Transforming EconLit downloads to BibTeX archives with `elit2bib`

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The online database EconLit (within WebSpirs) allows to download economic references into a text file. For users of LATEX, it seems convenient to transform the reference file into a format that BibTeX understands. The script `elit2bib` does this.

We have written `elit2bib` to include some new, and in our view desirable, features. Our script, programmed in Perl, makes use of additional information that has become available in EconLit lately. It also evaluates the input differently, and checks for possible problems in the output creation. In particular, `elit2bib` warns the user of detected mistakes or inconsistencies, mostly resulting from non-standard WebSpirs entries. As of now, `elit2bib` is not available as a stand-alone routine. However, we are planning to make it a small stand-alone command file for PCs in the near future (it will probably remain a Perl script file for Unix users). We will do so after a first round of feedback from *you*.

This documentation describes the main characteristics of our program, how to obtain an adequate input file from WebSpirs and how to then apply `elit2bib` to create a BibTeX output file. Due to some features in WebSpirs and how it reports references, the output file may need a manual check. We programmed `elit2bib` so that it alerts the user of possible problems. For a quick overview of options and warnings, see the appendix (p. 19). The fastest introduction is probably a look at our three examples in section 4 (p. 13).

Originals are available at `http://socrates.berkeley.edu/~muendler/` and `http://idrive.berkeley.edu/~tribeiro/`.

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0   What `elit2bib` Will Do For You

The Perl script `elit2bib` transforms WebSpirs output files from the EconLit database to reference files that can be read by BibTeX and included in LaTeX. The current version

- oversees its own output and warns users if problems are discovered. In particular, it checks for possible inconsistencies, possible mistakes, or a lack of completeness when WebSpirs entries were reported in a non-standard manner

- uses the indicator item "DT:" in WebSpirs (which takes values such as "Journal-Article", "Collective-Volume-Article") to transform all references to according BibTeX entries in a consistent way

- includes a variety of options to create the most appropriate output for the user's preferred BibTeX styles

- keeps the abstract, source information, and internet links in according BibTeX items for convenience. These entries are not going to be output in the reference section of the LaTeX document, but allow the user to quickly re-access broader information about a reference in the <.bib> file

- includes an optional algorithm to create BibTeX keys

- marks the initials of the most common proper names as capital letters. So, BibTeX styles that turn non-starting letters into lower-case letters will not not switch proper name initials to lower-case letters

We now describe how a BibTeX file can be created from EconLit input, using `elit2bib`. There are three steps. First, adequate input from Web-Spirs needs to be downloaded. Section 1 explains how. Second, you can run `elit2bib` to read this input file and to create an output file in BibTeX format. Various options are available. Section 2 and the according subsections are dedicated to this. Last, and certainly not least, the output should be checked manually. We point out some concerns in section 3. To make you even more familiar with `elit2bib`, we have included some examples in section 4. We have added some "asides" in the text that may be useful at a second glance, but can well be skipped when reading this documentation for the first time.

1 Downloading an EconLit File from WebSpirs

On the WebSpirs web page, select EconLit and start your literature search.[1] Once you have completed your search, click the tag "Save As..." to download your search to a local file. WebSpirs will ask you "Which records do you want to save?" Any selection and file size is fine for our script `elit2bib`. A file of 250 entries usually takes less than 2 seconds to process with `elit2bib`.

Before you start the download, you *must change the display options*. Click on the tab "Change Display". A new web page opens. The important settings for `elit2bib` to work are listed under the (first) section "Record Display options". Please make the following two selections here:

- Show field names as: *Short labels*

- Display Record with: *Complete record*

Do not forget to click the "Confirm Changes" tag before you leave the page. Otherwise the settings will not take effect.

The following sample shows a typical entry in a downloaded reference file from WebSpirs' EconLit.

```
Search History [21-March-2001]
#1 (McFadden Daniel) in AU (64 records )

TI:   Living Arrangements:  Health and Wealth Effects
AU:   Borsch-Supan,-Axel; McFadden,-Daniel-L.; Schnabel,-Reinhold
AF:   Mannheim U, NBER, and Center for Econ Policy Research; U CA, Berkeley [...]
SO:   Wise,-David-A., ed.  Advances in the economics of aging.  National Bureau
      of Economic Research Project Report series.  Chicago and London:
      University of Chicago Press, 1996, pages 193-212.
DT:   Collective-Volume-Article
PY:   1996
DP:   Economics-of-the-Elderly (J140); [...]
DS:   Economics-of-Aging (9180); [...]
GE:   United-States
AI:   No
UD:   199807
IB:   0-226-90302-8.
AN:   0465544
```

By default, the downloaded text file will have the extension <*.cgi> (because it is created through a cgi-script). This is precisely the extension that our script `elit2bib` expects. You may choose any other extension, however, and later supply this extension in the command line of `elit2bib`.

