The `catechis` Package, v2.6

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Abstract

The catechism (a text consisting of explicitly-stated and usually numbered questions and answers) has long been an important vehicle for teaching the basics of concepts. LaTeX, however, does not by default have much facility for producing such texts. The `catechis` package provides a number of highly customizable macros for writing catechisms, including a numbered question-and-answer environment; comments on answers; and citations.

Contents

1 Introduction

Catechisms are largely known for basic religious instruction, and this has indeed been their primary use. For this reason alone, LaTeX ought to have some facilities for authoring them. Furthermore, the form is useful for other topics, as well; it provides an easy way to give basic information on a topic, making it easily extractable by eye from the full text, while still allowing more advanced discussion for those who wish to plunge more deeply into a given question.

    `catechis` is packaged according to the LaTeX DOCSTRIP utility, which allows automatic extraction of code and documentation from the same files.

    This is version 2.0 of `catechis`; it represents a mostly complete rewrite of the package, which is therefore much simpler and more robust.

2   The State of the TeX for Catechisms

LaTeX has basically no provision for producing well-formed catechisms. It's easy enough to fake it, of course; for example:

```
 \begin{enumerate}
\item\textbf{Who made us?} \\ God made us.
\item\textbf{Why did God make us?} \\ God made us to
know Him, love Him, and serve Him, and by so doing
to gain everlasting life with Him in Heaven.
 \end{enumerate}
```

This gives the following result:

  (a) **Who made us?**
     God made us.

  (b) **Why did God make us?**
     God made us to know Him, love Him, and serve Him, and by so doing to gain everlasting life with Him in Heaven.

However, this solution is far from satisfactory. It's unportable, fit really only for this one document; uncustomizable, because it's hard-wired to do only this one thing; unmodifiable, at least automatically, because it uses explicit visual formatting in the text; and far too wordy. What is desired is something more along the lines of the following:

```
 \catques{Who made us?}{God made us.}
 \catques{Why did God make us?}{God made us to
know Him, love Him, and serve Him, and by so doing
to gain everlasting life with Him in Heaven.}
```

Which, with the `catechis` package, produces this:

---

1.   **Who made us?**
     God made us.

2.   **Why did God make us?**
     God made us to know Him, love Him, and serve Him, and by so doing to gain everlasting life with Him in Heaven.

3.   **What will happen if the question is really long, so that it wraps to the next line?**
     It will work properly, with the wrapped line appropriately indented. The answer, as you have already seen, will behave likewise.

`catechis` provides these facilities and more to produce high-quality, useful catechisms.

3   Basic Usage

\catques   The most basic usage of `catechis` is encompassed by the **\catques** macro:

$$\text{\catques } \{\langle question \rangle\} \text{ } \{\langle answer \rangle\}$$

There is no more to this than meets the eye. Both arguments are mandatory, though either may be empty; the first is the question, and the second is the answer. It is often helpful to indent sensibly to keep these more readable in the source:

```
\catques{What is the question?}{%
      The question is, ``What is the question?''}%
```

This produces the following:

---

4.   What is the question?
The question is, "What is the question?"

\catcomment   Our next macro, **\catcomment**, really shows the genius of the catechism concept. The question and answer are the *basic* information; it's easily followed up by a comment, which is visually separate and can be skipped by those interested in, or only ready for, the basics, but is still sensibly placed and ready for those who wish it.

---

5.   What is the question?
The question is, "What is the question?"
This is a comment. It's very interesting, it wraps and indents correctly, and the package's default comment style is demonstrated here.
6.   How are the questions numbered? Are they numbered sequentially, throughout the text?
Yes, the questions are numbered sequentially throughout the text. You can reset the numbers manually, which we'll talk about later; but by default, there is one question stream which is numbered from 1 on up.
We're numbering questions sequentially to show that you can have catechism questions scattered throughout a text, or your text can be entirely in the form of a catechism. `catechis` works either way.

