

INSTRUCTIONS FOR THE PREPARATION OF MANUSCRIPTS

For the Annual Reviews of:

<i>Anthropology</i>	<i>Law and Social Science</i>
<i>Astronomy and Astrophysics</i>	<i>Linguistics</i>
<i>Cancer Biology</i>	<i>Marine Science</i>
<i>Cell and Developmental Biology</i>	<i>Neuroscience</i>
<i>Clinical Psychology</i>	<i>Organizational Psychology and Organizational Behavior</i>
<i>Criminology</i>	<i>Political Science</i>
<i>Developmental Psychology</i>	<i>Psychology</i>
<i>Earth and Planetary Sciences</i>	<i>Resource Economics</i>
<i>Ecology, Evolution, and Systematics</i>	<i>Sociology</i>
<i>Economics</i>	<i>Statistics and Its Application</i>
<i>Financial Economics</i>	<i>Vision Science</i>
<i>Fluid Mechanics</i>	
<i>Food Science and Technology</i>	

Thank you for accepting our invitation to contribute to Annual Reviews. Recognizing the effort involved in writing for us, Annual Reviews strives to be responsive during your article's submission, vetting, and revision processes. We provide editorial, graphics, and online support at every step. The information in this handbook provides further details about Annual Reviews and the preparation of your manuscript. If you have any questions about the information, please contact your journal's Production Editor.

Revised February 2020

TABLE OF CONTENTS

Manuscript Submission Checklist	4
Required Elements	
Optional Elements	
Annual Reviews' Editorial Principles and Policies	5
Principles	
Copyright, Archiving, and Permissions	
Disclosure Statement	
An Original Synthesis of Ideas	
Manuscript Preparation	7
Software	
Style	
Length	
Quotation Guidelines	
Article Components	9
Required Elements	
Optional Elements	
Examples and Illustrations of Article Components	
Graphic Components	13
Tables	
Figures	
Supplemental Material	15
Literature Cited	16
Harvard-Style References	
Citations in Text	
Citations in Bibliography	
Bibliographic Style	
Citation Management Software	
Website Citations	
Nomenclature	20
General Nomenclature	
Abbreviations and Symbols	

Equations and Formulas	21
Software	
Layout	
Special Characters	
Submitting Your Manuscript Files	22
Online Submission Instructions	
Email and FTP Submission Options	
APPENDIX A: Literature Cited Examples	23
APPENDIX B: Standard Abbreviations and Units	27

MANUSCRIPT SUBMISSION CHECKLIST

Include the following with your submission:

REQUIRED ELEMENTS

- Editable files of manuscript, figures, and tables (Microsoft Word or TeX file for text; see [Author Graphics Guide](#) for acceptable figure file types); if submitting in TeX, include bib file and all other associated files
- Title Page: full article title, author(s) name(s) and affiliation(s) including email address(es) and, if available, ORCID numbers for all authors, corresponding author contact information
- Keywords: as many as 6
- Abstract: 150 words maximum, except for *Astronomy and Astrophysics* (225 words maximum)
- Headings: clearly formatted throughout text
- Figures: submit each figure with its own caption clearly labeled; provide a separate file for each figure, and do not integrate them within the text. Send editable, high-resolution or vector files. See [Author Graphics Guide](#) for more details. In addition to individual figure files, provide a PDF file containing all figures. Obtain any necessary permissions for use, including paying any fees (Annual Reviews is able to offer assistance with fees in some cases). Please refer to the [Figure Permission Guidelines](#) for more details about permission for and attribution of graphics from other sources
- Tables: either all at end of article, following Literature Cited, or submitted together in a separate editable file
- Literature Cited: see correspondence from your Production Editor for the maximum number of references permitted; references should be formatted per journal specifications (see sections of this handbook, below, for details)
- PDF file of final manuscript, including all figures, tables, references, and optional elements (listed below), in addition to the editable files

OPTIONAL ELEMENTS

- Terms and Definitions list: provide definitions for as many as 20 of the most important abbreviations or key terms, limited to 20 words maximum; insert below Literature Cited section
- Summary Points list: highlight the central points of your review (as many as 8), in complete sentences; insert above Acknowledgments and/or Literature Cited section
- Future Issues list: note where research may be headed (as many as 8), in complete sentences; insert above Acknowledgments and/or Literature Cited section
- Reference Annotations: brief (15 words maximum) explanation of citations' importance (as many as 10); insert below Literature Cited section
- Related Resources list: up to 10 references, not listed in Literature Cited, to materials (websites, books, videos) that may be of interest to readers; insert below Literature Cited section
- Sidebar (50 words minimum, 200 words maximum) briefly discussing a fascinating adjacent topic; insert below Literature Cited section, but be sure to call out the sidebar in text; it will be typeset near the section containing the callout

ANNUAL REVIEWS' EDITORIAL PRINCIPLES AND POLICIES

PRINCIPLES

Invited Annual Reviews authors contribute, for the benefit of all scientists and students, the highest-quality scientific literature reviews in the world. As a nonprofit organization, our mission is to provide the widest possible dissemination of this invaluable work. Annual Reviews strives to keep the costs of such dissemination low, preserve the integrity of the publications it shepherds, and leave authors free to maximize the benefits of their work. Annual Reviews offers its content, immediately upon publication, to the developing world through Research4Life and the International Network for Access to Scientific Publications.

COPYRIGHT, ARCHIVING, AND PERMISSIONS

United States copyright law requires Annual Reviews to obtain from each author an explicit transfer of those rights necessary for orderly publication of its journals in print and online. Therefore, we ask each author to sign a statement transferring full and exclusive rights to their article, including all tables and illustrations, to Annual Reviews. If **you and all your co-authors** are United States federal employees who have written your manuscript within the scope of your official duties, then Annual Reviews does not seek copyright. This is because domestic copyright protection is not available for any work of the United States government. Some other countries, including the United Kingdom, have similar policies.

PREPRINT VERSION Authors are free to post the preprint version of their work on an institutional repository. You may self-archive a preprint version of your work provided (a) any preprint posted to the web after the completion of the Annual Reviews Copyright Transfer Agreement states explicitly by which Annual Reviews journal the manuscript has been accepted, and (b) after the published version of the work appears on the Annual Reviews website, the preprint version is amended to include the

following acknowledgment and link: “Posted with permission from the *Annual Review of* _____, Volume ____, copyright _____ Annual Reviews, <http://www.annualreviews.org>.”

POSTPRINT VERSION AND ePRINT URLS Text, tables, illustrations, and bibliographies edited or otherwise prepared by Annual Reviews may not be posted on preprint servers. Authors are not permitted to post a postprint or the published version of your review (including text, tables, illustrations, and bibliographies edited or otherwise) anywhere on the open Internet.

However, Annual Reviews both permits and encourages its authors to self-archive, after the work’s publication, an Annual Reviews–supplied ePrint URL (a specially keyed URL that allows nonsubscribers to access an *Annual Review* article freely via the Annual Reviews website) on one personal website and/or one institutional repository. The ePrint URL is automatically supplied by the Production Editor upon completion of the production process.

The ePrint URL is a specially keyed URL that allows nonsubscribers to access an *Annual Review* article freely via the Annual Reviews website.

Authors have the nonexclusive right to use, reproduce, distribute, perform, update, create derivatives, and make copies of the work (electronically or in print) in connection with the author’s teaching, conference presentations, lectures, and publications, provided proper attribution is given. They may post free ePrint URL links to their published AR articles on one personal and one institutional webpage. For all postpublication use, the acknowledgment and link below must be included (blanks to be filled with appropriate information).

“Posted [Reproduced] with permission from the *Annual Review of* _____, Volume ____, copyright _____ Annual Reviews, <http://www.annualreviews.org>”

For further details on sharing the ePrint URL, please visit the Electronic Reprints for Authors page on the AR website:

<http://www.annualreviews.org/page/authors/author-instructions/distributing/reprints>.

PERMISSIONS For use of all or part of any material published by Annual Reviews by anyone other than the author, permission must be obtained. We have authorized the Copyright Clearance Center (CCC) to grant permission for reproducing our materials and to collect royalty fees on our behalf. In our view, CCC has an outstanding service record and performs an important role in facilitating copyright compliance. For your future convenience, please contact CCC directly; you should receive a response from them within a week. Follow this link to the CCC online granting service: <http://www.copyright.com/ccs/search.do?operation=show&page=ppu>.

DISCLOSURE STATEMENT

At the time of manuscript submission, please disclose any financial interest of your own, or of any member of your authorship team, that might be favorably or adversely affected by your review.

Prior to publication, all authors will be asked to complete and sign a disclosure statement.

The possibility of conflict of interest does not disqualify anyone from authorship. We will, however, disclose the potential conflict of interest to our readers.

AN ORIGINAL SYNTHESIS OF IDEAS

The mission of Annual Reviews is to provide critical, scholarly reviews of important topics in selected branches of science. Each review must be an original work prepared for Annual Reviews.

Each manuscript must be originally written for publication in an Annual Reviews journal.

The preparation of a review must, by its very nature, rely heavily on the ideas, observations, and reports of others. Therefore, it is important for authors to exercise care in citing and quoting other publications. This precaution applies also to the use of the author's own previous writing. The following guidelines are intended primarily to protect new Annual Reviews authors from inadvertent infringements of copyright, any appearance of plagiarism, or accidental bias in assembling bibliographies.

Extra vigilance is required of literature review authors, for whom the task of materials assembly (today often a software cut-and-paste operation) must be separated carefully from those of information synthesis and fresh expression.

In view of the historic importance of Annual Reviews articles in defining the current state of scientific knowledge, authors should strive to be fair, yet discriminating, in their selection of references. Include only those papers you consider to be genuinely important: Do not clutter the bibliography with citations of marginal relevance to your topic merely for the sake of "completeness." However, do not be so sparing with your references that you might appear to have minimized or disregarded the work of your competitors or newcomers to the field.

MANUSCRIPT PREPARATION

SOFTWARE

Manuscripts may be prepared in Microsoft Word or in LaTeX. If using LaTeX, please go to <http://www.annualreviews.org/page/authors/general-information>, select the journal for which you are writing, and download the appropriate style file and instructions.

STYLE

The style manuals to which we refer at Annual Reviews include *The Merriam-Webster Dictionary*, *The Chicago Manual of Style*, and the Council of Science Editors' *Scientific Style and Format*.