Aside: If you are concerned with download time or file size, and would prefer less than the *complete record* in WebSpirs, you may alternatively select the following

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[1]The WebSpirs URL is `http://webspirs.silverplatter.com/`.

items only: TI, AU, SO, FTXT, DT, PY, DP, AB, AV, IB. Among them, DT, TI, AU, SO, PY are a 'must', whereas FTXT, DP, AB, AV, IB are optional. Note that `elit2bib` will ignore all reference entries for which DT (type of entry) is not available. So, including DT is a mandatory. Similarly, a BibTeX entry is going to be incomplete if TI (title), AU (authors), SO (bibliographic citation), or PY (year) are missing in the input file. The items FTXT (URL addresses for fulltext), AV (ordering information for discussion papers), and IB (ISBN/ISDN numbers) are merely for convenience, and you may want to leave them out. You may also not be interested in DP (keywords; or DS which is used by `elit2bib` if DP is unavailable), or AB (abstract). These are usually large items. Again, such considerations should only be made if you are concerned with download time or file size. Processing time with `elit2bib` should not be more than a few seconds even if you select *complete record* and several hundred entries.

2 Applying `elit2bib`

The program `elit2bib` is written as a Perl script for Perl 5. You can obtain latest information on Perl from *perl.com*. PC users may want to see Active-State for the latest PC release, which merges two earlier lines of Perl ports for Windows 32.[2] Running Perl scripts on your PC may seem difficult to you at first. Don't worry. This documentation file describes all you need to know so that you can run our script file <elit2bib.pl> smoothly. It may even help you understand how to run other Perl scripts. To run `elit2bib`, you first need to choose the settings such as path and file names, and options. Then you invoke `elit2bib` through Perl. This is described in detail in the present section.

`elit2bib` processes reference entries in EconLit, except Book Reviews. It transforms these EconLit entries according to their DT (type of entry) item into corresponding BibTeX entries. This is also shown in table 1. To our knowledge, no other DT entries than the ones listed in table 1 are used by EconLit under WebSpirs. For example, we have not detected articles that were published in proceedings. However, we might be mistaken. In that case, we would be happy to add any further entry types to our program. Please don't hesitate to e-mail us if you discover WebSpirs entries we did not know of.

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[2]The URL of perl is `http://www.perl.com/pub/`, and the URL of ActivePerl for PCs at ActiveState `http://www.activestate.com/Products/ActivePerl/Download.html`.

Table 1: Translation from EconLit to BibTeX entries

EconLit entry (DT)		BibTeX entry
Journal-Article	→	@ARTICLE
Working-Paper	→	@ARTICLE (or @TECHREPORT[a])
Book	→	@BOOK
Collective-Volume-Article	→	@INCOLLECTION
Dissertation	→	@PHDTHESIS[b]
Book-Review		*not included*

[a]If option `-t` is selected. See section 2.4 or appendix A for details.
[b]EconLit does not record Master's Theses to our knowledge.

2.1 Before You Start

Before you start using `elit2bib`, please be aware that we are distributing `elit2bib` freely under the condition that you make *no* changes to the script code without renaming the file. That is, you can alter our script, change and improve it where ever you want, but we require that you rename the file as soon as you alter any part of the code. This is common with freely distributed software. We want to avoid that "copies" of `elit2bib`, which are potentially quite unrelated to the original, start circulating. Accordingly, the '*license agreement*' part in the header of our script file reads:

```
# Copyright (C) 2001 all rights reserved.
#
# Copying of this file is authorized only if either
# (1) you make _no_ changes to your copy, or
# (2) if you do make any change, you name the altered file
      differently.
```

When you run the script for the first time, you have agreed to these terms.