\catexplic   There is also the **\catexplic** command, which works essentially identically to **\catcomment** but can include paragraph breaks and is intended for much lengthier commentary on the answer.

```
\catques{What is the question?}{The question is, ``What is the question?''}%
\catcomment{This is a comment.  It's very interesting, it
wraps and indents correctly, and the package's default
```

```
comment style is demonstrated here.}
\catexplic{We can make some really impressive things
happen with this command.  While comments allow
short explanatory comments on an answer, explics
give us field to go on for a long time, if we want.

We can put in paragraph breaks, and we can even do the
following:
\begin{compactenum}
\item We can put lists in them!
\item Isn't that cool?  This can provide a great way to
give advanced information on a topic that people can read
if they want, or just skip on to the next question!
\end{compactenum}\restoreindents

You can really produce beautiful catechetical works using
this facility, which will do a great job of instructing
people at all levels of expertise.
}%
```

---

7.   What is the question?

The question is, "What is the question?"

This is a comment. It's very interesting, it wraps and indents correctly, and the package's default comment style is demonstrated here.

We can make some really impressive things happen with this command. While comments allow short explanatory comments on an answer, explics give us field to go on for a long time, if we want.

We can put in paragraph breaks, the indentation of which we can control with fine granularity; and we can even do the following:

(a) We can put lists in them!

(b) Isn't that cool? This can provide a great way to give advanced information on a topic that people can read if they want, or just skip on to the next question!

You can really produce beautiful catechetical works using this facility, which will do a great job of instructing people at all levels of expertise.

You'll note that lists *will* hose all of `catechis`'s careful indentation, so after

\restoreindents   using one in a `\catexplic`, you must issue `\restoreindents` to get everything back to normal.

Catechisms also routinely provide citations to support their claims; `catechis` provides for this, too. A heading for a group of citations is printed by issuing

\catcitetitle   `\catcitetitle`, and each individual citation is printed by issuing the `\catcite` command, which takes the citation as the first argument and the source as the second:

\catcite $$\text{\texttt{\textbackslash catcite} } \{\langle citation\rangle\} \; \{\langle source\rangle\}$$

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An example:

```
\catcitetitle
\catcite{For the apparel oft proclaims the man.}{Polonius}
\catcite{And this above all: to thine own self be true; /
and it must follow, as the night the day, / that thou
canst not be false to any man.}{Polonius}
```

CITATIONS

For the apparel oft proclaims the man.
    Polonius
And this above all: to thine own self be true; / and it must follow, as the night the day, / that thou canst not be false to any man.
    Polonius

Because this will often not result in proper spacing, `catechis` provides an environment, `catcitations`, which will insert appropriate spacing before and after the citations. This environment will automatically run `\catcitetitle` for you.

`catcitations`

```
\begin{catcitations}
\catcite{For the apparel oft proclaims the man.}{Polonius}
\catcite{And this above all: to thine own self be true; /
and it must follow, as the night the day, / that thou
canst not be false to any man.}{Polonius}
\end{catcitations}
```

CITATIONS

For the apparel oft proclaims the man.
    Polonius
And this above all: to thine own self be true; / and it must follow, as the night the day, / that thou canst not be false to any man.
    Polonius

Lastly, `catechis` gives some provisions for more customary catechetical enumerates. It uses standard features from the `paralist` package for this, and simply makes those the default.

```
\catques{Can we do enumerates?}{Yes, we can do those; we
can even do them in a special way, so that it looks more
```

```
like the way catechisms customarily look.}
\catcomment{Just check this out; we have here a comment
giving slightly more detailed information, then an
enumerate giving \emph{much} more detailed information.}
\begin{enumerate}
\item Here, we have the first item, with some extra
details elaborating on what was said before.
\item Here, we have another item.
\item Here, we have still another.
\end{enumerate}
```

---

8. Can we do enumerates?

Yes, we can do those; we can even do them in a special way, so that it looks more like the way catechisms customarily look.

Just check this out; we have here a comment giving slightly more detailed information, then an enumerate giving *much* more detailed information.

(a) Here, we have the first item, with some extra details elaborating on what was said before.

(b) Here, we have another item.

(c) Here, we have still another.

