Editorial: A Web-Based Archive of Norms, Stimuli, and Data

JONATHAN VAUGHAN
Hamilton College

A new public archive of norms, stimuli, data, and source code, www.psychonomic.org/archive, is at the service of researchers and students in experimental psychology. The archive has received contributions from more than 60 researchers. The August and November 2004 issues of *Behavior Research Methods, Instruments, & Computers* comprise articles related to the inaugural contents of the archive, which will henceforth accept contributions related to articles published in all Psychonomic Society journals.

Print has long been the conventional medium of scientific exchange, from the first issue of the *Philosophical Transactions of the Royal Society of London for Improving Natural Knowledge* in the mid-17th century to the enormous proliferation of scientific journals in the 20th. As part of this tradition, the Psychonomic Society journals have an illustrious history of sharing scientific information in print.¹ The Society's commitment to the free exchange of ideas in psychology is further reflected in its liberal copy-right policy, which encourages unfettered noncommercial use of published articles. Nevertheless, now that computers and networks are the universal "tools of the trade," information can be stored and shared more efficiently and more accurately in machine-readable form than on paper.

With the August and November 2004 issues of *Behavior Research Methods, Instruments, & Computers*, we inaugurate a publicly accessible, Web-based archive of norms, stimuli, and data, which will complement the Society's print journals. The August issue will emphasize norms for textual, verbal, and pictorial materials, while the November

issue will highlight the electronic exchange of stimuli, data, and program source code.

Why make norms, stimuli, and data easily accessible in a permanent public archive? The overarching motivation is the facilitation of scientific communication: to enable the most effective and productive critique and extension of previous research. Contemporary scientific reports are, of course, carefully drafted with a hypothetical audience of one colleague, "the reader," firmly in mind. To this end, reports of experiments and observations follow conventional organization ("APA style") and use precise technical expression, so that the reader will be able to critically evaluate, interpret, and potentially replicate the work that is reported.

However, not all information can be included in print. When published information is inadequate, an interested researcher needs more detailed information.

Furthermore, an important dimension of every scholar's responsibilities is education. A readily available repository of norms, stimuli, and data will help provide the raw materials for student projects and inspiration for the design of class projects at all levels of teaching.

Electronic transmission is now the most effective medium for scientific exchange. Information that one researcher might provide another may be so voluminous, or demand such detail and precision, that exchange in print is cumbersome. Electronic exchange, on the other hand, is unencumbered by distance, the volume of the materials, or the cost of printing and distribution on paper. Furthermore, in our age, information often needs to reach an electronic "reader," not a human one. A more extensive report of technical information than can be accommodated in print affords an opportunity for a researcher to reuse someone else's information, transform it, or verify it at a deeper level than would be possible from a print source, or to obtain information that cannot be shared in print.

How to coordinate Web-based archiving with traditional scientific publication? One approach is to archive material independently of conventional print publication. There have been a number of proposals and ongoing experiments in this direction, many of which come under the

It has been enormously stimulating and rewarding to observe the enthusiastic response to the inauguration of the Web-based archive from researchers in a variety of fields. First thanks go, then, to the authors and coauthors who generously and enthusiastically contributed to the archive, and to the colleagues who reviewed the submitted materials under time pressure, in many instances considering more than one related contribution. The Psychonomic Society Publications Committee, the consulting editors of *BRMIC*, and the editors of the Psychonomic Society journals offered support and many valuable suggestions. Not all can be mentioned here, but Anne Britt, Richard Carlson, Thomas Carr, Russell M. Church, Jonathon Crystal, Aram Kuderhian, Neil Macmillan, Brian MacWhinney, Robert Proctor, David Rosenbaum, Annie Trapp, John Wixted, and Christopher Wolfe provided especially salient advice. The *BRMIC* editorial assistants, Colby Fisher and Stephanie Godleski, implemented the contributions to the archive and shared many insights for its design. Finally, publishing a journal in which each printed article must be coordinated with Web content makes the process just a bit more complicated than usual, and I am grateful for the attention and patience of the Psychonomic Society Publications Office and the Society's Web provider, lone-star.net, who have made it possible to smoothly integrate the two. Correspondence may be directed to J. Vaughan, Department of Psychology, Hamilton College, Clinton, NY 13323, or to jvaughan@hamilton.edu.

