The **tocdata** package

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Optionally prints author, artist, or other data on a line of the TOC/LOF.

Abstract

Describes a method for adding information such as an author or artist to each line of a table of contents or list of figures entry, after the title and just before page number. This is commonly done in the table of contents of an anthology, for example.
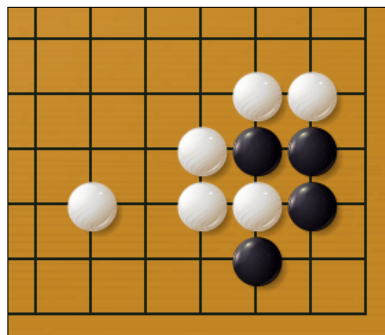
Support is provided for the **titletoc** and **tocloft** packages.

Contents

List of Figures

Hayashi Genbi

Problem 1-2, from *Gokyo Shumyo*

Figure 1: The Opening Challenge

1   Introduction

— Brian Dunn

Anthologies may be printed with the author alongside each title in the table of contents.

Many commonly-recommended methods for doing this with LaTeX, such as those linked to in section 2, place the author above or below the title and page number, but seldom on the same line.

The **tocdata** package provides some basic infrastructure to help add some information to a line in the table of contents, after the title and just before the page number. This function requires the use of either the **titletoc** or **tocloft** packages.

Additionally, user-level macros are provided which add the author's name to a chapter or section, and add the artist's name and optional additional text to a figure. Author and artist names are also added to the index.

As examples of the use of these high-level macros, the major section headings of this documentation have the author's name applied, and additional illustrations are supplied as well. The results are demonstrated in the table of contents, list of figures, and the index.
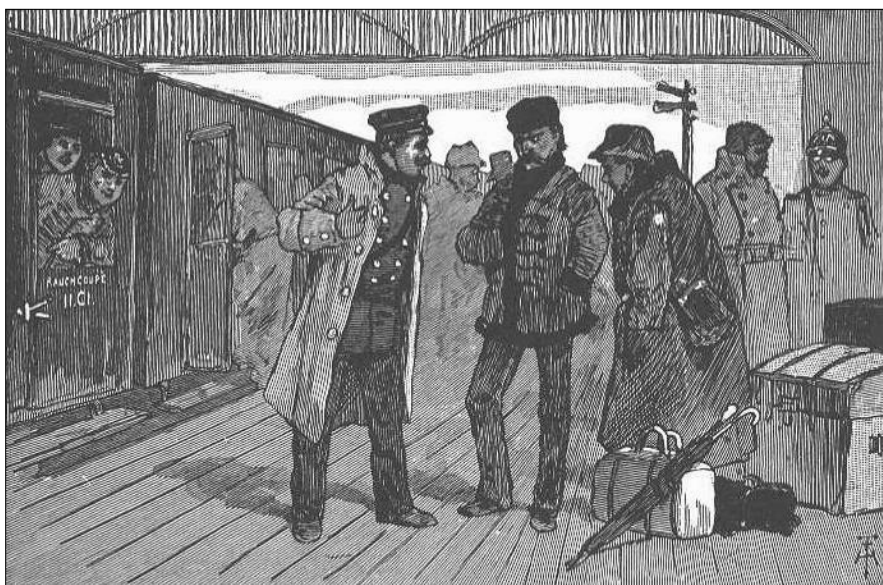
H. F. Farny

Illustration from *The Crazy Engineer*

McGuffey's Fifth Eclectic Reader

Figure 2: The Crazy Engineer

2 Other methods

— Various Authors

For other methods which place the author on a separate line from the title, see the following.

⚠ Too much text! Note that these methods will be preferable if a larger amount of information is to be placed for each title, such that it usually would not all fit on one line in the table of contents.

http://tex.stackexchange.com/questions/
47554/add-authors-name-automatically-while-building-toc

http://tex.stackexchange.com/questions/
110218/add-author-before-chapter-title-in-toc

http://tex.stackexchange.com/questions/
156862/displaying-author-for-each-chapter-in-book
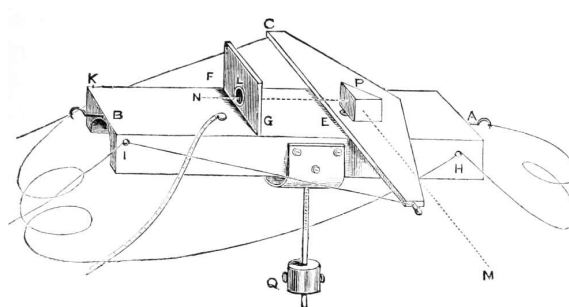
Sir John Herschel, 1st Baronet KH FRS

Astronometer made to compare the light of certain stars by the intervention of the moon.