---

4 Customization

Pretty much everything in the package can be customized. The names of the necessary commands and lengths are fairly predictable: they will start with `\cat`, be followed by the type of thing (`ques`, `comm`, `explic`, etc.), and then the property to be set (`sty`, `indent`, `hindent`, etc.).

In all cases, lengths are set with `\setlength`, while commands are set with `\newcommand` or `\def`.

catquesnum   **catquesnum** The counter which `catechis` maintains for the questions. It can be set or reset with the usual LaTeX counter commands (e.g., `\setcounter`, `\addtocounter`).

\thecatquesnum   **\thecatquesnum** The actual typeset version of `catquesnum`. By default, this is defined as `\renewcommand{\thecatquesnum}{\arabic{catquesnum}.}`.

\catquesnumwd   **\catquesnumwd** The width of the box in which `catechis` typesets the question number. By default, `2em`.

\catquesindent   **\catquesindent** The indentation of the first line of the question in `\catques`. By default, `0em`.

\catqueshindent	**\catqueshindent** The indentation of subsequent lines of the question in \catques. By default, 2em.
\catquessty	**\catquessty** The style in which the question will be printed in \catques. By default, \bfseries.
\catansindent	**\catansindent** The indentation of the first line of the answer in \catques. By default, 2em.
\catanshindent	**\catanshindent** The indentation of subsequent lines of the answer in \catques. By default, 2em.
\catanssty	**\catanssty** The style in which the answer will be printed in \catques. By default, empty.
\catcommindent	**\catcommindent** The indentation of the first line of the comment in \catcomment. By default, 2em.
\catcommhindent	**\catcommhindent** The indentation of subsequent lines of the comment in \catcomment. By default, 2em.
\catcommsty	**\catcommsty** The style in which the comment will be printed in \catcomment. By default, empty.
\catexplicindent	**\catexplicindent** The indentation of the first line of the paragraphs in a \catexplic. By default, 4em.
\catexplichindent	**\catexplichindent** The indentation of subsequent lines of the paragraphs in a \catexplic. By default, 2em.
\catexplicsty	**\catexplicsty** The style in which the comment will be printed in \catexplic. By default, \small.
\catcitetitleword	**\catcitetitleword** The word which the \catcitetitle command will print. By default, Citations.
\catcitetitlesty	**\catcitetitlesty** The style in which \catcitetitle will print its contents. By default, \Large\scshape.
\catcitationbefskip	**\catcitationbefskip** The distance to skip prior to beginning a catcitations environment, before running \catcitetitle.
\catcitationaftskip	**\catcitationaftskip** The distance to skip after ending a catcitations environment.
\catciteindent	**\catciteindent** The indentation of the first line of the citation itself (that is, the quotation) in a \catcite. By default, 0em.
\catcitehindent	**\catcitehindent** The indentation of subsequent lines in the citation itself (that is, the quotation) in a \catcite. By default, 0em.

$\backslash$catcitesty | **\catcitesty** The style in which the citation itself (that is, the quotation) will be printed in \catcite. By default, \itshape.

$\backslash$catsrcindent | **\catsrcindent** The indentation of the first line of the source in a \catcite. By default, 2em.

$\backslash$catsrchindent | **\catsrchindent** The indentation of subsequent lines in the source in a \catcite. By default, 2em.

$\backslash$catsrcsty | **\catsrcsty** The style in which the source will be printed in \catcite. By default, empty.

Finally, the list settings are all from `paralist`, so that package's documentation should be consulted for changing the defaults set up for them.

These options are sufficient to manipulate `catechis` into behaving however you'd like.

5   Implementation

Start by requiring `paralist`, to take care of our custom enumerates.

```
1 \RequirePackage{paralist}
2 \setdefaultenum{(a)}{(1)}{(i)}{(A)}
3 \setdefaultleftmargin{3.8em}{}{}{}{}{}
```

