Have you fully considered the connotations as well as the denotations of the non-technical terms you are using?
- Are you assuming any basic knowledge (theories, assumptions, ideas) you should not assume the audience knows?
- Are there special preferences in this discourse community you need to give particular attention to?
- Is your audience comfortable with the level of formality in your document?
- Is your audience comfortable with your other stylistic preferences?
- Are there particular political elements (tensions, relationships among people, histories, backgrounds) you need to pay special attention to?
- Is this the best time to present this document or would a later time be better?
- What will be the results be if your document fails? Succeeds?
- Have you considered all of the other important elements necessary for an effective document in this particular discourse community?

This list is only a beginning to aid you in preparing to write for your community or another community. Many other questions must also be asked and answered if you are to communicate effectively.

Case Study 2: The Space Shuttle Challenger and Different Discourse Communities

Industrial and corporate history is full of instances in which members of one discourse community have failed to consider the special considerations of another community. Companies are continually marketing products that do not meet the needs of consumers, are poorly designed, or have poor documentation. The poor quality of so much computer software documentation is one example of a company and its programmers and managers totally ignoring or misjudging the needs of the small business or home personal-computer user.

The space shuttle Challenger accident of 28 January 1986 has been used to demonstrate many problems from the political to the rhetorical to the technological. There are many possible explanations for what finally caused the disaster that killed seven people only 73 seconds after liftoff. One key explanation is that a major communication gap occurred between management at one level and engineers at another. In effect, this incident shows dramatically what can happen when two very different discourse communities fail to communicate with each other and when one community distorts the values of another. We will look at a case study about this disaster in detail to demonstrate how members of two discourse communities can misunderstand each other, with, in this instance, horrible consequences.

Scenario
On the morning of 28 January 1986, the Space Shuttle Challenger sat poised on Kennedy Space Center (KSC) Launch Complex 39B ready for her tenth flight into space, designated Flight STS-51L. True to its name, a large crowd of distinguished visitors and anxious SRM booster engineers watched patiently as the large digital clock methodically ticked down the last remaining minutes before launch.

Inside the Challenger were Commander Francis Scobee, Pilot Michael Smith, mission specialists Janice Revel, Ellison Onizuka, and Ronald McNair; payload specialist Gregory Jarvis; and Christa McAuliffe, an educator and teacher's aide who had been selected by NASA for the Space Shuttle's first Teacher in Space program. The Challenger was ready to fly thenلات into space and they were ready to go.

The early morning of 28 January was a cold one. The temperature had not risen above 36°F, a full 15 degrees colder than any previous Shuttle launch (VI, 19). The NASA Ice Team was concerned about the ice that had accumulated on the launch pad over the previous night. The engineers of Morton Thiokol Inc. (MTI), the makers of Challenger's Solid Rocket Boosters (SRBs), were equally concerned about the low early morning temperature.

In Utah, MTI Staff Engineer Roger M. Boisjoly was attending a pre-launch teleconference the evening before the launch with MTI representatives and NASA officials at both Marshall Space Flight Center, Huntsville, Alabama and KSC. Boisjoly was the most vocal opponent of the Challenger launch on this chilly January morning. From tests conducted at MTI's Brigham City Booster Plant (Utah), the MTI engineer knew the fact was on his side. He would later state:

The conclusion was we should not fly outside of our data base, which was 53 degrees. Those were the conclusions. And we were quite pleased because we knew in advance, having participated in the preparation, what the conclusions were, and we felt very confident with that. (VI, 90)

Boisjoly was right. The recommendation from the Brigham City engineering team was included in a chart (see Figure 2.1) presented by MTI Vice President of Engineering Robert K. Lund during the early morning teleconference. However, after a few hours later, KSC officials received a telex from MTI's Vice President of Space Booster Programs Joe C. Kilminster clearing Challenger for launch (see Figure 2.2). Much to the dismay of Roger Boisjoly, MTI management gave the OK to launch Challenger. He later testified about the teleconference and MTI's final decision:

"There was never one positive, pro-launch statement ever made by anybody. There have been some feelings since then that folks have expressed that they would support the decision, but there was not one positive statement for launch ever made in that room" (VI, p. 98).

At 11:38 A.M. EST, after more than two hours of hardware related delays, Challenger lifted off from Pad 39B. After just 73 seconds, a fireball erupted to engulf and destroy Challenger and her crew of seven.