Figure 3: Astronometer

3   How to use **tocdata**

— Brian Dunn

This section shows how to use the **tocdata** package.

There are several layers of macros:

- The lowest level provides the basic infrastructure for inserting information into the table of contents, along with hooks for the **titletoc** and **tocloft** packages.

- The intermediate-level macro is \tocdata, which may be used to manually add a piece of data to a \chapter, \section, or \caption. \tocdatafont is also provided to control the appearance of this data in the TOC/LOF.

- At the highest level is a sample implementation of user-level macros which provides an easy way to create chapters, sections, and figures with associated authors and artists, along with supplemental information for figures, and automatic index entries.

3.1   Basic setup

3.1.1   Preamble

tocdata requires the use of either the **tocloft** or **titletoc** package.

In the preamble, use:

```
\usepackage{tocloft}
\usepackage{tocdata}
```

-or-

```
\usepackage{titletoc}
\usepackage{tocdata}
```

⚠ \dottedcontents If using **titletoc**: Note that the user should not use the \dottedcontents macro, as this is not patched for use with **tocdata**. Use \titlecontents instead, inserting the \TD@usetocdata macro as shown below.

3.1.2   Font control in the TOC/LOF

To control the font used for the author on the table-of-contents line, the default is:

```
\newcommand{\tocdatafont}[1]{{\normalfont\textit{\small#1}}}
```

You may change to other font options, such as:

```
\renewcommand{\tocdatafont}[1]{\normalfont\textsc{\footnotesize#1}}
```

3.2   Mid-level applications

Should the user only wish to add a bit of text into the TOC/LOF, the \tocdata macro may be used just before the sectioning or caption command, as shown next.

3.2.1   Adding TOC data per section

Before each \chapter or \section which is to have an author or other data:

```
\tocdata{toc}{Author's Name}
\chapter{Chapter Title}  -or-  \section{Section Title}
```

3.2.2   Adding LOF data per figure

Before each \caption which is to have an artist:

```
\tocdata{lof}{Artist's Name}
\caption{Figure Title}
```

You may wish to print the artist's name in the figure as well.

3.3   High-level user macros

Additional macros are given in section 4.5. These are user-level sectioning and captioning commands which add the names to the TOC and LOF, and also add the artist's name and optional additional text to a figure (as in Figure 4), and also add the names to the index. An optional prefix and suffix may be attached to the names (as in Figure 3), and these will be printed at the section heading or caption, but not in the TOC/LOF or in the index.

These macros may be ignored or modified as needed.

3.3.1   Sectioning commands with authors

\chapterauthor To use these macros, do not use \tocdata as shown above, but instead use, in the place of \chapter:

```
\chapterauthor[TOC entry]{Title}[Prefix]{First}{Last}[Suffix]
```

\sectionauthor or, in the place of \section:

```
\sectionauthor[TOC entry]{Title}[Prefix]{First}{Last}[Suffix]
```

3.3.2   Figure captions with artist names and add'l text

\captionartist For figures, in the place of \caption:

```
\captionartist[LOF entry]{Title}[Text][Prefix]{First}{Last}[Suffix]
```

⚠ Optional arguments If you are using the optional prefix, the optional text must also be given, even if it is empty. For example, use:

```
\captionartist{Title}[][Sir]{Isaac}{Newton}
```

(If only one optional argument is given before the first name, it will be interpreted as the optional text, not as the optional prefix.)

\captionartist* If you are using the **caption** package or another package which supports \caption*, you may use \captionartist* with **tocdata**. The artist and supplemental text will still be printed below the figure, and an unnumbered caption will be generated, even though a LOF entry will not be made.

⚠ **caption** package Should you mistakenly use \captionartist* without the **caption** package, expect to get a caption with a visible star in it. To fix the problem:
      \usepackage{caption}

3.3.3 Formatting in sections and figures

\tocdatachapprint
\tocdatasecprint

To change the formatting of the author names printed after each chapter or section, or to remove them entirely, use these macros, as described in section 4.5 on page 15:

\tocdatafigprint
\tocdatafigtextprint

To change the formatting of a figure's artist's name and optional text, use these macros, also described in section 4.5.