2.2 Selecting the Settings in `elit2bib`

As of now, `elit2bib` is not a stand-alone routine. Among other things, this implies that you need to insert manually your preferred settings in the head of the script code. This is not a big deal. Open the file <elit2bib.pl> in any text editor of your choice (such as *notepad* or *WinEdt* on a Windows PC or *emacs* on a Unix computer). There are two fields in the script file in which you need to make changes before using `elit2bib`. Both fields are marked with separators ("#---"). Point the cursor to the first field

```
#--------------------------------------------------
# PLEASE ENTER OPTIONS AND FILENAME HERE as $cmd
$cmd = '-e -f -k ucb2';
#--------------------------------------------------
```

We like to run `elit2bib` with the options `-e -f -k`. We will turn to
these and other options shortly, in section 2.4 below. Here, we suppose that
`elit2bib` should run on the input file <ucb2.cgi>, which is the standard
download file that WebSpirs will produce when accessing it from within the
Berkeley domain.[3] We can leave out the file extension <.cgi> in the command
line since the program assumes <.cgi> to be the default extension.

The second field with settings tells `elit2bib` where to look for the input
file, and where to save the output file. Point your cursor to

```
#----------------------------------------------------
# CHANGE PATH NAMES for input and output files HERE
open(IN,''<c:/temp/$file.$ext'') [...]
open(OUT,''>c:/temp/$file.bib'') [...]
#----------------------------------------------------
```

a little further below, and provide `elit2bib` with the full pathname of your
input and output directories. You only need to change the parts that read
<c:/texdocs/elit2bib/> and <c:/texdocs/elit2bib/>. (Of course, you could
alternatively also create a directory <c:/texdocs/elit2bib/> on your PC where
you store the input files and from where you retrieve the output files. However,
a Unix computer would not understand such a path name.) We believe that
you need not make changes to this second field very often.

The default settings in both fields will result in the following actions of
`elit2bib`. First, the program will attempt to read the file <mcfadden.cgi>
in directory <c:/texdocs/elit2bib/>. If it finds the file, it will translate all
EconLit entries to BibTeX format under options `-e -f -k`. Then it will
write the output file to the directory <c:/texdocs/elit2bib/> and name the
file <mcfadden.bib>. If the output file <mcfadden.bib> exists already, the
program will overwrite the file without warning. If either the program cannot
locate the input file <c:/texdocs/elit2bib/mcfadden.cgi> or if the output path
does not exist, `elit2bib` will abort with an according error message.

Aside: Clearly, the aforementioned two changes to the script are necessary under
the given version of the program. So, we do not ask you to change the filename of
`elit2bib` when you *only* change the settings. Accordingly, the complete second
item in our license statement reads

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[3]As a further example, we could run `elit2bib` on the input file <mcfadden.cgi>. This
file is available as sample file at URL `http://socs.berkeley.edu/~muendler/`.

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```
# (2) if you do make any change, you name the altered file
      differently.
#      (You may keep the file name if you make changes only to
#      sections that are surrounded by #--- separators.)
```

2.3   Invoking `elit2bib`

Having chosen the according settings, you can now invoke `elit2bib` as a Perl
script file. Let's suppose first, you want to invoke `elit2bib` on a PC with
Windows and that the script file <elit2bib.pl> is in the directory: <c:/perl/>.
Select "Run..." from the Windows start menu and type

```
command.com /k perl "c:/perl/elit2bib.pl"
```

(or paste this line there). Of course, you can put the script file <elit2bib.pl>
in any other directory and adjust the file reference accordingly.

A DOS window will open. If Perl cannot find the script file <elit2bib.pl>
in directory <c:/perl/>, it will respond with the error message "Can't open
perl script 'c:/perl/elit2bib.pl': No such file or directory". If our program
`elit2bib` cannot find your specified input file (as described in section 2.2),
it will respond through Perl with the error message "Can't open input file
ucb2.cgi. Error at elit2bib.pl line 37." A similar message occurs if the output
path does not exist. Otherwise, `elit2bib` should run for some seconds and
create a proper BibTeX output file. Once Perl is done with `elit2bib`, a DOS
prompt appears, and you can close the window with "exit" (enter).

Alternatively, you can run `elit2bib` on the DOS level directly. For this,
you can launch the command prompt from the start menu. Once the DOS
window has opened, type