PROOFREADING Please proofread carefully for both errors and inconsistencies in the following: spelling (especially of scientific terminology, proper names, and foreign words), mathematical notation, numerical values in tables and text, and accuracy of quotations.

- Be sure all references are cited and all tables and figures are called out in the text.

FOOTNOTES We discourage the use of footnotes as these tend to interrupt the flow of the text. If footnotes are used, number all text footnotes consecutively in order of appearance throughout the article. Use a superscript number to key each footnote to the word or statement annotated (e.g., "The term operator¹ is used"). Do not use footnotes just for references, whether published or unpublished. See the Literature Cited section starting on p. 16 for guidance on references. Designate footnotes to tables by superscript lowercase letters; begin lettering anew for each table.

ITALICS Indicate italics using an italic type style. Avoid the use of underlining.

Use italics for

- Scientific names of bacteria and protozoa
- Genera, species, and subspecific taxa

- In chemical names, *p*, *o*, *m*, *n*, *cis*, *sec*, *sic*, *trans*, *syn*
- Genes, genotypes, loci, markers, mutants, alleles, operons
- Mathematical variables

Do not use italics for

- Emphasis
- Common foreign words such as *ad hoc*, *a priori*, *in vivo*, *in vitro*
- Abbreviations such as *sp.*, *spp.*, *var.*
- Names of taxa of rank higher than genus
- Generic names used as adjectives
- Names of microorganisms used colloquially (e.g., *actinomycetes*)
- Strain designations
- Names of cells, phages, hosts, phenotypes
- Abbreviations for subatomic particles
- R, X, M, B, A, etc. in formulas and equations where they represent chemical elements or groups

LENGTH

ESTIMATING THE LENGTH OF THE MANUSCRIPT

Every Annual Reviews volume has an assigned length. Likewise, each article has a length assigned by the editors (always indicated in the letter of invitation). Please keep to this length, which includes any figures and tables submitted.

If you are preparing your manuscript in Microsoft Word, you can roughly estimate the typeset length of your article with online length calculator for your Annual Reviews journal. At <http://www.annualreviews.org/page/authors/general-information>, select the journal for which you are writing, and click on "Article Length Estimator" in the left-hand box.

If you are preparing your manuscript in LaTeX and use the appropriate Annual Reviews style file, the PDF output of your article is roughly its typeset length.

- ☑ Adhere to the length guidelines presented in your invitation letter.

PRODUCING THE SUBMISSION PDF If working in Microsoft Word, all material (text, literature cited, footnotes, figure captions, tables, and other article components) should be prepared double spaced using 12-point type. Please do not use small (less than 12 point) type or space-and-a-half line spacing. These manipulations do not make your review shorter, only harder to read.

Number all pages consecutively and arrange in this order: title page, text, literature cited, article components (see p. 9), figure captions, tables, and figures.

Place the title page on a separate sheet and include

- title of article
- name(s), affiliation(s), and email address(es) for all authors
- shortened running title (40 characters max)
- Corresponding Author contact information

QUOTATION GUIDELINES

Detailed instructions for citing sources and preparing your Literature Cited section are included below. Here we describe some general guidelines for paraphrasing or quoting from others' work:

- When describing the findings or theories of others, always cite source publications in close proximity to your discussion.
- Omnibus citations at the beginning of an article are sometimes appropriate, but they should not be used as substitutes for explicit citations in the relevant sentences or paragraphs of text.
- The original sources of novel technical terminology, or uniquely apposite words or

phrases recently introduced into the literature, should be cited, unless these terms already have become established in the common vocabulary of the field.

- If you wish to use a sentence, or an essential part thereof, from another article, always set it off in quotation marks and cite its source, preferably including the page number from which the quotation was taken. However, one should keep the number of direct quotations to a minimum.
- If you choose to quote several consecutive sentences from another source, set off this material as an extract. Omit quotation marks and indent from both left and right margins; after the quotation, indicate the author's name and the year of the reference.
- If you need to quote, paraphrase, or abridge more than approximately 250 words from a single source (whether consecutively or in scattered quotations), please ensure that appropriate permission has been obtained from the copyright holder—even when quoting from your own work if someone else holds the copyright. In cases of extensive quotation we urge you to discuss your intentions, whenever possible, with the quoted author.
- You must obtain permission to use any diagrams, illustrations, or tables from other publications. This includes paying any fees, though Annual Reviews is able to offer assistance with fees in some cases. Please refer to the [Figure Permission Guidelines](#) for more details about permission for and attribution of graphics from other sources.

If you have any questions about these guidelines, do not hesitate to contact your Production Editor.

ARTICLE COMPONENTS

REQUIRED ELEMENTS

To help readers better find and understand what they seek, we ask authors to provide the following:

- Title Page: full article title, author(s) name(s) and affiliation(s) including email(s) and, if available, ORCID numbers for all authors, Corresponding Author contact information
- Keywords: as many as 6; if publishing in an Annual Reviews journal indexed in PubMed, include MeSH terms if possible
- Abstract: 150 words maximum, except for *Astronomy and Astrophysics*, which allows 225 words inclusive of 3–5 bullet points describing findings)
- Headings: clearly formatted throughout text
- Figures: submit each with its own caption clearly labeled; separate file for each figure, do not integrate within text. Send editable, high-resolution or vector files. See the [Author Graphics Guide](#) for more details. Number figures consecutively in text (i.e., Figure 2 should not come before Figure 1). In addition to individual figure files, provide a PDF file containing all figures. Obtain any necessary permissions for use, including paying any fees (Annual Reviews is able to offer assistance with fees in some cases). Please refer to the [Figure Permission Guidelines](#) for more details about permission for and attribution of graphics from other sources.
- Tables: either all at end of article, following Literature Cited, or submitted together in a separate file
- Literature Cited: formatted per journal specifications

OPTIONAL ELEMENTS

Authors may also provide any of the below additional components:

- Terms and Definitions list: provide definitions for as many as 20 of the most important abbreviations or key terms, limited to 20 words maximum; insert below Literature Cited section
- Summary Points list: highlight the central points of your review (as many as 8), in complete sentences; insert above the Acknowledgments and/or Literature Cited section
- Future Issues list: note where research may be headed (as many as 8), in complete sentences; insert above the Acknowledgments and/or Literature Cited section
- Reference Annotations: brief (15 words maximum) explanation of citations' importance (as many as 10); insert below the Literature Cited section
- Related Resources list: up to 10 references, not listed in Literature Cited, to materials (websites, articles, animations) that may be of interest to readers; insert below the Literature Cited section
- Sidebar (50 words minimum, 200 words maximum) briefly discussing a fascinating adjacent topic. Please give the sidebar a title and insert it below the Literature Cited section, but be sure to call out the sidebar in text; it will be typeset near the section containing the callout. The sidebar cannot contain figures or tables.

Examples on the next pages show how these components will be laid out in your article.

ARTICLE COMPONENTS

Sidebar: highlight a related topic (text only; up to 200 words)

EXCIMERS, EXCIPLEXES, AND EXCITONS

As discussed elsewhere (3, 115), it is sometimes mistakenly assumed that an electronically excited nucleobase encounters a second nucleobase. An excimer state with strong charge transfer character (70) independent of how it is formed in aromatic crystals and photopolymers (70) in which diffusion is not observed. Excimers in this case can be formed from different initial DNA exciplexes can also be called interbase charge transfer states (65), keeping in mind configuration interaction with the excitonic state formed by the interaction between bases.

that pico- and nanosecond timescale emission is seen in resolved emission experiments could not determine whether major or a minor decay channel. Crespo-Hernández et al. show that most excited states in single-stranded DNA are This established that most relaxation occurs faster than in emission experiments (69) and slower than the femtosecond monomers (Section 2.1).

Crespo-Hernández et al. (60) assigned the long-lived oligonucleotides to intratranded excimers in which excitations (see the sidebar). This conclusion is supported by the excellent between the long-time transient absorption signals for site resolved emission signals measured by Plessov et al. (69) for emission spectra from the 15-mer (69) clearly show the best a hallmark of excimer/exciple states (70). In fact, excimer/ in DNA photophysics, having been observed in DNA di- in the 1960s (71).

Transient absorption experiments in other laboratories lived excited states in DNA oligomers (61, 62). Kwok et al. (dA)₂₀ by femtosecond transient absorption and the femtosecond. On the basis of red-shifted emission signals that absorption signals, these authors also assigned the long-lived they proposed that two distinct excimers are formed with lifetime is in reasonable agreement with the (dA)_n lifetime (60). Kwok et al. (61) assign the long-lived component to a that it involves more than two bases as opposed to the localized on just two bases. Experimental evidence that spans more than two bases was never presented. Kwok's localized excitation progressively delocalizes with time is a tichromophoric system. Experiments by Takaya et al. (65) the long-lived states in adenine tracts are localized on just

Excimer/exciple: an excited electronic state with substantial charge transfer character involving two identical (excimer) or different (exciple) molecules

3.3. Base Pairing Does Not Quench the Long-Lived Excited States in DNA Strands Joined by Hydrogen Bonds

Base pairing in solvated DNA is usually accompanied by a gate excited states in DNA strands joined by hydrogen bonds

216 Midillem et al.

Terms and Definitions: highlight major terms and abbreviations used in text (as many as 20, 20 words each)

First-level heading (unnumbered or numbered)

1. INTRODUCTION

Photolesion: a stable photoproduct formed in DNA or RNA usually by photochemical modification of one or two bases by UV light

Electronic excitation of DNA by solar ultraviolet (UV) light can produce harmful photoproducts such as the thymine dimer. Excitation is efficient because of the substantial UV-absorption cross sections of the DNA nucleobases: adenine, guanine, cytosine, and thymine (Figure 1). The vast majority of excitations do not initiate photochemical reactions as evidenced by the quantum yields of photolysis formation, which are generally much less than 1%. The altered structures and base-pairing properties of photoproducts can interfere with the work of polymerases and disrupt normal cellular processing of DNA. This interference can lead to mutations, genomic instability, and carcinogenesis (1). In organisms exposed to solar UV light, DNA constantly accrues photochemical damage that must be continually repaired. Disruption of the equilibrium between damage and

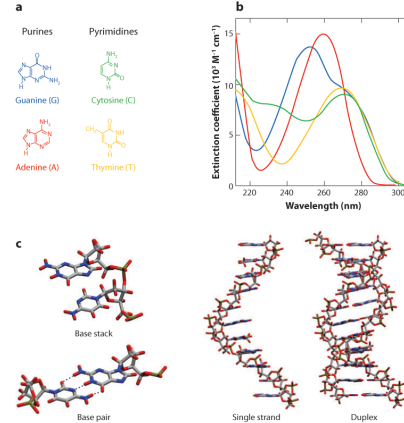


Figure 1 (a) Chemical structures and (b) UV absorption spectra of the DNA bases. (c) Basic assemblies of nucleobases. Structures were drawn using the VMD software (116).