3.3.4 Text justification

\tdnamejustify
\tdnamecenter
\tdnameleft

To change the text jusification of the name below a figure, use one of the tdname macros before the figure. All following figures use the selected justification until it is changed to another.

\tdnameright
\tdtextjustify
\tdtextcenter
\tdtextleft
\tdtextright

To change the text jusification of the additional text below a figure, use one of the txtext macros before the figure. All following figures use the selected justification until it is changed to another.
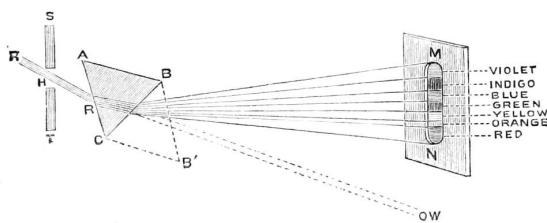
Alexander Pope

Illustration from *About Quail*

McGuffey's Fifth Eclectic Reader

Figure 4: Quail

Sir Isaac Newton

Figure 5: Diagram of a Sunbeam

4 Implementation

> — *Brian Dunn*

Below, the **tocdata** code section contains the low-level code used to place the data into the table of contents and list of figures, as well as the code to control the font used while doing so.

Next are sections used to support **titletoc** and **tocloft**.

Finally, the high-level macros are provided. The user may ignore or redefine these as desired.

4.1 Requirements

```
1 \RequirePackage{xparse}
2 \RequirePackage{etoolbox}
3 \RequirePackage{xifthen}
```
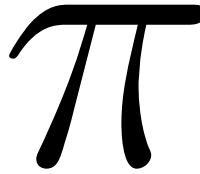
4.2 **tocdata** code

\TD@thistocdata   Storage for the data to be added to the end of the TOC entry:

```
4 \newcommand{\TD@thistocdata}{}
```

\settocdata   Written to the `.toc` or `.lof` file, assigns `\thistocdata`:

```
5 \newcommand{\settocdata}[1]{\renewcommand{\TD@thistocdata}{#1}}
```

\tocdata   {⟨*toc or lof*⟩} {⟨*text*⟩}

<small>Greek Alphabet</small>

Figure 6: Pi — A Work of Art

To be called by a higher-level macro to assign data to a `.toc` or `.lof` file:

```
6 \newcommand{\tocdata}[2]{%
7 \@bsphack\addtocontents{#1}{\protect\settocdata{#2}}\@esphack%
8 }
```

\tocdatafont   {⟨*text*⟩}

Controls the font for the TOC data.

`\renewcommand{\tocdatafont}[1]{\textit{#1}}`, etc.

```
9 \newcommand{\tocdatafont}[1]{{\normalfont\textit{\small#1}}}
```

\TD@usetocdata   To be inserted into low-level TOC-generation code where the data should appear.

See the example using **titletoc**, below.

Prints the data, then clears the storage so it is not printed again.

```
10 \newcommand{\TD@usetocdata}{%
11 \tocdatafont{\TD@thistocdata}%
12 \global\def\TD@thistocdata{}%
13 }
```

4.3 **titletoc** support

If **titletoc** is loaded, patch macros for its use:

```
14 \@ifpackageloaded{titletoc}{
```

\titlecontents   A set of **titletoc** commands which set up the formatting of the TOC entries. These are patched to include the tocdata just after the leader (`titlerule*`), and just before the page number.

These macros also include spacing commands, and thus may need to be redefined by the user.

⚠ \dottedcontents   Note that the user should not use the \dottedcontents macro, as this is not patched for use with **tocdata**. Use \titlecontents instead, inserting the \TD@usetocdata macro as shown below.

```
15 \@ifundefined{chapter}
16 {}
17 {
18 \titlecontents{chapter}[0em]{}{\contentslabel{2.5em}}{}{%
19 % \dotfill
20 \titlerule*[.75pc]{.}%
21 %
```

The new patch goes here:

```
22 \TD@usetocdata% <-- newly added for the tocdata package
23 %
24 \contentspage}[\vspace{-.5ex}]%
25 }
```

Likewise for sections:

```
26 \titlecontents{section}[2.5em]{}{\contentslabel{2.5em}}{}{%
27 % \dotfill
28 \titlerule*[.75pc]{.}%
29 \TD@usetocdata%
30 \contentspage}[\vspace{-.5ex}]%
```

