

MAKING OF *THE COLOR OF OIL*: A CONTEMPORARY PATTERN FOR  
UNLEASHING THE POTENTIAL OF SCIENCE AND TECHNOLOGY  
JOURNALISM

A Thesis

by

RONALD EUGENE OLIGNEY

Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of  
MASTER OF SCIENCE

December 2005

Major Subject: Science and Technology Journalism

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Approved by:

Chair of Committee,	Douglas Perret Starr
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## ABSTRACT

Making of *The Color of Oil: A Contemporary Pattern for  
Unleashing the Potential of Science and Technology Journalism*. (December 2005)

Ronald Eugene Oligney, B.S., University of Alaska—Fairbanks

Chair of Advisory Committee: Dr. Douglas Perret Starr

Ideologies, intellectually and religiously driven, color both politics and economics. The relationship between government and the governed, human rights and the rule of law all are affected by such ideologies. However, unless humans are willing to change dramatically lifestyles honed in hundreds of years of historic developments, energy and energy abundance are arguably the most critical needs of modern society. In many ways energy has transcended ideology although there are still unrepentant ideologues advocating otherwise. It was this realization, augmented by a few events, that brought about the writing of *The Color of Oil*. The authors felt a need to combat popular errors being promulgated by the media in an area of such great importance to the entire human enterprise: Energy. A nonsensical 1999 cover story by the usually reliable *Economist* magazine provided the last straw. Someone had to set the record straight. But the dour-to-hostile climate that surrounded oil and energy at the turn of the century presented certain challenges to getting the work published. As it turned out, the unique qualifications of a science and technology journalist, the author of this thesis, played a key role in making the publication a reality, and then a phenomenon of sorts. In some ways, *The Color of Oil* suggests a meaningful new role for science and technology

journalism and journalists in a media environment driven by movie stars and media profits. The book was produced on a short timeline and with limited resources. The book's message has played a role in key political decisions in the United States and around the world; as a direct result of the book, the authors were invited and participated extensively in development of energy policy in Texas and at the national level. It has effected billions of dollars of commercial enterprise, providing as it did the blueprint for development of Cheniere Energy, Inc., a \$2 billion Houston company that today is one of North America's premier LNG receiving companies. And testimonies from readers of *The Color of Oil* suggest that the book has produced meaningful personal wealth for many of its 30,000-plus readers.

## DEDICATION

To my children, Kjersten, Brittany, Brooke, Kourtney,  
Caitlyn and Caleb, who inspire me every day,  
and to my beautiful bride Cheryl

## ACKNOWLEDGMENTS

Right off, I'd like to acknowledge the contributions to this work and my life made by Dr. Douglas Perret Starr, my committee chair and the man that taught me to "always write for money." Then there is my long-time professor, friend, colleague and co-author in writing *The Color of Oil*, Dr. Michael Economides. Somehow together these two gentlemen successfully coaxed me into the post-graduate adventure that I'm trying to wrap up now; importantly and rightfully, their main contribution was in encouraging me to write, to write well, to write often, and to write with a bit of color.

I thank Dr. Peter Valkó, a member of my committee, for his friendship and the fond memories of coffee and "fat burgers" that we have shared over the past seven years. I would also thank Peter for his valiant effort to teach me some advanced math—long after most thought I had finished learning anything useful.

I gratefully acknowledge the contributions made by Dr. Ed Walraven, who joined my committee very late in the process, but at a key moment when the Department of Journalism at Texas A&M was breaking up. Walraven's contributions were nothing short of constructive and encouraging.

As is usual, my wife Cheryl gets the final but not-taken-for-granted acknowledgment that goes with any major endeavor that I undertake. Without her tenderness, faithfulness and help, my life would lack a great part of the vitality and joy that I know.

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## CHAPTER I

### INTRODUCTION: INSPIRATION

It was the fall of 1981 and I was headed off to study petroleum engineering at the University of Alaska—Fairbanks, having just turned 17 a month earlier. My father, himself an accomplished civil engineer, had just one admonition for his only son: “Take as many English classes as you can.” Experience had taught him there were plenty of smart and knowledgeable folks in the world; the key was learning to communicate what you knew to someone else.

I took my father’s advice and filled all of my electives with English courses, mostly composition. I graduated from college and took an engineering position with Shell Oil Company in Bakersfield, California, in 1985. Although I never enjoyed writing *per se*, the activity eventually became a catharsis; my professional work always seemed more complete and lasting when things got written down. Eventually my writing skills were noticed, and even sought out. When I started my own consulting company in Houston, Texas, in 1991, my writing skills quickly became a primary, if not *the* primary, tool of my professional life.

Fast-forward to 1998. By this time I had started several businesses, including an environmental consulting and contracting firm in Australia with 50 employees and offices in five cities. My friends were moving up the ladder of various Fortune 500

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This thesis follows the style of *Journalism and Communication Monographs*.

companies and my consulting network had spread to many spots around the globe. And though never having pursued an advanced degree, I was an adjunct professor of petroleum engineering at Texas A&M University.

Against that backdrop, and with a somewhat confused set of motives—including part conviction, part convenience and a nagging sense that there might be additional opportunity in my pen (keyboard)—I decided to tackle an advanced degree in journalism, specifically a master’s degree in Science and Technology Journalism at Texas A&M University.

The reviews from my professional colleagues were generally negative: “You’re doing what?!” My common and bland retort was, “I’ve made more money with my pen than my calculator.” Truth be told, I had a strong hunch it was the combination that was powerful. Science and technology journalism embodied the asset and offered me the chance to see what I was missing.

Coincidental with enrolling in the journalism program at Texas A&M, I was having not-very-serious discussions with Michael Economides about writing a popular book on energy. The eventual book that did emerge, *The Color of Oil* (Economides & Oligney, 2000) wouldn’t actually be triggered until a dramatic set of events in 1999. This book aimed to describe the complex and sometimes Byzantine world of energy in language that any layman could understand and appreciate. My point here is that the very earliest seeds of this project were closely tied and mutually reinforced by the decision to pursue a journalism degree. I discussed (and tossed away) more than one contemplated outline of the energy book way back in 1997, despite consistent

encouragement from my professor, Dr. Douglas Perret Starr.

The decision to pursue a degree in journalism—and the eventual decision to write *The Color of Oil*—turned out to be the right hunch. The book was produced on a short timeline in 1999 with limited resources. It quickly became a bestseller among energy books with far-reaching impact in financial, political and world affairs. Today, the book is available in five languages.

My professional life, already quite successful in the late-1990s, erupted into something special during the first five years of the new millennium. I have co-authored two books including *The Color of Oil*; started a publishing company that has three books to its credit; authored or co-authored three dozen opinion pieces in papers ranging from the *Dallas Business Journal* to the *Houston Chronicle* to the *Los Angeles Times*; wrote two dozen magazine and professional articles; given more than 125 invited lectures on energy; and often provided guest expert commentary for the major TV networks and CNN, MSNBC, Bloomberg and National Public Radio.

I have consulted with Fortune 500 companies, national oil companies and the highest levels of the U.S. Government. For the first time in my experience, making money has become relatively easy. And more than ever, I am convinced that it pays to write well.

From that inspired, almost over-enthusiastic starting point, my thesis is somewhat more sober. The concept of knowledge combined with the ability to communicate is powerful and profound; the discipline of science and technology journalism, while nominally bottling up that very combination, has a less than inspired

reputation and track record. In the current milieu of journalism, it might be considered anachronistic.

Is the glass half full or half empty? Maybe it's both. I believe more than ever in the power of science and technology combined with hard-hitting journalism—no matter the future of Science Writing or Science and Technology Journalism as a formal discipline.

My thesis will explore in detail the successful making of *The Color of Oil*, as an example, a potential avenue, ostensibly a repeatable pattern for unleashing the real power of science and technology journalism. Even if the critique and expostulation of one's own work is just slightly awkward and undoubtedly will invoke far too much use of personal pronouns, the student-author ("I") hopes this is well balanced by the nuance and insight that it affords.

The first portion of the thesis is organized in a fairly traditional academic research format, starting with two chapters of introductory and contextual material. Chapter III provides my hypothesis, that "*The Color of Oil* and its success portend a fresh role for Science and Technology Journalists." Chapters IV and V provide the evidence.

The second half of the thesis, chapters VI to IX, comprise the "why" and "how-to" aspects of writing *The Color of Oil*. Though this information is less traditional in an academic research work, it provides interesting insight that deserves some space.

In the back of my mind is the possibly naïve and for sure idealistic idea that someone other than my advisors may one day read this thesis and get inspired.

CHAPTER II  
PLACING SCIENCE AND TECHNOLOGY JOURNALISM IN THE BROAD  
HISTORICAL-PHILOSOPHICAL CONTEXT

Implicit to my thesis is the corollary that science and technology journalism is suffering as a distinct discipline—or else there would be no need for “unleashing” its potential. Any view critical of journalism must almost necessarily be informed on Enlightenment thinking and its ideals of freedom of thought and truth, as this was the fundamental base for journalism, from which the branches of modern and specialized forms of journalism have grown. In fact, a close look at science and technology journalism in the broad historical-philosophical context shows that this specialized form of journalism has much more in common with journalism of the Enlightenment period than *modern* journalism. This context is important to my thesis and hopefully provides the right base for the rest of the discussion.

**Enlightenment**

The Enlightenment was a rebellion against the hierarchy and mysticism of the Middle Ages. The Middle Ages was ruled by princes and popes. This meant that truth was often a matter of royal and divine fiat. Conformity was expected and individualism discouraged.

In the 16<sup>th</sup> century, however, this began to change with the birth of modern science. Copernicus, then Kepler and Galileo, posited a view of the world that directly contradicted the prevailing view—and *they backed it up scientifically and empirically,*

rather than scripturally or traditionally. In the 17<sup>th</sup> century, Isaac Newton invented calculus, discovered properties of color and light, and developed a theory of gravity. These enabled him to explain the world around him according to constant natural laws. With a single stroke, he abolished old superstitious and speculative explanations for events and substituted empirical explanations.

John Locke latched on to the new scientific way of ascertaining truth and used it in the fields of philosophy and political science (Gilmour, 1989). In his *Essay Concerning Human Understanding* and *Two Treatises on Civil Government*, he rejected all forms of dogmatic metaphysics, secular or theological, because such knowledge was unattainable by observation.

Locke's treatises marked the beginning of a new era in Western European history—an era labeled the Enlightenment or the Age of Reason. The many philosophers who followed Locke saw the Middle Ages as a time of ignorance and oppression, and the new age of science as a time of freedom and human progress and truth (Gilmour, 1989).

### **Enlightenment View of Journalism**

Integral to the Enlightenment quest for truth was freedom of thought, speech and press. The only way mankind could continue to progress and discover truth was if men were allowed to think unorthodox thoughts and share them. It was believed that if many ideas were thrown out together into the common marketplace, the good ones would rise to the top while the faulty ones would be rejected. Supporting this view were John Milton, William Blackstone (to a limited extent), John Locke, Voltaire, David Hume

and John Stuart Mill.

John Milton (1650), whose works would have a profound influence on the eventual Founding Fathers of America, argued persuasively for freedom of speech and press, saying that one can only know truth by reading both truth and error and learning to discern between them.<sup>1</sup>

William Blackstone, though his hugely influential *Commentary on the English Laws* was often criticized as being contrary to the spirit of the Enlightenment, also argued against “previous restraints upon publications” (Blackstone, 1765/1979).

John Locke was the spark that kindled the Enlightenment. Because he thought that each individual person possessed so little understanding, he urged men to listen to opposing opinions rather than restraining the views (Locke, 1698/1879).<sup>2</sup>

Voltaire, the wittiest of the French Enlightenment *philosophes*, stated that even when he completely disagreed with what another *philosophe* had to say, he would defend to the death his right to say it (Levy, 1879/1960).

David Hume, the flamboyant Scottish philosopher, also spoke of the critical importance of freedom of the press to other freedoms (Hume, 1752/1987).

John Stuart Mill, the brilliant English utilitarian philosopher, wrote quite extensively on freedom of speech and the press. Some of his more astute observations bear repeating here (1869/1978):

But the peculiar injury of silencing the expression of an opinion is that it is robbing the human race ... If the opinion is right, they are deprived of the opportunity of exchanging error for truth; if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth produced by its collision with error ... The beliefs which we have most warrant for have no safeguard to rest on but a standing invitation to

the whole world to prove them unfounded ... But, indeed, the dictum that truth always triumphs over persecution is one of those pleasant falsehoods which men repeat after one another till they pass into commonplaces, but which all experience refutes. History teems with instances of truth put down by persecution. If not suppressed forever, it may be thrown back for centuries. "Where there is a tacit convention that principles are not to be disputed, where the discussion of the greatest questions which can occupy humanity is considered to be closed, we cannot hope to find that generally high scale of mental activity which has made some periods of history so remarkable ... However unwilling a person who has a strong opinion may admit the possibility that his opinion may be false, he ought to be moved by the consideration that, however true it may be, if it is not fully, frequently, and fearlessly discussed, it will be held as a dead dogma, not a living truth ... Popular opinions, on subjects not palpable to sense, are often true, but seldom or never the whole truth.

### **Founding Fathers Adopt Enlightenment View of Journalism**

The United States came into being during the heyday of the Enlightenment and was in many ways considered the great Enlightenment experiment. It should be no surprise then that the Founding Fathers were well-versed in Enlightenment thinking in general and in the ideals of freedom of speech and press in particular.

The Continental Congress lauded freedom of the press for advancing truth and morality in an October 24, 1774, article titled "To the Inhabitants of the Province of Quebec" in the *Journals of the Continental Congress*:

The last right we shall mention regards the freedom of the press. The importance of this consists, besides the advancement of truth, science, morality and arts in general, in its diffusion of liberal sentiments on the administration of government, its ready communication of thoughts between subjects, and its consequential promotion of union among them, whereby oppressive officials are shamed or intimidated into more honorable and just modes of conducting affairs.

George Clinton, an American statesman, soldier and vice president of the United States, wrote several letters under the pseudonym of Cato. These letters constituted the

most popular source of political ideas in the colonial period (Rossiter, 1953). He wrote that “without Freedom of Thought, there can be no such Thing as Wisdom; and no such Thing as publick Liberty, without Freedom of Speech” (Trenchard & Gordon, 1775).

John Adams claimed that freedom of the press was integral to all other freedoms and was to be cherished (Forstel, 1999).

Thomas Jefferson believed that truth would always triumph over error as long as there was freedom of speech. He saw freedom of the press as the one of the “bright constellations” leading the American Revolution (Jefferson, 1801).

Tunis Wortman, a New York lawyer, wrote a book entitled *A Treatise Concerning Political Enquiry, and the Liberty of the Press* in 1800. In it, he stated that the mind learns by following unexpected paths and that it would thus be unwise to put bounds on what a person could and could not think. He believed that, in order for knowledge to increase, minds must be allowed free rein to question and dismiss error. He argued that error would never stand for long in the presence of truth (Levy, 1879/1960).

James Madison, Jefferson’s protégé, stated that since the electoral process was the heart of a free government, a wide latitude for political criticism was essential to keep the electorate free, informed and capable of making intelligent choices. The relationship of the press to the elective principle required that the press, “checkered as it is with abuses,” be exempt from punishment (Levy, 1879/1960).

Thomas Paine’s 1776 pamphlet entitled *Common Sense* was an extremely important factor in popularizing the Enlightenment ideals among the common people.

Paine advocated the right to free speech, a free press, freedom of assembly and petition and freedom of religion (Foerstel, 1999).

The widely-read *Federalist Papers*, penned by John Jay and Alexander Hamilton in 1787-1788, also expressed confidence in the emergence of truth through competing views in the press.

Finally, in 1800, Massachusetts Representative Fisher Ames cautioned against allowing newspapers to slip from their high moral ground to merely a recitation of trivial facts: “Are oddities only to be hunted? Pray tell us, men of ink, if our free presses are to diffuse information, and the ignorant people can get it no other way than by newspapers, what knowledge are we to glean from the blundering lies, or tiresome truths, of bullies that fight til one or the other gets his eyes closed” (Harrison, 2000, p. 57).

### **Modernist Distortion of Journalism**

It was not long, however, before the Enlightenment understanding of the purpose of journalism morphed into something entirely different. Several factors contributed to this change: the telegraph, radio, movies and television, advertising and propaganda.

In the 1830s, “penny papers” like Benjamin Day's *New York Sun*, James G. Bennett's *New York Herald* and William Swain's *Philadelphia Public Ledger* challenged the more thoughtful editorial and political newspapers. These papers aimed to appeal to the masses, and they did so by printing more local and sensational news, inventing the human-interest story and increasing advertising. This gave them a wider circulation and more revenue and set them on the road to win out over the traditional newspaper, which they did, thanks to the telegraph (Mott, 1941; Emery, 1972; Lee, 1947; Czitrom, 1982).

The invention of the telegraph in 1844 aided this change to sensationalism and immediacy; its first heavy investors were penny press owners (Emery, 1972; Mott, 1941; Hawley, 1899; Czitrom, 1982). The Mexican War (1846-1848) caused a widespread demand for sensationalist news that the telegraph and penny presses were able to supply. It also created a need for newspapers to cooperate in gathering their news, and the Associated Press was formed in New York in 1848. In a few short years, the telegraph had effectively changed journalism into being primarily a report of news.

When the telegraph was first introduced, it was embraced wholeheartedly as an evidence of the progress that science would bring to civilization (Czitrom, 1982). Scientist Joseph Henry eulogized: "The distinctive feature of the history of the Nineteenth Century is the application of abstract science to the useful arts, and the subjection of the innate powers of the material world to the control of the intellect as the obedient slave of civilized man" (McClenachan, 1859, p. 227). Henry Thoreau was one of the few prophetic skeptics: "We are eager to tunnel under the Atlantic and bring the old world some weeks nearer to the new; but perchance the first news that will leak through into the broad, flapping American ear will be that Princess Adelaide has the whooping cough" (Thoreau, 1910/1957, p. 36).

As the 19<sup>th</sup> century wore on, however, he was joined by quite a crowd of doubters who saw that newspaper had turned from intellectual discussion to trivial accumulation of irrelevant events. It is worth hearing the complaints in the original wording because it is surprising to hear the shift in the purpose of the newspaper articulated so clearly by contemporaries.

Conde Pallen, in the November 1866 edition of *Lippincott's Monthly* lamented the triviality of the newspaper: "Its flippancy and triviality are weakening to the mind that feeds upon it, impairing its power of sustained thought and application. They lower his taste."

An article titled "The Intellectual Effects of Electricity" in the November 1889 edition of *The Spectator* complained:

All men are compelled to think of all things, at the same time, on imperfect information, and with too little interval for reflection. ... The constant diffusion of statements in snippets, the constant excitements of feeling unjustified by fact, the constant formation of hasty or erroneous opinions, must in the end, one would think, deteriorate the intelligence of all to whom the telegraph appeals.

In the November 1891 edition of *Atlantic Monthly*, W. J. Stillman wrote:

America has in fact transformed journalism from what it once was, the periodical expression of the thought of the time, the opportune record of the questions and answers of contemporary life, into an agency for collecting, condensing, and assimilating the trivialities of the entire human existence. In this chase for the days' accidents we still keep the lead, as in the consequent neglect and oversight of what is permanent and therefore vital in its importance to the intellectual character.

In the 1890s, Charles Horton Cooley, John Dewey, and Robert Park wrote the first in-depth evaluations of the journalism of the time (Czitrom, 1982; Cooley, 1909). They were all hopeful about the potential of journalism, but none of them was satisfied with its current state. Dewey hoped to develop a newspaper that published scientific and philosophic findings, rather than trivial sensationalism, but this would not happen for several more decades. Park wanted the newspaper to be a vehicle of the public, based on thinking and reason, rather than a vehicle of the crowd, based on feeling and instinct, but he eventually gave up his hope of reforming journalism (Czitrom, 1982).

During World War I (1914-1918), propaganda became widespread and was honed to an art, an art that did not disappear when the war ended. Studies conducted by the War Department tested the effects of army orientation films using careful laboratory procedures (Czitrom, 1982).

By the 1920s, advertising had become a booming business, with professional market surveying organizations informing companies on how to advertise, and, by the 1930s, helping to poll political preference (Czitrom, 1982).

Movies added to the thirst for the media to provide entertainment rather than education. Radio added to the consumerism. In fact, radio broadcasting was designed by electrical equipment manufacturers as a way to sell private receivers. And it worked—the radio industry boomed. By the end of 1922, the Commerce Department had issued 570 broadcasting licenses, and tens-of-thousands of people were buying receiving sets and accessories (Czitrom, 1982).

The explosion of new media sources not only promoted triviality, but also became primarily a business concern. Rather than the Enlightenment model of journalism as a conduit of political and scientific information for an informed society, media became a symbiotic relationship in which producers made as much profit as possible by selling entertainment to the masses. Though American media have always been privately owned, formerly it was ideology-driven, rather than profit-driven (Grossman, 1995). Now news and information are commodities up for sale (Lyotard, 1979; Wolf, 1999), and a top criteria is that reporting must turn a profit (Grossman, 1995). Most media corporations have done an excellent job of making a profit, which

explains the rash of corporate takeovers in recent years (Schultz, 2000; Parenti, 1995).

It is not surprising then, given the clear preference of consumers, the media aim almost solely to entertain (Bennett, 1998). Mainstream news now covers what used to only appear in tabloids; traditional news stories dropped from 85 percent to 59 percent of all stories in the last 20 years; and sound bites of news dropped from 43 seconds to eight seconds in length (Schultz, 2000).

The little news and information that does get passed on through the media tends to be very one-sided. Because most of the news is controlled by a small number of corporations, not much variety of opinion is presented—a situation exactly opposite of what the Founding Fathers had envisioned (Schultz, 2000). As Justice Hugo Black noted, “The First Amendment rests on the assumption that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public” (Alger, 1998, p. 20). Now, however, a very few people are able to silence opposing views (Schultz, 2000; Schiller, 1996).

### **Enter Science and Technology Journalism**

A former head of CBS News, Richard Salant (1999), stated that to “give priority to information which the people of a democracy need to know, on the one hand, or to what will interest and titillate them, on the other, is a fundamental and underlying one—both for print and for broadcast” (p. 248).

Even when reporting facts, journalists have much leeway in what facts to select and in what tone to report them, which they can manipulate to achieve certain goals (Dunwoody, 1999; Zehr, 1999). Oftentimes, science writers look for novelty, something

that will capture the interest of their audience. One way to do this is to link research projects to a “hot topic” issue (Zehr, 1999). Another way is to simply omit caveats or any information that would temper the claim being made in the original scholarly work (Dunwoody, 1999; Stocking, 1999). A third way, practiced by many science writers, is to cite only one source and not cross reference with other scientists (Stocking, 1999).

In addition to pleasing readers, science writers have to modify their reporting to please advertisers and owners (Stocking, 1999; Hayes & Reisner, 1991; Balbach & Glanz, 1995; Weiss & Singer, 1988).