218 Midillem et al.

Figure (see Author Graphics Guide for instructions)

Second-level heading (unnumbered or numbered)

3.3. Stellar Sources of Presolar Grains and Astrophysical Constraints from Presolar Grains

Every presolar stardust grain is a solid piece of stellar matter that condensed at time in a specific star. Because the actual parent stars have been dead for eons measured isotopic compositions with astronomical observations and prediction models are required to identify the type of stellar source (or class of isotopically similar grains). Analysis and interpretation of presolar iterative approach; once a stellar source for a grain is identified on the basis of one ratios, additional isotopic data can be used to refine models and improve understanding within that type of star, or alternatively in some cases, these data indicate that assignment of source was incorrect. The origin of some types of presolar grain of SiC grains with ¹³C/¹²C ratios lower than 10 is still unresolved, largely of the theoretical understanding of potential sources. The classification and source presolar O-rich grains and SiC grains are illustrated in Figures 4b and 5, respect of isotopic compositions for materials that formed in the Solar System are indicative of the radically anomalous nature of the presolar grains. These plots are analogous to the Hertzsprung-Russell diagram used to classify stars and identify associated with different physical properties and stages of evolution. Examples of provide new astrophysical information about their sources are discussed below.

3.3.1. Asymptotic giant branch stardust. As seen in Figures 4b and 5, a major and C-rich presolar grains in extraterrestrial materials (excluding the ambiguous are believed to have originated in asymptotic giant branch (AGB) stars, low- to mid (1–8 M_⊙) stars in very late stages of evolution. The AGB phase follows the main star star is fueled by core hydrogen (H) burning, the Red Giant phase when the envelope is modified by the first dredge-up, mixing of deep material that experienced p and the brief phase of core He burning. AGB stars are powered by alternating and He shells that overlay an electron-degenerate core of C and O, which will a white dwarf remnant. These stars have large convective envelopes and strong driven by condensation of dust in the cooling outer portions. Periodic mixing dredge-up from the deep burning shells changes the envelope composition, synthesized material, including ¹³C and heavy elements made by the s-process capture (Käppeler et al. 1990). Thus, although most or all stars start out with at rich), the third dredge-up gradually increases the C/O ratio until it exceeds unit has a profound effect on dust chemistry: When C/O < 1, diagnostic infrared indicate O-rich phases such as silicates and oxides are present, whereas in AGB 1, observations indicate the presence of phases such as SiC and elemental C.

Because AGB stars are the primary producers of C and s-process elements in also prodigious producers of dust to the interstellar medium (ISM) (Kemper are of great astrophysical importance, and presolar grain studies provide important on a range of relevant astrophysical issues. For example, whereas most presolar

www.annualreviews.org • Astrophysics with Earth

Third-level heading (unnumbered or numbered)

Table 1 Summary of retail price changes

Definition of restructured	Status	Average retail price (USD)			Percent change	
		1997	2007	2012	1997–2007	2007–2012
Power in the Public Interest definition	Not restructured	5.89	7.44	8.72	0.21	0.15
	Restructured	8.96	12.53	12.35	0.29	–0.01
At least 40% independent power producers in 2012	Not restructured	5.67	7.23	8.57	0.22	0.16
	Restructured	8.83	11.99	11.95	0.26	0.00

Retail price data are from US Energy Information Administration (EIA) form 861, which reports sales and revenues by utility.

Table (see page 12 for instructions)

first measure is the one used in a study by Showalter (2007) for Power in the Public Interest that is cited in the *New York Times* article (Johnston 2007). This definition excludes from the restructured category states such as Illinois and Pennsylvania, which by 2012 have almost all of their energy provided from nonutility sources. As an alternative measure, we assign states to the restructured category if they had more than 40% of their energy provided by nonutility sources in 2012.¹⁶

From Table 1, one can see that at this level of analysis, the definition of restructured makes only a small difference. The time period examined, however, makes an enormous difference as rates in restructured states increased at a pace nearly 50% higher than those in nonrestructured states between 1997 and 2007 but have actually declined slightly since 2007. Average rates in states that did not restructure have continued to increase since 2007, although at a slightly lower pace than between 1998 and 2007. Overall, there is almost no difference in the change in average rates for the two groups over the full sample from 1998 to 2012.

Figure 6 illustrates the annual levels of rates in restructured and nonrestructured states using our generation-based definition, along with the national average citygate natural gas price. Restructured states experienced higher rates during the 1990s, a major factor in their election to adopt restructuring. The gap between traditionally regulated and restructured states narrows around 1998, reflecting the impact of legislation that required immediate rate reductions to accompany restructuring in several states. Since that time, rates in restructured states more closely follow the trajectory of gas prices up during the early 2000s and back down since then.

To further test this relationship among natural gas prices, restructuring, and electricity rates, we estimate the following regression on state-level annual changes in electricity prices and citygate natural gas prices:

$$\Delta \text{Elec}_{i,t} = \alpha + \beta_1 \text{FractionPP}_{i,t} + \beta_2 \Delta \text{NG}_{i,t} + \beta_3 \text{FractionPP}_{i,t} \times \Delta \text{NG}_{i,t} \quad 1.$$

where $\Delta \text{Elec}_{i,t} = \ln(\text{Rate}_{i,t}) - \ln(\text{Rate}_{i,t-1})$ and $\Delta \text{NG}_{i,t} = \ln(\text{NG}_{i,t}) - \ln(\text{NG}_{i,t-1})$ are the annual changes in log state average electricity rates and log state average

Equation (numbered when referred to in text)

¹⁶The *New York Times* article lists the restructured states as California, Connecticut, Delaware, Maine, Maryland, Massachusetts, Michigan, Montana, New Hampshire, New Jersey, New York, Rhode Island, and Texas and the District of Columbia (Johnston 2007). Our generation-based definition puts California, Connecticut, Delaware, Illinois, Maine, Maryland, Massachusetts, Montana, New Hampshire, New Jersey, New York, Ohio, and Pennsylvania into the restructured category.

Footnote

ARTICLE COMPONENTS (CONTINUED)

Summary Points list: highlight the central points of your review (as many as 8); items should be in complete sentences

Future Issues list: note where research may be headed (as many as 8); items should be in complete sentences or questions

SUMMARY POINTS

1. DNA- and RNA-associated autoantigens activate autoreactive B cells in vitro through a mechanism that depends on the BCR and TLR9 and TLR7, respectively. The response to RNA autoantigens is enhanced by type I IFN, presumably through upregulation of TLR7.
2. DNA- and RNA-containing ICs activate DCs through a mechanism that depends on uptake through FcγRs and TLR9 and/or TLR7. IC-activated pDCs produce high levels of IFN-α that can promote the activity of many of the effector mechanisms associated with SLE and other systemic autoimmune diseases.
3. TLR9 deficiency in vivo leads to decreased anti-dsDNA antibody production, but effects on end organ disease and survival are variable. TLR9^{-/-} 56R FcγRII^{-/-} mice do not make pathogenic IgG2a and IgG2b anti-DNA autoantibodies; TLR9^{-/-} lpr and Al5 mice develop increased autoantibody titers for RNA-associated autoantigens and develop more severe clinical features of SLE.
4. TLR7 deficiency in vivo leads to decreased titers of RNA-reactive autoantibodies. TLR7^{-/-} lpr mice develop clinical features of SLE that are slightly less severe than the TLR7^{+/+} control group.
5. The Yaa mutation results from duplication of a 4 Kb segment of the X chromosome that includes TLR7. FcγR^{-/-} Yaa mice and Sle1.Yaa mice make elevated titers of IgG autoantibodies reactive with RNA autoantigens and develop more severe features of SLE than their non-Yaa littermates.

FUTURE ISSUES

1. How will the combined effects of TLR7 and TLR9 deficiency influence disease manifestations in both lpr and non-lpr models of SLE and what will be the effect of TLR7/9 blockade on human disease?
2. Do gene products other than TLR7 contribute to the Yaa phenotypes?
3. How do DNA-/RNA-containing ICs affect FcγR⁺ TLR7⁺ and/or TLR9⁺ cell populations other than pDCs? Will RNA-containing ICs activate FcγR/TLR8-expressing cells and what will be the consequences of this activation?
4. What other PRRs are used by autoantigens to elicit immune system activation?

DISCLOSURE STATEMENT

U.S. patent application 10/487,885 entitled Method and Composition for Treating Immune Complex-Associated Disorders and corresponding foreign applications have been licensed and provide royalty income.

ACKNOWLEDGMENTS

We apologize in advance to all the investigators whose research could not be appropriately cited owing to space limitations. We extend a special thanks to our many collaborators for thoughtful

www.annualreviews.org • Immunologically Active Autoantigens 453

Reference style and reference annotations: explain the special importance of selected references from Literature Cited (as many as 10)

Related Resources: references to material (other published reviews/articles, online material) not already part of Literature Cited that may be of interest to readers (as many as 6)

Reveals that PARP inhibition causes synthetic lethality in BRCA2-deficient tumors (also see Bryan et al. 2005).

Provides a report of the Phase II trial that led to US FDA approval of pembrolizumab treatment for estrogen receptor-positive breast cancer.

Establishes that by blocking mitotic exit by targeting the APC subunit, CDC20 bypasses mitotic slippage and triggers apoptosis.