```
perl "c:/perl/elit2bib.pl"
```

Alternatively, you can use the DOS command "cd" first to change to the direc-
tory where the script file <elit2bib.pl> is located and then invoke the script
directly by typing `perl elit2bib.pl`. The only (minor) drawback with going
to the DOS prompt level seems to be that you cannot copy and paste this com-
mand as easily into the DOS window as into the "Run..." command window.
However, the rest is the same as described above.

On a unix computer, the syntax is similar to the DOS level command.
First, change to the directory where you keep your copy of the script file
<elit2bib.pl>. Then type

Table 2: OPTIONS IN `elit2bib`

	Function
`-e`	Transforms "et al." string into "{et al.}" in author=/editor= items
`-f`	Adds a File reference item (set to F) to each BibTeX entry
`-k`	Creates BibTeX Keys from author=/editor= and year= items
`-l`	Leaves BibTeX keys out and inserts dummies, causing BibTeX errors
`-m`	Does *not* transform "Jan" to "January", etc.
`-q`	Changes double Quotes to single quotes in title= and booktitle=
`-t`	Translates working paper as @TECHREPORT, and not as @ARTICLE
`-v`	Uses book volume instead of number if both reported in EconLit

```
perl elit2bib.pl
```

Again, the rest is the same as described above.

When you run `elit2bib` on any other input file than <mcfadden.cgi>, warning messages may be displayed in the DOS window to alert you of possible problems during the translation procedure. Section 3 explains these messages, their possible causes, and adequate actions in more detail.

2.4 Choosing Adequate `elit2bib` Options

The present (first) version of `elit2bib` allows you to choose among eight different options. They determine the way in which the output file is created. Table 2 provides an overview. These eight options are described in more detail in appendix A, where we also give examples. Here, we only briefly discuss some of them and their functions.

Option `-e` tells `elit2bib` to transform the string "et al." into the string "{et al.}" whenever encountered in an author= or editor= field. This partly remedies an incompatibility between EconLit and BibTeX. EconLit generally suppresses all but the first author name if there are four or more authors. Instead, EconLit reports the alphabetically first author's name and adds an "et al.". Standard BibTeX styles cannot handle such entries. The only clean way out is to research the remaining three or more author names and to add them manually to the BibTeX entry. Whenever you use BibTeX styles, however, that do *not* abbreviate first names (such as *aer.bst*, for example), putting "et al." in curly brackets makes these bibliography styles believe that an addition to the name occurs here. So, BibTeX treats the string "{et al.}" as if it

were an addition to the name such as "Jr". This can be a suitable work-around in the cases when EconLit does not report all authors.

Option `-k` makes `elit2bib` create automatic BibTeX keys that can then be used directly in the LATEX file for referencing. For example, when the two authors of an article are "Ai, Chunrong and McFadden, Daniel", option `-k` has `elit2bib` create an automatic key "@ARTICLE{AiMcFadd97," for this article (which was published in 1997). You can then directly reference this article with the command `\cite{AiMcFadd97}` in your LATEX file. If you do not specify option `-k`, the keys of all articles will simply be their running numbers within the output file. So, if not specifying option `-k`, you will have to replace the running number by a key of your choice. The supporting BibTeX style *keylist.bst* helps you view the keys and the according entries in LATEX, a procedure that we describe in appendix B.

Option `-t` translates working papers into a BibTeX entry @TECHREPORT. However, the *default* in `elit2bib` is to translate a working paper into an @ARTICLE entry in BibTeX. The advantage of an @ARTICLE entry is that non-economic BibTeX styles such as *agsm.bst* or *amsplain.bst* will treat the entry in a way that looks common to an economist. We expect most `elit2bib` users to be economists, possibly using non-economic BibTeX styles. Non-economic BibTeX styles mostly make @TECHREPORT entries appear as "Technical Reports" in the final LATEX output. NBER working paper no. 4666, for example, would be quoted as "Technical Report 4666, NBER" by most non-economic bibliography styles. If option `-t` is not specified, `elit2bib` will make this NBER working paper an @ARTICLE with accordingly rearranged items so that it would indeed appear as "NBER Working Paper 4666" in the references section of the final LATEX output. It will be quoted in this generic way both in non-economic and economic bibliography styles. That's also why we made it the default. On the other hand, if you are sure that you will exclusively or mainly use economic bibliography styles, you can specify option `-t`. Economic BibTeX styles such as *aer.bst* or *econometrica.bst* will make the final LATEX reference entry say "Discussion Paper 4666, NBER," or the like, as economists are used to see it.

3 Checking the Output file

There are several incompatibilities between the way EconLit under WebSpirs records references, and how BibTeX is used to catalog references. In addition, entries in EconLit, especially its "Collective-Volume-Articles", come in a variety of formats that are sometimes hard to disentangle. For these reasons,

output from `elit2bib` may be incomplete, or even mistaken in some cases. We have designed `elit2bib` so that it oversees its own activity, and warns the user if it detects possible inconsistencies. Yet, even when no warnings occur, **we highly recommend that you check the output file**, and pay special attention to all "Collective-Volume-Articles", or @INCOLLECTION items.

3.1 Three General Remarks on How `elit2bib` Avoids Translation Mistakes

We have designed `elit2bib` to take care of potential translation mistakes from EconLit to BibTeX. First, we perform *word transformations to avoid errors* in BibTeX. We change names of the most commonly appearing countries and states, when abbreviated, into forms that do not create a confusion with other types of items in a field. Similarly, we make quotation marks, ampersants, and the like, LaTeX compatible, and try to identify special punctuation marks when they would affect the translation. For example, abbreviations such as "St." or "Calif." are clear for a standard reader: "St." is part of a name, "Calif." is a location that describes the address of a publisher more clearly, or the like. The punctuation, however, could be confused with the end of a string within a field, especially for a "Collective-Volume-Article" (@INCOLLECTION). So, "St." is treated in a special way, and "Calif." is replaced by "{CA}" in `elit2bib`. (The curly brackets around state abbreviations avoid that BibTeX changes upper-case to lower-case letters.) These are only some among many examples.