Table 1 tries to capture the main elements and progression of this of this historical-philosophical framework of journalism. It suggests a set of connections between freedom of thought and press and of truth, an ideal that has been usurped in the contemporary setting by various entertainment and profit motives. (Generally, the table evolves chronologically from top to bottom and left to right.)

The relatively new formalization of science and technology reporting as a distinct journalistic trade came with great promise to equip the modern citizenry with information and insight that would promote public wellness in the 21<sup>st</sup> century.

This background provides three overriding points that squarely set the base for the thesis at hand:

(1) Science and technology journalists are an apparent anachronism in that their speech echoes much more the ideals of America’s Founding Fathers than modern media magnates such as Rupert Murdoch or Ted Turner. The comments made by science writer Dr. Sharon Dunwoody in 1999 could just as easily have been made a century earlier by

W. J. Stillman in his attack on modern journalism.

(2) Clearly I *am* a science and technology journalist, in spirit and practice, inasmuch as the motivation and content and speech of *The Color of Oil* is consistent and parallel with the anachronistic pattern described above.

**TABLE 1**  
**SCI-TECH JOURNALISM IN THE HISTORICAL-PHILOSOPHICAL CONTEXT**

<b>Context</b>	<b>Old System</b>	<b>Modern Advent</b>	<b>Anticipated Manifestation</b>	<b>Societal Implications</b>
Historical / Philosophical	Monarchy / Suppression	Freedom of Thought (Liberty)	Truth	Human progress
Enlightenment Journalism	Restricted Press / Propaganda	Freedom of Press	Truth	Public empowerment (democracy)
Modern Journalism	Enlightenment Journalism	Entertainment	Enjoyment & Media profits	Competing agendas (demagogues)
Specialized Journalism	Non-existent	Science and Technology Journalism	Informed basis for actions of an empowered public 	Public well-being: <ul style="list-style-type: none"> <li>• Economic progress</li> <li>• Safety and environment</li> <li>• Origin of universe/self</li> <li>• Skepticism and true democracy</li> </ul>

(3) The question remains if and how the science and technology journalist, admittedly anachronistic as we are, can make an impact that matches our ideals in an

era of media moguls and movie stars with well-intentioned but now defunct (as a journalistic principle) enlightenment ideals. Ultimately, at this juncture of the journalistic profession and the needs of modern society, an academic discussion is not enough. If sci-tech journalism can better society, as many practitioners have claimed, it is reasonable to ask to see the evidence.

*The Color of Oil* was my answer to the question and my evidence. Hopefully by the dramatic conclusion of my thesis in Chapter X, the reader is persuaded.

### CHAPTER III

#### *THE COLOR OF OIL* AND ITS SUCCESS PORTEND A FRESH ROLE FOR SCIENCE AND TECHNOLOGY JOURNALISTS

##### **Science and Technology Journalism in the Mid-1990s**

One of the first books that I read in the field of science reporting was *A Field Guide for Science Writers* (Blum & Knudson, 1997), the official guide of the National Association of Science Writers. This edited volume was written by 30 or so of America's best-known science writers in 1997, just one year before I picked it up. I came to appreciate many of these names and the intimate nature of the discipline as many of this relative handful of names showed up many times during my coursework.

The book gave me an immediate sense for how the profession perceived itself at that time, as emerging and important. Clearly the authors felt very good about themselves. The editors referred to the "evolving relationship between scientists and journalists." Boyce Rensberger described science writers as "gatekeepers" (p. 7), fighting against the odds (of technical complexity, an unlearned public, changing sources and deadlines) to explain the latest advances in science and technology, and reported that "amazingly, most of us do a fairly decent job of it" (p. 8). David Perlman said it plainly, "I have never met one who didn't feel that we chose the best and most rewarding of all journalistic tracks" (p. 4).

This same emotion and optimism was evident around the science and technology program at Texas A&M in 1998. The program was young and brash, with its first students in 1996, and we were all confident that the public and popular media would

soon recognize a need for this specialized form of journalism to address the increasingly complex and technological world.

Wouldn't they?

### **Ten Years Later**

What a difference a few years makes. The Department of Journalism at Texas A&M University was shut down in 2004 with little fanfare, and with it went much of the promise of the science and technology journalism degree that I was pursuing. Professors were reassigned, and the Science and Technology Journalism (STJR) program moved to the College of Veterinary Medicine and Biomedical Sciences. Stragglers like me were generously allowed to finish under a grandfathered arrangement. In fact, I will apparently enjoy the dubious distinction of receiving the last journalism degree from Texas A&M University.

Today, with the help of 20/20 hindsight, the landscape seems pretty clear. Formally organized science journalism has been around since the 1960s as a niche made up of converts from “regular” journalism and the scientific community, and despite a spurt of enthusiasm—I may be confusing *my* enthusiasm with that of the profession, it's hard to tell—not much has changed:

(1) Scientists and engineers are rarely trained to write well and, especially, to write for the populace-at-large. Those who write, do so for their peers and only in a language and context that is difficult to understand even by most other scientists not exactly in the same discipline. The occasional scientist who ventures outside with success often becomes trivialized or resorts to science fiction, Isaac Asimov being the

most obvious example.

(2) Complex issues are too cumbersome and are loaded with too much background baggage to be picked up and dissected in a few hours (or even days or months) by a Johnny-come-lately “regular” journalist; and

(3) The public, especially the modern American public, has neither the interest nor the attention span to read much more than the headlines. Imagine this from your news editor: “Hey Johnny, give me an article on stem cell research, by tomorrow; we’re going to run your piece during a three-minute news spot between *Desperate Housewives* and *American Idol*.”

Although the unexpected collapse of the journalism program at Texas A&M University was disappointing, the net benefit of my participation in the program turned out overwhelmingly positive, evidence the flavor of the introductory material provided above. All this leaves me in a good position or at least frame of mind to reflect on matters with some objectivity and comment on the potential future of my selected discipline.

### **Tracking the Popularity of U.S. Science and Technology Journalism**

A logical and instructive step is to consider the state of science journalism beyond the boundaries of Texas A&M University. Dr. Barbara Gastel, who was the director of the STJR program in 1988 and is someone I consider an insider in the science writing community, suggested that I contact faculty member Dr. Sharon Dunwoody at the University of Wisconsin—Madison. At one time, Dunwoody oversaw a directory of science communication courses and programs.

After some time and searching perhaps through dusty old hard disks in the broom closet, Dunwoody forwarded to me a directory of 49 universities with science or technology communication courses and programs (Dunwoody, 2005). By Dunwoody's own admission (and with her apologies), the list was a bit clumsy and disorganized. It was not alphabetized, the enrollment figures were spotty and the information was clearly dated. It appears that the directory was last updated in the mid-1990s or so. My first step was to organize the data in an Excel spreadsheet, which did little to improve matters because the data were so inconsistently reported.

A quick profile of the list did produce one important observation: 20 schools (41 percent) offered a full sci-tech journalism or communication program; 29 schools (59 percent) offered only courses or an emphasis in the area.

I immediately undertook an informal e-mail poll of each of the 49 schools, asking the status of their program or course(s) and specifically requesting enrollment figures for the past 10 years. Results for the 17 universities (37 percent) that responded are provided on Table 2. Note, the responses varied widely from a 1-line "10 students/yr for the past 10 years," to "Don't offer science or technology journalism," to, in one case, the presentation of very detailed course-by-course enrollment figures for the past five years. Only one university out of 46 provided the requested enrollment figures for 10 years. Accordingly, Table 2 gives only a glimpse of the enrolment situation at the subject universities, reverting to the mid-1990s figures provided by Dunwoody when no other data are available.

**TABLE 2**  
**TRACKING U.S. SCIENCE AND TECHNOLOGY JOURNALISM**

University	Description	Enrollment Summary
<i>Schools offering full sci-tech journalism programs:</i>		
Colorado State University	BA/MS, Dept. of Journalism and Technical Communication	Dropped to around 50 students over past 5 years
Cornell University	Undergraduate Science Communication Program	15 students in mid-1990s
Johns Hopkins University	BA/MA in Writing Seminars	Peaked at 7 in 2003; dropped to 4 by 2005
Lehigh University	BA, Dept. of Journalism and Communication	15 students in 1997-1998
U. of California-Santa Cruz	Masters, certificate in Science Writing	10 students in mid-1990s
U. of North Carolina-Chapel Hill	MA, School of Journalism and Mass Communication	Unknown
Vanderbilt University	BA/BS, Office of Science and Research Communication	Peaked at 6 in 2003; declined to half by 2005
<i>Schools offering sci-tech courses and/or emphasis:</i>		
Columbia University	Course in earth and environmental science journalism	Has remained constant at 16 students for the past several years
Florida Institute of Technology	Course in scientific and technological journalism	5 students in mid-1990s
Marquette University	Multiple courses in science journalism	Peaked at 21 in 2001; declined to 10 by 2003
Texas A&M University	MS, Science and Technology Journalism	Moved to College of Vet. Med. & Biomedical Sciences in 2004
University of California-Berkeley	Courses in science and environmental writing	8 students in 1992-1993
U. of Tennessee-Knoxville	8 courses in science journalism	Peaked at 13 in 2001; declined to 10 in 2005
U. of Wisconsin-Madison	Specialization in natural science	Peaked at 11 in 2001; declined to 5 in 2004
<i>Schools that have dropped sci-tech journalism emphasis:</i>		
Humboldt State University	BA, Dept. of Journalism and Mass Communication	Casualty of budget cuts in 2002
New Jersey Institute of Technol.	MS, Technical and Professional Communication	No longer offered
U. of Minnesota-Twin Cities	BS/MA/PhD, Dept. of Rhetoric	No longer offered, formerly over 100 students enrolled

A list of universities that did not respond is provided in Appendix B. Presumably those programs and universities that did not respond are no longer in existence, are poorly staffed, did not consider themselves relevant to the query, or were just not interested.

My overarching sense from this poll is that of flat or waning enthusiasm for science reporting in 2005. Everything from the low response rate to the various qualitative comments that were made to the (few) quantitative responses points toward a discipline that has lost the vigor and enthusiasm that I experienced in 1998. Even the timing of the last update of Dunwoody's directory in the mid-1990s seems consistent with this view.

Schools like Marquette, Johns Hopkins, the University of Wisconsin, the University of Tennessee, and Vanderbilt all experienced peak enrolments in the 2001-2003 timeframe and have seen their numbers drop since then. Don Zimmerman, who works in science communications at Colorado State University, noted a drop in enrollment "to around 50" over the past five years; Dunwoody's list suggests that combined undergraduate and graduate enrolments at Colorado State were up around 90 in the mid-1990s, a large program. Four of the 17 schools (24 percent) that responded to the poll have dropped their sci-tech programs or emphasis. (The ratio among schools that did not respond would logically be higher.)

It seems only the larger, more prestigious schools—such as Cornell, Columbia, University California-Berkeley, and University California-Santa Cruz—have been able to maintain stable enrollment for the past several years.

It does not appear that the surge for fresh recruits to the ranks of science and technology journalism ever really materialized. Only five of the top 100 U.S. newspapers had a science editor in 2001 (Newspaper Directory, 2000; Reese, 2002). Note, there are another dozen or so small U.S. newspapers that have science editors. This is not intended to suggest that newspapers are the *only* or even the *dominant* source of jobs for science writers, but just that science and technology journalism has not reached main stream prominence as represented by the daily news.

### **A New Prescription for the Sci-Tech Journalist**

The rather glum outlook for science and technology journalism at Texas A&M University and elsewhere is really a glass half full. All of the technological complexity and demands of modern society are a huge and unstoppable secular trend. Whether it is frequent or rare, whether it happens formally or informally, likely there will always be a demand for knowledgeable scientists or technologists that see and are able to articulate the myriad of important connections faced by humankind in this century. With or without the validation of academia or the popular press, these unique individuals have the chance to do something meaningful and rewarding.

This is the context in which *The Color of Oil* was born. It was written by a couple of technologists and journalists. (My journalism is now a matter of formal record, while that of my colleague, Michael Economides, is born from a life of writing that started identifiably with a daily column he wrote for the *Stanford Daily* in his college days. Interestingly, Michael was the only columnist at Stanford who came from a hard science program.)

This “colorful” story, articulated with sufficient detail and emphasis of particular points, can serve as a pattern, a model, an analog ... and hopefully an inspiration for capable scientist-journalists to follow.

## CHAPTER IV

### A LIMITED CONTENT ANALYSIS SUGGESTS THAT THE POPULAR (MODERNIST) MEDIA CAN BE SWAYED

#### **Introduction**

A key element for a book to be influential is the perception by others that it is written by experts “who know what they are talking about.” There is just so much that can be done with just good writing or reporting. Take a glance at any “analysis” of a complex issue in the major newsmagazines, major newspapers, and online analyses; the common connecting theme is to promote and/or prove already perceived biases.

Reporting on the energy business is often framed by news media according to a judgmental bias, represented by many clichés:

- Big bad capitalist, imperialist companies.
- Promoting gluttony of depletable resources.
- Polluters, even world destroyers, with global warming.
- In bed with corrupt regimes and corrupt politicians.
- Right-wing republican politics in the United States.
- Growing the gap between haves and have-nots.

It became a bit disconcerting to others in the press when, though not necessarily refuting any of the above, we showed another side of things:

- The important role that energy plays in the world and society;

- How hard it is to replace oil and gas with other sources of energy, certainly not overnight, not even in decades;
- Although oil and gas are obviously depletable, we will not run out of them for a long time; and
- Some of the gross fallacies of environmental sloganeering and their ideological baggage.

I was invited to appear live in the studio on the Sunday morning news program “MSNBC Morning Blend” with Soledad O’Brien on September 10, 2000. As it happens and *we anticipated* in this case, even with just one show scheduled when I left Houston, I ended up spending several days in New York and enjoyed a spate of coverage over the subsequent five days, as summarized in Table 3. In fact, this ended up being, without question, our best, most concentrated and successful marketing blitz in New York.

Accordingly, we selected this set of dates around which to test our effectiveness in promoting and promulgating a contrary view of the industry and topical events.

We had by this time come across several instances of imitation and copy-cattling of our ideas and vocabulary by major news organizations, usually without attribution. This was flattering but did not give us any sense for the reach of our ideas or their impact.

The simple content analysis, described in this chapter, gave us our first unedited glimpse into how well we were getting our ideas heard amidst the huge background news and noise that surrounds oil and gas. Evidence for the *impact* of our message is discussed in Chapter V.

**TABLE 3**  
**MEDIA COVERAGE FOR SEPTEMBER 10-14, 2000**

Media	Date	Coverage	Comment
CNBC / NBC	Sept. 14, 2000	National cable and broadcast news	Taped interview with NBC bureau chief in Washington, D.C.
Bloomberg Radio	Sept. 13, 2000	National radio network	Taped interview aired nationally
Bloomberg TV	Sept. 13, 2000	Nationwide business and financial news	Live interview by New York anchor from National Press Bldg in Washington, D.C.
Bloomberg News Service	Sept. 13, 2000	Nationwide print and live video feed wire service	Live interview at National Press Bldg in Washington, D.C.
Bloomberg Radio	Sept. 12, 2000	National radio network	Taped comment responding to Clinton's statement aired nationally
CNNfn "In the Money"	Sept. 11, 2000	Nationwide business and financial news	Live interview at CNNfn desk in New York (full screen shot of book)
USA Radio Network	Sept. 11, 2000	1400 stations nationwide	Taped interview aired nationally
USA Radio Network	Sept. 10, 2000	1400 stations nationwide	Taped interview aired nationally
"MSNBC Morning Blend"	Sept. 10, 2000	Nationwide news talk show on Saturday and Sunday mornings	Live interview from MSNBC studio in New York (NJ); spot replayed by local NBC affiliates, incl. Washington, D.C., New York and others

## Method

To understand the degree to which the media were responding to our message—as represented by the specific talking points employed during the September 2000 broadcast media blitz—I employed the powerful capabilities of the LexisNexis database. A search for articles in major U.S. and European newspapers that contained a unique set of terms would hopefully provide a positive indication that the reporting was influenced by our ideas.

A few key observations: first, our message was *delivered* over the television and radio, and the search would be constrained to *print* media, implying already a two-step news flow and, importantly, ensuring that we were not counting our own words. Second, by tracking citations in the U.S. and European markets separately, we would be able to investigate possible lag times or differences geographically. Finally, the analysis was intended from the start as a simple counting of citations (“hits”) with no representation of the quality of the article or whether it even agreed or disagreed with our position.

Five specific talking points were developed ahead of my Sept. 10, 2000, appearance on “MSNBC Morning Blend,” and these points were used continuously and strenuously over the five days I spent in New York. In order of priority (i.e. given an abbreviated speaking window, I would stress point No. 1 over point No. 3), the five points were as follows:

1. OPEC excess capacity has diminished dramatically, far more than most analysts and politicians realize.
2. A lack of investment is a primary cause of the rising oil price, and this will take time to change.
3. The United States is undergoing a shift to natural gas as the fuel of choice.
4. *The Color of Oil* gives a prescription for our energy problems.
5. Potential consumer issues to raise: worry more about shortages than price, petroleum is used extensively in consumer goods, connection jobs and energy.

For the purpose of the content analysis, only the first four points were considered, for two reasons. Point No. 5 was not really a specific *point* but rather a

catchall reminder to me of potential “consumer” issues, which an interviewer might bring up. As such it was at the bottom of the list of things to discuss, and to the best of my recollection these issues were *not* discussed.

So, repeating the above list, excepting point No. 5, and boldfacing key words that were used in operationalizing the points for the LexisNexis search, the list evolves to the following:

1. **OPEC excess capacity** has diminished dramatically, far more than most analysts and politicians realize.
2. A **lack of investment** is a primary cause of the rising **oil price**, and this will take time to change.
3. The United States is undergoing a shift to **natural gas** as the **fuel of choice**.
4. *The Color of Oil* gives a prescription for our **energy** problems.

When translated to the search string parlance of LexisNexis, quote marks indicating the search for a string of words, this list becomes the following:

1. opec AND excess AND capacity
2. lack AND investment AND oil price
3. natural gas AND “fuel of choice”
4. “color of oil” AND energy

The search was conducted in two stages, starting with major U.S. newspapers. Specifically, I entered under the Guided News Search menu tab of LexisNexis Academic and selected “U.S. News” as the news category. All four regions were selected as news sources: “Midwest Regional Sources,” “Northeast Regional Sources,” “Southeast

Regional Sources,” and “Western Regional Sources.” The four regional news searches covered 50, 56, 69 and 102 news sources, respectively, for a cumulative databank of 277 news sources.

The search of U.S. newspapers was conducted for January 1, 1998, through December 31, 2002. The results were tallied by month into an Excel spreadsheet for initial plotting and analysis.

The second stage of the search was similar and covered European news sources. Again, using the Guided News Search function of LexisNexis Academic, “World News” was selected as the news category and “European News Sources” as the news source. “European New Sources” comprises 504 separate new sources.

The search of European newspapers covered the same time period from January 1, 1998, through December 31, 2002. Again the results were tallied by month in an Excel spreadsheet.

Occasionally, LexisNexis produced multiple citations of the same article in the same newspaper. I was not able to determine the source of this aberration or any means to correct it other than to manually remove these repeat hits (multiple listings of an identical article). Nonetheless, duplicate citations were removed manually from all search results.

A basic premise to be applied in interpreting the results was that of uniqueness. Despite the constant rapport that we maintained with the media before and after September 2000, I expected the search to provide a distinguishable signature related to the blitz of activities, first, because it *was* a blitz, representing a peak in our publicity

efforts with viewership estimated in the tens of millions. Second, though our basic message didn't change much over time, the particulars *did*, related to the news hooks of the day. In other words, the talking points outlined above would have been developed expressly for the MSNBC appearance and were used consistently through all appearances in the subject timeframe. With the exception of our point No. 1 relating to "OPEC excess capacity" (lack of capacity), which has been one of our primary points since 1998, I believed *prima facie* that the specific language of the talking points was sufficiently distinct so as to create some separation from citation counts that might be caused by other of our media activities.

In light of the enormous effort we undertook to write, publish and "preach" *The Color of Oil*, I was very hopeful that the content analysis would meaningfully *demonstrate* our power and effectiveness to influence the media, which in turn, would suggest that our message was (and is today) getting heard.

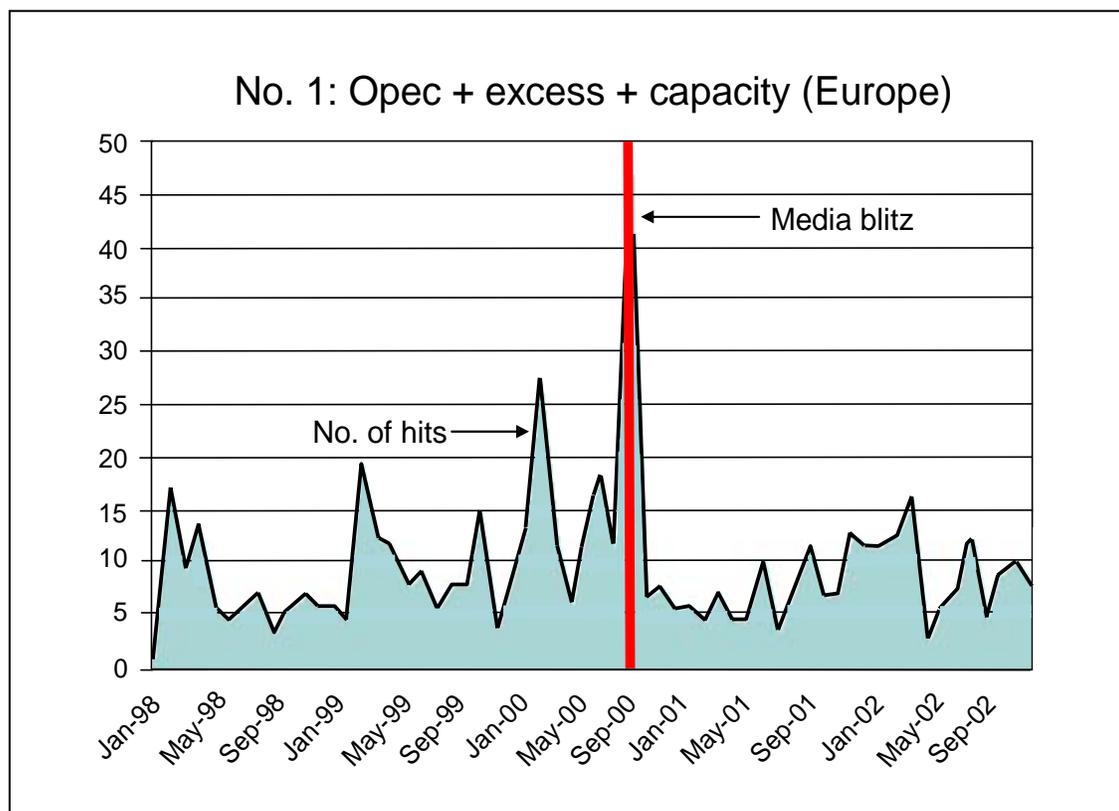
## **Results and Analysis**

The results and talking points No. 1 to No. 4 are presented and in sequence.