- Dyson N. 1998. The regulation of E2F by pRB-family proteins. *Cancer Dev.* 12:245-62
- El-Deiry WS, Tokino T, Velculescu VE, Levy DR, Parsons R, et al. 1993. Waf1, a potential mediator of p53 tumor suppression. *Cell* 73:171-25
- Ewen ME, Sluss HK, Sherr CJ, Massimini H, Kato J, et al. 1993. Functional interactions of the retinoblastoma protein with mammalian D-type cyclins. *Cell* 73:867-97
- Farmer H, McCabe N, Lord CJ, Tutt AN, Johnson DA, et al. 2005. Targeting the DNA repair defect in BRCAmutant cells as a therapeutic strategy. *Nature* 434:917-21
- Finn RS, Crown JP, Lang I, Boer K, Bondarenko IM, et al. 2015. The cyclin-dependent kinase 4/6 inhibitor palbociclib in combination with letrozole versus letrozole alone as first-line treatment of endocrine receptor-positive, HER2-negative, advanced breast cancer (PALOMA-1/TRIO-18): a randomised phase 2 study. *Lancet Oncol.* 16:25-35
- Fry DW, Harvey PJ, Keller PR, Elliott WL, Meade M, et al. 2004. Specific inhibition of cyclin-dependent kinase 4/6 by PD 0332991 and associated antitumor activity in human tumor xenografts. *Mol. Cancer Ther.* 3:1427-38
- Fung TK, Ma HT, Poon RY. 2007. Specialized roles of the two mitotic cyclins in somatic cells: cyclin A as an activator of M phase-promoting factor. *Mol. Biol. Cell* 18:1861-73
- Fung TK, Poon RY. 2005. A roller coaster ride with the mitotic cyclins. *Semin. Cell Dev. Biol.* 16:135-42
- Goel S, Wang Q, Watt AC, Toland SM, Dillon DA, et al. 2016. Overcoming therapeutic resistance in HER2-positive breast cancers with CDK4/6 inhibitors. *Cancer Cell* 29:253-69
- Goldstein M, Kasam MB. 2013. The DNA damage response: implications for tumor responses to radiation and chemotherapy. *Annu. Rev. Med.* 66:129-43
- Gorgoulis VG, Vassiliou LV, Karakalos P, Zacharatos P, Kotsinas A, et al. 2005. Activation of the DNA damage checkpoint and genomic instability in human precancerous lesions. *Nature* 434:907-13
- Guo R, Zheng L, Park JW, Lv R, Chen H, et al. 2014. BSM97(MYND1) reads and connects histone H3.3 lysine 36 trimethylation-decorated chromatin to regulated pre-mRNA processing. *Mol. Cell* 56:296-310
- Halazonetis TD, Gorgoulis VG, Barck J. 2008. An oncogene-induced DNA damage model for cancer development. *Science* 319:1352-55
- Hall M, Peters G. 1996. Genetic alterations of cyclins, cyclin-dependent kinases, and Cdk inhibitors in human cancer. *Annu. Rev. Cancer Res.* 68:65-109
- Harwell LH, Weinert TA. 1989. Checkpoints—controls that ensure the order of cell cycle events. *Science* 246:629-34
- Hills SA, Ditley JE. 2014. DNA replication and oncogene-induced replicative stress. *Curr. Biol.* 24:R433-44
- Hiro H, Iwasawa Y, Okada M, Arai T, Nishitani T, et al. 2009. Small-molecule inhibition of Waf1 kinase by MK-1775 selectively sensitizes p53-deficient tumor cells to DNA-damaging agents. *Mol. Cancer Ther.* 8:2992-3000
- Hironaka M, Saez DW. 2001. Ras-dependent cell cycle commitment during G₂ phase. *FEBS Lett.* 490:123-31
- Hosomi M, et al. 2001. Genome maintenance mechanisms for preventing cancer. *Nature* 411:366-74
- Hsu JY, Reimann JD, Sorensen CS, Lukas J, Jackson PK. 2002. E2F-dependent accumulation of Hdm1 regulates S phase entry by inhibiting APC^C. *Nat. Cell Biol.* 4:358-66
- Huang CH, Lujanibao A, Zuber J, Tschaharganeh DP, Doran MG, et al. 2014. CDK9-mediated transcription elongation is required for MYC addiction in hepatocellular carcinoma. *Gene Dev.* 28:1890-14
- Huang HC, Shi J, Orth JD, Mitchison TJ. 2009. Evidence that mitotic exit is a better cancer therapeutic target than spindle assembly. *Cancer Cell* 16:347-58
- Hunt T. 1991. Cyclins and their partners: from a simple idea to reality. *Semin. Cell Dev. Biol.* 2:213-22
- Jackson JR, Bartek J, Dun MM, Huang PS. 2007. Targeted anti-mitotic therapies: Can we improve on tubulin agents? *Nat. Rev. Cancer* 7:107-17
- Jackson SP, Bartek J. 2009. The DNA-damage response in human biology and disease. *Nature* 461:1071-78
- Janssen A, Kops GJ, Medema RH. 2009. Elevating the frequency of chromosome mis-segregation as a strategy to kill tumor cells. *PNAS* 106:19108-13
- Jasin M, Rothstein R. 2013. Repair of strand breaks by homologous recombination. *Cold Spring Harb. Perspect. Biol.* 5:a012740
- Kaelin WG. 2005. The concept of synthetic lethality in the context of anticancer therapy. *Nat. Rev. Cancer* 5:689-98

54 Sherr • Barbé

- Sherr CJ, Todaro GJ. 1975. Primate type C virus p30 antigen in cells from humans with acute leukemia. *Science* 187:855-57
- Sherr CJ, Urr J. 1969. Immunoglobulin synthesis and secretion. 3. Incorporation of glucosamine into immunoglobulin on polyribosomes. *PNAS* 64:181-87
- Sherr CJ, Urr J. 1971. Immunoglobulin synthesis and secretion. VI. Synthesis and intracellular transport of immunoglobulin in nonsecretory lymphoma cells. *J. Exp. Med.* 133:901-20
- Signer RA, Morrison SJ. 2013. Mechanisms that regulate stem cell aging and life span. *Cell Stem Cell* 12:152-65
- Spector M, Poppey RB, Vogt VM, Racker E. 1981. A mouse homolog to the avian sarcoma virus src protein is a member of a protein kinase cascade. *Cell* 25:9-21
- Stehelin D, Guntak RV, Varmus HE, Bishop JM. 1976a. Purification of DNA complementary to nucleotide sequences required for neoplastic transformation of fibroblasts by avian sarcoma virus. *J. Mol. Biol.* 101:349-65
- Stehelin D, Varmus HE, Bishop JM, Vogt PK. 1976b. DNA related to the transforming gene(s) of avian sarcoma viruses is present in normal avian DNA. *Nature* 260:170-73
- Thomas L. 1956. Reversible collapse of rabbit ears after intravenous papain, and prevention of recovery by cortisone. *J. Exp. Med.* 104:245-52
- Tsai LH, Harlow E, Meyerson M. 1991. Isolation of the human Cdk2 gene that encodes the cyclin A- and adenovirus E1a-associated p33 kinase. *Nature* 353:174-77
- Uhr JW, Finkelstein MS. 1967. The kinetics of antibody formation. *Prog. Allergy* 10:37-83
- Uhr JW, Pappenheimer AM Jr. 1958. Delayed hypersensitivity. III. Specific desensitization of guinea pigs sensitized to protein antigens. *J. Exp. Med.* 108:891-904
- Ushiro H, Cohen S. 1980. Identification of phosphotyrosine as a product of the epidermal growth factor-activated protein kinase in A-431 cell membranes. *J. Biol. Chem.* 255:8361-65
- Vande Woude GF, Odansson M, Enquist LW, Nomura S, Sullivan M, et al. 1979. Cloning of integrated Moloney sarcoma proviral DNA sequences in bacteriophage λ. *PNAS* 76:4464-68
- Varmus H. 2012. How tumor virology evolved into cancer biology and transformed oncology. *Annu. Rev. Cancer* 11-18
- Vitetta ES, Baur S, Uhr JW. 1971. Cell surface immunoglobulin. II. Isolation and characterization of immunoglobulin from mouse splenic lymphocytes. *J. Exp. Med.* 134:242-64
- Wade N. 1991. The rise and fall of a scientific superstar. *N. Sci.* 91:781-82
- Xiong Y, Connolly T, Fletcher B, Beach D. 1991. Human D-type cyclin. *Cell* 65:691-99
- Zinkernagel RM, Doherty PC. 1979. MHC-restricted cytotoxic T cells: studies on the biological role of polymorphic major transplantation antigens determining T-cell restriction-specificity, function, and responsiveness. *Adv. Immunol.* 27:53-177
- Zinkernagel RM, Doherty PC. 1979. The discovery of MHC restriction. *Immunol. Today* 18:14-17

RELATED RESOURCES

- Cold Spring Harb. Lab. *Charles Sherr*. Cold Spring Harb. Lab. Oral Hist. Collect., Cold Spring Harb., NY. <http://library.csh.edu/oralhistory/speaker/charles-sherr/>
- Sherr CJ. 2012. *Kyote Lecture*. Presented at Cold Spring Harbor Meet. Mech. Model. Cancer, Aug. 14-18. Cold Spring Harb., NY. <https://www.youtube.com/watch?v=4Zsu2RpRbSK>

www.annualreviews.org • Pathways in Cancer Biology 19

ARTICLE COMPONENTS: TABLES

A one-line title for each table should enable the reader to understand the table without referring to the text.

Provide a brief heading for each column; type headings in lowercase letters, capitalizing the first word only. If subheadings are used, draw a horizontal line under the main heading to extend above all relevant subheadings.

Units of measure should be indicated in parentheses after the appropriate heading rather than in the body of the table, e.g., Temperature (°C).

Table 1 Values of muscle-fiber length and muscle physiological cross-section area reported in the literature

Muscle	Muscle-fiber length (cm)				Muscle PCSA ^c (cm ²)			
	Wickiewicz ^a	Friederich ^a	Ward ^a	Tate ^b	Wickiewicz ^a	Friederich ^a	Ward ^a	Tate ^d
Gluteus maximus (superior)	NA ^e	10.8	NA	NA	NA	17.4	NA	NA
Gluteus maximus (middle)	NA	13.0	NA	NA	NA	14.6	NA	NA
Gluteus maximus (inferior)	NA	13.9	NA	NA	NA	14.1	NA	NA
Gluteus medius (anterior)	NA	4.7	NA	NA	NA	19.0	NA	NA
Gluteus medius (middle)	NA	6.8	NA	NA	NA	13.3	NA	NA
Gluteus medius (posterior)	NA	6.0	NA	NA	NA	15.4	NA	NA
Vastus medialis	7.0	7.8	9.7	NA	21.1	41.2	20.6	46.1
Vastus intermedius	6.8	7.6	9.9	NA	22.3	49.6	16.7	54.3
Vastus lateralis	6.6	8.0	9.9	NA	30.6	40.4	35.1	69.9
Soleus	2.0	3.0	4.4	NA	58.0	122.2	51.8	NA
Gastrocnemius (lateral)	5.1	6.1	5.9	NA	NA	11.5	9.7	23.9
Gastrocnemius (medial)	3.5	3.9	5.1	NA	32.4	33.8	21.1	43.7

^aData reported by Wickiewicz (51), Friederich (49), and Ward (50) were obtained by dissection of cadaver specimens.

