

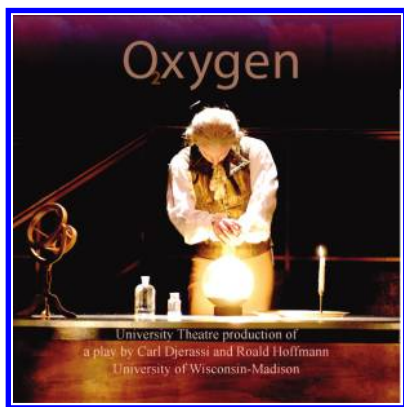
Review of *Oxygen: University Theater Production of the Play*

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Oxygen: University Theatre Production of the Play by Carl Djerassi and Roald Hoffmann, Directed by Norma Saldivar, Produced by Wisconsin Initiative for Science Literacy and University of Wisconsin System, 2003. DVD includes personal interviews with the authors and director. Available from Educational Innovations, Inc., <http://www.teachersource.com/Chemistry/Shakhashiri/Oxygenwithteacherguide.aspx>, \$29.95.

Plays are meant to be seen on stage. Reading a script rarely conveys the full power of the work. When I first read *Oxygen*, by Carl Djerassi and Roald Hoffmann in the version published by Wiley-VCH,¹ I wrote that I thought the play did a good job of raising the question of what constitutes a discovery and issues of ethics in science, but I was skeptical that the play would succeed on stage for an audience of nonscientists.² I have now seen the play twice, once in a “chamber theater” production at SERMACS in Greenville, NC in 2007, and now in this video of a University Theater production of the play at the University of Wisconsin—Madison in 2003. I am delighted to say that it provides a good theatrical experience. Because I am a chemist, I do not know how well it will play to a nontechnical audience, but my guess is that it can be as successful as other recent plays with scientific themes.



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Oxygen moves in time between 2001, when the Chemistry Nobel Prize Committee of the Royal Swedish Academy of Sciences convenes to consider awarding a retroactive Nobel Prize to celebrate the 100th anniversary of the award, and 1777 when a hypothetical meeting takes place in Stockholm of Carl Wilhelm Scheele, Joseph Priestley, and Antoine Laurent Lavoisier. The overriding question in both eras is who actually discovered oxygen. Scheele isolated oxygen first, but his book announcing the results did not appear until much later. Priestley, who is

usually credited with the discovery, was second and published promptly. Lavoisier learned from Priestley how to produce the gas, but recognized it as an element and, in the process, began the overthrow of the phlogiston theory. In both situations, issues of ambition and ethics are raised.

Director Norma Saldivar has made two kinds of changes from the published play. The original script called for six actors with five of the six playing two roles, switching between 2001 and 1777 as the scene changes. To improve the flow of the play, this production uses 11 actors, each playing a single role. This expansion of the cast does add some dramatic possibilities and allows for more efficient scene changes. The order of several of the scenes has been altered and some short scenes combined. The director felt this would strengthen the play and the playwrights, who were involved with this production, agreed. Both these changes work well.

Dramatically, I feel that the 1777 scenes are stronger because they illustrate the character of the three historic figures and the tensions between them quite well. Scheele was a working man, an apothecary who also loved chemistry. Priestley, a Unitarian minister and a political radical, is stubborn in his defense of phlogiston, while Lavoisier, the well-educated aristocrat, defends the new chemistry, but rather pompously. Perhaps the most interesting character, however, is Madame Lavoisier, a talented 19-year-old woman in a time when women's roles were highly constricted. As Roald Hoffmann explains in his interview, he is in love with Mme. Lavoisier and this affection comes through in the play.

Along with the play, the DVD contains three “special features”: interviews with each of the two playwrights and with the director. The accompanying study guide includes these related materials: a synopsis and descriptions of the characters; background on the chemistry of oxygen and an essay by Carl Djerassi on “Science as Theater”; an essay by Roald Hoffmann on “Phlogiston”; and a section on ethics and the culture of scientific research. The phlogiston essay is perhaps the best concise description of that once fruitful but now discarded theory that I have ever seen.

This DVD allows instructors to use the play in a variety of contexts. I can imagine showing it in courses in the history and philosophy of science as well as in a course in ethics. It would also provide a nice program for a chemistry club or an ACS local section meeting. The major problem is that the play itself runs for 96 min so it does not fit into a conventional class period. The two acts can be viewed separately, but that is hardly the best way to see a play. The three Special Features have a total running time of 34 min. They provide a good perspective on the play and are well worth the time. We should be grateful to the Wisconsin Initiative for Science Literacy and the University Theater for

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making this resource available. The chemistry community should take advantage of it.

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