Now we create the indentations and styles for the default question counter, the questions themselves, and the answers. We also set sensible defaults.

```
4 \newlength{\catquesindent}\setlength{\catquesindent}{0em}
5 \newlength{\catqueshindent}\setlength{\catqueshindent}{2em}
6 \newlength{\catansindent}\setlength{\catansindent}{2em}
7 \newlength{\catanshindent}\setlength{\catanshindent}{2em}
8 \newlength{\catquesnumwd}\setlength{\catquesnumwd}{2em}
9 \newcounter{catquesnum}\setcounter{catquesnum}{0}
10 \def\catquesnumsty{\bfseries}
11 \def\catquessty{\bfseries}
12 \def\catanssty{}
13 \renewcommand{\thecatquesnum}{\arabic{catquesnum}.}
```

Here, we define the catechism question macro. Nothing much surprising here.

```
14 \def\catques#1#2{%
15 \stepcounter{catquesnum}%
16 \def\@currentlabel{\thecatquesnum}%
17 {\parindent=\catquesindent\hangindent=\catqueshindent\hangafter=1%
18 {\par\leavevmode\hbox to\catquesnumwd{\catquesnumsty\thecatquesnum\hfil}%
19 \catquessty #1}\par\nobreak}%
20 {\parindent=\catansindent\hangindent=\catanshindent\hangafter=1%
21 {\par\catanssty #2}\par}%
22 }%
```

Define the catechism comments, and set sensible defaults for the settings.

```
23 \def\catcommsty{}
24 \newlength{\commindent}\setlength{\commindent}{2em}
25 \newlength{\commhindent}\setlength{\commhindent}{2em}
26 \def\catcomment#1{%
27 {\parindent=\commindent\hangindent=\commhindent\hangafter=1%
28 {\par\catcommsty #1}\par}
29 }%
```

Define the catechism explications (longer than comments, allowing paragraph breaks), and set sensible defaults for their settings.

```
30 \def\catexplicsty{\small}
31 \newlength{\explicindent}\setlength{\explicindent}{4em}
32 \newlength{\explichindent}\setlength{\explichindent}{2em}
33 \long\def\catexplic#1{%
34 {\par\everypar={\parindent=\explicindent\hangindent=\explichindent\hangafter=1}%
35 {\par\catexplicsty\  #1}\par}%
36 }%
```

Because lists always seem to run roughshod over indentation settings, and because it's easier to do this than to write custom lists just for this package, we define `\restoreindents` to fix settings after a list in a `\catexplic`.

```
37 \def\restoreindents{%
38 \par%
39 \everypar={%
40 \parindent=\explicindent%
41 \hangindent=\explichindent%
42 \hangafter=1%
43 }%
44 \par%
45 }%
```

Define the commands to produce citation titles, and set sensible defaults; also for the citation environment.

```
46 \def\catcitetitlesty{\Large\scshape}%
47 \def\catcitetitleword{Citations}%
48 \def\catcitetitle{%
49 \hbox to\linewidth{%
50 \hfil%
51 {\catcitetitlesty\catcitetitleword}%
52 \hfil%
53 }%
54 \penalty10000%
55 }%
56 \newlength\catcitationbefskip\catcitationbefskip=1em%
57 \newlength\catcitationaftskip\catcitationaftskip=1em%
58 \def\catcitations{%
59 \leavevmode%
60 \vskip\catcitationbefskip%
61 \catcitetitle%
```

```
62 }%
63 \def\endcatcitations{%
64 \leavevmode%
65 \vskip\catcitationaftskip%
66 }%
```

Define actual citations macros and lengths.

```
67 \def\catcitesty{\itshape}%
68 \def\catsrcsty{}%
69 \newlength{\catciteindent}\setlength{\catciteindent}{0em}%
70 \newlength{\catcitehindent}\setlength{\catcitehindent}{0em}%
71 \newlength{\catsrcindent}\setlength{\catsrcindent}{2em}%
72 \newlength{\catsrchindent}\setlength{\catsrchindent}{2em}%
73 \def\catcite#1#2{%
74 {\parindent=\catciteindent\hangindent=\catcitehindent\hangafter=1%
75 {\par\catcitesty #1}\par}%
76 \penalty10000%
77 {\parindent=\catsrcindent\hangindent=\catsrchindent\hangafter=1%
78 {\par\catsrcsty#2}\par}%
79 }%
80 \let\scripture=\catcite
```

And that's it. Happy TEXing!

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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.