^bData reported by Tate (59) were obtained from magnetic resonance imaging performed on living subjects. Muscle-fiber lengths were not measured by Tate (59).

^cAbbreviation: PCSA, physiological cross-sectional area.

^dMuscle PCSA was calculated using muscle-fiber lengths reported by Ward (50).

^eAbbreviation: NA, not applicable.

Include additional information in footnotes keyed to the title, heading, or entry of the table as appropriate, a, b, c, etc.

Abbreviate longer headings to conserve space and explain the abbreviations in a footnote.

GRAPHIC COMPONENTS

Annual Reviews strongly encourages the effective use of figures and tables. Article page allotments include space used for figures and tables. Thus, information presented graphically should be referenced, but not repeated, in the text. Figures and tables you submit with your article will appear in both typeset and HTML versions of your article.

The digital methods for creating and sending your figures are treated in the Annual Reviews [Author Graphics Guide](#).

TABLES

Only material requiring several columns and several entries should be submitted in tabular form (incorporate other material into the text). Tables should fit within an Annual Reviews page width (6.33 in; approximately 15 cm). Submit editable electronic files for all tables.

All tables will be formatted according to house style. Please adhere to the following guidelines when preparing your tables.

BODY OF TABLE Align entries under the appropriate heading or subheading. Make sure your table clearly indicates the vertical alignment of headings and data. Type longer entries in block style, leaving extra space between entries. Align numbers on the decimal; if numerical data are mixed, center entries in the column. Write out repeated entries or merge cells; do not use ditto marks. Use ND (no data or not determined), NA (not applicable or not available), and NT (not tested) as needed; do not use a dash or leave a cell blank.

FOOTNOTES Footnotes should be at the bottom of the table; label each with a superscript lowercase letter (a, b, c, etc.) keyed to the title, heading, or entry on the table. Begin the lettering anew for each table. If a footnote applies to more than one table, key it to the title of subsequent tables. Include references in the body of the table rather than as footnotes.

ACCEPTABLE FILE TYPES Table files must be compatible with Microsoft Word [.doc(x) or .rtf] or Excel [.xls(x)]. Mathematically complex tables may be submitted in LaTeX.

The illustration on the previous page is a guide for laying out the title, columns, rows, and footnotes for a table.

FIGURES

Please refer to the [Author Graphics Guide](#) for details on the preparation of illustrations.

Figures should be well-designed drawings or well-chosen photographs that illustrate key points in your article or that present relevant data in an economical way. Annual Reviews Illustration Editors will work with you to enhance your figures' legibility, color, style, and consistency. Modified figures will be sent to you for approval before publication.

To maximize their usability, all figures must be submitted in editable digital form. Export your figures to PDF format (sometimes available under the "print" menu) directly from your graphics creation program. If such files are not available, please contact your Production Editor. Regarding scanning originals, please see the [Author Graphics Guide](#) for scan resolution. Other acceptable file formats and additional details are discussed in the [Author Graphics Guide](#).

FIGURE SIZING On an Annual Reviews page the maximum space available for figures is 6.33 in wide × 7.66 in high (approximately 15 cm × 19.5 cm). Annual Reviews' in-house Illustration Editors will determine the appropriate final figure size unless you give specific directions. (Note that photographs should not be enlarged beyond the size at which they retain 300-dpi resolution.)

LETTERING AND SYMBOLS Lettering in figures must be of professional quality and large enough to be legible. Specify type at 7, 8, or 9 pt. Use a standard sans-serif font such as Helvetica, Arial,

or Myriad Pro. If you plan to submit scaled images that contain type, be certain that type is still legible (no smaller than 6 pt) and consistent in size for all the figures in your review. Ensure that text remains editable (not converted to shapes or outlines or flattened into images) to allow us to make house style or sizing changes.

GRAPHS Graphs should be in editable vector format. Using Photoshop or other raster-based programs to create graphs is strongly discouraged. For plot points in graphs, use symbols that are readily available (Zapf Dingbats or another computer-generated symbol font), and choose symbols that can be seen as separate entities along a line. In final form, the plot symbols should be large enough to be legible (8 pt). For plots with multiple lines/symbols, use color to distinguish elements.

CHEMICAL STRUCTURES Complex equations and chemical structures that cannot be typeset in one or two lines are considered art (see p. 21). If possible, such equations should be submitted in math-friendly software applications such as LaTeX or MathType. Submit complex chemical structures as editable vector graphics.

FIGURE CAPTIONS Every figure must have an accompanying descriptive caption. Bundle figure captions together in a text file (or place them at the bottom of the article's text file). Please do not attach captions to figure files.

COLOR FIGURES Color figures are integrated into the article's page layout and printed at no cost to you.

We strongly encourage the use of color in all illustrations. You can make use of color to differentiate and to group elements in complex illustrations, while also applying a consistent color scheme across multiple illustrations. Our Illustration Editors are here to help. Contact your Production Editor with questions.

See the [Author Graphics Guide](#) for details on submitting figures.

NUMBERING AND NAMING FIGURES Number your figures consecutively as you wish them to appear in your review and as they are referenced in the text. When preparing your text files, spell out the word "Figure" in captions and text. If a figure has multiple panels, refer to parts of the figure as *(a)*, *(b)*, *(c)*, etc. in the caption and as, e.g., Figure 1*a* in the text. If further distinction is needed, subparts can be described as *(left)*, *(right)*, *(top)*, *(middle)*, and *(bottom)*. If a sequence of steps is shown, numbers may be used to label each step. The caption should then refer to Step 1, Step 2, etc.

ENHANCED FIGURES Annual Reviews Illustration Editors work closely with editors and authors to identify figures that can be enhanced with links, pop-up text, other interactive elements, and videos. These enhancements appear online only. Please ask your Production Editor for samples if you are interested in enhancing the online version of your figures.

PERMISSIONS You must obtain permission to reuse and adapt figures prior to submitting your manuscript, including paying any fees (Annual Reviews is able to offer assistance with fees in some cases). Include only figures for which you have obtained such permission. The source of the material should be credited at the end of the figure caption. If a figure has a Creative Commons (CC) copyright or is in the public domain, you may not need permission to use it, but generally attribution of the source is still required. Please refer to the [Figure Permission Guidelines](#) for more details about permission for and attribution of graphics from other sources.

You are responsible for obtaining permission to use any copyrighted material.

SUPPLEMENTAL MATERIAL

Article-relevant material that is costly, difficult, or impossible to include in the typeset PDF may be posted on the Annual Reviews website. If your article is running overlength, it may also make sense to move some content (such as figures, tables, or text appendices that provide more detail for interested readers) to supplemental material to keep the primary article within the journal's length guidelines. Note, however, that this material should be supportive rather than essential; the primary article should still stand alone without requiring readers to download and read a supplement. These materials are fully linked to the PDF and HTML versions of your article.

Candidates for inclusion in this online repository are figures that will not reproduce well in print, lengthy tables, data sets, and multimedia objects (e.g., sound, video, animations, 3D objects, etc.).

It is the author's responsibility to put Supplemental Material in a final, copyedited form before submission. We do not have the personnel to check, revise, or maintain

these materials upon submission or thereafter.

Authors who wish to publish Supplemental Material should notify their Production Editor early in the production process. Ideally, such materials will be submitted on the manuscript due date along with the rest of the article.

Authors should also review our Supplemental Material Policy (online at <http://www.annualreviews.org/page/authors/author-instructions/preparing/supmat>). This policy provides detailed guidelines for the submission of Supplemental Material, including

- Preparation guidelines
- Submission guidelines
- Supported file types
- Size limitations on Supplemental Material
- Maintenance guidelines
- How to call out your Supplemental Material in your article.

LITERATURE CITED

Here, you will find general guidelines for citing sources in your Annual Reviews article. In Appendix A of this handbook, numerous examples illustrate how to list various types of sources (books, articles, websites, conference papers, etc.) in your Literature Cited section.

- Each reference in the Literature Cited section must be mentioned in text, figure captions, or tables.

HARVARD-STYLE REFERENCES

The following Annual Reviews use the unnumbered, name and year (Harvard) bibliographic style: *Anthropology; Astronomy and Astrophysics; Cancer Biology; Cell and Developmental Biology; Clinical Psychology; Criminology; Developmental Psychology; Earth and Planetary Sciences; Ecology, Evolution, and Systematics; Economics; Financial Economics; Fluid Mechanics; Food Science and Technology; Law and Social Science; Linguistics; Marine Science; Neuroscience; Organizational Psychology and Organizational Behavior; Political Science; Psychology; Resource Economics; Sociology; Statistics and Its Application; and Vision Science.*

NUMBERED REFERENCES: Some Annual Reviews use numbered citations: *Analytical Chemistry; Animal Biosciences; Biochemistry; Biophysics; Biomedical Engineering; Biomedical Data Science; Chemical and Biomolecular Engineering; Condensed Matter Physics; Control, Robotics, and Autonomous Systems; Entomology; Environment and Resources; Genetics; Genomics and Human Genetics; Immunology; Materials Research; Medicine; Microbiology; Nuclear and Particle Science; Nutrition; Pathology: Mechanisms of Disease; Pharmacology and Toxicology; Physical Chemistry; Physiology; Phytopathology; Plant Biology; Public Health; and Virology.*

For journals with numbered references, please download, or obtain from your Production Editor, the appropriate Author Instruction Handbook.

CITATIONS IN TEXT

- Use the name-and-year system. In parenthetical citations, do not include a comma between the name and year.

White et al. (1989) tested...
Later in situ studies also supported these results (Allen et al. 2009, Zhang 2010).

- Use an ampersand to indicate authorship for two authors. For three or more authors, generally use “et al.”

White & Gray (2004) experimented...
Smith et al. (1999) tested the theory.

- Multiple citations should appear consistently in either chronological or alphabetical sequence throughout. If the order is inconsistent, alphabetical order will be applied in copyediting.
- Multiple citations within parentheses should generally be separated with commas. Use semicolons when the citations include names with multiple years or to separate unlike items, such as unpublished information.