### *Talking point No. 1: OPEC excess capacity*

The search for **oppec AND excess AND capacity** appeared 502 times in European News Sources, peaking in September 2000 with 44 hits (individual article citations) as shown on Figure 1. The exact coincidence of the September spike with our media event was highly encouraging. There are other smaller spikes in the data, particularly prior to 2000, that are potentially related to our activities but are difficult to correlate.

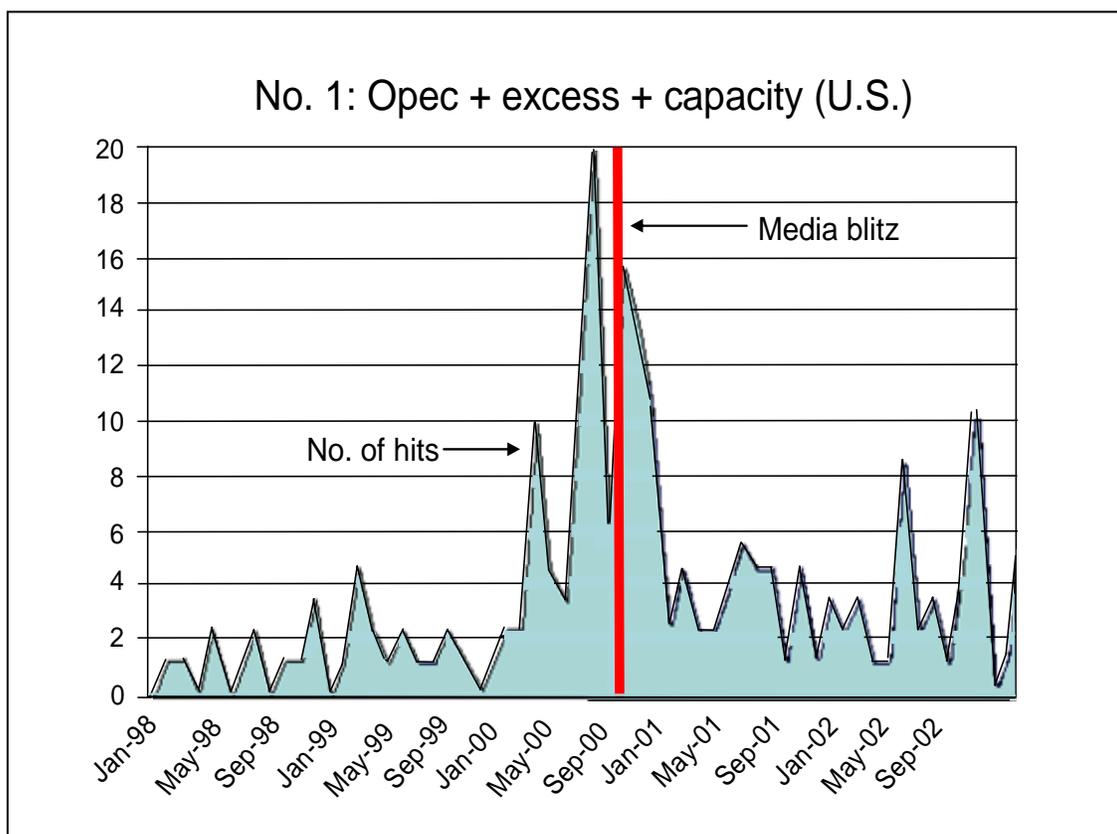
FIGURE 1



LexisNexis citations (shaded green) in major European newspapers for talking point No. 1. Search string is “opec AND excess AND capacity”; bold red bar indicates timing of major media coverage.

Results based on the U.S. News Sources were similar if modestly less encouraging: the search terms appeared 191 times as shown on Figure 2. Although there was a clear peak in September 2000 (14 hits), there was an even higher peak in July 2000 (18 hits). We made an unsuccessful attempt to correlate this with another specific activity(ies) of ours; there were simply too many occasions that we used the vocabulary of OPEC and excess capacity in our writings, news appearances and speeches.

FIGURE 2



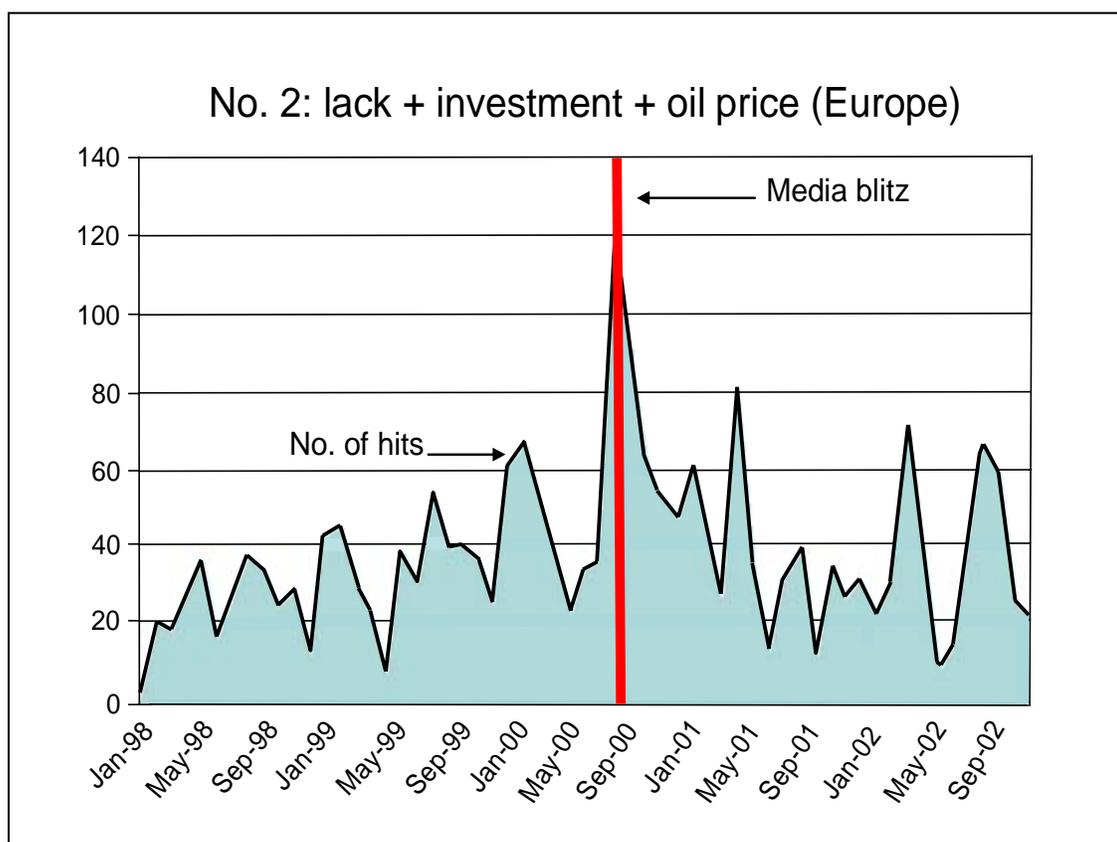
LexisNexis citations (shaded green) in major U.S. newspapers for talking point No. 1. Search string is “opec AND excess AND capacity”; bold red bar indicates timing of major media coverage.

It does appear self-consistent or at least logical that the U.S. data are more highly masked by our other activities than were the European data. If for no other reason, simply because our message—starting with local and regional coverage—would be doing well to permeate the U.S. market, whereas New York coverage, represented by the September 2000 blitz, would draw much more international attention.

An alternate interpretation to be considered is the effect of the “California blackout” of 2000 and the media interest that this created. Though it might not be

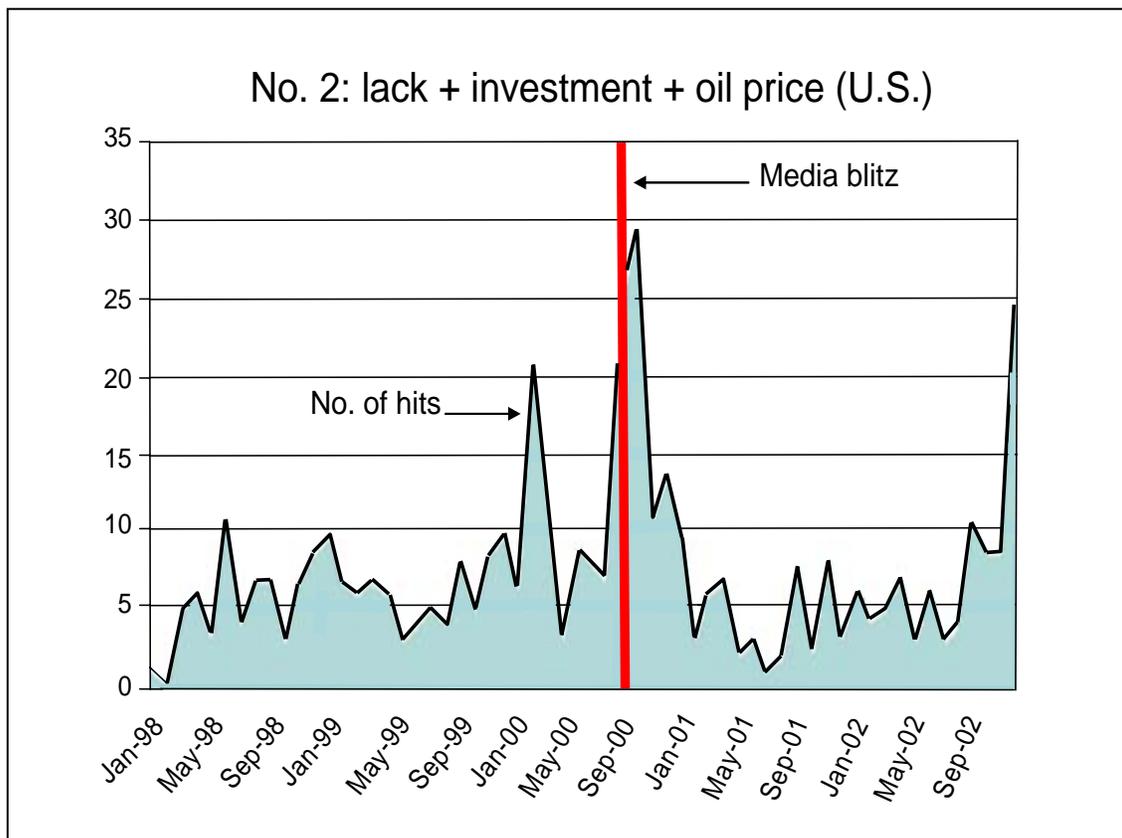
possible to separate completely the effect of the blackout (certainly it helped create interest in the book) the timing in March of 2000 is relatively far removed from the media spike 6 months later. Also, the relation between OPEC and oil capacity is only loosely related to the California natural gas and power problems of 2000. In the United States, we use almost no oil for electricity generation; 99 percent of fuel for U.S. power generation is coal, nuclear and natural gas—and almost all from domestic sources.

**FIGURE 3**



LexisNexis citations (shaded green) in major European newspapers for talking point No. 2. Search string is “lack AND investment AND oil price”; bold red bar indicates timing of major media coverage.

FIGURE 4



LexisNexis citations (shaded green) in major U.S. newspapers for talking point No. 2. Search string is “lack AND investment AND oil price”; bold red bar indicates timing of major media coverage.

If anything, the general rise in citations from early 2000, whether attributed directly or partially to *The Color of Oil* and associated media activities, shows that this kind of public discussion is fertile ground for the trained sci-tech journalist.

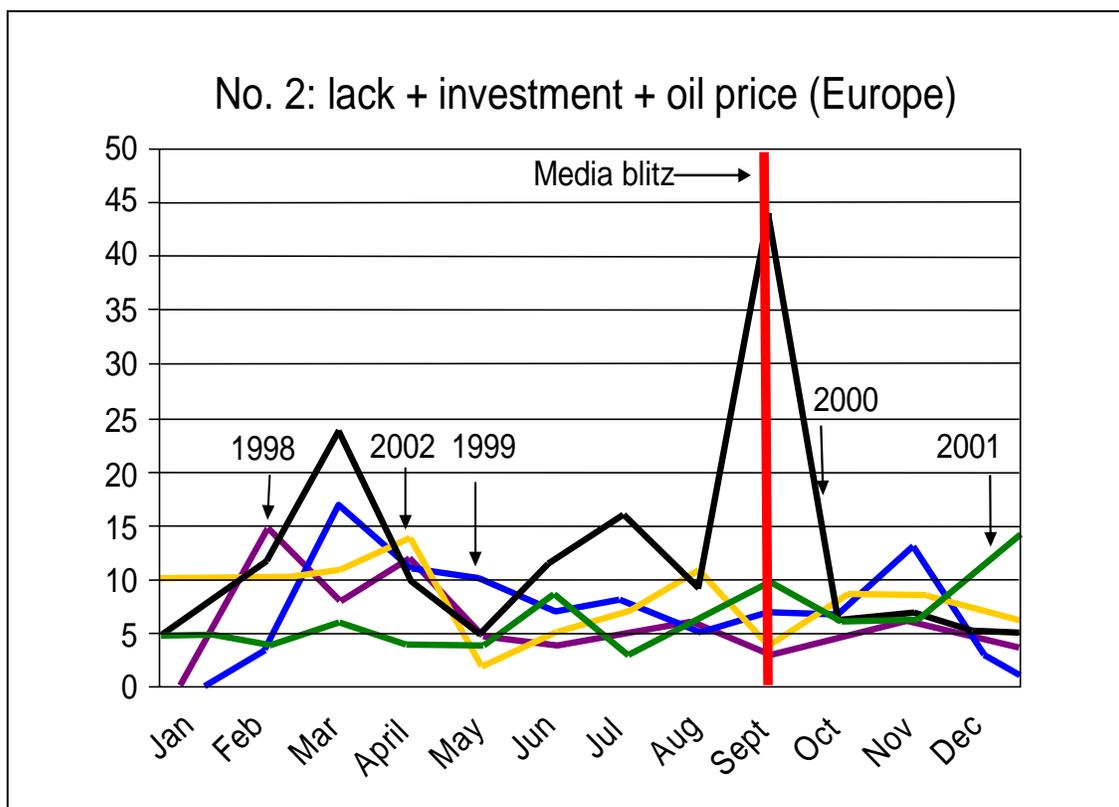
*Talking point No. 2: Lack of investment to address oil price*

This query produced a very clean and convincing result in both the European and U.S. news markets as shown on figures 3 and 4, respectively. This result is personally

encouraging as Michael and I often discussed the massive new investment needed to revitalize the energy complex, and that the vocabulary was nowhere on the radar in 1999.

**Lack AND investment AND oil price** turned up 3,080 times in European News Sources, peaking in September 2000 at 123 hits (Figure 3) and 439 times in U.S. News Sources, peaking in September and October at 24 and 28, respectively (Figure 4).

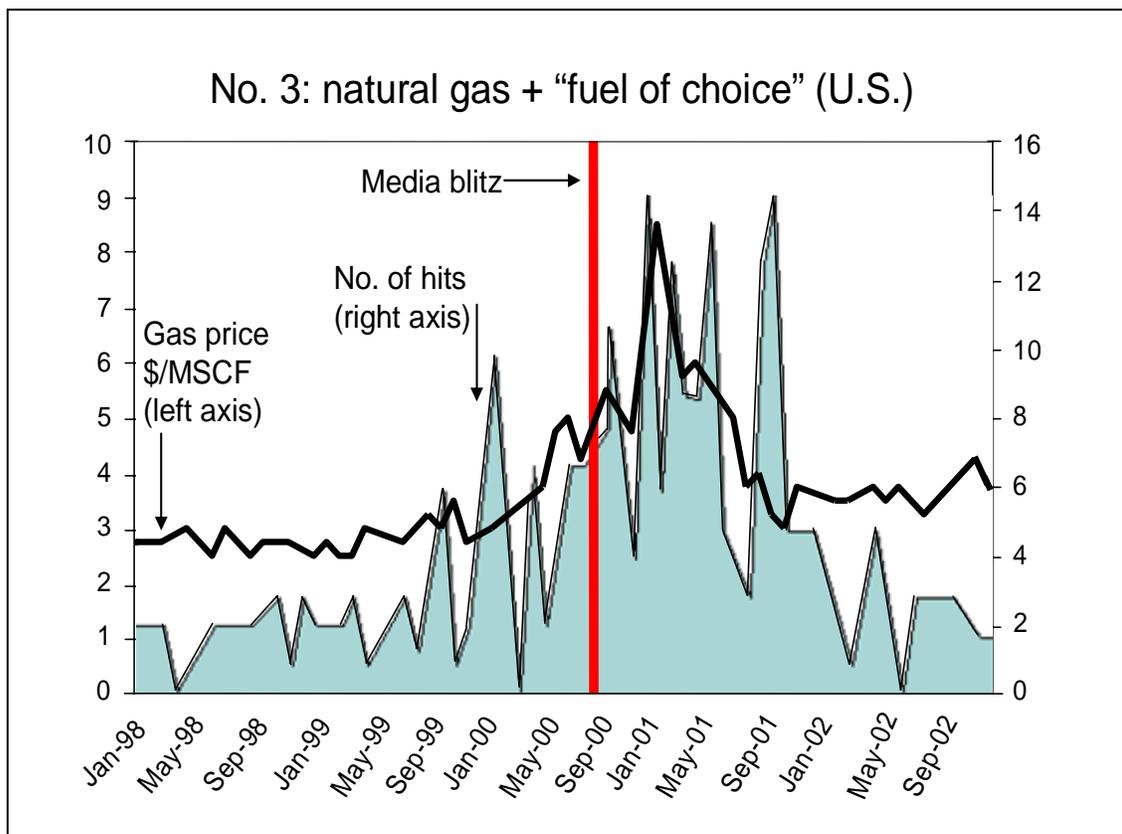
FIGURE 5



Alternate presentation of LexisNexis citations in major European newspapers for talking point No. 2 (each colored line corresponding to a different year). Search string is “lack AND investment AND oil price”; bold red bar indicates timing of major media coverage.

Figure 5 is an alternate presentation for European newspapers for talking point No. 2, now with the citation count for each year 1998 to 2004 shown in a separate color in a stacked format.

FIGURE 6



LexisNexis citations (shaded green) in major U.S. newspapers for talking point No. 3 with overlay of U.S. natural gas prices (bold black line). Search string is “natural gas AND ‘fuel of choice’”; bold red bar indicates timing of major media coverage. (Source for natural gas prices: Energy Information Administration.)

*Talking point #3: Shift to natural gas*

The search for “**fuel of choice**” AND **natural gas** turned up 261 times in U.S.

News Sources, with several similar magnitude spikes between December 2000 and September 2001 with 12 to 15 hits apiece. (See Figure 6.) The year 2001 returned the most results, but if one looks only at the year 2000, there is a steady increase in mentions from May to October.

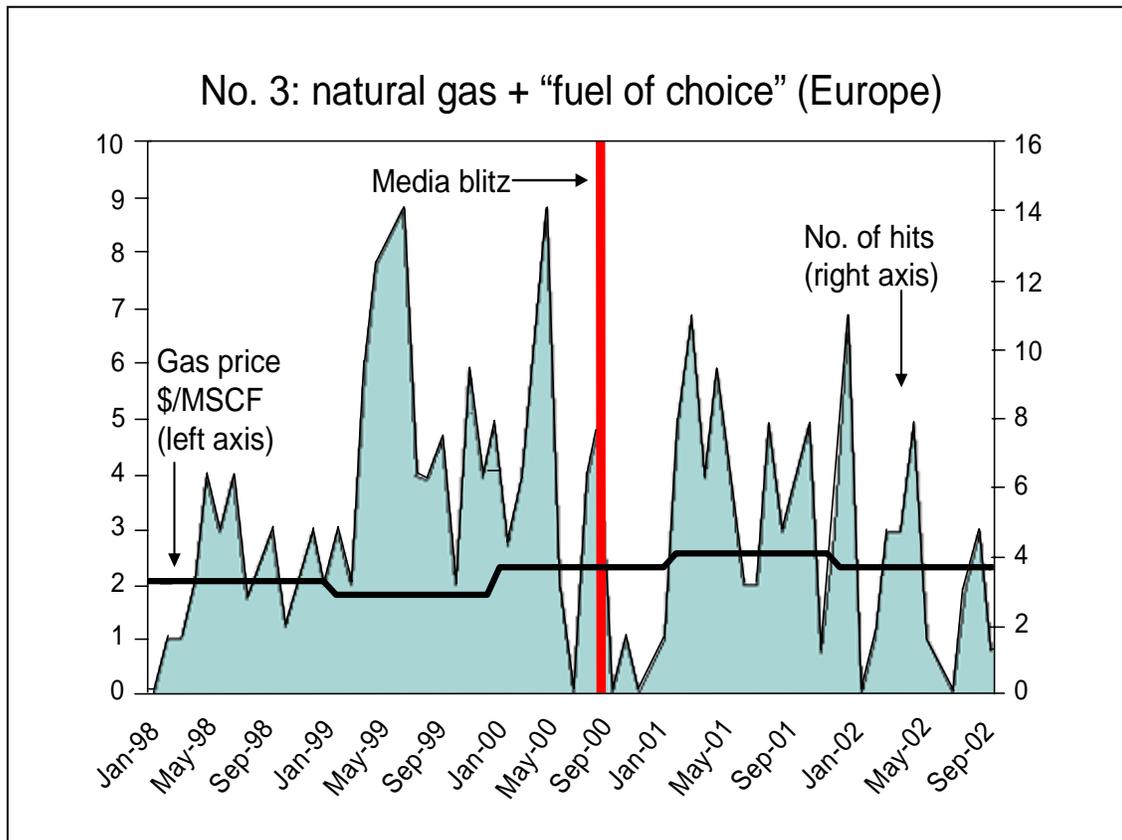
The almost nonexistent correlation with our September 2000 media blitz led me to search for an alternate correlating factor. The obvious and fitting factor, which is shown overlain on the LexisNexis data on Figure 6, is the price of natural gas. The rise in hits correlates almost directly with the rise in U.S. natural gas prices. Apparently a lot of folks were becoming aware and buzzing about this new “fuel of choice.”

The excruciating natural gas prices in the United States simply overran the news value and contribution of our third talking point.

The search terms showed up a relatively few 188 times in European News Sources, the results shown on Figure 7. The analysis of this data is closely related to the U.S. story, with a twist. There is almost no trend in the data, and (undoubtedly because) there is also no trend in the natural gas prices. This time the overlay shows that natural gas prices in Europe during 1998 to 2002 were flat (bold black line). There was a decided lack of buzz. This is supported by the lowest hit rate among any query of our top three talking points.

Stated another way, our discussion of natural gas prices simply was not particularly interesting to the newspaper press in Europe, a fact that was reflected in the original talking point, i.e. the *United States* (emphasis added) is undergoing a shift to natural gas as the fuel of choice.

FIGURE 7



LexisNexis citations (shaded green) in major European newspapers for talking point No. 3 with overlay of Western Europe natural gas prices (bold black line). Search string is “natural gas AND ‘fuel of choice’”; bold red bar indicates timing of major media coverage. (Source for natural gas prices: Energy Information Administration.)