Second, we try to take care of *incompatibilities* between the way EconLit reports references and the form of BibTeX input. For instance, a cause of errors in BibTeX is when both a number and a volume are reported for an "In-Collection-Article" or a "Book" entry in EconLit. This typically occurs when a book is published in a series, and receives a number, but has been split in more than one volume. The corresponding BibTeX categories @INCOLLECTION and @BOOK must not contain both a volume and a number. We have chosen to resolve this conflict by retaining the number of the book within the series but by removing the volume. Option `-v` allows you to switch to retaining the volume instead of the series number. A similar problem arises with a "Journal-Article" (@ARTICLE) in Brookings Papers. Since Brookings Papers are not divided in volumes but receive a number, EconLit reports a number 2 in a given year with "0(2)", for example. After removing the zero volume, BibTeX would produce an error message that a number without a volume exists. We have resolved this problem by artificially replacing the volume with the year of publication.

Third, EconLit uses *flexible formats* for several types of entries, and some-
times contains slight deviations from standards that are not problematic for
a reader but can cause difficulties in an `elit2bib` translation. For example,
some "Collective-Volume-Article" entries in EconLit lack the addition "eds."
for the editor name, but the reference does still allow to clearly distinguish au-
thors from editors. Sometimes, the "eds." remark is repeated. Or, as opposed
to a typical "Working-Paper" entry in EconLit, World Bank and IMF discus-
sion papers often contain colons at unexpected positions. These and similar
problems have been resolved. Please report any other apparent translation
issue to the authors if you detect one.

3.2   Typical Warnings and Their Likely Causes

We have designed `elit2bib` to display warning messages both in the DOS
window and in the head of the output file (as remarks so that they are ignored
by BibTeX). These warnings are issued when the translation through `elit2bib`
results in certain inconsistencies or empty entries. `elit2bib` is designed to
translate every identifiable EconLit entry, no matter how severe the problem,
but it reports each problematic entry that it encountered while running.

In rare circumstances, non-standard references in EconLit may result in an
empty journal= or month= field for a "Journal-Article" (@ARTICLE), for in-
stance. Or, as another rare example, the booktitle= field in an "In-Collection-
Article" (@INCOLLECTION) may have remained empty. Entries with these
fields empty would cause error messages in BibTeX. We have made sure that
`elit2bib` warns you beforehand. The following list gives you an (exhaustive)
overview of warning messages that you may encounter during a `elit2bib`
translation. The according error messages in the DOS window will read:

> *There were @ARTICLE entries with problems. See head of output
> file for details.*

In the head of the BibTeX output file, you will then find the warning

> *% The following @ARTICLE entries may be incomplete or wrong.
> Please check manually. (This problem is usually due to a non-
> standard entry in WebSpirs.)*

The message will be followed by a list of all BibTeX entries for which a problem
has been detected.

`elit2bib` uses the "DT:" field in EconLit to identify the type of an entry (see table 1, p. 5). If the input file does not contain any entry with a "DT:" field specified, `elit2bib` will display the error

> *The WebSpirs .cgi file did not contain any DT: entry. The current output file may be useless.*

In fact, the output file will be empty and thus useless quite surely. This problem occurs if you did not change the *display options* before downloading your input file from the WebSpirs web site—see section 1. Before you start the download, you *must change the display options* and select

- Display Record with: *Complete record.*

Should `elit2bib`, or Perl, display any other error message, then this message is most likely due to a change in the code that you made. In this case, `elit2bib` will not perform any translation until you remove the error from the code.[4] If the input file or the output directory that you specified do not exist, error messages as discussed in section 2.2 occur, and `elit2bib` is aborted. In all other cases, `elit2bib` does not abort but tries to perform as many translations as possible.

3.3   Possible Problems that Elapse `elit2bib`'s Attention

There are cases in which `elit2bib` may produce problematic BibTeX output that cannot be logically checked without understanding the meaning of phrases. For example, EconLit's "In-Collection-Article" entries do not always allow to distinguish between the series of the book, in which the article was published, and a subtitle of the article. We therefore urge you to check all @INCOLLECTION entries in the BibTeX output by hand. Similarly, when a book was published in a series, EconLit may have erroneously interchanged number and volume. There are many different ways in which EconLit treats series of books. Again, this suggests that you check @INCOLLECTION entries in the BibTeX output manually. Finally, author and editor names always deserve special attention. Names may contain prefixes such as "de", "van", "von", "Jr.", and the like. Depending on both the specifics of the name and your taste, you may want or need to adjust these names manually, using curly brackets around the appropriate parts of the name, so that BibTeX will treat them as desired.

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[4]Please note that you are holding an illegal copy of the file <elit2bib.pl> if the code has been changed, unless the file was renamed.

4 Sample Input and Output with `elit2bib`

This section provides some examples of input and output. We are using the sample files <mcfadden.cgi> and <shapiro.cgi>. They reflect possible searches on WebSpirs' EconLit database. Please remember that it is necessary to make any downloads of your input files with the WebSpirs display options

- Show field names as: *Short labels*

- Display Record with: *Complete record*

In the following examples, we apply three types of BibTeX style files: *aer.bst*, *agsm.bst*, and *econometrica.bst*. They are available for free download at the according *CTAN* servers, or at the authors' web sites for your convenience. We discuss three examples that are intended to show you the main issues when translating EconLit references to BibTeX.

4.1 An Article in a Collection

Consider the following sample entry of an article in a collection.