Likewise for figures:

```
31 \titlecontents{figure}[0em]{}{\contentslabel{3em}}{}{%
32 % \dotfill
33 \titlerule*[1pc]{.}%
34 \TD@usetocdata%
35 \contentspage}[\vspace{-.5ex}]%

36 }% end of titletoc loaded
37 {% titletoc is not loaded
38 }% end of \@ifpackageloaded{titletoc}
```

4.4 **tocloft** support

If **tocloft** is loaded, the following patches are applied:

```
39 \@ifpackageloaded{tocloft}
```

40 `{`

If the documentclass includes a chapter level:

41 `\if@cfthaschapter`

`\cftXleader` A set of commands used by `\tocloft` to typeset the leader between the title and the page number. These are patched to print the tocdata just after the leader.

42 `\renewcommand{\cftchapleader}{\bfseries\cftdotfill{\cftchapdotsep}\TD@usetocdata}`
43 `\renewcommand{\cftsecleader}{\normalfont\cftdotfill{\cftsecdotsep}\TD@usetocdata}`
44 `\renewcommand{\cftfigleader}{\normalfont\cftdotfill{\cftfigdotsep}\TD@usetocdata}`
45 `\else`

If there is no chapter level:

46 `\renewcommand{\cftsecleader}{\bfseries\cftdotfill{\cftsecdotsep}\TD@usetocdata}`
47 `\renewcommand{\cftfigleader}{\normalfont\cftdotfill{\cftfigdotsep}\TD@usetocdata}`
48 `\fi`
49 `}% end of tocloft patches`
50 `{}% tocloft not loaded`

It is possible to patch the regular LaTeX code here. Look at `book.cls` and `article.cls`, for the macros `\l@chapter` and `\l@section`, and look in the LaTeX `source2e.pdf` for `\dottedtocline`.
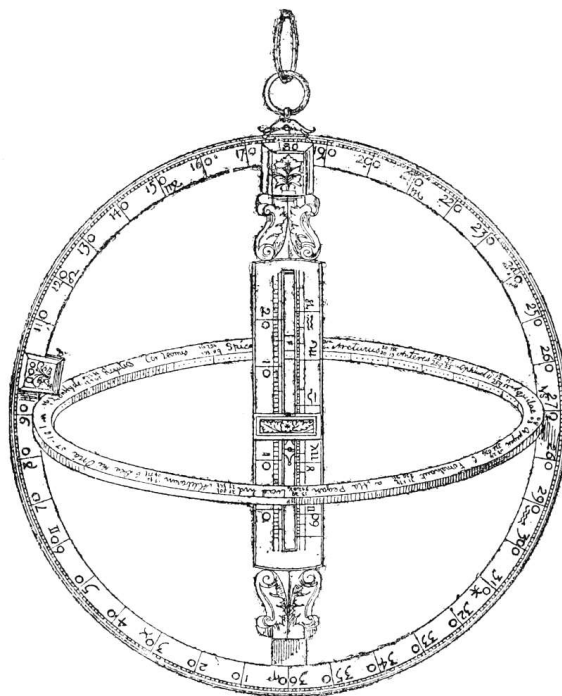
Sir Isaac Newton

Figure 7: Sir Isaac Newton's Astrolabe

4.5 User-level macros

Example user-level macros follow.

These macros are in addition to the standard sectioning and caption commands, adding first and last names for the table of contents and list of figures. For chapters and sections, the author's name with optional prefix and suffix are also added below the title. For figures, `\captionauthor` also prints the figure's artist's name with optional prefix and suffix just below the figure.

The regular sectioning and caption commands may still be used for anything which does not have an author/artist name.

4.5.1 User customization

`\TD@optionalname` {⟨*name*⟩}

Adds optional artist's name and the following space.

```
51 \newcommand{\TD@optionalname}[1]
52 {%
53 \ifthenelse{\equal{#1}{}}%
54 {}%
55 {#1~}%
56 }
```

\tocdatachapprint {⟨*prefix*⟩} {⟨*first*⟩} {⟨*last*⟩} {⟨*suffix*⟩}

User-redefinable macro to print the author's name underneath the chapter title.

```
57 \@ifundefined{chapter}
58 {}% if no chapters
59 {% only of chapters exists in this documentclass:
60 \newcommand{\tocdatachapprint}[4]
61 {%
62 \newline\noindent{\normalfont\normalsize\textit{\hspace*{2em}--- %
63 \TD@optionalname{#1}\TD@optionalname{#2}#3#4}}%
64 }
65 }% end of chapters-only
```