#### *Talking point No. 4: Color of Oil*

No plots are presented for this talking point based on an extremely low hit rate. This result was expected, but I thought it worth checking. It is often enough of a challenge to get a good promotion plug in for your book during a media engagement, when you are personally in the studio. (Most broadcast news folks will endure a self-promotional plug for your book because everyone knows that is the only reason experts

visit the studio; it's the same with the late night TV shows and everywhere else.) When it comes to newspaper reporting, you're not there, and often your points get used without attribution. The idea of a complimentary plug for your book is not even in the realm of possibilities. The data back up this thinking.

A total of 21 hits turned up using the search terms search terms **“color of oil”** AND **energy**, all from the U.S. newspaper sources. However, the “color of oil” seemed to produce some spurious looking results, so I spent a bit of time looking through the articles themselves, not difficult given the low number. As it turned out, 10 of the hits were legitimate, and all but two appeared in 2000.

## **Conclusion**

I am comfortable based on the results and analysis presented above concluding that our media efforts to drive the key messages of *The Color of Oil* met with some success. The demonstration of this cause and effect was shown for an acute media blitz in September 2000, with qualifications. That the principle was demonstrated in a limited situation, with well-defined dates and vocabulary, does not suggest that less defined media efforts, ours or those of others, do not have an effect. It is likely that anything but the most concerted efforts would be difficult to pick out conclusively against the severe background noise of Western media today.

There is an important corollary to this conclusion. We are discussing one of the most vital issues to the future of humankind. And we have shown that the public exposure is easily and extensively manipulated by just a few 2- to 3-minute sound bites. On one hand, this terrible mismatch between the importance of the issue and the

superficiality of the media coverage is alarming. On the other hand, it offers a power tool for good in the hand of a skilled and knowledgeable technologist that can communicate effectively.

It is left to show that this coverage has any connection to influence, but that is my contention.

CHAPTER V  
THE POWER OF THE “COLORED” PEN TO INFLUENCE  
WORLD COMMERCE AND DECISION-MAKERS

It did not take long before *The Color of Oil* was picked up by people inside the Washington Beltway. With oil at \$30 a barrel, energy was again on everybody’s mind. First, the price of oil, which dropped to \$10 in March of 1999, had made one of its most spectacular comebacks by the beginning of 2000, a feat we predicted with almost astonishing accuracy even by our standards in an April 1999 opinion piece in the *Houston Chronicle*. People still talk about it.

Call it fate or serendipity, but as I say in many of my talks, “The day the book was released, literally, the lights were off in California.” There is something about a blackout, causing worries and fears, perhaps the unknown of what darkness can bring, that really sticks in people’s minds. And although oil and especially gasoline prices are a constant gripe of the American consumer, especially when the costs go up fast, this does not compare to the impact of a power outage. When the lights go off, it gets everyone’s attention. Light is in many ways tantamount to civilization as we know it.

In early 2000, against the backdrop of the California crisis and rocketing prices for oil and natural gas, then Deputy Undersecretary of Energy Emil Peña picked up copies of the book and sent them to practically everybody he thought needed some education on energy. We are talking literally about hundreds of books delivered personally to the desk of the nation’s energy decision-makers. The thing that really

propelled the book into the political stratosphere was the claim that it had a measured and logical solution to the energy problem.

With the book making the rounds of Washington, I soon found myself spending alternate weeks in the nation's capital, educating literally dozens of twenty-something-year-old congressional staffers. A common starting-point question was, "Why are the lights off in California?" Getting in bed with politicians and their operatives was not something that I would like to do for a living, but for a time it was heady. My group at the University of Houston (where I had taken an adjunct professorship in 1999) was commissioned to prepare a series of "white papers" for various agencies, departments and committees of the U.S. government.

Here is a sample:

- Oligney, R.E., Economides, M.J. and Lewis, P.E.: "Using the Strategic Petroleum Reserve to Mitigate Oil Supply and Demand Imbalances," March 24, 2002, 10 pp.
- Oligney, R.E. and Longbottom, J.R.: "The Imperatives of Arctic Natural Gas Development," January 8, 2002, 28 pp.
- Oligney, R.E., Longbottom, J.R. and Economides, M.J.: "Impact of Energy Supply on U.S. Employment Levels," Powerpoint brief prepared for Sen. Majority Leader Tom Daschle, September 10, 2001, 27 pp.
- Oligney, R.E., Economides, M.J. and Longbottom, J.R.: "U.S. National Energy Policy and the Role of Ultra-Deepwater," February 15, 2001, 34 pp.
- Oligney, R.E., Economides, M.J. and Bernard, B.A.: "Electric Deregulation and the Impact on Natural Gas," March 2000, 6 pp.

A quick anecdote. One evening in the fall of 2000, in the run-up to the 2000 presidential election, I received a call in my university office from a representative of the

Gore campaign. With oil prices rising and becoming an issue that was thought to favor then-Governor George W. Bush in his bid for the White House, there was some thought to release oil from the Strategic Petroleum Reserve. The question was whether a release of five million barrels would be sufficient to blunt the escalating oil prices until after the election, barely two months away. My group at the university had developed an analytical model for SPR releases and written a white paper several months before, so it took just 15 minutes to figure that 30 million was the magic number.

I fed this nonpartisan number back to Washington, D.C., and left the office at about 7:00 p.m.

It was a surreal moment when I picked the newspaper from the driveway at 4 a.m. the next day, just 9 hours later. The front-page headline announced that President Clinton (and egged on by candidate Al Gore, as we know) had authorized the release of 30 million barrels of oil from the SPR. The power of knowledge and connections and media. *The Color of Oil* provided the link.

We also have our own apocryphal story of September 11, 2001. Before the terrorist attacks that shaped America's political discourse and to some extent the American way of life, energy was the issue that defined George W. Bush and his administration. For the previous several months, the controversy had been whether to drill for oil on the Arctic National Wildlife Refuge in Alaska. The issue had taken the usual nasty turn between liberals and conservatives, but at a bit higher level the debate centered upon jobs. How many new jobs would a developed ANWR mean: 1,000,000, as the advocates suggested, or only 10,000, as the detractors claimed? The disparity in

peoples lies was enormous.

At 1:30 p.m. on September 10, 2001, I received a call from the office of then-Senate Majority Leader Tom Daschle. The staffer explained that the senator wanted to know the real connection between energy and jobs. The senator was squished between two pillars of his and the Democratic Party's constituencies: Big Labor and Big Environment. It was the proverbial rock and hard place. For my part, I was flattered that the senator would have the confidence to call on my group, my fairly aggressive republican tendencies notwithstanding.

My response: "Sure. When would the senator like to be briefed?"

"Tomorrow."

"Tomorrow?"

So I hung up the phone, bought a plane ticket and convened a small group of professors and students in my office at about 3 p.m. My admonition to the students was "pack a lunch." We finished preparing the brief at 6 a.m.

The rest of the story you can surmise. The September 11, 2001, Continental Airlines flight I boarded was halfway to Washington, D.C., when the pilot came on and announced, without any of the normal explanations of weather or mechanical difficulties, "We are going back to Houston." I picked the phone off the back of the seat and called ahead to explain to Senator Daschle's staff. When the phone was finally answered after many rings, an out-of-breath assistant to the senator spoke just a few words that I will long remember: "You obviously haven't heard; both of the New York twin towers have been hit by a jumbo jet."

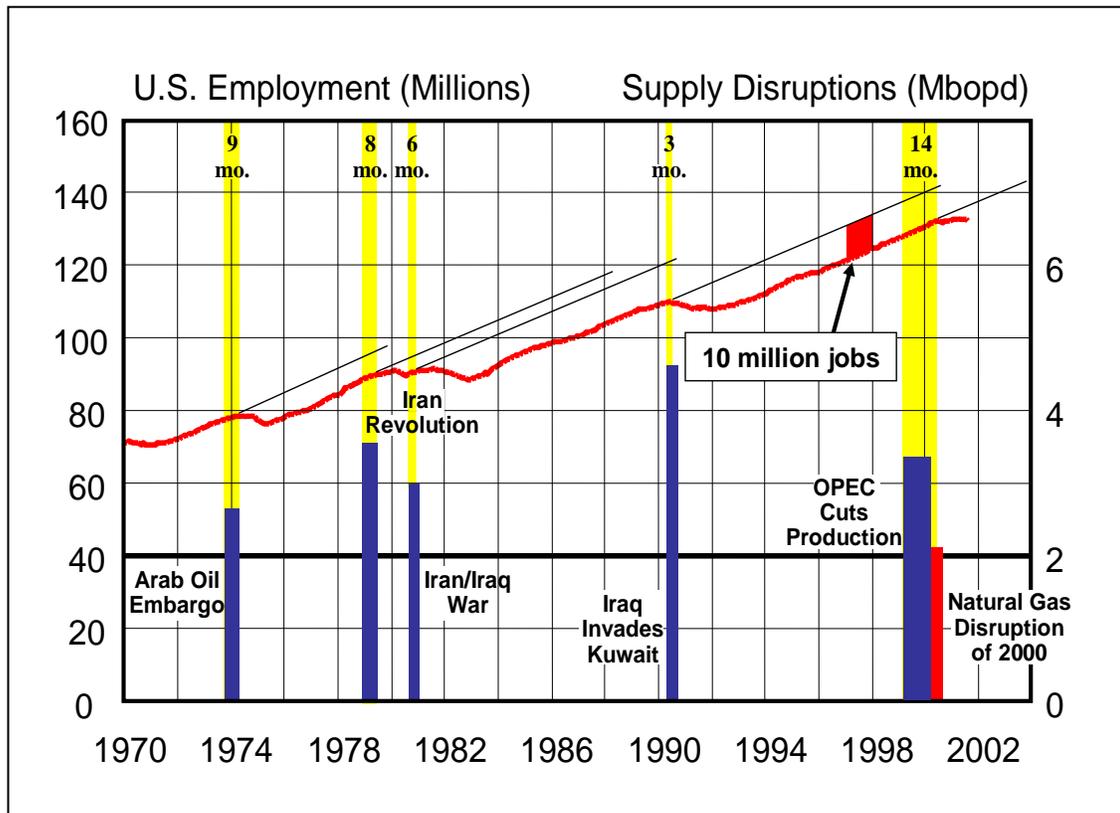
The ensuing scene on board my Continental flight was disturbing as the flight staff (which obviously had been briefed on the situation) came through to pick up half-finished coffees and breakfast trays from the passengers (who obviously didn't know what was going on). "Hey, I'm not done with that muffin." "The service on this airline is terrible." And so on. The juxtaposition of terrorist attacks with the trivial concerns of American life was saddening.

As it turns out, the results of my briefing, which nominally showed 10 million jobs at risk any time there is a disruption in U.S. oil supplies, were inextricably linked at the hip with the terrorist events of the day. The briefing was forwarded electronically and received considerable air-time in Washington, D.C., in the weeks following 9/11.

Just quickly, let me recap the briefing. A quick look at U.S. employment history (Figure 8) provides a stark conclusion: every period of negative U.S. job growth during the modern OPEC era is preceded by a major energy supply disruption. The correlation is 100 percent. Our analysis on September 10, 2001, showed the U.S. economy was in the process of shedding 10 million jobs well before the terrorist attacks of September 11—in response to a (crisis-or-not) energy situation that started in March 1999 with new OPEC quotas and peaked with the California natural gas and power crisis in 2000.

Figure 9 is an up-to-date plot that bears out the claims we made in September 2001. The ultimate number, once exacerbated by the impacts of terrorism and oil disturbances in Venezuela, ultimately became 15 million jobs.

FIGURE 8

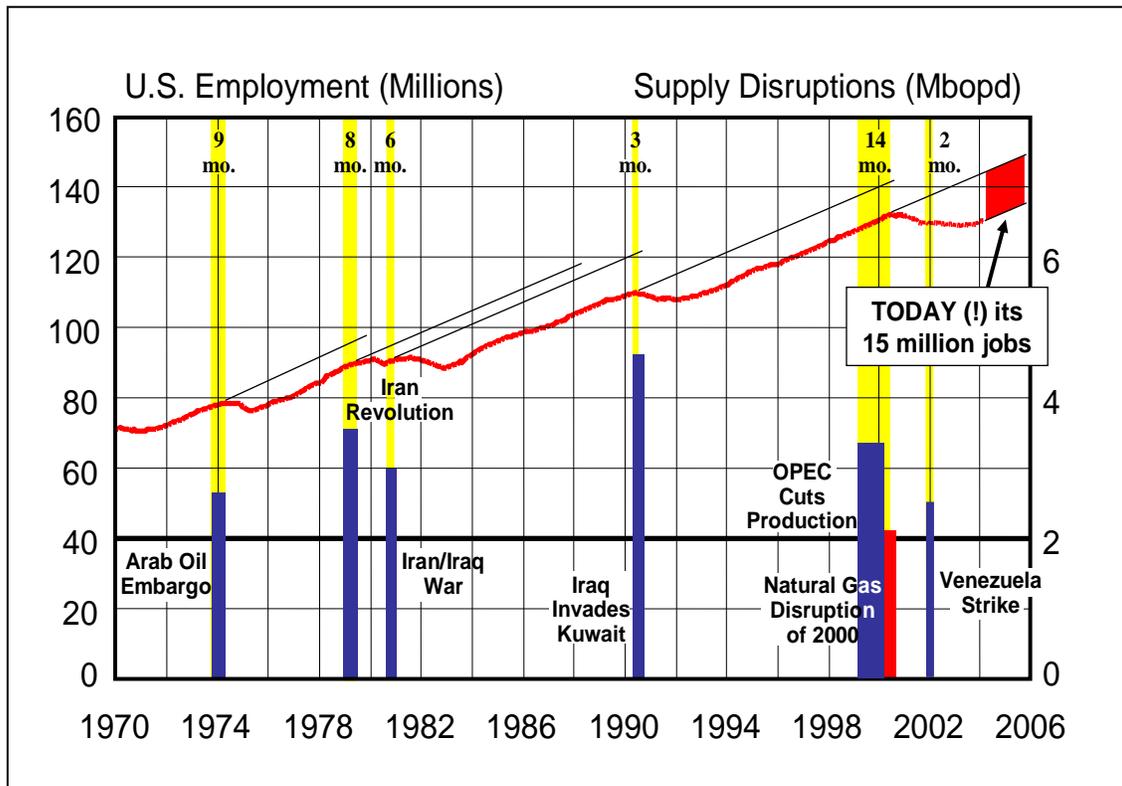


U.S. jobs and major energy supply disruptions in the OPEC era. (Source: U.S. Bureau of Labor and Statistics, Energy Information Administration, assembled by Oligney, et al., University of Houston)

We went on to write the \$2 billion ultra-deepwater title of the Energy Policy Act of 2005 (primary drafting completed in 2002 and 2003), which the U.S. Department of Energy (through the Energy Information Administration) publicly declared as one of the two most important provisions of the omnibus legislation.

In 2004, I was appointed by Governor Rick Perry to the Texas Energy Planning Council and became the chief architect of the Texas Energy Policy, working hand-in-hand with the chairman of the Texas Railroad Commission, Victor Carrillo.

FIGURE 9



Updated analysis of U.S. jobs and major energy supply disruptions. (Source: U.S. Bureau of Labor and Statistics, Energy Information Administration, assembled by Oligney, et al., University of Houston)

My co-author, Economides, far more adept in international fields, went on to bigger and better pastures, literally becoming one of the most instantly recognizable names in the international energy industry. He has rubbed elbows with ministers and presidents of oil companies the world over, advising at the country level in Venezuela, Russia, China, Italy, and many other places. He has met personally and worked with people who are almost every day in the news, such as Mikhail Khodorkovsky, Russia's ex-richest man and head of Yukos, now in jail.

In turn, this exposure made him attractive to certain discrete agencies of the U.S. government that are constantly in need of intelligence reports and advice on various world events that have an oil or energy element, in the Middle East for example.

And the process continues.

## CHAPTER VI

MOTIVATION AND CONTENT FOR *THE COLOR OF OIL*

It was a now infamous cover story in the March 6-13, 1999 issue of the *Economist* that started it all.

By then, Michael Economides and I were professors at the University of Houston, but we had both spent the previous four years at Texas A&M University, struggling through the creation of a very ambitious industry research cooperative that we had named the Global Petroleum Research Institute, GPRI.

Economides and I went back 18 years. He was a young assistant professor in the fledgling and newly established petroleum engineering department at the University of Alaska—Fairbanks, and I was a 16-year-old graduating senior at the Juneau-Douglass high school in Juneau, Alaska, headed to the university in Fairbanks.

After my graduation from UAF, our paths went their separate ways for about a decade, and then in February 1994, we joined together, now at Texas A&M University.

We both lived in Houston, 90 miles south of College Station, and we commuted daily together for several years. The time proved fateful in honing some of our ideas and especially the desire to write about them. The idea to write a book did not emerge for years, but we certainly saw the need to write in a way that addressed the public. We felt that the public needed some educating. We also thought that the decision-makers and journalists *really* needed some educating.

1999 was a fateful year for the energy industry. Following the “Asian flu” of the previous year, oil prices had collapsed from the mid-\$20s to \$10; OPEC countries were

reeling; and the industry was sure that the bottom had fallen out. The *Economist* article talked about \$10 oil for ever and even raised the specter of \$2 oil.

This was too much to digest. In typical *Economist* style, the article had all the looks and tone of authoritative and knowledgeable writing, but it struck us immediately as silly, superficial and plainly ignorant. And it was exactly that.

We did what we thought at the moment was natural. We wrote a piece for the *Houston Chronicle* OpEd page, which published on April 4, 1999, under the byline of Michael J. Economides and Ronald E. Oligney. We wrote that the price of oil was unnaturally low; that the reaction to the oil price was probably the last that could ever happen again; that neither U.S. independent producers nor the most prolific oil exporting nations could survive on \$10 oil; that the excessively low price was a harbinger of excessive high prices soon to follow; and that we would see \$30 oil by the end of the year. We missed our prediction by two weeks.

The price of oil went over \$30 on January 15, 2000.

(A number of graphic and other elements related to development and marketing of *The Color of Oil* are assembled in Appendix F, starting with a copy of our April 4, 1999, OpEd piece as Figure F-1.)

Our prediction was not born by some ideological predilection. As petroleum engineers, and thinkers, we were cognizant of the underlying fundamentals. The price drop was the result of just a 0.5 percent of unrealized demand for oil in Asia, a far smaller fraction than the annual decline for oil production worldwide. We were intimately aware that OPEC had finally reached a point of no-excess production

capacity. It would take the postponement of drilling of just a few wells, for example, in Venezuela or Saudi Arabia to bring about a complete change in the situation. To boot, OPEC announced a round of production cutbacks in the same timeframe.

The reaction to our piece was swift, overwhelming and massive. People were mad, even industry insiders who should have known better. People called us on every telephone they could reach us, in our homes, in our offices, on our cell phones. The vast majority of calls were expressly negative. People seemed to think we should know better than to write such nonsense. We were referred to in the press as charlatans and out-of-touch professors. The *Houston Business Journal* ran a cover story on our OpEd the next week quoting other experts, such as Dale Steffes, who not only disagreed with us but actually derided our article as laying a “goose egg.” (He later capitulated, and our relationship became cordial). To be fair, the same newspaper and the same reporter would later praise us as the “Architects of Energy” when we eventually began advising the Bush administration. On national television, Daniel Yergin took a more moderate tone, offering that the price of oil might climb “to \$14 or \$15” within a year.

Our OpEd and its eventual vindication opened up for us an amazing array of speaking engagements, led to interviews by practically every national and international news media, and made us into almost instant celebrities.

Over the next several years, we would write literally dozens of opinion pieces for newspapers ranging from the *Houston Chronicle*, *Dallas Business Journal* and *Los Angeles Times*.

From there, it was then a relatively easy step for us to “decide” to write a book.

The decision was made almost overnight. Of course, that decision did not mean that we knew what we were getting into; far from it.

The title of the book, *The Color of Oil*, came from playing with double and triple entendres. First there were the obvious symbolisms that go with all things oil: green for money, black for the mystique and its literal color, red-white-and-blue for the industry's profound American roots and character, and so on. But there was more to it than that: Economides has always been referred to by almost everybody who has met him as "colorful," and I have doubled up on occasion as the artist of our duo with some affinity to "coloring" things.

The book subtitle also came quickly, but not necessarily at the very beginning: *The History, The Money and The Politics of the World's Biggest Business*.

We had a precedent for our project: Daniel Yergin's *The Prize*, a Pulitzer Prize winner. But we felt that the book had a shortcoming in its political agenda, trying to de-mythologize Arab oil producers by presenting an oil industry with endless potential. There was no need to appease the Arabs politically. (And in the process, perhaps tilt the imbalance towards Israel?) We did not disagree with Yergin's point of view, but felt that it was lacking. It did not capture what oil industry really means to the modern U.S. and world economies and society. We felt strongly the need to infuse some technical dimensions to the subject, other than the historical and political things, done quite well by Yergin.

*The Prize* was a voluminously researched work. We estimated that 20 man-years of research went into its writing, and this became a formidable challenge to us. How

could we outdo *The Prize* and present something fresh and credible, even if we *did* have a reasonable idea on the direction we wanted to go that would differentiate our book? Beyond the two of us—and on occasion a couple of students marginally useful in this regard, and literally our own children—we had no other resources to do research even remotely on the scale that went into *The Prize*.

So we did three fairly obvious things:

(1) We read Yergin’s book voraciously and connected the text with his resources, and then secured our own copies of some of those we thought were the most relevant;

(2) We employed “snowball research” to develop these core resources into a valuable *chain* of research sources; and

(3) We trusted our background and instincts, with the following rationale: if our book would be different, it must take on a texture derived from the unique knowledge-derived point of view of a technologist. (In this respect, there was no contest between us and Yergin.)

(Note: Concurrent with our research for *The Color of Oil*, I had undertaken an independent Journalism 685 problems course focused on accelerated research, ostensibly in preparation to write a book on energy—again, something that traced back to my earliest entry to the journalism program. Fortunately or unfortunately, this coursework was highly intermingled and obscured by the rush to put together *The Color of Oil*. Nonetheless, the results of this problems course, as directly germane to the this thesis and particularly this section, are included for the benefit of the reader in Appendix C, titled “Find it Fast.”)

In closing this chapter, let me comment briefly on our view of the audience during this process.

Michael and I between us had decades of industrial experience, but there was more than that. Ambitious as we were, we managed to work with some of the highest-ranked technical and management people of the industry, in dozens of countries. We knew the workings of the industry from the ground up; we saw its political and economic and even logistical workings from *beneath* the ground up.

We were going to write a book that took essentially a scientific and technical approach, with an impossible twist: we would write for a mass of people, who were unaware beyond the occasional newspaper and TV item, on the workings of the world's biggest industry. As a working point of reference, we saw our typical reader as an interested, relatively educated person, but not necessarily having any direct connection to the oil and gas industry. We were for sure not going to reject our industry colleagues, but we were also not planning to preach to the choir.