```
TI:   Living Arrangements:  Health and Wealth Effects
AU:   Borsch-Supan,-Axel; McFadden,-Daniel-L.; Schnabel,-Reinhold
AF:   Mannheim U, NBER, and Center for Econ Policy Research; U CA, Berkeley [...]
SO:   Wise,-David-A., ed.  Advances in the economics of aging.  National Bureau
      of Economic Research Project Report series.  Chicago and London:
      University of Chicago Press, 1996, pages 193-212.
DT:   Collective-Volume-Article
PY:   1996
DP:   Economics-of-the-Elderly (J140); [...]
DS:   Economics-of-Aging (9180); [...]
GE:   United-States
AI:   No
UD:   199807
IB:   0-226-90302-8.
AN:   0465544
```

As you can see from this example, `elit2bib` will have to perform most action on the field "SO:". Here, non-standard entries in EconLit cause the most errors. Under options `-f -k`, the entire EconLit entry is transformed into the according BibTeX entry

```
@INCOLLECTION{Wise96:1,
author =     {Borsch Supan, Axel and McFadden, Daniel L. and Schnabel, Reinhold},
title =      {Living Arrangements:  Health and Wealth Effects},
pages =      {193-212},
booktitle =  {Advances in the economics of aging},
```

```
publisher =    {University of Chicago Press},
year =         {1996},
editor =       {Wise, David A.},
volume =       {},
number =       {},
series =       {{NBER} Project Report series},
type =         {},
chapter =      {},
address =      {Chicago and London},
edition =      {},
month =        {},
note =         {},
isdn =         {0-226-90302-8},
abstract =     {},
keywords =     {Economics of the Elderly (J140) [...] },
source =       {},
file =         F
}
```

Option `-k` created the BibTeX key "Wise96:1", where "Wise96" corresponds to the book author (editor) and publication year, and ":1" indicates that this was the first article that EconLit picked from the collection. The generic (Harvard-type) BibTeX style *agsm.bst* will display this BibTeX entry as

> Borsch Supan, A., McFadden, D. L. & Schnabel, R. (1996), Living arrangements: Health and wealth effects, *in* D. A. Wise, ed., 'Advances in the economics of aging', NBER Project Report series, University of Chicago Press, Chicago and London, pp. 193–212.

Note that `elit2bib` always reduces "National Bureau of Economic Research" to "NBER" for consistency across entries. Moreover, "NBER" is properly displayed and not reduced to lower-case letters since `elit2bib` has automatically surrounded the term by curly brackets. Please be aware that book titles are never provided with upper-case letters in EconLit so that they may not be in the format you want them.

4.2   A Journal Article

Consider the following sample entry of an article in a professional journal.