To remove the author's name, redefine this as a null function taking four arguments:

```
\renewcommand{\tocdatachapprint}[4]{}
```

\tocdatasecprint {⟨*prefix*⟩} {⟨*first*⟩} {⟨*last*⟩} {⟨*suffix*⟩}

User-redefinable macro to print the author's name underneath the section title.

```
66 \newcommand{\tocdatasecprint}[4]
67 {%
68 \newline\noindent{\normalfont\normalsize\textit{\hspace*{2em}--- %
69 \TD@optionalname{#1}\TD@optionalname{#2}#3#4}%
70 }%
71 }
```

To remove the author's name, redefine this as a null function taking four arguments:

```
\renewcommand{\tocdatasecprint}[4]{}
```

\tocdatafigprint {⟨*prefix*⟩} {⟨*first*⟩} {⟨*last*⟩} {⟨*suffix*⟩}

User-redefinable macro to print the artist's name underneath the figure.

```
72 \newcommand{\tocdatafigprint}[4]{%
73 \addvspace{2ex}%
74 % \addvspace{\medskipamount}%
75 \begin{minipage}{\linewidth}%
76 \TD@namealign%
77 \footnotesize\textsc{{\TD@optionalname{#1}\TD@optionalname{#2}#3#4}}%
78 \end{minipage}%
79 \par%
80 \addvspace{2ex}%
81 % \addvspace{\medskipamount}%
82 }
```

To remove the artist's name, redefine this as a null function taking four arguments:

```
\renewcommand{\tocdatafigprint}[4]{}
```

\tocdatafigtextprint {⟨*first*⟩} {⟨*last*⟩}

User-redefinable macro to print the artist's name underneath the figure.

```
83 \newcommand{\tocdatafigtextprint}[1]{%
84 \addvspace{2ex}%
85 \begin{minipage}{\linewidth}%
86 \TD@textalign%
87 \footnotesize%
88 \setlength{\parskip}{1.5ex}%
89 \setlength{\parindent}{0em}%
90 #1%
91 \end{minipage}%
92 \par%
93 \addvspace{2ex}%
94 % \addvspace{\medskipamount}%
95 }
```

4.5.2   Chapters and sections

\chapterauthor * [⟨*2:TOC entry*⟩] {⟨*3:title*⟩} [⟨*4:prefix*⟩] {⟨*5:first*⟩} {⟨*6:last*⟩} [⟨*7:suffix*⟩]

```
96 \@ifundefined{chapter}
97 {}% if no chapters
98 {% only of chapters exists in this documentclass:
99 \NewDocumentCommand{\chapterauthor}{s o m O{} m m O{}}{%
```

The starred version does not create a TOC entry, so it is used as-is:

```
100 \IfBooleanTF{#1}% star:
101 {\chapter*{#3\tocdatachapprint{#4}{#5}{#6}{#7}}}%
```

The un-starred version appears in the TOC, so add the author's name:

```
102 {% no star:
103 \tocdata{toc}{#5 #6}%
```

Create the chapter depending on the optional name:

```
104 \IfValueTF{#2}%
105 {\chapter[#2]{#3\tocdatachapprint{#4}{#5}{#6}{#7}}}%
106 {\chapter[#3]{#3\tocdatachapprint{#4}{#5}{#6}{#7}}}%
107 }%
```

Create an index entry depending on whether there is a first name:

```
108 \ifthenelse{\equal{#5}{}}%
109 {\index{#6}}%
110 {\index{#6, #5}}%
111 }% end of \chapterauthor
112 }% end of \@ifundefined{chapter}
```

\sectionauthor   * [⟨*2:TOC entry*⟩] {⟨*3:title*⟩} [⟨*4:prefix*⟩] {⟨*5:first*⟩} {⟨*6:last*⟩} [⟨*7:suffix*⟩]

```
113 \NewDocumentCommand{\sectionauthor}{s o m O{} m m O{}}{%
```

The starred version does not create a TOC entry, so it is simply used as-is:

```
114 \IfBooleanTF{#1}% star:
115 {\section*{#3\tocdatasecprint{#4}{#5}{#6}{#7}}}%
```

The un-starred version appears in the TOC, so add the author's name:

```
116 {% no star:
117 \tocdata{toc}{#5 #6}%
```