We wanted to write for a much bigger audience, hopefully including business leaders, thought leaders and politicians.

## CHAPTER VII

### HOW TO WRITE A TECHICAL BOOK WITH WIDESPREAD POPULAR APPEAL

In writing about the writing of a book, there is often the temptation for self-aggrandizement either overt (how great we were) or covert, in the latter case telling how hard it was to write it.

It was neither, and it was both.

First we decided on what themes we were going to write about: money, technology, the United States, geopolitics, cultural traits, what makes the industry tick, the environment, government, the future. The scope and shape of each chapter, after we decided on the color theme, emerged slowly. After the first obvious and basic colors—green, black and red, white and blue, and then red for war—we had to think of more complex colors. The “colors of rainbow” would be our culture chapter and “primary colors” would describe the three basic building blocks of the industry; new green was for environmentalism (antithetical as it is to the old-money green), and yellow, think tawdry, was definitely reserved for government. For the future, expressing both our own optimism and of course our biases, it was no contest: we had to use the color purple, the royal color of empires.

Quickly we settled on a format. Each chapter would start with a personal anecdote, funny or poignant, something that would lend insight to the industry in an unguarded format while providing a folksy and (always) colorful entry to the respective theme.

In the beginning, we decided to alternate responsibilities for each chapter; so it

was with the anecdotes. That didn't last long. We quickly transitioned to a distribution of labor around tasks rather than themes, a blended approach that we had used before the book and kept doing afterwards in other pieces we wrote.

In our back-and-forth style of writing, I would outline the main points of a chapter, typically after a lengthy bull session, typically on Michael's back patio over a cup of coffee (me) and a cigar (Michael). Then I would spend a bulk of time sketching a fairly comprehensive logic and flow by writing bullets, short sentences, sometimes broken bits and pieces, run-on thoughts. This detailed sketch, once passed back to Michael, would quickly shape out with great flair and color. It may sound trite, but think of it like putting flesh on a skeleton. I still get a kick when people say they can tell who wrote which chapter. Nope.

This mode of writing capitalized on our greatest complementary strengths. I was more analytical and comprehensive; he was a lot more synthetic. On top of everything, Michael, in anyone's view but especially for an engineer, is very erudite. He knows history, geography, and politics and has a gift to write that is hard to find among technical people.

But he does get carried away. He often writes at a style and level that is way too far above people's heads, and I mean educated people's heads.

So I edited and edited and edited for readability. Sometimes the color went away in the process, and we had many arguments about this. Sometimes I won, but often he did. After all, this was supposed to be the "color" of oil.

Trying to write about technical subjects for the uninitiated is tough, no matter the

educational level. To write and keep it interesting is even tougher. We innovated a lot. We paraphrased. We coined terms. It was a rewrite of themes we knew intimately but we had to re-express for others. At times it was exasperating.

Not only did we want the book to be differentiated by its content, we wanted it to *look* different. The artist in me wanted a book with great allure. You could almost without saying it sense the connection between the “color of oil” and “oil paintings in color” that made it natural to commission artwork for the book. An original piece of art for each chapter, each color, each theme, would add a provocative and wide appeal on top of the anecdote and body text. Ultimately, I wanted this book to be a feast for the eyes.

With a stroke of either serendipity or providence, Michael had worked with a man in Venezuela, an engineer and then manager with the national oil company, PDVSA, who was quite an accomplished artist. Armando Izquierdo was one of those classically un-stereotypical characters whom one seems to find more often outside of the United States.

A typical engineer who goes through the U.S. system is often just that: a person who is reasonably well-trained in doing a few technical things, but without much to offer in the general world. Armando was probably first an artist, who became an engineer because that’s what smart people do in many countries; it’s the only way to make a good living.

Armando had perfected computer-generated art, a couple examples of which I had seen hanging in Michael’s home.

So Michael and I called Armando from a speaker phone and we “designed” our first piece of art (actually the cover of the book) right there on the telephone. Actually, the pattern of interaction, which would be repeated a dozen times, was reminiscent of Michael’s and my writing style. We would talk to Armando just briefly, i.e. giving him our “bullets,” and lo and behold, a few days later, we would get a stunning, Dali-esque allegorical depiction that had just about all the elements we wanted. It was rare to take more than two rounds to get pictures that were amazing for their color, content, and provocative story-telling utility. A complete set of artwork from the book is shown in Figure F-2, an advertisement that was put together when we began selling the artwork.

As a final artistic touch, we ran a full-bleed black-and-white photo, typically an archive type photo—whether of old wooden derricks stacked in a row at Shoestring Alley, or John D. Rockefeller walking out of federal court, or Jimmy Carter, symbolizing the sometimes counterproductive role of government in the industry—to add an element of instruction, context, and feel to each chapter. (A sample is shown in Appendix F as Figure F-3.)

As we started to think about marketing, we tried another innovation that derived from who we were, our contacts and reputations. Being highly recognizable names in the industry based on our past technical accomplishments brought with it various contacts in the magazine and publishing business. Why not find a way to leverage these contacts to promote the book? After a couple of casual telephone calls, we met with Dick Ghiselin, Publisher of *Hart’s E&P* magazine. Michael knew him from their time together at Schlumberger.

Dick was very encouraging and receptive of our overture, and in fact he had an addendum: what if he was to publish monthly installments in serial from our chapters, compete with illustrations and in full color?

Given that his magazine was in appearance the highest gloss and color magazine in the business, we jumped at the offer and signed a formal contract. The pieces were also carried by two sister magazines internationally.

This was, as it turned out, a great move. Not only did we end up getting advance exposure and advertisement for free (circulation of 30,000 monthly), there were other, unforeseen benefits. First, people from all over the world wrote almost embarrassingly effusive comments, which energized our efforts and served as useful material from which to draw for the “advance praise” block on the back cover of the book.

Here’s a sample:

- “I have worked in the oil industry for many years, and I believe [Economides and Oligney] have written the finest and most educational article encompassing the many facets of the oil industry ever written.” --George S. Ochsner, Midland, Texas
- “Recently my husband brought home a copy of the [magazine] which includes your article *The Color of Oil--Part IV: Red*. Your article was clear, concise, and informative. After reading your article, I had a much clearer picture of the events leading up to the partitioning of Europe.” --Janet Olivera
- “The colors of oil (Green & Black) are SO BEAUTIFUL !!!” --Sanjay Chawla, New Delhi, India
- “May I say how refreshing it is to read an article with proper insight and perspective with regards to the oil industry. What really impressed me is that the article is factual and the insight comes from people like yourselves, from inside the industry--not from some so called financial guru who knows nothing about the business from the inside. Well done.” --Joseph Thompson, Australia

- “May I congratulate you and thank you for this extremely well and clearly written article. Having no technical background in this field, it is extremely difficult for me to find documentation which describes it all in a down to earth, global manner. Well, you just did it ... and it can certainly be considered a short course for me. --Edgar Keijser, South America
- “[Colors Of The Rainbow] is an excellent piece of journalism ... well written ... and much needed as required reading by the pushers and movers of the world’s governments and oil companies.” --Derry Sparlin, Houston, Texas
- “I am enjoying your ‘Color of ...’ series of articles very much. I live in north eastern Utah and manage a small independent wireline service company. I think that the level that you’re writing ... will appeal to a great number of people. I look forward to adding your upcoming book to my library.” --Craig Stratton, Utah

Some who did not read the fine print that these were chapters from an upcoming book, *encouraged* us to write one and include our “so beautiful” articles.

The most important benefit of the serialization for busy people like ourselves was that it prompted us to meet our own deadlines. People who write know that often self-imposed deadlines are to be violated. Magazine deadlines force the point in a way that no self-discipline can do.

It was also a great tutorial for us: the feedback proved great for honing our style, level and content.

Ultimately, it was my father-in-law who provided me with the most impromptu and most complete critique. Depending on the father-in-law, the relationship with the son-in-law and especially what he does for a living ranges from apprehensively polite to condescending (who are you to have my daughter?), but is rarely really deep. Tolerance of the daughter’s choice, joy in the grandchildren, and a resignation to how life is mark the relationship more often than not.

And there he was, my blue-color father-in-law, sitting on the couch in our living room and reading an early draft of the book, in one sitting, skipping lunch and arriving late for dinner. If that wasn't the greatest testimonial of our success in creating a book with widespread appeal, I could hardly think of a better one.

## CHAPTER VIII

### WHAT TO DO WHEN THE BIG PUBLISHERS TURN YOU DOWN:

#### BEYOND SELF-PUBLISHING

“No battle plan ever survived contact with the enemy,” said Dwight Eisenhower.

We had a great plan for a bestseller book, replete with artwork and design elements, and had 35,000 words already written and edited as part of our magazine series. We even had done a bit of market research: 595,000 people at Fortune 500 companies related in some way to oil and gas (we wanted the non-petroleum folks, but were pragmatic enough) and 571,000 English-speakers in Global 500 multinationals, not counting the 1.6 million National oil company employees. We were doing all the right things.

So it was time for a road trip to New York and Washington, D.C., to find a publisher. Our Houston-crowd magazine and trade publishers told us the game and even made introductions. Being the hotshots that we were, and Michael having published no less than six technical books by that time, we really were not prepared for what came next: the mainstream publishers were unimpressed.

Our grand plans and formidable technical reputation was enough to warrant a polite reception by VIPs at several publishing houses, but the sentiment behind their smiles seemed to send a uniform vibe they saw us as out of our own league. Some didn't seem too sure that we knew our *own* business. One big city publisher told us straight, “Nobody is interested in a nonfiction book on the oil business (remember, oil was just over \$10 then); you'll never sell more than 3,000 books.” We wanted them to

print 200,000 to start.

I am not sure in the fog of those meetings who it was that first told us the “rule of fives,” but we heard it a couple of times and it seemed reasonable: in the United States, 500,000 manuscripts are written each year; 50,000 get published; 5,000 break even; 500 make any profit; and only 50 really make money. But it was Al Regnery of Regnery Publishing in Washington, D.C., who, in talking to us in his board room, actually compared the writing of a book to drilling an oil well. You never quite know if one will be a dry hole or a gusher even if you think you know. We did not consider that his comparison of us to oilfield wildcatters was quite appropriate, especially in view of all recent exploration technologies, but we took it as such.

Regnery and the rest just didn’t get it. We offered them the first half of the book in serialized form, with completed artwork, anecdotes and a basketful of positive feedback; a marketing plan to reach out to a million people; and our reputations. We really thought that we were offering him the chance of a lifetime.

I recall the hidden but gut-wrenching emotion as we left Regnery’s office with a *pro forma* set of book proposal instructions and superficial encouragement that “we look forward to seeing your proposal.” We had just *made* the proposal, in person, and they sent us home and asked that we *mail* the proposal, in their exacting format, along with a postage-paid return envelope, in case the proposal was not accepted.

The requested proposal materials were not so unreasonable, and in fact we had already presented all of the pieces in some form, but being asked to go home and reformat them was an emotional Mount Everest.

Here's the list:

- One or two **sample chapters** (preferably two);
- A **table of contents**;
- An **overview of the work**;
- Your **profile or c.v.**;
- Any useful background **clips** (reviews of your other work, articles on the subject from prominent publications, reviews of a previous book you've written, etc.);
- A **cover letter**; and
- A **postage-paid return envelope** large enough to enclose the proposal, in case your material is not accepted.

The last point was repeated in boldface print: **We will not return your material unless it is accompanied by an appropriately sized return envelope.**

The meeting with Regnery would be the pit of our discouragement and the turning point. I recall the very private and sincere (more dejected and hurt, though we were slow to admit to each other) conversation Michael and I had *en route* back to Houston. No matter our past accomplishments, our tail was squarely between our legs. The conversation came down to three choices: (1) go home and prepare the requested materials at a great expense of time, emotion and pride, with no guarantee of success at any level; (2) finish our magazine series and claim success, knowing better; or (3) do it ourselves.

We decided at once, keeping a stiff upper lip, a letter ending the dialog with Regnery was faxed once back on the ground in Houston the next day. Through the language of the letter was polite enough, another message was certainly intended. Though something less than academic, a copy of the letter is included in the appendix (Figure F-4) as a poignant reminder (to me) and inspiration (to other sci-tech journalists) not to give up in the face of discouragement and high emotion.

As the entrepreneur of the partnership, I took the immediate step to learn the publishing business. My main clues came from the extensive research and conversations we had with the big publishers. I ordered newsletters and materials from self-publishing organizations, but they weren't much help, designed mostly for mom-and-pop folks looking for a safe way to get their name on a book cover.

I was struck by how much even the big boy publishers outsourced. Almost everything. With a straw man business model and a new surge of confidence, Cheryl (my wife) and I set up a company—fortunately not our first. As improbable as it sounds, on top of budding author, I was now also the president of Round Oak Publishing. We chose the name Round Oak as the name of our company (1) as a play on my initials, and (2) because the whole company fit on the round oak table in my office. Round Oak published its third book in 2005.

Without being exhaustive, let me explain what a publisher does. In summary it's pretty easy. The publisher takes responsibility for everything. And he takes the financial risk. My agreement with Michael was that I would handle all of the traditional publisher tasks, and we would split the financial risk. We started by contributing \$75,000 each.

Here's the scope of activities:

- Editing. Now the editing took on an identifiable new dimension. We brought in a gifted and tireless Columbia-trained linguistic hotshot. The battle over words and clarity now shifted from Michael vs. Ron (when I was the editor) to Ron vs. Kathy (our new editor). She did exactly what a publisher pays for: she tore the book apart and put it back together. Style guides and myriad choices, “track changes” and weeks and weeks of long days. Painful but necessary. Back then I used to claim to know every paragraph and its location in the book, by heart. You are baptized in the publishing business when you have to do your first index, a seemingly simple but sufficiently complex task that has to be done at the last minute. As a rule, publishers judge the quality of a book by the index much as a restaurateur might judge its competition by checking the bathrooms. For sure you don't judge a book by its cover.
- Layout. Layout work was contracted to a mob in Duncan, Oklahoma. All the same elements that made the book so attractive to me as an author I now faced as added complexity from the other side as publisher. I spent many late nights at the Holiday Inn in Duncan pouring over issues related to artwork signatures, color matching, archive photos and full bleeds, and ISBN numbers and barcodes, in addition to the normal text, figures and photos.
- Printing and Binding. You generally think of these two elements as a package, but we elected to print the book in Dallas, Texas, and to have it bound in San Antonio. Although this complicated the quality control and logistics, it saved a

fair bit of money. In fact, the slip covers did have a problem with the clear coat (necessary to keep a black cover from scuffing) and had to be printed twice. We printed 41,000 copies of *The Color of Oil* in late-1999. The first 500 copies were delivered in the back of my wife's Suburban.

- Distribution and Marketing. Again, though these two terms are often lumped together, they make a mouthful. The distribution side of publishing required a great deal of my attention in the early going. It ultimately gets pretty simple, but like anything, it's a trade, and word of mouth seemed to be the mode of learning. At least I never found a "how to" guide on the subject. We'll touch briefly on the business end of marketing (a publisher's view) in this chapter and then discuss how to create an image and affect market penetration in the next—an important and challenging proposition if you do not have the name of a Danielle Steel or John Grisham.

We used multiple distribution channels, starting with our friend Dick Ghiselin at *Hart's E&P*, who eventually bought and distributed 5,000 copies, sales through Round Oak Publishing's website, direct marketing, and so on. But starting from the top, there are three big retailers that can't be ignored. Barnes & Noble and Borders make up over 40 percent of all book sales and are 9 and 7 times larger than the No. 3 competitor, respectively. For online sales, Amazon, though smaller than the traditional retailers with 4 to 5 percent of the market, is 10 times the next largest online retailer, BN.com. Setting the book up on Amazon was relatively simple. They provide direct (though slow and cumbersome) access, not surprising given their well understood ambition to demolish

weak and inefficient supply networks.

Barnes & Noble and Borders, on the other hand, will deal direct only with the largest publishing houses, so getting our book on their shelves was a bit more difficult. It meant going through a wholesaler. And since over 85 percent of the wholesale market is controlled by two major players, Ingram and Baker & Taylor, it specifically meant getting qualified and “in the system” at those warehouses. But how?

A key pivot in our distribution story came through yet another of our Houston trade publishers, John Wilson, then president of Gulf Publishing. Initially our relationship was limited to a distribution agreement with Gulf Publishing, through which we eventually moved about 2,500 books. But the relationship between John and me grew, and we spent considerable time together. John taught me the trade and seemed to appreciate the fresh ideas and forcefulness with which I was approaching the business, *his* business. Which brings me back to the point: John led us by the hand (good thing) through the beyond-comprehension labyrinth of the nation’s two biggest book wholesalers.

After that, we were rolling and things came easier; we expanded our coverage through technical bookshops, book clubs and international license agreements.

Our thinking on the subject of marketing underwent a revolution at the same time we abandoned the big publishers. It had to. After all, they were the ones responsible for creating all the buzz of publicity, interviews, book signings, and celebrity. Our first thought was overwhelm. Our second thought was to hire a full-time marketing director and publicist.

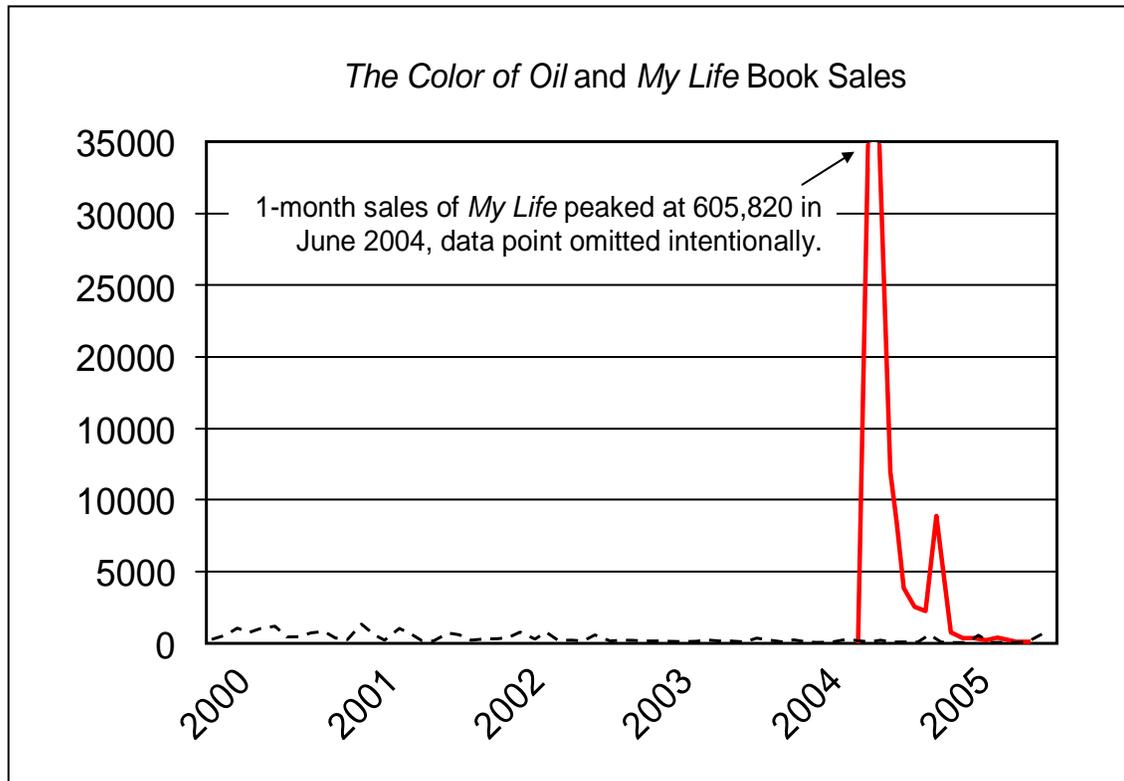
But the thing that really got the ball rolling was the \$15,000-a-month retainer, plus expenses, that we paid the Washington, D.C., public relations firm of Smith-Fairfield to get us started. These folks had done presidential events and Hollywood awards shows, and yet by media-world standards were considered a bargain. We didn't necessarily tell them that our plan was to buy access to their media black book and learn their tricks of the trade, but that's what we did. It took about five months to get our feet on the ground. Fortunately, we were selling enough books to pay for the effort from cash flow.

The decision to publish the book ourselves came with a fundamental distinction and advantage: it left us in control of the money. Despite the upfront marketing and promotion that major publishing houses are known for, they are quick to shift focus when the glitz wears off and the next new release takes the stage. And for that sometimes very brief effort, the publisher gets about \$10 out of every \$25 book, indefinitely. The author gets \$2.50. Enough to buy coffee, but not to reinvest in building the book, his or her brand, or reputation. By controlling the cash flow, we retained far more influence on the outcome of our book project, with benefits that are very easy to demonstrate.

Let's do a quick comparison between *The Color of Oil* and *My Life*, by Former President Bill Clinton, the biggest bestseller of any nonfiction book ever written. On one hand, there is no comparison. When *My Life* came out in mid-2004, it sold over 600,000 copies in the first month alone (Nielsen BookScan). *The Color of Oil* has sold 33,000 copies since 2000 (which is actually quite good for a nonfiction volume). This

contrast is clear enough from Figure 10. In fact, the sales of Clinton's book are divided by 10 just to keep sales figures for our book from disappearing on the scale.

**FIGURE 10**

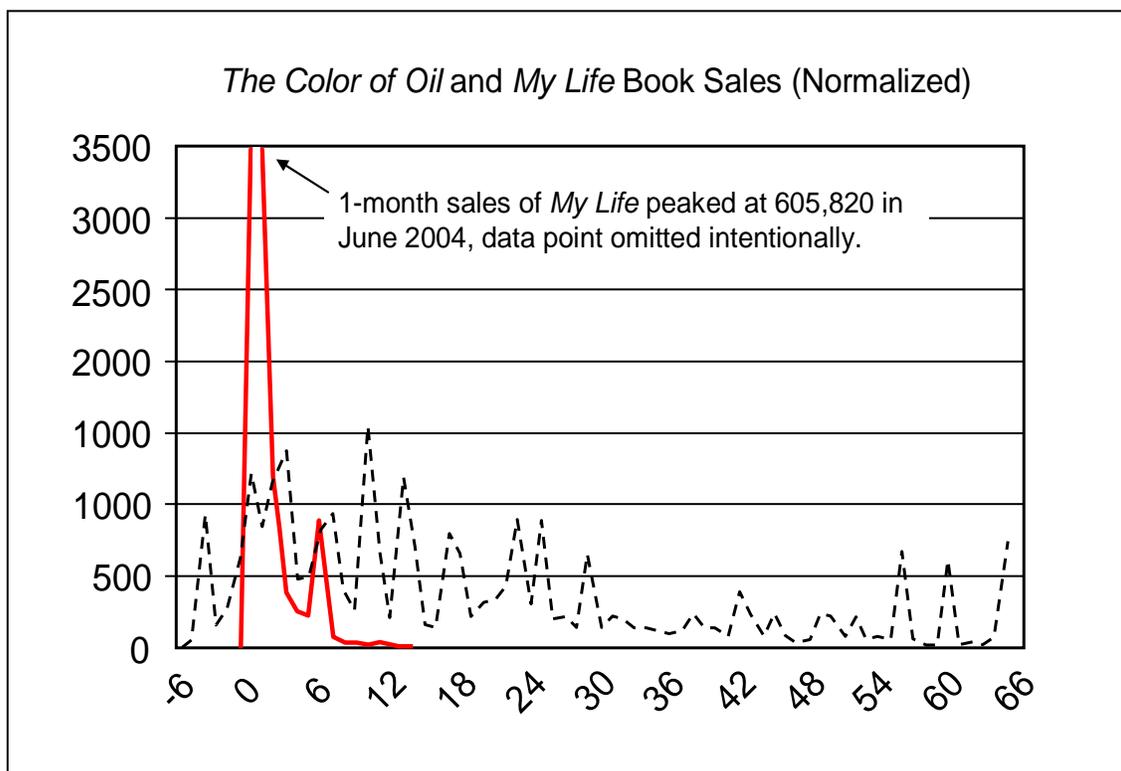


Monthly book sales for *The Color of Oil* (dashed black) vs. *My Life* (solid red). Numbers for *My Life* divided by 10 to adjust scale. (Source: Round Oak Publishing, Nielsen BookScan.)

