolve pathnames and operate on files without special arrangements for symbolic links. Because of the global POSIX .1 {8} inheritance, this entails very few modifications to utility descriptions.

2.11.3 Operands

⇒ **2.11.4 Operands (POSIX .1: Def)** *Add a new paragraph at the end of the subclause:*

All of the standard utilities shall be consistent in their processing of symbolic links specified directly on the command line versus those found elsewhere in the file hierarchy as a consequence of their operation.

Editor's Note: The following rationale will be added to E.2.11.4, but is kept here for this draft:

Operands Rationale. *(This subclause is not a part of P1003.2b)*

In most cases, the standard utilities follow symbolic links to access individual files, but when they traverse file hierarchies, they stop descending when they reach a symbolic link. (The developers of the standard use the informal term ''physical walk'' to describe this case.) There are stated exceptions to this (''logical walks''), such as `cp` and `du`. However, none of the utilities treat their command-line arguments any differently than their encountered files. For example, `find` does not follow symbolic links by default. In the following example:

```
find /foo -print
```

if `/foo` is a symbolic link, no output will result, because `find` treats its arguments consistently with files found during its hierarchy traversal. When modified to:

```
find /foo -follow -print
```

the output would include `/foo` from the command line and all of the files below it, including those found in traversing symbolic links. Not all historical practice is as consistent as the POSIX. 2 standard utilities in this regard.

2.13.3 Pathname Variable Values

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⇒ **2.13.3 Pathname Variable Values.** *Add a new subclause, 2.13.3, Pathname Variable Values, as follows:*

The values in Table 2-100 may be constants within an implementation or may vary from one pathname to another.

Table 2-100 – Pathname Variable Values

Name	Description
{POSIX2_SYMLINKS }	When referring to a directory. the system supports the creation of symbolic links within that directory; for nondirectory files, the meaning of {POSIX2_SYMLINKS } is undefined.

Symbolic Constants Rationale. *(This subclause is not a part of P1003.2b)*

The {POSIX 2_SYMLINKS } variable indicates that the underlying operating system supports the creation of symbolic links in specific directories. Many of the POSIX. 2 utilities that deal with symbolic links do not depend on this value. For example, a utility that follows symbolic links (or does not, as the case may be) will only be affected by a symbolic link if it encounters one. Presumably, a file system that does not support symbolic links will not contain any. This variable does affect such utilities as `ln -s` and `pax` that attempt to create symbolic links.

{POSIX 2_SYMLINKS } was developed even though there is no comparable configuration value in P1003.1a. Since POSIX. 2 does not depend on a fully conforming POSIX .1 {8} system underneath, the developers of the standard wished to allow systems in which this was an optional feature, perhaps on a file system basis.

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Section 3: Revisions to Shell Command Language

1 There are no revisions to Section 3 (yet).

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