Similar results were obtained in yeast (Johnson et al. 2015; Liu 2003, 2004, 2008; Robinson et al. 2009; Wilson 1999) and flies...
...(Moorehouse 2006; J.S. Smith, unpublished information).

- Distinguish between references with the same author(s) and year by indicating 1987a, 1987b, etc.

Byron et al. (1986; 1987a,b) determined...

- If there are references by different authors with the same surname and year, however, do not use lowercase letters; instead, distinguish

them by including the authors' first initials.

K.S. Johnson (2009) studied...

G.R. Johnson (2009) later
investigated...

- If a direct quotation is included, provide the page number(s) of the quotation.

Mouton (2015) writes compellingly of
"the reward of the struggle" (p.
87).

- References to specific webpages or other specific online material should be included in the Literature Cited and cited in the usual author-and-name style (rather than by placing the URL in the main text or a footnote). For general mentions of the website of an organization, online database resource, etc., the URL can be placed in parentheses in the main text. For more details, see the section on website citations below.
- References to unpublished observations, personal communications, papers in preparation, etc., should be enclosed in parentheses in text (R.S. Jones, unpublished observations). List all authors up to six (for seven or more authors, list five followed by et al.) and include all their initials (as well as your own) in these citations. Except for *Physical Chemistry*, do NOT list these citations as references in the Literature Cited section. *Entomology* does not permit the citation of unpublished works.

CITATIONS IN BIBLIOGRAPHY

- Do not list references as footnotes to the text.
- Do not use Microsoft Word's Footnotes or Endnotes functions for citing/listing references.
- Set line spacing to 2 throughout the Literature Cited section.
- Do not indent the first line of each entry.
- For each author, use last name first, then initials, no periods.

- Responsibility for the accuracy of the bibliographic references rests entirely with the author.

- List references in alphabetical order by last name of author, then by initials, by last name of coauthors, and finally by year. Alphabetize compound surnames by the first word, e.g., list under "de," "van," "von," etc.

Zeiger E. 1990. Article title.

Zeiger E, Armond P, Melis A. 1981.
Article title.

Zeiger E, Bloom AJ, Hepler PK. 1990.
Article title.

Zeiger E, Field C, de Vitry C. 1988.
Article title.

Zeiger E, Field C, Mooney HA. 1981.
Article title.

Zeiger E, Hepler PK. 1991. Article
title.

Zeiger E, Hepler PK. 1993. Article
title.

- Include titles of articles or chapters for all Annual Reviews except *Astronomy and Astrophysics*, *Condensed Matter Physics*, and *Nuclear and Particle Science*.
- Use italics for the book or journal title (see Appendix A for examples). Do not abbreviate book titles. Abbreviate titles of journals, proceedings, symposia, and serial compendia according to the *ISSN List of Title Word Abbreviations (LTWA)*, published by the International Organization for Standardization. (Go to <http://www.issn.org/services/online-services/access-to-the-ltwa/> for general information on using the guide, and scroll down to the "View the LTWA" section for the online guide.) Do not abbreviate one-word journal titles.

BIBLIOGRAPHIC STYLE

Most cited sources can be formatted using the general guidelines below. For exceptions or special cases (websites, conference papers, errata, abstracts, etc.), see Appendix A at the end of this handbook.

List numbered references in the Literature Cited with numerals and period, without parentheses. Include the following information (in this order):

1. Name(s) of author(s), last name first, followed

by initials without periods. Include both (or all) initials for each author whenever they were included in the original article or book. Do not leave space between initials. Do not use a comma between surnames and initials—use commas only to separate different authors' names. If a given reference has seven or more authors, list the first five, then type "et al." in the bibliography. (But in text, use et al. for three or more authors.) If a reference has six or fewer authors, list them all. (Exception: For the *Annual Review of Astronomy and Astrophysics*, if a given reference has six or more authors, list the first three, then type "et al." in the bibliography. If a reference has five or fewer authors, list them all.)

2. Year of publication of the article or book, followed by a period, with no parentheses. If the article has recently been accepted for publication and is actually in press, list it in the Literature Cited section. Provide journal title and expected year of publication, plus volume and pages when known.

3. Title of article or chapter (except *Astronomy and Astrophysics*, *Condensed Matter Physics*, and *Nuclear and Particle Science*).

4. Title of journal (abbreviated unless only one word) or book (not abbreviated unless part of a periodical series), e.g., *J. Psychol.*

5. For a book reference, name(s) of editor(s).

6. Volume number, then a colon and inclusive page numbers; if there is no volume number, inclusive page numbers preceded by a comma and "pp." Do not repeat hundreds digit unless needed, e.g., 3–10, 71–77, 100–9, 331–35, 1002–3, 1198–202, 1536–38. The issue number can be included in parentheses immediately following the volume if necessary, e.g., 10(4):123–30

7. For a book reference, place of publication, name of publisher, and edition, if necessary. For example: New York: Sage (do not put a period at the end of the reference).

CITATION MANAGEMENT SOFTWARE

If you are using Clarivate Analytics' EndNote, you may download the journal's EndNote style file from the AR website at <http://www.annualreviews.org/page/authors/author-instructions/preparing/endnotes>.

If you are using another reference management program, it may include the style for the Annual Reviews journal for which you are writing. If not, you may be able to use the style for another Annual Reviews journal (contact your Production Editor), or you can edit the citation manager's style module to accord with the Annual Reviews journal style, namely:

- Author names are given last name first, followed by initials—with NO punctuation except for commas between authors and a period at the end.

Sample: Brown J, Smith R, Jones CE.

- The year comes after the names, followed by a period.
- Journal article titles are lowercase except for the first word, proper nouns, and acronyms.
- Journal titles are italic. Abbreviations are followed by periods.

If you have any difficulty setting up your EndNote system, please go to <http://www.endnote.com/support>.

WEBSITE CITATIONS

GENERAL GUIDELINES When you cite a specific source that is housed online, you should include it in the Literature Cited section. Entries in the Literature Cited section should contain as many items from the following list as are relevant and available.

- Name of the author, editor, compiler, or translator of the web-based item (if available and relevant), followed by any appropriate abbreviations, such as ed.
- Title of article or other short work within a scholarly project, database, or periodical
- Title of an online book or periodical, in italics
- Name of the editor, compiler, or translator of a book (if applicable and if not already listed),

preceded by any appropriate abbreviation, such as ed.

- Publication information for any print or PDF version
- Title of the scholarly project, database, periodical, or professional or personal site (in italics) or, for a professional or personal site with no title, a description such as home page (in italics)
- Version number (if not part of the title) or, for a journal, the volume, issue, or other identifying number
- Date of electronic publication or posting or latest update, whichever is most recent (if the resource is still being updated)
- Name of any institution or organization sponsoring or associated with the website
- URL

For example, specific documents posted online could be cited as follows:

Clin. Data Interchange Stand. Consort. (CDISC). 2007. *CDISC and industry collaborative group lead FDA critical path initiative opportunity for data collection standards*. Press Release 33, CDISC, May 15.
<http://www.cdisc.org/news/PR33cdiscdashprojectfinal.pdf>

US Food Drug Admin. 2004. *Innovation or stagnation: challenge and opportunity on the critical path to new medical products*. White Pap., US Food Drug Admin., Washington, DC.
<http://www.fda.gov/oc/initiatives/criticalpath/whitepaper.html>

Specific webpages should cite, at a minimum, the author or organization, year, page title, website (in italics), and URL. If no specific year of posting or last update is included, use the current year.

Calif. Energy Comm. 2016.
Hydroelectric power in California. California Energy Commission.

<http://www.energy.ca.gov/hydroelectric>

Taussig M. 2015. *Seeds of time. Flatbread Society.*
<http://www.flatbreadsociety.net/stories/30/seeds-of-time>

SPECIFIC VERSUS GENERAL SOURCES ON WEBSITES If you wish to cite a specific source that is housed on a website or that is a pamphlet or report that is downloadable only, these sources should be cited in the Literature Cited section according to the instructions described above. For example:

Kennedy E, Dodd C, Clinton HR. 2005. *Letter to US Dep. Labor*, Apr. 12.
<http://www.nationalpartnership.org/site/DocServer/FMLASenateLettertoDOL.pdf?docID=963>

In contrast, to reference a general website that might be a good source of information for your reader, include it in text only, not in the Literature Cited section. For example:

A valuable clearinghouse of information on the passage of the Family and Medical Leave Act is the online library at the National Partnership for Women & Family website (<http://www.nationalpartnership.org>).

Because webpages and online documents often disappear or move to new URLs, we encourage you to refer only to URLs that you expect to be stable and accessible to readers of your article for many years to come, and to provide enough information in each reference that readers can locate the cited material even if the URL stops working.

You may wish to host material on unstable websites as Supplemental Material (see p. 15). Also, URLs can be included in the Related Resources section of your review (see p. 9).

NOMENCLATURE

GENERAL NOMENCLATURE

The primary nomenclature manual for Annual Reviews is *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers* (8th edition). Other authoritative references are listed below.

BACTERIOLOGICAL NAMES Use the *List of Bacterial Names with Standing in Nomenclature* (<http://www.bacterio.cict.fr>) and the *Approved Lists of Bacterial Names* as guides for validly published scientific names of bacteria and archaea. Use *Bergey's Manual of Determinative Bacteriology* and *Index Bergeyana* as guides for names of unknown bacteria.

INORGANIC, ORGANIC, AND BIOCHEMICAL NOMENCLATURE We accept all abbreviations, symbols, and trivial names in the rules of the IUPAC-IUB.

DRUGS Use nonproprietary (generic) names for drugs. When the name is relatively unfamiliar, follow its first use with the trade name. *Entomology, Medicine, Nutrition, Pathology: Mechanisms of Disease, and Pharmacology and Toxicology* require the use of ® as a superscript on first use of a trade name.

EXCEPTION: In *Psychology*, the terms adrenaline and noradrenaline (not capitalized) are permissible in place of epinephrine and norepinephrine.

GENETICS The 8th edition of *Scientific Style and Format* covers all organisms for which they have been able to obtain rules and guidelines (<http://www.councilscienceeditors.org/publications/resources.cfm>). Also see the section on italics in this handbook.