Yet, a closer look provides an important and compelling lesson. On Figure 11, sales of the two books are normalized according to months from release date, and this time, sales of *My Life* are divided by 100 to further expand the scale. It is immediately striking and obvious that essentially all of Clinton's book sales came in the first six

months. Sales of *The Color of Oil*, on the other hand, have been a long, slow burn. Being responsible for our own promotion (and having control of the money) has allowed us to focus on our product and maintain sales over a period of years. The reduced sales that we experienced in the window of 36 to 48 months is likely a result of our losing interest for a time in marketing the book.

**FIGURE 11**



Normalized book sales for *The Color of Oil* (dashed black) vs. *My Life* (solid red). Data normalized to month from release date and numbers for *My Life* divided by 100 to adjust scale. (Source: Round Oak Publishing, Nielsen BookScan.)

Even though most books fall between these extremes, it is very difficult to

identify a “typical” pattern. (I spent some time working with the Nielsen BookScan service, but was not overly successful.)

Amidst the differences, there is a clear point of similarity that bears pointing out: the reputation, personality and ability of the author(s) are dominant to the role of the publisher in making a book successful. Marketing professor Peter S. Fader, when asked whether the sales success of *My Life* was a function of the publisher’s marketing strategy or Clinton’s appeal, said, “It’s 100 percent the latter, zero percent the former” (Creating the Buzz, 2003). That matches our experience, and provides further support for keeping control of the money.

Notwithstanding the real and emotional setback of being turned down by the major U.S. publishers, we delivered a marquee book. Our vindication and satisfaction would come from the hard numbers:

- Sold 33,000 English versions
- Initial printing of 70,000 in China
- Now in 5 languages, English, Chinese, Korean, Spanish and Russian
- Over 250 invited speeches
- Over \$1 million in revenue

The next chapter will give the reader a much better sense of how we did it.

## CHAPTER IX

## THE AGGRESSIVE MARKETING-MAKING OF A NONFICTION BESTSELLER

What immediately set our book apart from other nonfiction energy books is that the authors were technical experts in the subject and well- to very-well known to others in the industry. Evidence that we achieved and maintained a top-ten local bestseller rating in several oilfield towns, including 23 weeks at No. 1 in the Houston market.

There are many good nonfiction books written by accomplished writers, e.g. a journalist from the *Washington Post* or the *New York Times* writing about the automobile industry. But read any of these books and what you find is a general ignorance of the workings of the industry and an emphasis on the lurid, the corrupt, the criminal. A book on Enron will not deal with the poor business judgment or legal and regulatory processes that actually led to the company's failure (which would be hard to write and even harder to sell to the public), but with the shortcomings and bizarre behavior of its officers. The main competition and point of contrast in our case was again *The Prize*, heavily researched and masterfully written, but still by an economist rather than an industry insider—a fact that eventually causes the book to show thin in spots.

This is not to suggest that we set out to write a technical book, and our industry peers were not quite our audience ... we would be preaching to the choir. On top of that (a none too flattering point) a large portion of oil industry professionals are not quite intellectual types, looking at the big picture. They would rather go about their business, sure of what they do and easily dismissive of the industry critics.

But being well known professionals in the industry and living in Houston, the

“oil capital of the world,” did give us a good head start and a captive audience. Frequent appearances on the newspaper OpEd page with some rather strong opinions did not hurt either. Between 1999 and 2004, I authored or co-authored 34 OpEd pieces, 16 of those in the *Houston Chronicle* and most bylined the same as the book for obvious reasons. Our back-and-forth writing mode as described in Chapter VII was employed to generate high quality pieces, sometimes on very short notice. Many times we produced an OpEd in two or three hours, from conception to completion. Others took much longer, evolving over several days with the lead being modified to match the latest news hook, as you might expect. (A complete record of my opinion pieces is included as Appendix D.)

We hit the promotion and advertising road hard. Among the many things we tried, our speaking engagements became the most natural cornerstone. The fact that both us, with very different styles, were engaging speakers came as a natural plus to the effort. A single solid engagement went with 50 to 100 books, sometimes several hundred, and generated a handful of follow-up opportunities. At the peak, we were each giving 2 to 3 talks per week. Eventually, it evolved into a semi-independent money-making activity, which continues to this day. The two of us have given 250 talks related to *The Color of Oil* and are nearing a combined \$1 million in speaking fees. (A representative sample of my invited presentations is listed in Appendix E. Figure F-5 in Appendix F is a photo of me giving a keynote address in 2004.)

The marketing activities that eventually made *The Color of Oil* are considerable and varied, but the following list provides a good basic set of elements employed:

- **Speaking engagements.** We probably gave 100 free and inconsequential speeches before and mixed in with the 250 paid engagements that really count. Don't be proud.
- **Hard-hitting editorials.** Cracking the precious OpEd space of a major U.S. paper comes with potent indirect marketing that money can't buy. We had pieces that ran adjacent to Henry Kissinger, Jimmy Carter, and Mikhail Gorbachev. Done right, folks want to hear more of what you have to say. Do lots and include a book title in the biography block.
- **Book signings.** We used this classic marketing tool to good effect. Much more on this important element in a bit.
- **Book reviews.** Good book reviews take a lot of legwork. We were particularly happy with one we landed in the Continental Airlines magazine. Many people coming to Houston for energy conferences and business mentioned it to us.
- **Mass direct marketing by e-mail, fax and mail.** Every contact was saved and entered into our database for follow-up and repeated contacts—they say it takes seven touches to make a sale. Ultimately, our wives, children, and friends all got a chance to stuff envelopes and staff the fax machine. We did find a bit of hot water for e-mailing the 35,000-plus membership of the Society of Petroleum Engineers on a single day. Don't be afraid of being labeled a “spammer.”
- **Corporate sales network.** With our combined connections, we envisaged selling tens of thousands of copies at a time to major energy companies. We made a strong push that failed, likely because the book with some controversial

positions was a bit different than internal corporate strategy or the kind of thing that could be endorsed publicly by an Exxon or Halliburton, with all their troubles. Nonetheless, this marketing provided exposure as we did gain some access to internal e-mail distribution and personal sales to company employees.

- **Blanketing the politicians.** Following early adoption of the book in Washington, D.C., we arranged through a nonprofit research organization a sponsored distribution of the book to all U.S. senators and congressmen. In a follow-up visit with Representative Tom Delay in his office, I saw a copy of the book on his credenza next to the phone. It was sandwiched between the *Holy Bible* on one side and Chuck Colson's book *How Then Shall We Live?* on the other.
- **Press releases.** It was a bit odd, presumptuous, the first time that I wrote a press release featuring myself as a "Top Energy Expert." Get used to it, and do it often. (An example press release is provided in as Figure F-6.)
- **Media campaign.** Expensive as it was, engaging a professional media organization was key to catapulting our message to the national level. Now the press releases were staged in public, and sponsored. Media access to the experts (us) was arranged via open teleconferences and coordinated with media appearances. And, of course, we gained inside access to the major network, cable news and business shows through this firm. Expect to do a lot of local and then regional "spadework" before the national breakthroughs as they want to see clips and how you perform "live" before putting you on their show.

- **Expert testimonies.** The media are starved for expert input and testimony, especially from colorful folks, so this was the natural follow-on to our media campaign. Like editorials, this is a great avenue for exposure. And for a while it was quite flattering. But then it just became too demanding, consuming my time and my life in a way that was not justified by the incremental book sales. The story for Michael is a bit different, and he does frequent TV appearances to this day.

From this *a la carte* list, we gradually learned to combine elements for maximum effect. Especially powerful was the combination of *presentation* to a large group or professional organization, combined with a *book signing* and coordinated *local media* spots. Here's how it worked: first, we would organize a professional talk, hopefully for pay but at least the cost of the plane ticket and hotel. This was organized first as it has the longest lead time of the three elements. It also played to our strength and reputations as technical experts—i.e. they were easy engagements to get. The Society of Petroleum Engineers, for example, has local chapters in dozens of cities all over the world. Second, our publicist would contact the Barnes & Noble or Borders bookstore in the same city and arrange a book signing. For example, if I had an SPE lunch talk on a Thursday, we would schedule a book signing on the Wednesday evening before. Third, as the date approached, our publicist would contact all the media in town: “Mr. Oligney, an expert on energy, etc., will be in town to give a talk to such-and-such professional society and to do a book signing at Barnes & Noble.” What media outlet would resist? The scheduled events and implied credibility along with a hot news topic worked every

time we tried. We would typically arrange a half-dozen interviews in a 24-hour period on the ground, often with appearances on the nightly news. Media would often attend one of the pre-scheduled events, which was convenient. Press releases announcing the events (with times, dates and always a little dab of substantive information) were a final touch.

A little more detail on the book signings is appropriate. In contrast to the formidable and unapproachable New York head offices for major players like Barnes & Noble, almost every store has a community affairs representative, a citizen that lives and works in the community and is responsible to give the store a local flavor and outreach. Befriending this individual in dozens of stores was the shortcut that got our book signings rolling after a slow start with the New York crowd. After the date was set, this individual handled almost everything: ordering a stock of books; advance promotion; an in-store display complete with posters and books; and all details on the day of the event, including a screen, projector and microphone for our short presentation, and often free Starbucks coffee for our attendees.

Our book signings ranged in size from a half-dozen folks, which is pretty normal in the industry, to 15 to 20 folks, more normal for us, to the largest, almost 100, at the Barnes & Noble at the Rockefeller Plaza in New York. The store had confused my book signing with that of none other than Tom Clancy, which was scheduled for later the same day. Some people were angry. Several just looked confused. Most stayed to listen to what I had to say.

Let's go back to the speaking engagements for a minute because this is

important, and I'd like to add a few general comments not specific to *The Color of Oil*. The key is to understand that the speakers' circuit is an industry in its own right, and like any other, some basic competence will get you started. No major breakthrough is needed to take advantage of this avenue. The key is to be informative and learn how to be entertaining. Plan on giving 100 talks for free, both to practice and gain exposure; then start charging. Paid speakers very commonly charge \$5,000 for a 45-minute talk (though most start by charging far less), plus expenses, plus books on top of that. If you are good, in our experience, each talk will lead to at least one if not two or three additional talks. We escalated our price to keep the number of requests manageable.

Prime network and cable TV engagements followed and eventually we became something like media stars. Here are a few points of what we learned. Know what you want to say. No one is that good on their feet, especially when 10 million people are watching. Some interviewers give you the questions ahead of time; some like to throw you a curve. The key is that almost any question can be redirected quickly to what you want to say. Example: I know a lot about natural gas, and John Q. Interviewer asks me about oil. What to do? Redirect the question: say, "John, you know with OPEC convening behind closed doors over the weekend, that's the question that everyone is asking this morning, but the *real* question, and the real *answer* is, 'What about natural gas?'" The next thing your interviewer will say is, "Tell me about natural gas." You've just put him on to a scoop. Above all, have something interesting to say. And say it in short, stand alone sentences, no more than 20 seconds each. Two minutes is short in a lecture hall, but it is an eternity on CNN. (Figure F-7 is a shot of author Ron Oligney on

the set at CNN Financial.) You know you've done it right if the next talking-head gets bumped and they stretch your two-minute segment to five.

Our first really big break came on CNBC in the summer of 2000. And the episode came with a few lessons. Both Michael and I were in the studio in New York. They gave us the questions ahead of time, so like engineers we divided them between ourselves. Trouble is the host directed the questions, and he directed the opening question (Michael's question) to me. The interview turned out fine, but the day was far from over. In fact, we had just been seated with our wives for lunch at a nice sidewalk café downtown, when the telephone started to ring. Everyone monitors everyone else's program, so if you are on the set at CNBC and do well, your agent will immediately get calls from all the other programs, first MSNBC, then Bloomberg, *The New York Post* and several smaller outlets. We not only missed lunch, we had dinner late.

This desperate herd mentality of the media is something that can be leveraged with great effect, something else that *The Color of Oil* experience demonstrated, as was shown by the content analysis provided in Chapter IV.

The other not-too-pleasant lesson of the day had to do with supply chain logistics for our book. A whole day of media exposure in front of millions, and our supply of books at Amazon.com was out in the first 30 minutes. Its website advised that the book was back-ordered and "usually ships in 4 to 6 weeks." Ouch.

A creative person who has taken the pains to learn a new business is eventually compelled to challenge the old school with some new ideas. I'll finish this chapter with a few "above and beyond" things that we tried:

- **“Mike and Ron” cartoon strip.** To extend the public image and byline of Michael Economides and Ronald Oligney, and to reinforce our none-too-subtle message, now with a bit of fun, we hired an artist and published a weekly cartoon strip, several samples of which are provided in Figure F-8. These images ran weekly in the *Houston Business Journal* during 2000 and 2001. In addition to providing a creative public awareness and educational tool, they served as good visual aids for work on the speakers’ circuit.
- **Christmas flyer.** The same Mike & Ron caricature was used on the face of a direct marketing postcard for Christmas 2000 (see Figure F-9). This piece was designed as a follow-up tool and was mailed to our entire database of thousands of contacts.
- **The Big Book.** Round Oak Publishing employed a local sign-maker to fabricate a giant copy of the book —8 FEET TALL(!)—from fiberglass and foam. It was used as a display and attraction at book signings and trade shows (see Figure F-10). The book traveled extensively at considerable cost and hassle, but it certainly accomplished the goal of attracting attention. The book was retired in 2003 and replaced with conventional hanging cloth banners that are much easier to transport.
- **EnergyCentralUSA.com.** Eventually, in order to manage the tremendous volume of content that Michael and I were generating, OpEds, white papers, presentations, press releases, media clips, cartoons, etc., it became almost necessary to have an outlet to manage the content. So we designed and set up a

dedicated website on top of the ColorOfOil.com and RoundOakPublishing.com websites. The Energy Central website was sponsored and produced a small cash flow for the authors while proving an invaluable source of information and interface for our media and promotion activities.

Although this chapter is not exhaustive of the activities that we undertook to create space and definition in the market for *The Color of Oil*, it certainly conveys the psychology and some important details. Ultimately, we strove to create an overwhelming, holistic, and high-impact marketing package. Some evidence for our impact was discussed in Chapter V. One additional bit of evidence is offered in the final chapter as a forceful conclusion and reinforcement to my thesis.

## CHAPTER X

## CONCLUSION: “ALWAYS WRITE FOR MONEY”

A fitting conclusion to this thesis might be captured in the oft-repeated axiom of my committee chair, “Always write for money.” This doesn’t sound much like something an academic would say, but that’s probably because Starr has a worldly scope and intellect that is anything but academic. As a technologist (by practice) and a journalist (now by training), I would agree and maybe extend Starr’s axiom: being in the right place, knowing a few things and being able to articulate them clearly, may, in fact, be worth a small fortune, both in human and financial terms.

For those that may find the discussion of “money” to be odd or inappropriate to an academic discussion, let me make the case right up front. It is essential to complete my thesis: although sci-tech journalists may not have made a profound impact in the pay-per-article category and may even be dismissed by some as anachronistic, as discussed in previous chapters, it’s no time for them to give up or give in. Their combined knowledge and writing ability may add considerable volatility to the write-for-money axiom.

No one would question the contributions of Dell Computer to the advance of supply-chain management theory, but if he wasn’t the richest 40-year-old in the country, we’d be a lot less interested. Besides, for a college dropout, I understand that Michael Dell gives a pretty solid commencement speech.

*The Color of Oil*, despite being an interesting and bestselling energy book, didn’t reach a position of wide acceptance and validity until it became the basis for policy at

the highest levels, and until after its ideas were translated to billions of tangible dollars.

Here's a simple anecdote that shows how the words written in *The Color of Oil* translated on one hand to human progress and economic benefit for the United States, and on the other hand, to some pretty good pay for both the authors and their readers.

In early 2000, with Michael and me making the rounds of book signings in quite a number of bookstores, a gentleman by the name of Charif Souki messed up the date of a Saturday event at Barnes & Noble and instead came on Sunday. As he recounted the tale to us, much later, he sat in the bookstore and read almost the entire book, and then had a bit of trouble with his wife in trying to explain his long absence.

Monday morning after the Barnes & Noble event, Charif called Michael and introduced himself. They hit it off famously. Both came from the same part of the world, Michael from Cyprus, and Charif from neighboring Lebanon, and both were of Greek Orthodox background. But more interesting was Charif's vision of the future of energy and, in particular, his captivation by our arguments about the future of natural gas.

We met Charif in his Houston office a short while later. It was striking the reverence he had for two men he had never met, clearly a credibility went ahead of us based on our written words. We talked about imported liquid natural gas, LNG, a dominant theme of chapter 8 of our book. Charif thought of it as the only solution, this from the CEO of a petroleum exploration and production company, struggling as it was, but in all cases realizing that domestic production, even at its rosiest, could not come close to fulfilling the rising national demand.

Charif wanted to discuss building LNG accepting facilities in Boston or New York. After all, that is where the long-suffering consumers are; that is where the highest prices are earned. We pointed out the attractiveness of Texas, with its friendlier regulatory environment and the crucial existing infrastructure—infrastructure that is becoming underutilized with the drop-off in domestic production.

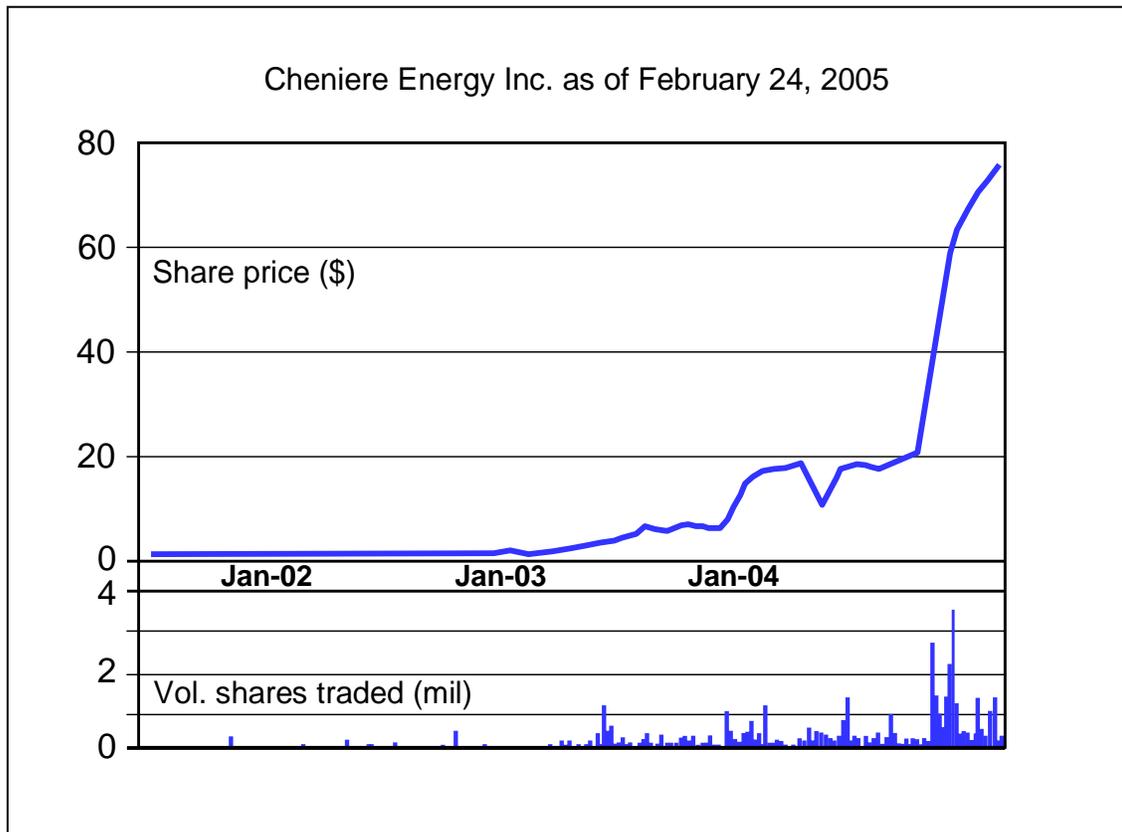
He took our advice. His company, Cheniere Energy, was the first to jump on the LNG bandwagon and by now owns three of the four permitted new facilities in the United States, all in Texas and Louisiana. The stock exploded from 75 cents a share to \$80 by year-end 2004, and Cheniere's market capitalization grew from \$10 million to \$2 billion (Figure 12).

We got paid in stock that is now worth now quite a lot ... all directly related to *The Color of Oil*.

There is a difficult-to-capture element to this story. The whole idea of technical expertise is not enough. Two professors can argue an important matter all day (I speak from a decade of personal experience as a professor at Texas A&M and the University of Houston), and still neither has 25 bucks with which to buy dinner. Simple discussions between like-minded technical experts does not produce the results that society needs.

Somehow it is the very act of explaining that forces you to understand the bigger scope, which in turn, manifests itself as even more powerful insights. Geometrically more powerful, more compelling, ... It improves the person.

FIGURE 12



Cheniere Energy stock price (blue line) and trading volume (blue bars) 2001 to 2005. (Source: finance.yahoo.com)

So, my final words: *The Color of Oil* does not have to be an isolated story. Journalists, particularly of the sci-tech variety, need to seize on what is a hugely important role for society in connecting substantive technical insight and social needs through the written word. Their typical cross-disciplinary depth and capabilities provide the right base, even if it means taking on the role of publisher, publicist and speaker, as was my experience with *The Color of Oil*. The rewards can be tremendous.