heading of “self-archiving” (see, for instance, Boker & Crowell, 2004). Well thought out examples include the Timing archive at Brown University (www.brown.edu/Research/Timelab/index.html; see Kirkpatrick & Church, 2003) for data, and www.cog.brown.edu/~tarr/stimuli.html for visual stimuli. For the Society’s archive, we have elected to incorporate submissions of archiveable materials into the existing process of review for print publication. That is, a journal editor makes the final decision to accept both the article and the material for the Web-based archive, after both have undergone peer review. In this way, we can help ensure that archived materials have undergone, and passed, a rigorous evaluation, and have been adequately documented. The print article provides an opportunity to elaborate on the historical background, characteristics, theoretical implications, methodological issues, and other ramifications of the materials. As Guilhardi and Church (2004) note, while researchers can easily enough share materials on their own Web sites, “an institutional repository such as a university or a scientific society is superior because it provides greater assurance of long-term availability of the data” (p. 662). A centralized archive, under the aegis of a perpetual scientific society, will help ensure the continuity of the resources despite an author’s change of institution, the evolution of computer storage formats, or the revision of proprietary file formats.

With these thoughts in mind, the new archive provides a repository for a variety of materials that are of general utility to researchers in the many fields of experimental psychology. Psychonomic Society journal editors and authors may now submit supplemental materials for electronic archiving to complement and enhance the printed publications. Materials unsuitable for print, such as sound files, color or high-resolution photographs, PET or MRI scans, and extensive tables, are all good candidates for the archives, as are data sets or software source code that are best shared in machine-readable form.

What kinds of materials should be archived? In language and cognition research, archiving normative data may be particularly fruitful. Maki, McKinley, and Thompson (2004) have noted that some kinds of linguistic information are relatively straightforward to acquire: word frequency can be counted, co-occurrence of word pairs can be tallied. However, adequately large corpora of words are more difficult to come by for some dependent measures. Maki et al. note that in developing word pairs, because of the challenges of developing large sets of stimuli, the foundation on which the work is based has sometimes been merely intuitive: “There has been a tendency to select first and norm second . . . and then for subsequent investigations to rely on those materials” (p. 421). A more coordinated approach is to have a growing repository of useful materials based on multiple contributions.

In studies of perception and memory, to take another example, one laboratory’s ability to use stimuli identical to those developed in another helps ensure that the replication and extension of that work does not suffer from some undetected difference in the stimuli. Conversely, access to

the original stimuli may reveal defects in them that are impossible to detect from their description in print.

Building on the foundation of a recent NIMH workshop on the topic (Kurtzman, Church, & Crystal, 2002), Crystal (2004) notes that sharing data facilitates the cumulative progress of science by enabling more informed scrutiny of prior research and the application of diverse methods of analysis to the same set of observed data. A body of data laboriously acquired in one laboratory may serve purposes not envisaged by the original researchers. Testing of alternative models is more rigorous if alternative approaches can be compared using the same data (see the reuse by Heathcote, 2004, of data from Schwarz, 2001, for a particularly salient example).

In developing the archive, I have been reminded (not unexpectedly) that many relevant issues parallel those that affect print publications. First, peer review remains the touchstone for ensuring the quality and clarity of each submission. The journal editor’s decision to accept the materials for the archive along with the article rests on the judgment that both will be of utility to researchers and students in psychology. As a rule of thumb, a useful precursor to the submission of materials for the archive is to have demonstrated their utility in previously or simultaneously published peer-reviewed empirical work. Second, where one’s archived work incorporates that of others, appropriate permission is required, as it is in print. Finally, it is important to give credit when it is due. Researchers who find archived materials useful in their own work are asked to cite both the relevant article and the archival content, and they are invited to share the products of their work, in turn, with those who provided the materials.

To facilitate perpetual access to the data, whenever possible one version of each archive entry is accessible in open-source format (such as plain text), and the materials are compressed so that all related materials can be downloaded in a single compressed archive file (see Boker & Crowell, 2004, for further discussion of such issues).

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Cross-serial dependencies in Dutch: Testing the influence of NP type on processing load.	EDITH KAAAN AND NADA VASIC	Memory & Cognition	2004	32	2	175-184
WordGen: A tool for word selection and non-word generation in Dutch, English, German and French	WOUTER DUYCK, TIMOTHY DESMET, L.P.C. VERBEKE AND MARC BRYSSBAERT	Behavior Research Methods, Instruments, & Computers	0	0	0	0-0
Number-of-translation norms for Dutch-English translation pairs: A new tool for examining language production	NATASHA TOKOWICZ, JUDITH F. KROLL, ANNETTE M. B. DE GROOT AND JANET G. VAN HELL	Behavior Research Methods, Instruments, & Computers	2002	34	3	435-451

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Figure 1. A search at www.psychonomic.org/archive for all entries that contain the keyword *Dutch* retrieves four entries: Duyck et al. (2004); Kaan and Vasić (2004); Ruts et al. (2004); and Tokowicz et al. (2002).