GENUS-SPECIES SCIENTIFIC NAMES Spell out the full generic and specific names on first use: e.g., *Escherichia coli*. Thereafter, the genus name should be abbreviated to the first letter (*E. coli*). If the name appears frequently and may be confused with another genus whose first letter is

the same, spell both names out every four or five pages.

INSECTS Use common and scientific names approved by the Entomological Society of America (<http://www.entsoc.org/common-names>) whenever possible. Authors from non-North American countries may use common names current in their countries. In general, do not capitalize the first letter of a common name unless a proper name is included.

ABBREVIATIONS AND SYMBOLS

Use abbreviations and symbols sparingly and only if terms are repeated frequently. Define all but the obvious standard symbols and abbreviations when they first appear in text (a list of standard abbreviations and units is provided in Appendix B on p. 26). Avoid using nonstandard abbreviations in titles and headings.

Chemical and graphic formulas may be used (see next section) and are set in roman type. Use U³⁺ rather than U⁺⁺⁺. Atomic weights of isotopes are to be indicated by superscripts preceding the element symbol: ¹⁴C, [¹⁴C]urea.

Use abbreviations of units of measure only when preceded by a numeral: 38 mm (but, a few millimeters).

Use the same abbreviations for units of measure when singular and plural, without periods or apostrophes except in special cases noted in Appendix B. Verbs must agree in number with the quantity: 1 mm is, 3 mm are.... Use a space between the numeral and the unit of measure, except with degree, percent, and Svedberg (5°C, 10%, 6S).

Spell out genus names upon first usage: The name may be abbreviated to its first letter afterward when used in combination with the species name. Never abbreviate generic names when used alone; also, do not abbreviate the species name when a subspecies is designated. For example, use *B. thuringiensis israelensis*, not *B. t. israelensis*.

EQUATIONS AND FORMULAS

SOFTWARE

If preparing your manuscript in Microsoft Word, you may use either MathType or the Word Equation Editor to create your equations. Word equations will be converted to MathType as part of the manuscript formatting and copyediting step.

LAYOUT

Equations and formulas should be in complete sentence form; include punctuation after displayed equations/formulas.

Set out long equations/formulas on a separate line or lines.

Number displayed equations/formulas if referred to later in the text. Use a single sequence of Arabic numerals, placed to the right of the equation/formula.

Complicated chemical formulas that cannot be typeset on one or two lines must be submitted as graphics (see section on figures); assemble these at the end of the text, preferably grouped together on one page.

Avoid the vertical placing of side chains. Use the following format, indented from the left margin:

CH-C(:CH₂)-CH₂-CH(CH₃)CH₂-CH:CH-COOH

REFERRING TO EQUATIONS

Refer to all numbered equations as Equation 1, Equation 2, etc.; do not use parentheses around the number or designators other than “Equation” (such as “System 3” or “Problem 1”).

SPECIAL CHARACTERS

Use the multiplication ex (×) in numerical and vector products only. In all other cases, use the multiplication (centered) dot.

Use the slash to mean “per”; write km/s, not km s⁻¹. In arrays, use brackets to indicate a determinant and vertical lines for a matrix.

Observe the following order for brackets: {[()]}; do not use parentheses within parentheses.

Use boldface roman rather than arrows for vectors. Use italics for variables, but subscript labels that are not themselves variables should be in roman. Numerals, symbols for chemical elements, and functions such as ln, exp, and cos should not be italicized.

Define uncommon symbols on first use for the nonspecialist.

Distinguish superscripts to superscripts and subscripts to subscripts from double superscripts and double subscripts (e.g., e^{a²} versus e^{a²}, n_{H₃} versus n_{H₃}).

Align subscripts with superscripts when appropriate to do so.

SUBMITTING YOUR MANUSCRIPT FILES

ONLINE SUBMISSION INSTRUCTIONS

We encourage invited authors to submit their manuscripts online. Your Production Editor will send you the URL in advance of your manuscript due date.

HELPFUL NOTES FOR ONLINE SUBMISSION

- If possible, please compress each file using, for example, WinZip, Stuffit, or GZip software. Then upload.
- Whenever uploading more than five files, compress all contents into a single folder and then upload.
- Always include a PDF file of your final manuscript, including figures and tables, in addition to separate, editable files.
- If uploading revisions, please again include a PDF file of revised text, figures, and/or tables.

EMAIL AND FTP SUBMISSION OPTIONS

- Files may be attached to an email message and sent directly to your Production Editor.
- Manuscript files must be compatible with Microsoft Word's ".doc(x)" or ".rtf" format. Mathematically complex articles may be submitted in LaTeX.
- A PDF of the final submitted version, including all figures and tables, must accompany all submissions (but does not take the place of editable text and figure files).
- An FTP upload is also an option. Please contact your Production Editor for more information.

APPENDIX A: LITERATURE CITED EXAMPLES

References appear as follows (note patterns of abbreviation, capitalization, spacing, and punctuation):

ABSTRACT

Josen LA, Tollis TM, Anthony A. 1993. Finding solutions to sequences. *Fed. Proc.* 32(3):855 (Abstr.)

ARTICLE IN A JOURNAL WITH TITLE OF ARTICLE

Roberts DF. 2001. A demographic study of a Dinka village. *Hum. Biol.* 28:323-49
 Wilmington SR, Matouschek A. 2016. An inducible system for rapid degradation of specific cellular proteins using proteasome adaptors. *PLOS ONE* 11:e0152679

ARTICLE IN A JOURNAL WITHOUT TITLE OF ARTICLE

Berson SA, Balow RS. 1999. *Am. J. Med.* 50:623-29

[use only for *Astronomy and Astrophysics, Condensed Matter Physics, and Nuclear and Particle Science*]

ARTICLE IN A JOURNAL IN PRESS

Park IJK, Wang L, Williams DR, Alegría M. 2017. Coping with racism: moderators of the discrimination-adjustment link among Mexican-origin adolescents. *Child Dev.* In press. <https://doi.org/10.1111/cdev.12856>

Brown MS, Radhakrishnan A, Goldstein JL. 2018. Retrospective on cholesterol homeostasis: the central role of Scap. *Annu. Rev. Biochem.* 87:In press. <https://doi.org/10.1146/annurev-biochem-062917-011852>

ARTICLE IN A JOURNAL WITH AN ERRATUM

Wilson P. 2001. Title of article. *J. Mol. Biol.* 229:1175-83. Erratum. 2001. *J. Mol. Biol.* 238:639

BOOK REFERENCE: WHOLE BOOK CITED

Seaver W. 1995. *Luck's Lady: The Theory of Probability*. Garden City, NY: Doubleday

Bronson D, Gerber RA, eds. 2003. *Handbook of Biochemistry*, Vols. 1, 2. San Francisco: Freeman. 2nd ed.

Lerner RM, ed. 2003. *Handbook of Child Psychology, Vol. 1: Theoretical Models of Human Development*. New York: Wiley

BOOK REFERENCE: INDIVIDUAL CHAPTER CITED

Bornstein L. 2002. Recombination in bacteria. In *Human Genetics*, Vol. 1, ed. R Johnston, E Smith, pp. 65-73. London/New York: Macmillan

New MI, Schram P. 2000. Congenital adrenal hyperplasia. In *Current Diagnosis*, ed. RB Conn, WZ Borer, JW Snyder, pp. 50-75. Philadelphia: Saunders

BULLETIN

Price GK, Lin W, Falck-Zepeda J. 2003. *Distribution of market benefits from adopting biotech crops*. Tech. Bull. 1906, US Dep. Agric., Washington, DC

DATABASE

Natl. Cancer Inst. 2012. *Adult primary liver cancer treatment*. PDQ: NCI's Comprehensive Cancer Database, Bethesda, MD, updated Feb. 23.
<http://cancer.gov/cancertopics/pdq/treatment/adult-primary-liver/HealthProfessional>

World Bank. 2012. *Little Green Data Book*. Washington, DC: World Bank.
<https://openknowledge.worldbank.org/handle/10986/12266>

MAGAZINE/NEWSPAPER/RADIO ARTICLE

Jones A. 2004. Title of article. *New York Times*, Jan. 15, p. A6

Ledge J. 1999. Spanish Signs. Atlanta, GA, *WABE Radio Broadcast*, Mar. 15

[do not repeat year if year is the same]

NO AUTHOR ASCERTAINABLE

Begin reference with name of editor, compiler, or sponsoring body, if known. Otherwise begin with title of article, chapter, journal, or book, followed by year. Do not use "anonymous."

PAGE SPAN WITH LETTERS

11:W50-55

11:125S-28S

PAPER PRESENTED AT A MEETING OR CONFERENCE

Andrade RG. 1990. *Culture shared and unique*. Paper presented at the 69th Annual Meeting of the American Anthropological Association, San Diego, Nov. 3-6

PATENT

Crane P, Lackmeyer G, Longyear J, Melconian A, Steward D. 2006. *Electronically scanning direction finding antenna system*. US Patent 6,987,489

PREPRINT AND WORKING PAPER

Chiang E, Laughlin G. 2012. The minimum-mass extrasolar nebula. arXiv:1211.1673 [astro-ph.EP]

Pasaniuc B, Price AL. 2016. Dissecting the genetics of complex traits using summary association statistics. bioRxiv 072934.
<https://doi.org/10.1101/072934>

Chase-Dunn C. 2016. *Social movements and collective behavior in premodern polities*. Work. Pap. 110, Inst. Res. World Syst., Univ. Calif., Riverside.
<http://irows.ucr.edu/papers/irows110/irows110.htm>

PROCEEDINGS

- Diftler MA, Mehling JS, Abdallah ME, Radford NA, Bridgwater LB, et al. 2011. Robonaut 2—the first humanoid robot in space. In *2011 IEEE International Conference on Robotics and Automation*, pp. 2178–83. Piscataway, NJ: IEEE
- Holder J. 2009. Galactic binary systems. In *Proceedings of the 2009 Fermi Symposium, Washington, DC, Nov. 2–5*. eConf Proceedings C091122.
<http://www.slac.stanford.edu/econf/C0911022>

REPORT

- New RL, Oldur S. 2001. *Propulsion jet streams*. NASA Tech. Rep. 32-1529, Jet Propuls. Lab., Pasadena, CA

SUPPLEMENT

If suppl. is part of journal title:

- Martin RN, Barrett AH. 2001. *Ap. J. Suppl.* 36:1-51

If suppl. is not part of journal title:

- Taylor CA. 1995. *J. Microbiol.* 11(Suppl. 2):5-10

THESIS OR DISSERTATION

- Cafiso DS. 1997. *Electrical and ion selective properties of photoreceptor membranes*. PhD Thesis, Univ. Calif., Berkeley

[include thesis or dissertation title in journals that do not ask for article titles]

TRANSLATION

- Aachen BL. 1937. *Basis of Society*. Transl. R Jones, 1958, in *Am. J. Sociol.* 23:18-57 (From German)

UNPUBLISHED INFORMATION

Refer to such data in the text as personal communication, submitted, unpublished data, etc., listing all researchers by initials and surname (e.g., W.C. Houser, U.M. Bandlier & C.F. Kim, unpublished data). Except for *Economics*, *Financial Economics*, *Physical Chemistry*, and *Resource Economics*, do not list these references in the Literature Cited section. Citations of unpublished works are not permitted in *Entomology*.