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## APPENDIX A

## ENDNOTES

<sup>1</sup> Though Milton's language is antiquated, his point is still extremely relevant to the modern discussion on freedom of the press: "It will be primely to the discouragement of all learning, and the stop of Truth, not only by disexercising and blunting our abilities in what we know already, but by hindring and cropping the discovery that might bee yet further made both in religious and civill Wisdom ... hee who destroyes a good Booke, kills reason it selfe... Good and evil we know in the field of this world grow up together almost inseparably; and the knowledge of good is so involv'd and interwoven with the knowledge of evill, and in so many cunning resemblances hardly to be discern'd... What wisdome can there be to choose, what continence to forbear without the knowledge of evill? ... Since therefore the knowledge and survay of vice is in this world so necessary to the constituting of human vertue, and the scanning of error to the confirmation of truth, how can we more safely, and with lesse danger scout into the regions of sin and falsity then by reading all manner of tractats, and hearing all manner of reason? ... How shall the licencers themselves be confided in, unlesse we can conferr upon them, or they assume to themselves to be above all others in the Land, the grace of infallibility, and uncorruptednesse? ... Truth and understanding are not such wares as to be monopoliz'd and traded in by tickets and statutes, and standards. We must not think to make a staple commodity of all the knowledge in the Land, to mark and licence it like our broad cloth, and our wool packs. . . Nor is it to the common people lesse then a reproach; for if we be so jealous over them, as that we dare not trust them with an English pamphlet, what doe we but censure them for a giddy, vitious, and ungrounded people; in such a sick and weak estate of faith and discretion, as to be able to take nothing down but through the pipe of a licencer ... A man may be a heretick in the truth; and if he beleeveth things only because his Pastor sayes so, or the Assembly so determines, without knowing other reason, though his belief be true, yet the very truth he holds, becomes his heresie" (Milton, 1950, pp. 677-724).

<sup>2</sup> Locke's position on freedom of speech and the press, like those of most of his contemporaries, was not based first and foremost on rights for rights' sake, but rather based on the assumption that it was necessary to promote knowledge and truth: "We should do well to commiserate our mutual ignorance, and endeavour to remove it in all the gentle and fair ways of information, and not instantly treat others ill as obstinate and perverse because they will not renounce their own and receive our opinions, or at least those we would force upon them, when it is more probable that we are no less obstinate in not embracing some of theirs. For where is the man that has uncontestable evidence of the truth of all that he holds, or of the falsehood of all he condemns; or can say, that he has examined to the bottom all his own or other men's opinions? The necessity of believing without knowledge, nay, often upon very slight grounds, in this fleeting state

of action and blindness we are in, should make us more busy and careful to inform ourselves than contain others” (Locke, 1698/1879, pp. 560-561).

APPENDIX B  
UNIVERSITIES NOT RESPONDING TO REQUEST  
FOR ENROLLMENT FIGURES

- Arizona State University
- Boston University
- Bowling Green State University
- Brigham Young University
- California State University, Northridge
- Clarkson University
- Colgate University
- DePaul University
- Emerson College/Tufts University School of Medicine
- Indiana University
- Iowa State University
- Loyola College in Maryland
- Massachusetts Institute of Technology
- Miami University
- Michigan Technological University
- New York University
- Northern Arizona University
- Northwestern University
- Ohio State University
- Purdue University
- Syracuse University
- Temple University
- University of Colorado-Boulder
- University of Hartford
- University of Illinois at Urbana-Champaign
- University of Iowa
- University of Maryland
- University of Missouri-Columbia
- University of New Mexico
- University of Oklahoma
- University of Washington
- Western Washington University

## APPENDIX C

## FIND IT FAST

A lot has happened, in my life, in the world, and in the world of journalism since the original “Find It Fast” problems contract was undertaken in September 1998. A constant theme, however, in my sphere of work and relationships, is the need to do substantive referenced work, in a hurry, and typically with very limited research staff.

In Chapter VI of this thesis, I poked fun with the idea that the research we did for *The Color of Oil* was done by marginally-useful graduate students and literally our own children, then contrasted that to the 20 man-year effort that backed up one of our chief competitors in the marketplace, *The Prize*. But there is also a sober and pragmatic side to my personality on this issue. I face demands every day to produce fresh and credible writings in the trade and popular press, and so “find it fast” is a very real part of my work-a-day ritual.

I specifically explained how we cleared the research hurdle for *The Color of Oil*, and will let the book’s success and its use as a guidebook by many business and thought leaders speak to the credibility of our approach, which, repeating myself, consisted of three steps:

(1) We read Yergin’s book voraciously and connected the text with his resources, and then secured our own copies of some of those we thought were the most relevant;

(2) We employed “snowball research” to develop these core resources into a valuable *chain* of research sources; and

(3) We relied heavily on background and instincts to keep us from missing any important points.

The following simple table provides a demographic of the source types that were employed in writing *The Color of Oil*.

---

**Table C-1**

<b>Source Type</b>	<b>Number</b>	<b>Internet</b>	<b>Yergin</b>
Books	49	0	5
Periodicals	26	2	0
Newspapers	24	2	0
Government	16	11	0
Experts	9	1	0
Companies	4	2	0
<b>Totals</b>	<b>128</b>	<b>18</b>	<b>5</b>

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The far the largest resource type employed in researching *The Color of Oil* was, in fact, other books. They comprised 49 of 128 the total references used, or 38 percent. The key resources we identified from *The Prize* were all books, five in total, and, in turn, almost all of the snowball references were also books. The reason for our heavy reliance on book references is almost self evident in light of the subtitle, *The History, The Money and the Politics of the World's Biggest Business*. Michael and I are first and foremost

technologists and businessmen, and combined we have decades of experience in the politics and geopolitics of energy, but we were never really historians. Hence our greater need to rely on outside sources in this area. And, of course, history is much more likely to come from bound volumes than business or politics, which by definition are very fluid. Yergin's exhaustive record of the history of oil proved to be a great source of the right books to put together our own insightful perspective of events.

On the other side of Table C-1, our reliance on energy companies and experts in producing *The Color of Oil* was very low, 3 percent and 7 percent of the total references, respectively. This, obviously, is because we *ourselves* are the experts and we are *advisors* to most major companies that have anything to do with energy.

### **Supersources**

Periodicals, newspapers and government sources fill the middle of Table C-1, and this is where all of the real action takes place. From these sources, and really a set of three “supersources” (to borrow a term that Robert Berkman uses in his book, *Find It Fast*) Michael and I derive—and have for many years, with very short turnaround times—the endless rounds of inputs that back up our work.

(1) The *Oil & Gas Journal* is a key periodical that provides a broad base of technical and business information for all segments of the petroleum complex. The information is highly searchable, in print and online, and is uniformly well-respected across the industry. The *Oil & Gas Journal* represents 42 percent of the periodicals category on Table C-1.

(2) The *Houston Chronicle* is a good source of popular news on the energy

complex. In my experience, the *Chronicle*, situated as it is in the energy capital of the world, reports far more energy news than any other major metropolitan newspaper. And it maintains a powerful and inexpensive online archive that goes back to 1985. The *Houston Chronicle* represents 38 percent of the newspapers category on Table C-1.

(3) The **Energy Information Administration**, part of the U.S. Department of Energy, is the best source worldwide for energy statistics of all kinds. Their information on the U.S. energy complex is far, far superior to any other source; and in most cases, they also maintain the best energy information on other countries. And almost all of their information is available online. The EIA represents 50 percent of the government category on Table C-1.

### **Times Change**

It would be interesting to see how different Table C-1 might look if we were to write *The Color of Oil* today, six years later. To start, a vast number of books, particularly history and classics, can be conveniently sourced and searched (even internal to the book) online. Table C-1 shows that none of the books was accessed via the Internet. In fact, when the book was written in 1999, the only real powerful online source was the EIA database, which drove the Internet usage up to 69 percent of the government category. Access to other categories over the Internet was typically down around 10 percent.

Suffice to say, “find it fast” means something very different today than it did back in 1998 when I first used the phrase. The biggest difference, intimated already, is that the advent of online sources, which have exploded in terms of the volume of

available information, the quality of available information, and the speed and ease with which the information can be accessed. The bulk of the remainder of this appendix will focus on these sources. Nearly all of the research for this thesis was performed online, including the extensive historical background provided in Chapter III, which includes extensive citations and excerpts from original works, and the content analysis provided in Chapter IV.

Fortunate for me, as I travel extensively, online research is blazingly fast, and it can be done from anywhere in the world.

### **Online Researching**

In the course of my research and professional work, I have gained at least a basic familiarity and will briefly describe the following online research resources for the benefit of the reader:

1. Questia
2. LexisNexis
3. Texas A&M University's online resources
4. JSTOR, or Journal Storage
5. ProQuest
6. EBSCOhost
7. FirstSearch
8. GPO Access
9. Various university and organization websites

The utility of a particular online tools is often determined by the specific research application. However, they all offer the researcher a wide set of options, no matter his or her location. This is not so important for those conducting research in a huge metropolis such as Houston, equipped as it is with numerous scholarly libraries, but it is very important to those operating on the road or in remote settings.

(1) **Questia**, the literature search engine and archive started by a team of former executives from Compaq Computers in Houston, is a powerful tool for reading entire books online. It offers 60,000 books and the collection is continually expanding. Questia also offers a selection of 1,000,000 journal, magazine, and newspaper articles, but these sources are neither complete nor systematic, and can more easily be found in other locations. The online toolset that Questia offers is cutting-edge and efficient. While reading an online book, you can highlight and bookmark sections, transfer ready-made citations into Word documents and save all the notes and highlights in a working project that appears the next time you sign on the system. (This service can be found at [questia.com](http://questia.com) and costs either \$20 a month or \$100 a year.)

(2) **LexisNexis** is probably the most well-known online tool. It is a terrific tool for searching newspapers, transcripts, and so on. It allows the user to search by subject category, time period, periodical, or a specific phrase. This tool is a bit difficult to understand and navigate, but it is useful once you gain a familiarity and comfort with the features. I personally have had access to the LexisNexis Academic service through my daughter's account at Houston Baptist University. (Otherwise this service can be found at [LexisNexis.com](http://LexisNexis.com))

(3) **Texas A&M University's online resources.** I spent a grand total of one afternoon attempting to navigate the Texas A&M online resources. It was not overly impressed, though the e-journal resource was moderately helpful. I'm not sure if the Texas A&M online resources are very limited or if the website is simply not user-friendly. I have enjoyed access to a number of powerful and easy-to-navigate online resources through Houston Baptist University over the past few years (described below), so there was very little motivation to struggle with the A&M system, despite my being a student there.

(4) **JSTOR, or Journal Storage,** is an online collection of scholarly journals. It contains 657 journals in 25 fields, in full-text and PDF-formatted, and allows considerable flexibility in how the search is set up. Again, I had access to this resource through Houston Baptist University. (See JSTOR.org)

(5) **ProQuest** contains the archives of 1,019 periodicals, though it does not contain full-text versions of all of them. It is also easily navigable and offered through Houston Baptist University.

(6) **EBSCOhost** has many branches. Probably the most useful is its Academic Search Premier, the largest scholarly database in the world, with 8,025 publications, 4,500 of which are peer-reviewed. I had access to this resource through Houston Baptist University.

(7) **FirstSearch** contains nine separate databases: Dissertations, AGRICOLA, ArticleFirst, Basis BIOSIS, BioDigest, Bus[iness]Management, Contemporary Women's Issues (CWI), ECO, and EconLit. My experience with FirstSearch is limited, but I have

used the Dissertations database and found it to be useful. It contains more than 2,000,000 abstracts of dissertations and theses from institutions in North America and Europe, dating back 1861. This is the year that graduate schooling was introduced to the United States. I had access to this resource through Houston Baptist University.

(8) **GPO Access** is another online service of which I am aware but have not used. I understand it to be another excellent online resource for U.S. Government Documents.

(9) **Various university and organization websites.** Finally, there are many excellent online resources and collections sponsored by various schools and reputable organizations. A few examples: For historical primary documents, Fordham University's *History Sourcebook* is an excellent resource, offering everything from the Code of Hammurabi (c.1780 BCE) to speeches by Khrushchev. For political primary documents, The Constitution Society is an excellent resource. For primary documents penned by the greats in Christian Church history, Wheaton's Christian Classics Ethereal Library and the Global Catholic Network's online library are good resources. For abstracts of medical documents, PubMed is an excellent resource. Additionally, many periodicals and organizations offer a surprising amount of their material online either free or for a small charge: an example of this would be Wired News, which offers both online articles and online access to the most recent edition of its recent print magazine, *Wired*.

## APPENDIX D

## OP-ED RECORD

<sup>1</sup> Economides, M.J. and Oligney, R.E.: "We'll be looking at \$50 oil, and likely by next winter," *Houston Chronicle*, August 7, 2004, p. B7.

<sup>2</sup> Economides, M.J. and Oligney, R.E.: "Messy Road to Energy Dominance," *Los Angeles Times*, November 2, 2003, p. M2.

<sup>3</sup> Anderson, R., Oligney, R.E. and Smalley, R.: "Who will lead nation out of darkness? Texas can," *Houston Chronicle*, August 19, 2003, p. 19A.

<sup>4</sup> Economides, M.J. and Oligney, R.E.: "New Venezuela 'oil show' makes Houston debut," *Houston Chronicle*, May 7, 2003, p. 37A.

<sup>5</sup> Economides, M.J. and Oligney, R.E.: "Nueva gerencia de Pdvsa recibió críticas en Houston," *Economia*, 7 de mayo de 2003, p. 5.

<sup>6</sup> Economides, M.J. and Oligney, R.E.: "Managing Iraq poses problems of public perception," *Houston Business Journal*, April 25-May 1, 2003, p. 79.

<sup>7</sup> Economides, M.J. and Oligney, R.E.: "\$10 natural gas spikes may be with us for a while," *Houston Chronicle*, February 28, 2003, p. 41A.

<sup>8</sup> Economides, M.J. and Oligney, R.E.: "Could it be \$30, \$40 or even higher for oil?" *Houston Chronicle*, April 7, 2002, p. 41A.

<sup>9</sup> Economides, M.J. and Oligney, R.E.: "A \$50 billion subsidy for Big Oil in offering this week," *Midland Reporter Telegram*, March 24, 2002, p. 3B.

<sup>10</sup> Economides, M.J. and Oligney, R.E.: "A \$50 billion gift 'Big Oil' didn't even ask for?" *Houston Chronicle*, March 14, 2002, p. 29A.

<sup>11</sup> Economides, M.J. and Oligney, R.E.: "Frightening how we're already politicizing energy debate," *Houston Chronicle*, May 13, 2001, p. 1C.

<sup>12</sup> Economides, M.J. and Oligney, R.E.: "Marshall Plan needed for our coming energy crisis," *Houston Chronicle*, February 18, 2001, p. 4C.

<sup>13</sup> Economides, M.J. and Oligney, R.E.: "A Bush administration would face an old foe," *Houston Chronicle*, December 5, 2000, p. 29A.

<sup>14</sup> Economides, M.J. and Oligney, R.E.: "Natural Gas at \$6.50," EnergyCentralUSA.com, November 21, 2000.

<sup>15</sup> Economides, M.J. and Oligney, R.E.: "From Shortage to Glut in Four Easy Months," Special to TheStreet.com, November 13, 2000.

<sup>16</sup> Economides, M.J. and Oligney, R.E.: "New talk of OPEC production cuts 'convenient,' but there may be hell to pay," EnergyCentralUSA.com, November 12, 2000.

<sup>17</sup> Economides, M.J. and Oligney, R.E.: "When it Comes to Energy, the Big Story Is Natural Gas," Special to TheStreet.com, October 18, 2000.

<sup>18</sup> Economides, M.J. and Oligney, R.E.: "Tapping our oil reserve's the right step to take," *Houston Chronicle*, September 26, 2000, p. 21A.

<sup>19</sup> Economides, M.J. and Oligney, R.E.: "Put pressure on the super-major companies; OPEC isn't the issue," *Houston Chronicle*, September 10, 2000, p. 1C.

<sup>20</sup> Economides, M.J. and Oligney, R.E.: "In the dark over oil and gas—modern politicians are missing the boat when it comes to energy," *Houston Business Journal*, July 7-13, 2000, p. 21.

<sup>21</sup> Economides, M.J. and Oligney, R.E.: "Keep driving those SUVs—the oil will be there," *Houston Chronicle*, June 22, 2000, p. 25A.

<sup>22</sup> Economides, M.J. and Oligney, R.E.: "Energy production is not 'old economy,'" *Calgary Herald*, June 13, 2000, p. A19.

<sup>23</sup> Economides, M.J. and Oligney, R.E.: "Gap between U.S., Europe widens," *Dallas Business Journal*, April 7-13, 2000, p. 75.

<sup>24</sup> Economides, M.J. and Oligney, R.E.: "Get used to \$30 oil – it's here for a while," *Houston Chronicle*, Sunday, March 5, 2000, p. 1C.

<sup>25</sup> Economides, M.J. and Oligney, R.E.: "What goes up can go up even further," *The Australian*, February 22, 2000, p. 13.

<sup>26</sup> Economides, M.J. and Oligney, R.E.: "Shaping the 'new university'," *Dallas Business Journal*, February 4-10, 2000, p. 68.

<sup>27</sup> Economides, M.J. and Oligney, R.E.: "After a century, oil still shaping history," *Dallas Business Journal*, December 24-30, 1999, p. 47.

<sup>28</sup> Economides, M.J. and Oligney, R.E.: "The Petroleum Century," *Houston Business Journal*, December 24-30, 1999, p. 21.

<sup>29</sup> Economides, M.J. and Oligney, R.E.: "Tragedy exposes the depth of Venezuela's ineptness," *Houston Chronicle*, December 22, 1999, p. 39A.

<sup>30</sup> Economides, M.J. and Oligney, R.E.: "'News' causes serious market overreactions," *Dallas Business Journal*, October 29-November 4, 1999, p. 63.

<sup>31</sup> Economides, M.J. and Oligney, R.E.: "Trillion-dollar energy opportunity in our grasp," *Houston Chronicle*, Sunday, July 18, 1999, p. 1C.

<sup>32</sup> Oligney, R.E. and Economides, M.J.: "Enough with the easy oil price predictions," *Dallas Business Journal*, April 9-15, 1999, p. 69.

<sup>33</sup> Economides, M.J. and Oligney, R.E.: "Looking at \$30-a-barrel oil by end of the year," *Houston Chronicle*, Sunday, April 4, 1999, p. 1C.

<sup>34</sup> Economides, M.J. and Oligney, R.E.: "Advantages of permitting the Exxon-Mobil merger," *Dallas Business Journal*, February 19-25, 1999, p. 42.

<sup>35</sup> Economides, M.J. and Oligney, R.E.: "Venezuela's election a statement U.S. should heed," *Houston Chronicle*, December 8, 1998.

<sup>36</sup> Economides, M.J. and Oligney, R.E.: "Petroleum world's about to belong to the big three," *Houston Chronicle*, December 1, 1998, p. 23A.

APPENDIX E  
REPRESENTATIVE BUSINESS PUBLICATIONS  
AND INVITED PRESENTATIONS

<sup>1</sup> Oligney, R. E.: “Texas Energy Policy,” address to the annual meeting of Texas Mining & Reclamation Association, San Antonio, Texas, October 26, 2004.

<sup>2</sup> Oligney, R. E.: “The Color of Oil and Outlook for the Industry,” keynote address to annual meeting of Petroleum Equipment Suppliers Association of America, Las Vegas, April 22, 2004.

<sup>3</sup> Oligney, R.E.: “U.S. Energy Outlook,” luncheon address to UBS Grassroots Investor Conference, New Orleans, February 11, 2004.

<sup>4</sup> Oligney, R.E.: “Energy Politics Is a Colorful Business in 2003,” keynote address at Texas Alliance of Energy Producers Legends Dinner & Gala, Houston, September 23, 2003.

<sup>5</sup> Oligney, R. E.: “The Imperatives of Arctic Natural Gas Development,” keynote address to the 49<sup>th</sup> annual meeting of the Pipe Line Contractors Association of Canada, Halifax, Nova Scotia, May 22, 2003.

<sup>6</sup> Oligney, R.E.: “Energy Politics—Its Application in Today’s Offshore Oil and Gas Industry,” topical luncheon address, 2003 Offshore Technology Conference, Houston, May 5, 2003.

<sup>7</sup> Oligney, R.E.: “The Color of Oil,” company-wide talk to employees of Unocal Corporation, Sugar Land, Texas, February 6, 2002.

<sup>8</sup> Oligney, R.E.: “The ABC’s of Investing in Oil & Gas,” keynote speech and participation in panel discussion hosted by Chris Matthews of CNBC’s Hardball, New Orleans 2001 Investment Conference, New Orleans, December 1, 2001.

<sup>9</sup> Oligney, R.E.: “The Color of Oil,” keynote address to Industry Appreciation Dinner hosted by Desk & Derrick Club, Fort Worth, November 7, 2001.

<sup>10</sup> Oligney, R.E.: “The Color of Oil—Energy Today & Tomorrow, an Industry View,” keynote dinner address to Tennessee Gas Pipeline (El Paso Corporation) shippers conference, Farmington, Pennsylvania, May 15, 2001.

- <sup>11</sup> Oligney, R.E.: "Investing in Energy," brief strategic industry overview and Q&A with board of Black Hills Corporation, Kemah, Texas, April 22, 2001.
- <sup>12</sup> Oligney, R.E.: "The Color of Oil," keynote luncheon address to Louisiana Independent Oil & Gas Association, New Orleans, March 23, 2001.
- <sup>13</sup> Oligney, R.E.: "How e-Business Is Changing the Oil & Gas Market Worldwide," breakfast talk to the inaugural Drilling Company Executive Forum, Houston, April 4, 2001.
- <sup>14</sup> Oligney, R.E.: "The Color of Oil," NAPE Expo 2001 Industry Luncheon (sold out with over 600 attendees), George R. Brown Convention Center, Houston, January 31, 2001.
- <sup>15</sup> Oligney, R.E.: "The Color of Oil," luncheon talk to the Houston Energy Credit Group, Houston, November 8, 2000.
- <sup>16</sup> Oligney, R.E.: "The Color of Oil," presentation to the Arkansas Environmental Federation 33<sup>rd</sup> Annual Convention, Hot Springs, Arkansas, October 25, 2000.
- <sup>17</sup> Oligney, R.E.: "Energy Seminar," sponsored by the Houston Chapter of the Texas Society of Certified Public Accountants, Houston, August 24, 2000.
- <sup>18</sup> Oligney, R.E. and Economides, M.J.: "The Color of Oil," joint keynote address to luncheon gala sponsored by KTRK-TV Channel 13, Houston, to raise funds for the Spindletop 100<sup>th</sup> Anniversary Celebration, The Petroleum Club, Houston, July 19, 2000.
- <sup>19</sup> Economides, M.J., Oligney, R.E. and Ehlig-Economides, C.: "A Formula for Calculating the Equilibrium Oil Price," press conference and invited article in *HARTS OTC Show Daily*, May 1, 2000, p. 7.
- <sup>20</sup> Oligney, R.E.: "The Color of Oil," luncheon talk and book signing for the International Society of the Energy Advocates, Oklahoma City Summit Club, March 22, 2000.
- <sup>21</sup> Economides, M. and Oligney, R.: "The Color of Oil," address to the annual Joint Meeting between the Society of Petroleum Engineers and the American Petroleum Institute, The Petroleum Club, Houston, December 9, 1999.
- <sup>22</sup> Economides, M. and Oligney, R.: "\$10- \$20- and \$30-a-barrel Oil," invited address to the New Horizons Luncheon, The Petroleum Club, Houston, October 20, 1999.

