November 1999

TestDriving CD-ROMS-Reviews of CD-ROM products-Experiments and Observations on Electricity/Benjamin Franklin

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Recommended Citation

Desmarais, Norman (1999) "TestDriving CD-ROMS-Reviews of CD-ROM products-Experiments and Observations on Electricity/Benjamin Franklin," *Against the Grain*: Vol. 11: Iss. 5, Article 15.
DOI: <https://doi.org/10.7771/2380-176X.3689>

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TestDriving CD-ROMs — Reviews of CD-ROM products

Experiments and Observations on Electricity / Benjamin Franklin

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<<http://www.providence.edu/pml/pmlhp1.htm>>

Experiments and Observations on Electricity / Benjamin Franklin

Octavo, 394 University Ave.
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info@octavo.com www.octavo.com
ISBN: 1891788132 \$25

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Everyone is familiar with **Benjamin Franklin's** famous electrical experiment involving a kite and a key because that is the single experiment that most history books focus on. However, that was not Franklin's fundamental experiment on lightning nor is it the one that makes him rank among the pioneers of modern electrical science. He could not have attained that stature on the basis of a single experiment. In fact, the account of that experiment comes about two-thirds into his book, *Experiments and Observations on Electricity* (p. 106 ff.).

Most accounts of Franklin's research, including the kite experiment, make it appear that he was trying to determine whether lightning is an electrical phenomenon. However, readers of Franklin's book will soon learn that he was testing something quite different, namely, whether clouds are electrified. Furthermore, the electrification of clouds was not the primary subject of his research; rather this topic arose as an afterthought. The experiments also resulted in the invention of the lightning rod.

Experiments and Observations on Electricity is one of the most important scientific treatises of the eighteenth century and a work which laid the foundations of the science of electricity. It also established the language that we still use in discussing electrical phenomena today, including plus or positive, minus or negative, and electrical battery. It is also important because it presents a large variety of important experimental discoveries, such as Franklin's analysis of the "Leyden jar," the first capacitor or condenser. His experiments, using this novelty of the time, produced electrical effects on a grand scale. Some of these experiments are still used in introductory courses on electricity.

The book also presents Franklin's theory

of electrical action which, for the first time, enabled experimenters to make accurate predictions of the outcome of laboratory experiments. This theory transformed the subject of electricity into a proper science and still serves, with some major modifications, as the basis of our discussions of electrical phenomena today. Perhaps most important from the point of view of the eighteenth century, Franklin's study of electricity and the invention of the lightning rod dealt a major blow to superstition. Lightning would no longer be considered an explosion of the forces of darkness or a warning to sinners from an angry God. He also showed that lightning did not only travel from the heavens to the earth, but also from the earth to the clouds.

The Octavo edition of *Experiments and Observations on Electricity* is a reproduction of a first edition from the library of **John Warnock**, Chief Executive Officer of **Adobe Systems, Inc.** The experiments were communicated in a series of thirteen letters to **Mr. Peter Collinson** written between 1751 and 1754. Mr. Collinson collected the letters and had them printed in London. The book contains three parts: Letters 14 written in 1751, Letters 511 written in 1753, and Letters 1213 written in 1754. It also includes an excellent introductory essay by **I. Bernard Cohen** which discusses the historical significance of the work and describes the binding, collation, and provenance of the volume used for filming.

The CD-ROM contains three versions of the page images in **Adobe Acrobat** format: Browse (72 dpi), Read (144 dpi), and Examine (432 dpi). There is also a thumbnail version with fifteen thumbnail images to a page that can serve as a reference or for quick selection of a particular page in Read mode. A print version (72 dpi) appears as a black and white version of the Browse mode and permits printing the text of the book; but it is not intended for viewing, as the Browse mode is more suitable at this resolution.

A reader selects the image version most suitable to his or her needs during a particular session and can switch easily between one

and another as desired. The greater the resolution of the file, the longer it takes to display and to refresh the screen with each successive portion. Following the instructions in the Setup and Tips and Help sections will lead to a more enjoyable reading experience. Read mode enlarges the text to 200% and reads very nicely on a monitor. A researcher who wants to examine the paper or to study particular words can enlarge the text even further to 800%. This is particularly helpful to read light impressions where some letters might not have been inked enough to print clearly. It is also helpful to read text that appears in the shadow of page wrinkles or creases or under water stains. At magnification levels above 400%, rounded letters like o, c, e, d, etc., appear jagged in Read mode. One can switch to the much higher resolution of Examine mode

where these letters still appear crisp even at 800% magnification. However, at such high levels of resolution, even fast microprocessors will display the page images too slowly for an enjoyable reading experience.

The high magnification levels of Examine mode permit studying the paper quality, end papers, binding, and tooling almost as if holding the original and examining it with a magnifying glass. One can easily see the fibers and grain of the paper or the fibers of the binding board on a damaged corner. One might also use this mode to study the foxing (rust-red spotting of the paper) on some pages or to scrutinize the engravings at the beginning and end of the sections, drop caps, or printer's devices.