```
TI:   A Characterization of Community Excess Demand Functions
AU:   McFadden,-Daniel-L. et-al.
SO:   Journal-of-Economic-Theory; 9(4), Dec.  1974, pages 361-74.
DT:   Journal-Article
PY:   1974
DS:   Microeconomic-Theory-Theory-of-the-Household-Consumer-Demand (0222)
AI:   No
UD:   199006
IS:   0022-0531
AN:   0079365
```

In this example, more than three authors have written the article. EconLit suppresses all but the first author. Under options `-e -f -k`, the entire EconLit entry is transformed into the according BibTeX entry

```
@ARTICLE{McFadd74-a,
author =     {McFadden, Daniel L. {et al.}},
title =      {A Characterization of Community Excess Demand Functions},
journal =    {Journal of Economic Theory},
year =       {1974},
volume =     {9},
number =     {4},
pages =      {361-74},
month =      {December},
note =       {},
abstract =   {},
keywords =   {Microeconomic Theory Theory of the Household Consumer Demand},
source =     {},
file =       F
}
```

Option `-k` created the BibTeX key "McFadd74-a", where the "-a" was added because there was more than one entry with "McFadd74" in the file <mcfadden.cgi>. Since the option `-e` had been specified, the "et al." terms were surrounded by curly brackets. This induces the American Economic Review BibTeX style *aer.bst* to create the LaTeX entry

> **McFadden, Daniel L. et al.**, "A Characterization of Community Excess Demand Functions," *Journal of Economic Theory*, December 1974, *9* (4), 361–74.

However, the Econometrica BibTeX style *econometrica.bst* will display this BibTeX entry as

> McFadden, D. L. e. (1974): "A Characterization of Community Excess Demand Functions," *Journal of Economic Theory*, 9(4), 361–74.

More generally, the "et al." entry will, for sure, lead to an incorrect reference in any BibTeX style that abbreviates first names. If the option `-e` had not been specified, the author quote under the *econometrica.bst* style would have become "McFadden, D. L. e. a."—not any better. So, the only clean way to create correct BibTeX entries when EconLit cuts the author list is to research the names of the remaining authors, and to add them manually.

4.3   A Working Paper

Consider the following sample entry of a working paper.

```
TI:    Economic Rationales for the Scope of Privatization
AU:    Shapiro,-Carl; Willig,-Robert-D.
AF:    Princeton U; Princeton U
SO:    John M. Olin Program for the Study of Economic
       Organization and Public Policy:  41, January 1990, pages 46.
DT:    Working-Paper
PY:    1990
DP:    [...] Privatization;-Contracting-Out (L330)
DS:    Public-Enterprises (6140)
AB:    We develop [...]
AI:    Yes
UD:    199403
AV:    Copies available from:  Department of Economics, Woodrow Wilson School [...]
PR:    no charge
CR:    This record is part of [...]
AN:    0314046
```

Under options `-f -k`, the according BibTeX entry becomes