WEBSITE

- Taussig M. 2015. Seeds of time. *Flatbread Society*.
<http://www.flatbreadsociety.net/stories/30/seeds-of-time>

YEAR, 1ST EDITION

- Castellanos J. 1994 (1589). [No period before parentheses]

REPEATED REFERENCES

If different sections of the same book, symposium, etc. are cited in separate references, give full information once, with the reference listed under the editor's name. Include title of chapter in each reference.

Domb AJ. 2002. Lipospheres for controlled delivery. See Salkman 2002, pp. 288-92

Salkman B, ed. 2002. *Solid Nanoparticles: Methods and Industrial Applications*.
Boca Raton, FL: Taylor & Francis

Straub EH. 2001. Hemophilia. See Salkman 2002, pp. 216-49

Do not use "Ibid." Instead, repeat the name of the author each time.

APPENDIX B: STANDARD ABBREVIATIONS AND UNITS

Symbols and abbreviations on this list, as well as all SI base and derived units and prefixes, may be used in your manuscript without explanation.

acceleration of gravity	g	equilibrium constant	K
acquired immune deficiency syndrome	AIDS	equivalent	eq
alternating current	ac	erg	spell out
angstrom	Å	et alii (and others)	et al.
ante meridiem	AM	et cetera	etc.
approximately	~	exempli gratia (for example)	e.g.
approximately equal	≈	exponential	exp.
aqueous	aq	figure	spell out
arbitrary unit	a.u.	foot	ft
astronomical unit	AU	foot candle	fc
atmosphere	atm	gauss	G
atomic mass unit	amu	Gibbs energy change	ΔG (not ΔF)
atomic unit	au	giga-	G-
atomic weight	at wt	gram calories	gcal
bar	spell out	gravitational constant	G
barn	b	gravity, centrifugal	g
British thermal unit	Btu	hour	h
calorie (heat calorie)	cal	human immunodeficiency virus	HIV
centimeter-gram-second	cgs	hydrogen ion (concentration)	pH
compare	cf.	id est (that is)	i.e.
cosecant	csc	inch	spell out
cosine	cos	infective dose	ID ₅₀
cotangent	cot	infrared	IR
counts per minute	cpm	international unit	IU
curie	Ci	kilo-	k-
curl	spell out	kilobase, kilobase pair	kb
cycles per second	Hz	kilocycle	kc
daltons	Da	kilowatt-hour	kWh
day	spell out	lethal dose	LD ₅₀
decibel	B	levo	L
degree	°	liter	L
degrees Celsius	°C	logarithm	log
degrees Fahrenheit	°F	logarithm, natural	ln
deuteron	d	magnitude	mag
dextro	D	maximum	max
diffusion coefficient	D	mega-	M-
direct current	dc	metric ton (tonne)	t
dyne	dyn	Michaelis constant	K_m
electromagnetic unit	emu	micro	μ-
electromotive force	emf	microgram	μg (not λ)
electron	e	micrometer (not micron)	μm
electron spin resonance	ESR	millibar	mbar
electron volt	eV	milliequivalent	meq
electrostatic units	esu	milliliter	mL
enthalpy change	ΔH	millimeters of mercury	mm Hg
entropy change	ΔS	million years ago, mega annum	Mya, Ma
entropy unit	eu		

minute	min	solar mass	M_{\odot}
minutes of arc	arcmin	species	sp., spp.
molar (concentration)	M (not $\mu\text{mol/mL}$)	Specific rotation	α
mole	mol (not M)	square centimeter	cm^2
molecular weight	M_r or mol wt	Svedberg (10^{-13} s)	S
month	spell out	standard deviation	SD
neutron	n	standard error	SE
normal (concentration)	N	tangent	tan
oersted	Oe	tera-	T-
page, pages	p., pp.	tesla	T
parsec	pc	three-dimensional	3D
parts per million	ppm	ton	spell out
percent	%	tonne (metric ton)	t
post meridiem	PM	torr	torr (not Torr)
potential difference	PD	two-dimensional	2D
probable error	pe	ultrahigh frequency	UHF
proton	p	ultraviolet	UV
radiation, ionizing, absorbed dose	rad	universal gravitational constant	G
radiofrequency	RF	universal time	UT
retardation factor	R_F	variant	r.
revolutions per minute	rpm	versus	spell out
roentgen	r	weight concentration	g/mL (not mg%)
root mean square	rms	weight percent	wt%
second	s	week	spell out
seconds of arc	arcsec	year	spell out
sedimentation coefficient	s		

Annual Review of Linguistics Style Guide Supplement

1. General notes and stylistic conventions

All numbered items mentioned in text must be labeled as one of the following:

- a. Figures (all images, including photos, drawings, maps, and trees)
- b. Tables
- c. Trees
- d. Examples* (for numbered sentences, logical forms, etc.)

*For numbered items that are not figures, tables, or trees, we suggest using the label “example” (or “logical form,” “utterance,” etc.).

Items in each category must be numbered separately. For instance, an article may contain three figures (Figures 1 through 3), two tables (Tables 1 and 2), and 15 numbered sentences (examples 1 through 15). Each figure and table requires a heading and/or caption (trees and examples do not).

Do use	Do not use
The sentences in examples 1 <i>a–c</i> show...	The sentences in (1) show...

2. Formatting of linguistic examples

Examples should be presented as follows:

Do use	Do not use
(1 <i>a</i>) John gave Mary a flower.	(1) a. John gave Mary a flower.
(1 <i>b</i>) John gave a flower to Mary.	b. John gave a flower to Mary.

If you are using LaTeX (also see the LaTeX style guide available at <http://www.annualreviews.org/page/authors/author-instructions/preparing/latex>), the following output will yield the desired result:

```
\begin{enumerate}
\item[(1a)] John gave Mary a flower.
\item[(1b)] John gave a flower to Mary.
\end{enumerate}
```

Language names and labels should be placed on the line immediately above the example, flush left with the text. The reference for the example (if applicable) should be placed immediately below the example:

Do use	Do not use
English (1 <i>a</i>) John gave Mary a flower. (1 <i>b</i>) John gave a flower to Mary. (Smith 2000, p. 1)	(1) Two simple sentences a. John gave Mary a flower. b. John gave a flower to Mary. [English]

3. Font style and key terms

Italics used for cited forms (i.e., words or phrases that are being discussed or analyzed)
Underlining used for emphasis

SMALL CAPS	used for glosses from sign language
‘Single quotes’	used around glosses (translations of cited forms)
“Double quotes”	used for dialogue and may be used to indicate nonstandard word usage

Please do not use small caps, bold, italics, or quotation marks to designate key terms.

4. Literature Cited and in-text references

References in Literature Cited must be in Harvard style, organized alphabetically, then by year.

List all authors up to five, then “et al.”

If no year is available (i.e., article/book has been approved for publication but is not yet in press), insert “Forthcoming” at the end of the reference.

In-text references should appear as follows:

One reference	Two or more in-text references	Multiple references for one author	Reference with page number
Smith (2000) contends that...	Smith (2000) and Jones (2014) claim that... ...as claimed by several authors (Smith 2000, Jones 2014).	...as mentioned in two recent papers (Smith 2000, 2001). ... as mentioned in several recent papers (Adams 1993; Smith 2000, 2001; Jones 2014).	Smith (2000, p. 72) claims... ...as claimed by several authors (Smith 2000, p. 72; Jones 2014, p. 1).

Blog post

Template	Author A. Year. Title of blog post. <i>Name of blog</i> , Month date. URL
Example	Zimmer B. 2014. “Spastic” and a different kind of “word crime.” <i>Language Log Blog</i> , July 20. http://languagelog.ldc.upenn.edu/nll/?p=13552

Book

Template	Author A, Writer BC. Year. <i>Title of Book: Subtitle If Any</i> . City: Publisher
Example	Baerman M, Brown D, Corbett GG. 2005. <i>The Syntax–Morphology Interface: A Study of Syncretism</i> . Cambridge, UK: Cambridge Univ. Press

Chapter in an edited book

Template	McAuthor XY, McWriter Z. Year. Name of chapter. In <i>Title of Book: Subtitle If Any</i> , ed. AN Editor, pp. xx–xx. City: Publisher
Example	Bonet E, Harbour D. 2012. Contextual allomorphy. In <i>The Morphology and Phonology of Exponence</i> , ed. J Trommer, pp. 195–235. Oxford, UK: Oxford Univ. Press

Journal

Template	Linguist A. Year. Title of paper. <i>Journal Name</i> volume:xx–xx
Example	Hudson R. 1986. Systemic grammar. <i>Linguistics</i> 24:791–815

Proceedings from a conference*

Template	Linguist A. Year. Name of poster/presentation/article. In <i>Proceedings of the XXth Conference</i> , ed. AN Editor, pp. xx–xx. City: Publisher
----------	---

Example	Andreevskaja A, Bergler S. 2008. When specialists and generalists work together: domain dependence in sentiment tagging. In <i>Proceedings of the 46th Annual Meeting of the Association for Computational Linguistics</i> , pp. 290–98. Stroudsburg, PA: Assoc. Comput. Linguist.
---------	--

*NB: The name of the conference alone (e.g., ACL46) is not sufficient.

Thesis/dissertation

Template	Author B. Year. <i>Title of thesis in sentence caps</i> . PhD thesis, name of university, city, state or country. Number of pages
Example	Katz J. 1998. <i>Topics in Indo-European personal pronouns</i> . PhD thesis, Harvard Univ., Cambridge, MA. 594 pp.