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After agreeing to the terms of use, users may search the archive in a number of ways: by journal, year of publica-

tion, author, keyword, and so forth. Figures 1 and 2 present an example of a search by a hypothetical researcher who is interested in studying language in English/Dutch bilinguals, and who is therefore searching for a suitable set of stimulus words (Figures 1 and 2).

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Psychonomic Society Norms, Stimuli, and Data Archive

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NATASHA TOKOWICZ, JUDITH F. KROLL, ANNETTE M. B. DE GROOT AND JANET G. VAN HELL
Number-of-translation norms for Dutch-English translation pairs: A new tool for examining language production
Behavior Research Methods, Instruments, & Computers (2002), Vol. 34, Issue 3, 435-451

Author's Email: Tokowicz@alumni.umass.edu
Author's Website: <http://www.lrdc.pitt.edu/ReadLab/bios/tokowicz.html>
Other Useful Link: <http://www.talkbank.org/norms/tokowicz/> - Link to the Talkback version of the Tokowicz et al. norms.
Entry Number: modified October 24, 2004
Download Archive: [Tokowicz-BRMIC-2002.zip](#) - File Type: Compressed Archive

The compressed archive file contains four files:
 1.) Tokowiczetalnorms.xls contains the norms obtained by Tokowicz et al. (2002), as a 372k Excel workbook generated by Excel 2001 for the Macintosh. Each row represents one of the original 562 translation pairs;
 2.) columns.xls contains the column names of the document Tokowiczetalnorms.xls and extended definitions (a 16k Excel file);
 3.) similarityratings.xls contains the similarity ratings for each translation pair in an Excel workbook (44k); and
 4.) similarityratings.html contains the similarity ratings for each translation pair in html format (252k).
 The three .xls files are also provided in tab-delimited text format.

Abstract: We collected number-of-translations norms on 562 Dutch-English translation pairs from several previous studies of cross-language processing. Participants were highly proficient Dutch-English bilinguals. Form and semantic similarity ratings were collected on the 1,003 possible translation pairs. Approximately 40% of the translations were rated as being similar across languages with respect to spelling/sound (i.e., they were cognates). Approximately 45% of the translations were rated as being highly semantically similar across languages. The form similarity ratings were found to be highly reliable even when obtained with different bilinguals and modified rating procedures. Number of translations and meaning factors significantly predict the semantic similarity of translation pairs. In future research, these norms may be used to determine the number of translations of words to control for or study this factor. These norms are available at <http://www.talkbank.org/norms/tokowicz/>.

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Figure 2. Contents of the Tokowicz et al. (2002) archive entry, which includes Dutch-English and English-Dutch translation norms (downloadable in a .zip-compressed archive file) as well as links to other useful information.

Contents of the Archive

Now let us turn to the inaugural contents of the Web-based archive. Initial contributions to the archive have been solicited from three sources. First, entries associated with recently published Psychonomic journal articles (from *BRMIC*, *Learning & Behavior*, *Memory & Cognition*, *Perception & Psychophysics*, and *Psychonomic Bulletin & Review*) are already in the archive. Second, when the Web-based archive was first contemplated, contributions were solicited for a special issue of *BRMIC*. The enthusiastic response to this initiative is reflected in the number and variety of submissions, which fill both the August and November issues. Third, a number of newer entries in the archive are associated with articles still in press in one of the Psychonomic journals.

The articles in this issue of *BRMIC* describe more than 40 contributions to the Web-based archive. The contributions fall into four broad categories (with some contributions straddling the arbitrary boundaries): (1) norms for verbal or visual materials that may be used in experiments; (2) stimuli in several modalities (auditory, visual, and textual) and methods for generating them; (3) data from empirical work that can be further explored for analysis, testing of hypotheses, and the evaluation of models; and (4) source code, in a variety of languages, for stimulus generation, statistical analysis, modeling, and experimental control.

The overview that follows is brief. The abstracts of all papers with archived content (including those in press) are in the archive (www.psychonomic.org/archive) and the articles' full text (except for papers still in press) may be found through www.psychonomic.org or in the print journals.