```
@ARTICLE{ShapirWillig90-b,
author =     {Shapiro, Carl and Willig, Robert D.},
title =      {Economic Rationales for the Scope of Privatization},
journal =    {John M. Olin Program for the Study of Economic Organization
             and Public Policy Working Paper },
note =       {},
year =       {1990},
volume =     {41},
month =      {January},
abstract =   {We develop [...] },
keywords =   {[...] Privatization and Contracting Out (L330)},
source =     {Department of Economics, Woodrow Wilson School [...] },
file =       F
}
```

Here, the source is the department where the working paper can be ordered. For articles or working papers that are available online, `elit2bib` will write the web address into this field.

Let's focus on the type of entry, however. As opposed to the BibTeX standard, the default in `elit2bib` is *not* to create a @TECHREPORT entry but an @ARTICLE. The reason is that generic (Harvard-type) BibTeX styles such as *agsm.bst* will now produce an entry like

> Shapiro, C. & Willig, R. D. (1990), 'Economic rationales for the scope of privatization', *John M. Olin Program for the Study of Economic Organization and Public Policy Working Paper* **41**.

Note that the addition "Working Paper" has been made by `elit2bib` automatically, even though the according "SO:" field in the input file did not contain it.

On the other hand, if we had specified the option `-t` when creating the output file, `elit2bib` would have recorded a @TECHREPORT entry in the out-

put file. Then, a generic BibTeX style such as *agsm.bst* will produce the LaTeX reference

> Shapiro, C. & Willig, R. D. (1990), Economic rationales for the scope of privatization, Technical Report 41, John M. Olin Program for the Study of Economic Organization and Public Policy.

and there is no way to avoid the "Technical Report" term. Since we wrote `elit2bib` mostly for users who are economists and thought that they might still want to use generic BibTeX style files from time to time, we made an accordingly adjusted @ARTICLE output the default.

However, there may still be some reason why even an economist may prefer to use the `-t` option. Suppose the economist was sure that he would never use a generic BibTeX style file but only styles such as Econometrica (*econometrica.bst*). When the option `-t` is *not* specified, the `elit2bib` output will become

> SHAPIRO, C., AND R. D. WILLIG (1990): "Economic Rationales for the Scope of Privatization," *John M. Olin Program for the Study of Economic Organization and Public Policy Working Paper*, 41.

in LaTeX. Otherwise, if the option `-t` *is* specified, the reference will read

> SHAPIRO, C., AND R. D. WILLIG (1990): "Economic Rationales for the Scope of Privatization," Discussion Paper 41, John M. Olin Program for the Study of Economic Organization and Public Policy.

Again, the term "Discussion Paper" is the standard and cannot be altered. If you prefer the second result and can be sure to never use generic style files, you may indeed want to specify the `-t` option.

For a comparison, when the `-t` option is *not* specified the American Economic Review style (*aer.bst*) will produce

> **Shapiro, Carl and Robert D. Willig**, "Economic Rationales for the Scope of Privatization," *John M. Olin Program for the Study of Economic Organization and Public Policy Working Paper*, January 1990, *41.*

and, when the `-t` option *is* specified, the result in the LaTeX references will be

Shapiro, Carl and Robert D. Willig, "Economic Rationales for the Scope of Privatization," Technical Report 41, John M. Olin Program for the Study of Economic Organization and Public Policy January 1990.

So, be advised that not even all economic BibTeX style files treat @TECHRE-PORT entries properly. This is another reason why we made it the default that working papers are turned into (accordingly adjusted) @ARTICLE entries in BibTeX.

Appendix

A   The Options

Table 2 in the text (p. 8 provided an overview of all options. It is repeated here for your convenience.

	Function
-e	Transforms "et al." string into "{et al.}"
-f	Adds a File reference item (set to F) to BibTeX entries
-k	Creates BibTeX Keys from author=/editor= and year= items
-l	Leaves BibTeX keys out and inserts dummies, causing errors
-m	Does *not* transform "Jan" to "January", etc.
-q	Changes double Quotes to single quotes
-t	Translates working paper as @TECHREPORT, not as @ARTICLE
-v	Uses book volume instead of number if both reported in EconLit

```
This appendix is to be completed soon.  Please check back at
http://socratess.berkeley.edu/~muendler/.
Meanwhile, please refer to the examples in section 4 to see the
main options applied.  You may also want to see the brief
descriptions of important options in section 2.4.
```

B   Checking Output with the BibTeX style *keylist.bst*

```
This appendix is to be completed soon.  Please check back at
http://socratess.berkeley.edu/~muendler/.
```

C   Warnings and Error Messages

The following list of warnings and error messages is exhaustive. If you en-counter any other error message, the code of your copy of <elit2bib.pl> must have been modified. If the file has not been renamed, you are holding an illegal copy under our copyright statement, unless you rename the file immediately.

Message	Cause
Can't open perl script	You have provided a wrong path for the file <elit2bib.pl> at the Windows or DOS prompt. See section 2.3
Can't open input file	You have either provided a wrong path for the input file, or a wrong name or extension of the input file. See section 2.2
Can't open output file	You have provided a wrong path for the output file. See section 2.2
There were @TYPE entries with problems	elit2bib detected a problem during translation. Please check the head of the output file for a list of problematic entries. See section 3.2
The WebSpirs .cgi file did not contain any DT: entry.	elit2bib encountered no appropriate EconLit entry. Please change the display options in WebSpirs before downloading. See section 1
Any other	Your copy of <elit2bib.pl> is likely to contain wrong code. Please obtain an original. See page 1