While the text displays in an image format, one can also search the fulltext because there is an ASCII text version laid out identically to the page image and linked to it. However, to use the search feature effectively, one may need to be familiar with the peculiarities of colonial American spelling. For example magnetick, crouded (crowded), tho' (though), perswade (persuade), try'd (tried), phial (vial), shews (shows) can only be retrieved using that spelling. Long Ses have been converted to short Ses, though. Occurrences of the search term

continued on page 38

Book Reviews

Garland Encyclopedia of World Music, Decision Points and Information Ecologies

Column Editor: **Tom Leonhardt** (Oregon Institute of Technology) <leonhart@oit.edu>

Garland's Encyclopedia of World Music: Relating Music to Culture. Africa, vol. 1, 851 pp., ISBN 0-8240-6035-0; \$150. South America, Mexico, Central America, and the Caribbean, vol. 2, 1082 pp., ISBN 0-8240-4947-0; \$165. Southeast Asia, vol. 4, 1024 pp., ISBN 0-8240-6040-7; \$165. Australia and the Pacific Islands, vol. 9, 1088 pp., ISBN 0-8240-6038-5. Garland Publishing Company, 1999. \$165.

Reviewed by **C. Michael Phillips** (Assistant Head of Reference, Robert Scott Small Library, College of Charleston) <phillipsm@cofc.edu>

Four of the projected ten volumes of the *Garland Encyclopedia of World Music* are now in print. If one is expecting volumes of alphabetized entries or listings of terms, composers, genres, instruments etc., then these volumes may prove surprising. By way of full-length essays, all four volumes lead the reader from broad overviews to specific case studies.

The body of each volume is composed of three parts. The first part contains essays that focus on the geographical area of the title as a whole. Essays on themes and issues that unite the area comprise Part two. Part three focuses on specific regional musical practices. This organization is logical and most useful to readers not familiar with the subject matter. It does place information in context. However, a reader with some knowledge of music in the geographical area of a volume's title will find himself relying on the index. Unfortunately, some volumes are proportionately less indexed than others, specifically volumes 1 and 4.

Each essay commences with an outline presented in bold print. Each ends with a bibliography. Many essays lead the reader, by way of track numbers in margins, to relevant listening examples on the CD-ROM included in each volume. The essays are replete with historical and contemporary black and white photographs, illustrations, maps, diagrams, excerpts from published scores and transcriptions of music and sounds, many of which have never before been placed in notation, western or otherwise. These transcriptions form a significant contribution. When sounds are represented in writing and disseminated in print, they become interculturally useful tools that ease and hasten analysis.

Several tools standard in music reference works follow the body

of each volume. Here the reader will find a guide to pronunciation, a glossary, discography, filmography, an index to the volume and several pages of notes on the audio examples. In fact, the tools are so extensive in volume 9, which also includes a list of archives and institutional resources, that the editors listed them as part four in the table of contents.

Three features of the four volumes gave this reviewer pause for thought. One feature is layout of the text. Another is the technology of the accompanying CD-ROMs and the final feature is incomplete biographical data of the contributors. Every other page in the bodies of most of the volumes begins with a banner that occupies a fourth to a third of the page. Most of the information placed there is an excerpt from the very same page as the banner or an occasional definition from the glossary. Many of the banners are practically blank. Yes, this practice can be great for browsing, but when continued for six to eight volumes, it will create a superfluous volume the average size of one of the first four. These banners make things difficult for libraries pressed for shelf space. The musical excerpts on the CD-ROMs from the first four volumes represent a great array. Most of the tracks are field recordings. Some of them, no doubt, are rare and were probably difficult to obtain. However, it would be so much more enlightening if the CD's used video clips in tandem with the sound tracks. This way the viewer/listener/reader could not only see the social setting in which the music is made, but view the physical motions necessary to achieve the sound as well. This technology may not have been available in 1988 when the idea for this encyclopedia was conceived, but it is now. Maybe future volumes will catch up.

Although the scope of this ten-volume set is ambitious, what will make this set especially unique, if the next six volumes follow the pattern of the first four, is the international distribution of the contributors. In volumes 2, 4 and 9 there are 241 contributors. Ninety-seven represent institutions in Australia and the Pacific Islands, 95 represent the continental US, 23 Europe, 12 South America, Mexico, Central America and the Caribbean, 5 Japan, 4 the Philippines, 4 Canada and 1 Russia. Unfortunately, volume one was published without a list of contributors. Even though volumes 2, 4 and 9 were published without this flaw, the lists in these volumes should include more detailed data, especially academic degrees and qualifications. Such a change in future volumes will make this set appeal more strongly to scholars and academic libraries.

Based on evidence from the four volumes in print, the *Garland Encyclopedia of World Music* will fill a void in any reference collec-

continued on page 40

TestDriving CD-ROMs from page 36

appear under highlighting which draws attention to it but may make it a little difficult to read

The search feature in **Adobe Acrobat** works fine for individual words, but some of the options in the dialog window don't work as one would expect. For example, using "word stemming" to search for "electri" retrieves only instances of hyphenation (electri). It does not locate "electricity," "electrified," "electrical," etc. The "sounds like" option retrieves "priced," "proceed," "purgative," and

"practical" when looking for "persuade." The "proximity" option is apparently inactive and leads to bewilderment. Entering more than one term in the search window produces no results; and there is no explanation of how to use this option.

On the other hand, the "match case" option lets readers restrict queries to terms that match a particular typography. As nouns are capitalized almost indiscriminately, even within sentences, this feature may not be as useful as it appears. The "thesaurus" option is probably the most useful feature. Not only will it allow researchers to truncate words for

plural forms of nouns or verb endings, but it will also retrieve synonyms. For example, a search for "accumulate" not only retrieves "accumulated" and "accumulation" but also "gather," and "collected."

Experiments and Observations on Electricity offers a high quality reproduction of the first edition book on which it is based. It is highly readable and easily searched or printed. In some ways, the electronic version is more serviceable than the printed version. At the price of a modern hardcover book, the average reader can now own a facsimile of this first edition. Highly recommended.