Norms

Published norms provide important documentation. Psychonomic journals and those of other societies have frequently published extensive tables of norms for verbal and pictorial materials. Proctor and Vu (1999) identified 142 such papers in Psychonomic journals alone, and many others have appeared since the Proctor and Vu index was compiled. The present initiative builds on this tradition. Briefly, the archive now contains the following contributions of normative data.

Norms in English

Clark and Paivio (2004) extend the Paivio, Yuille, and Madigan (1968) imagery norms from the original corpus of 925 words to 2,511, and provide ratings from a more diverse set of properties for them. Cortese and Fugett (2004), similarly, extend the Toggia and Battig (1978) ratings of 1,153 words to provide imageability ratings for 3,000 monosyllabic words. McRae, Cree, Seidenberg, and McNorgan (in press) provide semantic feature production norms for 541 basic-level concepts.

Jones and Mewhort (2004) provide an extensive corpus of letter and bigram frequency counts based on large samples of unconstrained text. With a more specific emphasis, Novick and Sherman (2004) have focused on bigram distributions in five-letter words. The Novick and Sherman norms are supplemented by the PASCAL source code for their bigram counting program, to facilitate the extension of the work to other computer languages or linguistic samples.

Nelson, McEvoy, and Schreiber (2004) have contributed free-association norms for more than 5,000 words, comprising more than

72,000 word pairs, along with a number of related measures. White and Abrams (2004) focus on associations to homophone pairs and triplets with special attention to equivalence across age groups.

Maki et al. (2004) provide a summary of semantic distances in word pairs derived from a corpus of some 50,000 pairs, as well as a pointer to their electronic dictionary/lexical database, WordNet. Gahl, Jurafsky, and Roland (2004) focus on a particular aspect of word meaning, verb subclassification, based on a corpus of 281 verbs.

Crawford, Leynes, Mayhorn, and Bink (2004) make available a sample of 248 words that elicit gender-based associations, along with 352 neutral words, for studies of gender stereotyping and verbal memory. In addition to the norms, the archives provide the raw data on which they are based.

Linguistic Technical Supplements

Curtiss, MacSwan, Schaeffer, Kural, and Sano (2004) have archived a detailed technical manual describing GCS, their grammatical coding system for research on natural language. Vitevitch and Luce (2004) provide a link to their Web-based resource for the computation of phonotactic probabilities.

Norms in Other Languages

A number of contributions reflect the strong current interest in comparative studies of language and bilingualism. Reflecting this interest, Duyck, Desmet, Verbeke, and Brysbaert (2004) describe a downloadable tool, WordGen, that generates suitably constrained word and non-word stimulus sets in Dutch, English, German, and French.

Cantonese. Leung, Law, and Fung (2004) report type and token frequencies of tones, onsets, codas, rimes, and syllables from a large corpus of spoken Cantonese.

Dutch. Tokowicz, Kroll, de Groot, and van Hell (2002) have provided translation norms between English and Dutch. Ruts et al. (2004) contribute normative data for categories and superordinates in Dutch. Kaan and Vasić (2004) have archived the sentences used in their study of cross-serial dependencies in Dutch.

French. New, Pallier, Brysbaert, and Ferrand (2004) describe, and provide a link to, their new French lexical database, Lexique. Cordier and Le Ny (in press) archive the stimuli (in French) and dependent measures of their study of the components for word familiarity.

French norms for pictures. Bonin, Peereman, Malardier, Méot, and Chalard (2003) have provided French norms for 299 pictures, while Schwitser, Boyer, Méot, Bonin, and Laganaro (2004) provide normative data on the naming, in French, of 112 drawing of actions.

Italian. Rinaldi, Barca, and Burani (2004) share imageability, frequency and grammatical data for Italian children's first words.

Japanese. In one contribution, Tamaoka and Makioka (2004a) provide frequency information for phonemes, morae, and syllables in a large Japanese corpus. In another, Tamaoka and Makioka (2004b) archive an update of their database of the characteristics of the basic Japanese kanji (Tamaoka, Kirsner, Yanase, Miyaoka, & Kawakami, 2002).

Japanese norms for pictures. Nishimoto, Miyawaki, Ueda, Une, and Takahashi (in press) archive their norms for selected Snodgrass and Vanderwart (1980) pictures and provide 143 newly drawn stimuli.

Spanish. Izura, Hernández-Muñoz, and Ellis (in press) provide norms for 500 Spanish words in five semantic categories. Dasí, Soler, and Ruiz (2004) share normative data on the completion of Spanish word fragments.