## APPENDIX F

## CATALOG OF GRAPHIC AND RELATED ELEMENTS

FROM *THE COLOR OF OIL*\*

FIGURE F-1

Houston Chronicle  
Section C \*\*  
Sunday, April 4, 1999

# OUTLOOK

Editorials & Opinion

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**Looking at \$30-a-barrel oil by end of the year**

**By MICHAEL J. ECONOMIDES and RONALD E. OLIGNEY**

**A**LARMISTS, heralding real or imagined calamities, have always been around the energy scene. This past week, pundits talked of the looming \$1.50-plus per gallon gasoline whose price shot up with the highest increase "since the Persian Gulf War." These are the same people who

Economides, based in Houston, has held chaired professorships in petroleum and chemical engineering at major universities in the United States and Europe. He acts as an adviser to national oil companies and Fortune 500 companies. Oligney, the principal in formation of the Global Petroleum Research Institute at Texas A&M University, is adjunct professor and director of research development at the University of Houston.

only last month. In the time of the "oil glut," perhaps did not realize that 79-cent gasoline was a more striking aberration, what with \$4 gasoline an accepted part of life elsewhere around the world.

At the other extreme, the "isn't-the-government-blind and isn't-the-public-stupid" Cassandras, often with transparent motives, have already predicted an impending catastrophe.

See OIL on Page 4C.

Continued from Page 1C.

Amid all of the cacophony, there is an important story to tell. The low oil prices of last year are propelling the United States rapidly into what others will call an "energy crisis," but what we call a bull run in energy: \$30-a-barrel oil by year's end.

Petroleum supplies for the United States, by far the world's largest consumer, come from a number of sources, with two highly opposing poles. First, there are 10,000-plus independent producers who have redefined the terms efficiency and entrepreneurship in this country, making profit out of wells that are unthinkable elsewhere: five barrels per day of oil. Yet, \$12-per-barrel oil served to shut in hundreds of thousands of these wells.

On the other extreme are suppliers such as Saudi Arabia and Venezuela with wells that can deliver thousands of barrels per day of oil. Yet, the costs of activating their fields are some of the highest in the world: \$3,500 per barrel per day of sustained production in Venezuela (e.g. \$5 million in construction costs for an oil well with initial stabilized production of 1,500 barrels per day), almost three and one-half times the costs in the Gulf of Mexico (i.e. closer to \$1.5 million for the same well).

Ironically, both U.S. independent producers and the most prolific countries require the \$20 barrel of oil.

All too often, "analysts" with pointed ignorance of the oil business and its physics, make reference to Saudi Arabia's presumed ability to flood the market with \$5-per-barrel oil. While it makes for an interesting fantasy, this is a practical impossibility. It would take \$100 billion and four to five years to open these proverbial floodgates, something the Saudis can ill afford, either financially or politically. Only after they help to stabilize oil prices and shore up their wavering fiscal situation may the Saudis consider the next decade.

The truth is that while recent low oil prices will soon be forgotten, the dramatic structural changes triggered by them will spawn both short-term (one to three years) and more long-term, profound market-shaping events for the next decade and beyond.

Next year, with a ripple effect lasting possibly several years, we will endure a "sort-of" energy crisis that will touch many of the world's economies. The cost of additional production — what we have called activation or re-activation cost — will become the exasperating fundamental that will drive the price of oil to \$30 per barrel and even higher. Energy stock prices will rise and the U.S. economy will slow as the oil price searches for a sub-\$20 equilibrium. The faster oil prices rise, the more shallow and of shorter duration the price spike will be.

In the long term, akin to a grand Monopoly game that has turned out lopsided, those with all of the money — recently merged Exxon/Mobil, BP/Amoco and now Arco, and Royal Dutch Shell — will ultimately have to make a deal with those who have all of the land: Saudi Arabia and a very few others. By inviting a \$100 billion investment from the obvious Big Three suitors, the Saudis would siphon massive investment dollars, not only from out-of-the-way spots such as the ex-Soviet Muslim republics, but also from prime areas such as Venezuela and the U.S. Gulf of Mexico. Then, and only then, 10 years from now, would the Saudis be positioned to supply the world with oil priced at \$10 per barrel, or less, indefinitely.

There is no need for alarm. The Saudi-dominated oil scenario will play out with an already-started shift from oil to natural gas as the basic energy component of the U.S. economy, complemented by emerging technologies. Unwittingly, the \$20-per-barrel price that the Saudis need today will rationalize and pay outright for this conversion.

What should President Clinton do about this? Nothing. All of this is good for the United States, good for the world economy and good for the environment.

What should ordinary people do? Buy energy stocks, for one thing. They will take off like a rocket.

April 1999 OpEd by Michael Economides and Ron Oligney.

\*Figures F-1 and F-8 reprinted with permission from Michael J. Economides and Ronald E. Oligney. Figures F-2 and F-3 reprinted with permission from Round Oak Publishing.

FIGURE F-2

Round Oak Publishing Co. presents The "Color Of Oil" Series...

IMAGE GALLERY

ORIGINAL ART BY ARMANDO IZQUIERDO

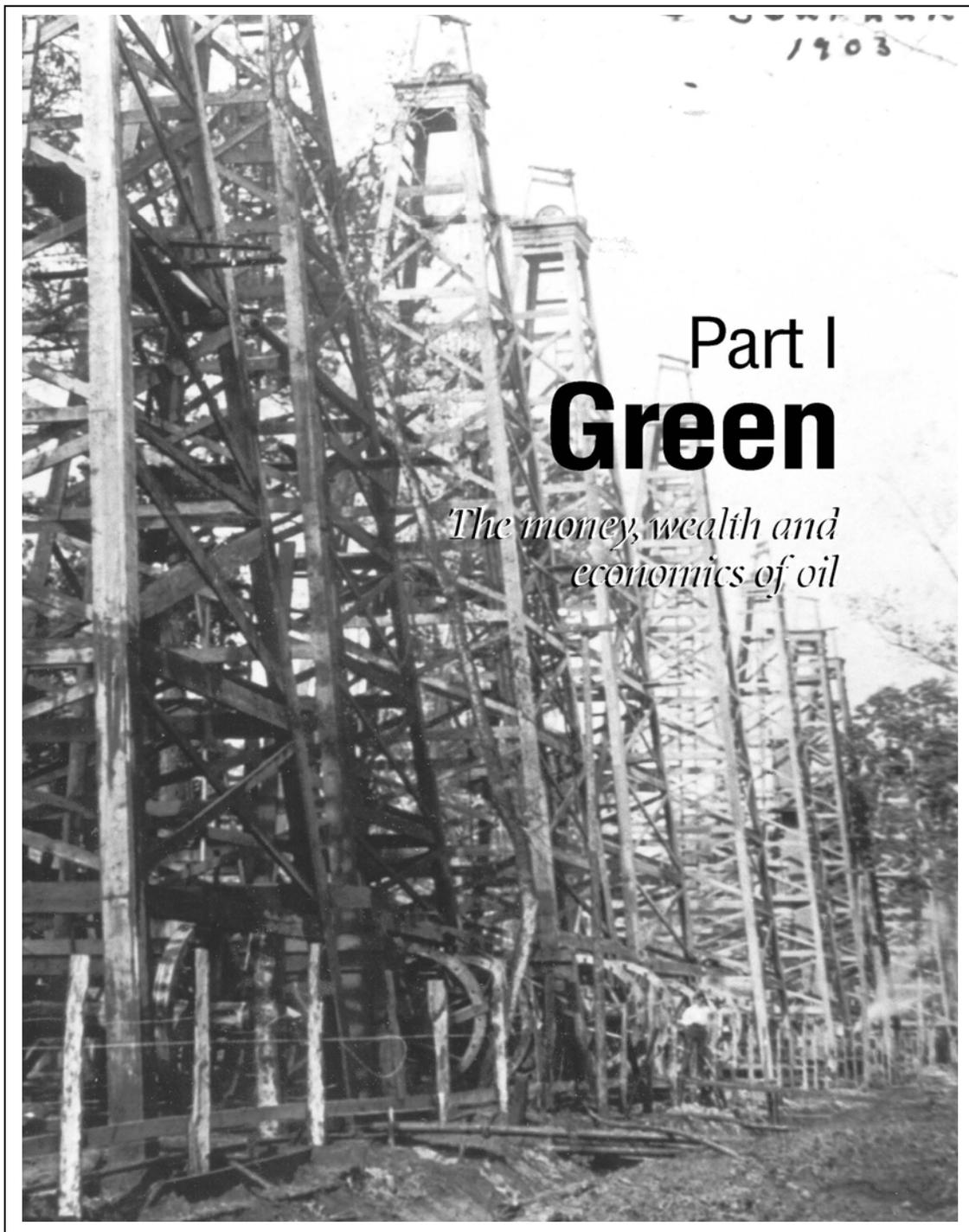
Click a thumbnail for larger picture!



Limited Edition Prints Available:  
23" x 31" on Canvas (Edition of 250) ... \$700\* • 23" x 31" Prints (Edition of 1000) ... \$200 • 10-1/2" x 14" (Unsigned) ... \$75~  
\*Printed on stretched, cotton duck canvas and UV coated. ~Unsigned prints are mounted on board and UV coated.

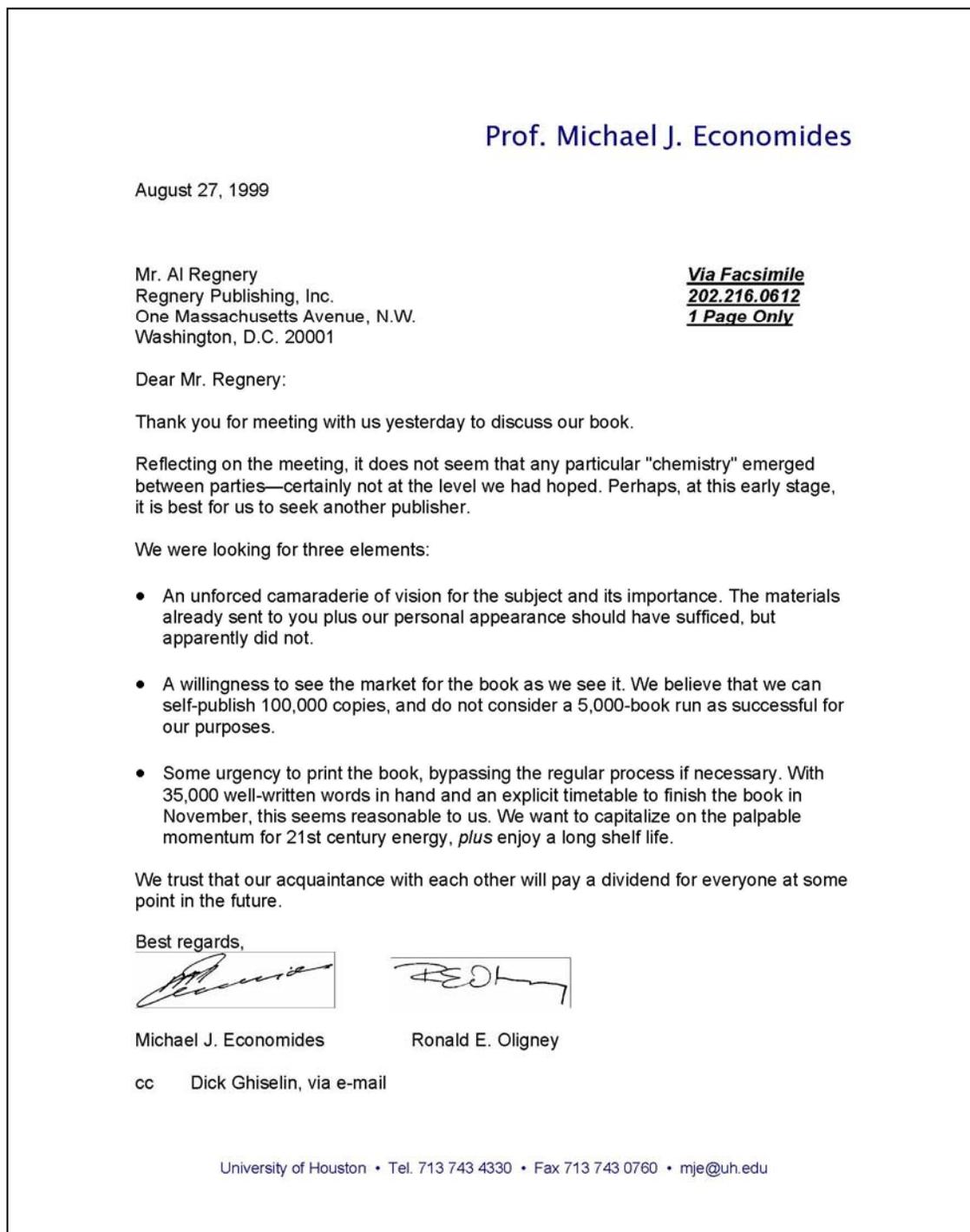
Advertisement featuring the Dali-esque artwork of Armando Izquierdo.

FIGURE F-3



Sample full-bleed black-and-white photo from *The Color of Oil*. (Source: American Petroleum Institute.)

**FIGURE F-4**



“Go jump in a lake” letter to Al Regnery.

FIGURE F-5



Ron Oligney delivering an invited lecture in 2004.

FIGURE F-6

## Smith Fairfield INCORPORATED

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### **OPEC TELECONFERENCE WITH OIL AND PETROLEUM EXPERTS TO DISCUSS IMPACT OF RECENT MEETING**

*(OPEC can't deliver but bigger problems loom outside of OPEC's control)*

**WHAT:** Ronald Oligney and Michael Economides, both University of Houston professors and Fortune 500 oil and petroleum consultants, will be holding a teleconference sponsored by OTEK (Australia), to discuss the impact of OPEC's latest meeting and what it means to the American consumer, financial markets and business in general.

Oligney and Economides, who accurately predicted in the press a year ago the current "mini oil-crisis," continue to be accurate in their predictions citing Merrill Lynch's recent announcement of downgrading their estimates of excess capacity for OPEC based on new market research. In March 2000, the Saudi government claimed they had 7 ½ million barrels a day in excess capacity but Oligney and Economides took issue claiming that was off by at least 5 million barrels.

The two oil and petroleum experts state that even if OPEC had the excess capacity, there are serious industry infrastructure flaws, such as the lack of tankerage to move the oil and the lack of investment, which will prohibit any consumer relief or market stability in the near future. Various questions to be addressed are: Will the Saudi government come through on their promise to increase oil production and how? How much supply will OPEC approve? Does OPEC's actions make a difference?

**WHEN:** Monday, September 11<sup>th</sup>, 2000  
1:00-1:30pm EST

**HOW:** Media should call **1-800-752-1405** to be connected.  
**Code Word: COLOR OF OIL**

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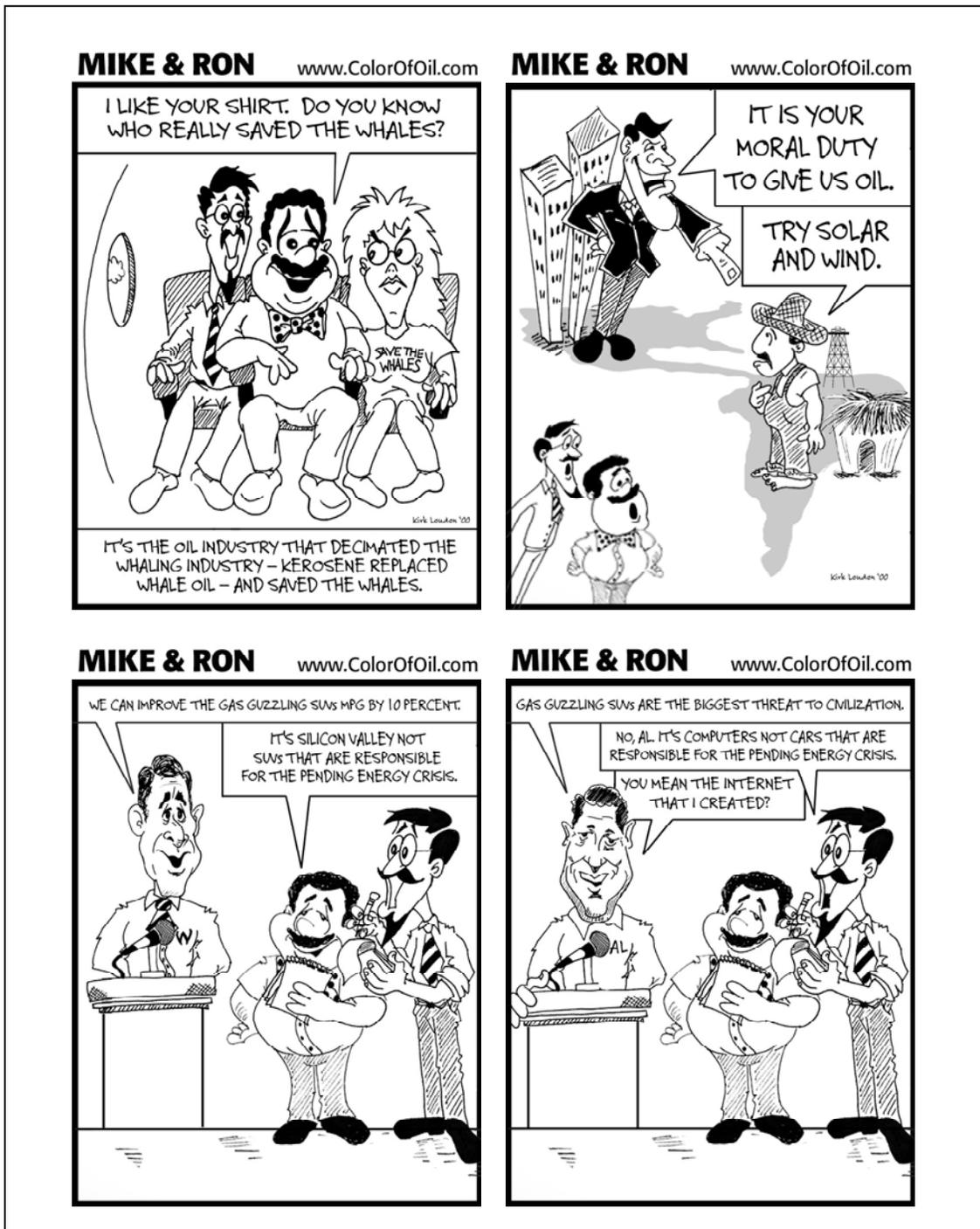
Sample press release.

FIGURE F-7



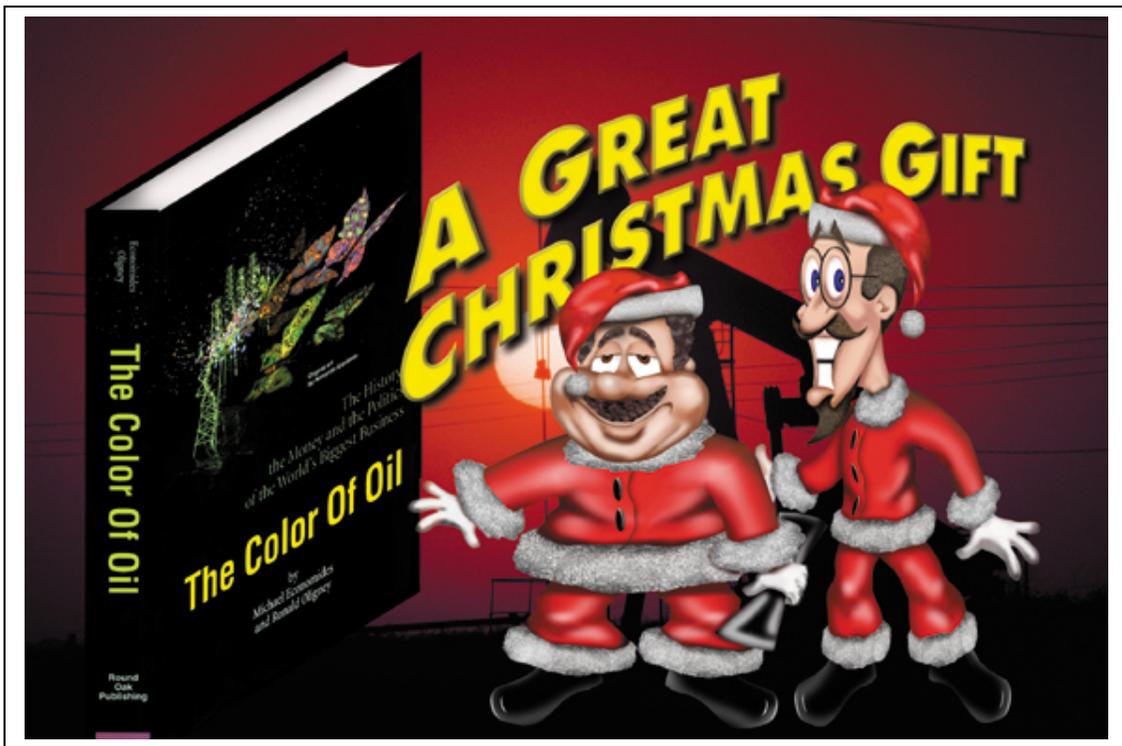
Ron Oligney on the set at CNN in New York.

FIGURE F-8



Sample of Mike & Ron cartoons from the *Houston Business Journal*.

FIGURE F-9



Christmas 2000 direct marketing postcard.

**FIGURE F-10**



Ron Oligney with the “Big Book” at a trade show in Houston.

## VITA

In a wide-ranging career as an entrepreneur, energy advisor and author, Ronald Eugene Oligney has always been linked with big energy projects. And he's at it again with his new company, Rock Well Petroleum, Inc. Oligney advises Fortune 500 companies and various parties in Washington D.C., the State of Texas and the State of Alaska. He is co-author with Michael Economides of the international bestselling book, *The Color of Oil*, and has written numerous energy white papers, newspaper articles and specialized publications. The environmental services company he founded, Otek Australia Ltd, is one of the premier firms in Southeast Asia. Formerly, Oligney served as a professor and executive administrator at both Texas A&M University and the University of Houston. At Texas A&M, Mr. Oligney was assistant director of the Texas Engineering Experiment Station, director of the Aerospace Vehicle Systems Institute, and founding director of the Global Petroleum Research Institute. Oligney is former Vice President of a New York energy concern and the principal on-site negotiator for one of the first petroleum joint ventures in the former Soviet republic of Kazakhstan. Oligney is a member of the Society of Petroleum Engineers and the National Association of Science Writers. He graduated summa cum laude with a Bachelor of Science in petroleum engineering from the University of Alaska—Fairbanks in December 1985. Oligney lives in Houston with his wife Cheryl and their six children, Kjersten, Brittany, Brooke, Kourtney, Caitlyn and Caleb.

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