Create the section depending on the optional name:

```
118 \IfValueTF{#2}%
119 {\section[#2]{#3\tocdatasecprint{#4}{#5}{#6}{#7}}}%
120 {\section[#3]{#3\tocdatasecprint{#4}{#5}{#6}{#7}}}%
121 }% no star
```

Create an index entry depending on whether there is a first name:

```
122 \ifthenelse{\equal{#5}{}}%
123 {\index{#6}}%
124 {\index{#6, #5}}%
125 }
```

4.5.3 Figure name alignment

\TD@namealign Sets text alignment in the optional text.

```
126 \newcommand{\TD@namealign}{\centering}
```

\tdnamejustify Sets justified text alignment in the optional text.

```
127 \newcommand{\tdnamejustify}{%
128 \renewcommand{\TD@namealign}{}%
129 }
```

tdnamecenter Sets centered text alignment in the optional text.

```
130 \newcommand{\tdnamecenter}{%
131 \renewcommand{\TD@namealign}{\centering}%
132 }
```

tdnameleft Sets left text alignment in the optional text.

```
133 \newcommand{\tdnameleft}{%
134 \renewcommand{\TD@namealign}{\raggedright}%
135 }
```

tdnameright Sets right text alignment in the optional text.

```
136 \newcommand{\tdnameright}{%
137 \renewcommand{\TD@namealign}{\raggedleft}%
138 }
```

4.5.4 Figure text alignment

\TD@textalign Sets text alignment in the optional text.

```
139 \newcommand{\TD@textalign}{\centering}
```

\tdtextjustify Sets justified text alignment in the optional text.

```
140 \newcommand{\tdtextjustify}{%
141 \renewcommand{\TD@textalign}{}%
142 }
```

tdtextcenter Sets centered text alignment in the optional text.

```
143 \newcommand{\tdtextcenter}{%
144 \renewcommand{\TD@textalign}{\centering}%
145 }
```

tdtextleft Sets left text alignment in the optional text.

```
146 \newcommand{\tdtextleft}{%
147 \renewcommand{\TD@textalign}{\raggedright}%
148 }
```

tdtextright Sets right text alignment in the optional text.

```
149 \newcommand{\tdtextright}{%
150 \renewcommand{\TD@textalign}{\raggedleft}%
151 }
```

4.5.5 Figures

\captionartist * [⟨*2:LOF entry*⟩] {⟨*3:title*⟩} [⟨*4:supplemental text*⟩] [⟨*5: prefix*⟩] {⟨*6:first*⟩} {⟨*7:last*⟩} [⟨*8:suffix*⟩]

This macro adds optional supplemental text, which will be printed below the artist's name and above the caption, presuming that the caption is generated below the figure.

⚠ Optional arguments If using the optional prefix, the optional text must also be given, even if it is empty. For example, use:

> \captionartist{Title}[][Sir]{Isaac}{Newton}
>
> (If only one optional argument is given before the first name, it will be interpreted as the optional text, not as the optional prefix.)

```
152 \NewDocumentCommand{\captionartist}{s o m +O{} O{} m m O{}}{%
```

Print the artist's name next to the figure:

```
153 \par\addvspace{\medskipamount}%
154 \tocdatafigprint{#5}{#6}{#7}{#8}%
```

If supplemental text is provided, print it below the author:

```
155 \ifthenelse{\equal{#4}{}}{}{\par\tocdatafigtextprint{#4}}%
```

Remove any existing vertical space and only use **\caption**'s built-in spacing:

```
156 \unskip%
```

If starred, there should be no TOC entry, so do not add tocdata. Use `\caption*` from the **caption** or similar packages.

```
157 \IfBooleanTF{#1}%
158 {% starred
159 \IfValueTF{#2}{\caption*[#2]{#3}}{\caption*{#3}}%
160 }% starred
161 {% not starred
```

No starred, so remember the artist's name for inclusion in the LOF:

```
162 \tocdata{lof}{#6 #7}%
```

Create the caption depending on the optional name:

```
163 \IfValueTF{#2}{\caption[#2]{#3}}{\caption{#3}}%
164 }% not starred
```

Create an index entry depending on whether there is a first name:

```
165 \ifthenelse{\equal{#6}{}}%
166 {\index{#7}}%
167 {\index{#7, #6}}%
168 }
```

From the series *Uma Zukushi.*

Figure 8: Lacquer Go Board

Change History

Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

$$\Omega$$

Greek Alphabet

Figure 9: Omega — The End