Spanish norms for pictures. Cuertos, Ellis, and Alvarez (1999) have archived their norms for the Snodgrass and Vanderwart (1980) picture set in Spanish, and Cuertos and Alija (2003) provide norms for another 100 pictures. Fernandez, Diez, Alonso, and Beato (2004) provide Spanish free-association norms for the names of Snodgrass and Vanderwart pictures.

Multilanguage norms for pictures. The archive provides links to the multi-language picture-naming norms of Székely et al. (2003) and to the comprehensive and extensive sample of Bates et al. (2003).

Stimuli

The archive now contains examples of auditory, visual, and textual stimuli, as well as program source code for generating others.

Auditory stimuli. Saberi (2004) shares an ingenious FFT-based algorithm for generating moving auditory stimuli from monaural waveforms, along with the MatLab source code for implementing it. Shafiro and Gygi (2004) provide access to a wide variety of sources for environmental sounds. Gupta et al. (2004) have archived their stimuli from learning studies: more than 2,500 .wav files of spoken nonsense words of one to seven syllables, and their set of novel visual stimuli: 144 pictures of "space aliens," which vary along several controlled dimensions.

Visual stimuli. DeWinter and Wagemans (2004) share their set of silhouettes and outlines for studies of object identification and segmentation, with parametric variations of contour smoothing. McDougall, Curry, and de Bruijn (1999) have archived rating norms for 239 symbols and icons from a variety of sources. Vanrie and Verfaillie (2004) contribute a set of point-light displays of 22 human movements from different viewpoints, as .avi movie files, along with the numerical description of the points' motions so that they can be adapted for other uses.

Several archive entries already mentioned also provide access to pictures of various kinds (e.g., Bates et al., 2003; Gupta et al., 2004; Nishimoto et al., in press; Székely et al., 2003).

Photographs of faces. Minear and Park (2004) describe a set of photographs of 575 faces, ranging from ages 18 to 93, suitable for memory and age-related topics. Palermo and Coltheart (2004) provide norms for the ratings of emotions in 335 faces from four source collections. Yoon et al. (2004) provide a corpus of pictures and naming norms, standardized in cross-cultural (American and Chinese) and multiage samples.

Textual stimuli. Marsh (2004) provides nine narrative stories for studies of suggestibility and false memory, as well as a technical description of how to generate such materials.

Data

The data contributions effectively articulate the utility of data archiving, by demonstrating how archived data can be exploited to address research questions that were not foreseen when the original study was conducted. As Crystal (2004) notes, archiving of data is fully consistent with the expressed goals of the American Psychological Association for the maintenance of data for a reasonable period after original publication, and it is particularly valuable in the domain of animal research because of the cost and difficulty of generating the original data.

Boker and Crowell (2004) summarize the arguments for data archiving, using GenBank as an example that particular disciplines might profitably emulate².

Research using animals. Crystal (2004) demonstrates the utility of archived data in the reanalysis of timing performance by a chimpanzee in orbit, using data from the NASA electronic archive. Guilhardi and Church (2004) report a study of rats' timing behavior, and set the admirable precedent of archiving their raw data (the individual responses of 12 rats across 10 sessions each) for the use of other researchers who may wish to apply different models of analysis to them. They also provide the MatLab source code of a program with which the data may be further explored.

Research using humans. Heathcote (2004) provides a combination of data and program resources that other modelers will find especially useful in downloadable form. He models the RT distribution of empirical data generously provided by Schwarz (2001), and

archives the S-PLUS functions used to test Schwarz's data against the Ex-Wald distribution. Schwarz's raw data are also provided, for the benefit of other potential modelers. Schooler and Schiffrin (in press) archive the data produced in the comparison of different signal-detection models applied to sparse data sets. Macmillan, Rotello, and Miller (2004) provide a link to their reports of the accuracy and precision for measures of sensitivity and variance in signal-detection analysis.

Source Code

Sharing computer source code serves many purposes. Source code for data analysis may be adopted by other researchers, to perform the same analysis on different data, for example. Source code may be adapted by other researchers to perform new, but related analyses. Source code is didactic, to the benefit of researchers or students who may wish to understand the underlying logic, to implement the same algorithm on another platform, or to generalize the application to new areas. Archiving of source code facilitates accountability, in that other researchers can verify that the code is correct—or detect bugs in it.³

Many useful algorithms can be implemented on more than one computing platform, or in more than one proprietary syntax (SPSS and SAS, for example; or MatLab and FORTRAN). Contributors are encouraged to provide source code for more than one computer language, to maximize its utility. Doing so also helps to ensure the implementation's accuracy by demonstrating that it works in more than one independent implementation. Several of the above entries include contributions of source code along with other materials, and there are other contributions of source code alone.

Statistics and modeling. Dunlap, Xin, and Myers (2004) provide the FORTRAN source code for computing the power of multiple regression analyses, as well as links to other statistical resources. Tuerlinckx (2004) provides FORTRAN and MatLab source code for computing the cumulative distribution function for the diffusion model of RT. As part of their discussion of using maximum likelihood methods in model evaluation, Cousineau, Brown, and Heathcote (2004) include FORTRAN source code for generating sampling distributions of a variety of distributions: Ex-Gaussian, Gumbel, Log-Normal, Wald and Weibull.

DeCarlo (2003) provides SPSS source code for fitting signal detection models. Preacher and Hayes (2004) have archived SPSS and SAS macros for estimating indirect effects in simple mediation models. Wolff and Preising (in press) provide SPSS and SAS syntax code for exploring up to three-level factor structures using the Schmid-Leiman solution.

Bogacz and Cohen (2004) provide MatLab source code for a general routine for parameter fitting, by minimizing the difference between statistics based on model output and observed data. Walker and Milne (in press) archive their MatLab source code for exploring function estimators as an alternative to regression.

Experiment control. De Clercq, Crombez, Buysse, and Roeyers (2003) describe a method for verifying timing accuracy, and a link to downloadable software. Collin and McMullen (2002) provide MatLab source code for the generation of families of Attneave shapes.

Eye tracking. Collin and Chaudhuri (2002) offer MatLab source code for generating heterochromatic stimuli for the study of movement perception. Gitelman (2002) provides MatLab source code for offline analysis of eye movement records, and Hornof and Halverson (2002) provide source code for calibration of eye tracking record-

ing, and Barabas et al. (2004) provide MatLab routines for computing the line of primary gaze in ambulatory eye-tracking studies.

Data acquisition. Abrams and Jennings (2004) have archived Visual Basic source code for a computerized voice key. Duley, Janelle, and Coombes (2004) share a LabVIEW toolkit for phasic heart-rate analysis. Corkrey and Parkinson (2004) provide software and scripts for conducting standardized computer-assisted telephone interviews. Shebilske et al. (in press) have archived an extensive technical manual for their Space Fortress experimental environment.

The Future of the Archive

Now that the archive has been launched, where do we go from here? In addition to contributions associated with these two issues of BRMIC, the Web-based archive will accept contributions related to previously published papers in BRMIC and other Psychonomic journals, as well as materials associated with future articles accepted in any of the Psychonomic journals. Both authors and editors are encouraged to take the initiative in proposing additions to the archive. Queries about new submissions to the archive, or submissions related to previously published articles, should be addressed to the editor of the relevant Psychonomic journal (see www.psychonomic.org). Other questions about the archive may be directed to Jonathan Vaughan at psp-archive@hamilton.edu or by clicking the "Comments and Questions" button on the Web page.

It goes without saying that additional contributions to the Web archive, in the form of norms, stimuli, data, or program source code, will be welcome. The resource belongs to the community of experimental psychologists, and I look forward to seeing the archive effectively exploited in the service of research and education in experimental psychology.

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NOTES

1. "Print" is shorthand for the conventional article in a scholarly journal, which may, of course, be widely (and sometimes exclusively) disseminated electronically.
2. Boker and Crowell (2004) propose an ingenious method for generating a "virtual," self-organizing archive of reports and data, imple-

mented by having researchers include a keyword, *Psychological-DataArchive* on the Web page of each self-published contribution. In this way, a suitably qualified Google search would reveal the self-archived contents that are germane to a particular topic. In the case of the Psychonomic Web-based archive, a similar search strategy can be implemented using PsycINFO or Web of Science. Searching for the text www.psychonomic.org/archive in the abstract field of the database will retrieve the entries for articles published with an archive supplement (though it will not detect entries submitted to supplement previously published articles).

3. As a matter of policy, computer programs in the archive are limited to text-based source code, for several reasons. Properly documented source text is easily interpreted and verified, and it cannot be infected with a virus or a Trojan program. Source code is useful even if the operating system or proprietary software for which it was designed is not accessible or no longer supported, because the logic of the program can be deduced from the code. Authors may, of course, make executable code available on their own Websites, though prudent users will always download executable programs cautiously, only from fully trusted sites, and always at their own risk.