MTI Assessment of Temperature Concern on SRM-25 (51L) Launch

- Calculations show that SRM-25 O-rings will be 20°C colder than SRM-15 O-rings
- Temperature data are not conclusive on predicting primary O-ring blow-by
- Engineering assessment is that:
  - colder O-rings will have increased effective sealant (“harder”)
  - “Harder” O-rings will take longer to seal
- More gas may pass primary O-ring before the primary seal seats (relative to SRM-15)
  - Demonstrated sealing threshold is 3 times greater than 0.038
- If the primary seal does not seat, the secondary seal will seal
  - Pressure will get to secondary seal before the metal parts rotate
  - O-ring pressure leak check places secondary seal in outboard position which minimizes sealing time

MTI recommends STS-51L launch proceed on 28 January 1986

SRM-25 will not be significantly different from SRM-15

Joe C. Kilminster, Vice President
Space Booster Programs
Morton Thiokol, Inc.
Waco, Texas Division

FIGURE 2.1 Recommendations from the Engineering Team

- O-ring temp must be ≥53°F at Launch
- Development motors at 47° to 52°F with purdy packing had no blow-by (SRM 15 (best situation)) worked at 53°F
- Project ambient conditions (temp & wind) to de-stress launch time

FIGURE 2.2 MTI Assessment of Temperature Concern
In Utah, Roger Boisjoly sat stunned. At KSC’s viewing stand, Christa McAuliffe’s parents searched in vain for the orbiter to break free of the huge white cloud. Challenger never reappeared.

**Background**

In June of 1986, the President’s commission investigating the Challenger accident concluded that below-freezing temperatures affected the reliability of SRB field joints. The field joints are the points where SRB segments are connected—five per SRB. Each field joint contains two O-rings which seal the joint from the high pressure generated by the solid rocket fuel as it burns within the SRB. The commission determined that the cold weather caused both of the O-rings in the right aft SRB field joint to become hard and brittle. This condition allowed hot gases to escape the right SRB and ignite the highly combustible liquid oxygen and liquid hydrogen fuels within the Shuttle’s External Fuel Tank.

The problems with SRB O-rings were well documented long before the launch of Challenger. Both MTI and NASA engineers were well aware of the potential for loss of life and vehicle should one of these field joints fail. Previous missions had experienced what is called “blow-by” when hot gases had blown through the O-rings sealing a field joint. Flight STS-51C (21 January 1985) sustained blow-by on two different field joints (V2, H19). And as far back as STS-2 (12 November 1981), erosion of field joint O-rings was a documented problem (V2, H19).

In 1979, a full two years prior to the first Shuttle mission (STS-1, 12 April 1981), the NASA Chief of Marshall’s Solid Motor Branch John Q. Miller questioned the reliability of the SRB field joints (V1, 136). See Miller’s memo (Figure 2.3).

The most compelling evidence uncovered by the presidential commission confirming that MTI was aware of the problems with the field joint O-rings came with the release of Roger Boisjoly’s memo to MTI’s Vice President of Engineering in July of 1985. He makes it known that if the situation is not soon remedied “we stand in jeopardy of losing a flight along with all the launch pad facilities” (V1, 249-250). See Boisjoly’s memo (Figure 2.4).

Dated 9 August 1985, and in total agreement with Boisjoly’s memo, another MTI memo from Brian G. Russell, MTI Manager of the Solid Rocket Motor (SRM) Ignition System, discusses the suspect field joints. Unlike Boisjoly’s internal memo, Russell’s memo is addressed to a senior NASA official at Marshall Space Flight Center, James W. Thomas, Jr. (V3, 1568). See Russell’s memo (Figure 2.5).

Boisjoly was also concerned with O-ring failures at low temperatures. According to the Flight Readiness Review (FRR) for STS-51E, dated 31 January 1985, evidence of cold weather effects on the performance of field joint O-rings was well documented (V2, H19, H31, H59).

If evidence existed of faulty SRB field joints, why were the memos from Miller, Boisjoly, and Russell ignored by both NASA and MTI management? These memos are not the only evidence presented during the presidential commission, but they are the most damning.

**Investigation**

A close inspection of each of the three memos reveals clear and concise language concerning the problems with the SRB field joints.

The Miller Memo

Speaking as the Chief of the NASA Solid Motor Branch, John Q. Miller states that MTI’s position regarding design adequacy of the o-ring (the aft side of the field joint) to be completely unacceptable. He further states the reasons for this inadequacy: "violates industry and Government O-ring application practices...excessive tang [the forward side of the field joint]...the o-ring joint secondary O-ring seal has been verified by tests to be unsatisfactory. There are no ambiguous words here. Miller is clear with his analysis of the problems. By choosing words unacceptable, irrelevant, excessive, and inaccurate, he is clearly negative in his message.

The Boisjoly Memo

From the opening paragraph, Roger Boisjoly is emphatic: "This letter is written to assure that [MTI] management is fully aware of the seriousness of the current erosion problem..." He also states that the decision to fly while studying the O-ring problem has been "mistakenly accepted" and that the "result [of a field joint failure] would be a catastrophe of the highest order...of human life." During the commission testimony, Boisjoly admitted that he personally believed what he was told about the O-rings.

National Aeronautics and Space Administration

**Figure 2.3 The Miller Memo**

George C. Marshall Space Flight Center

Marshall Space Flight Center, Alabama

5812


TO: EES1/Mr. Baty

FROM: EP25/Mr. Miller

SUBJECT: Evaluation of SRM Clevis Joint Behavior

As requested by your memorandum, EES1 (79-10), Thiokol documents TW1-12019 and letter 7000/ED-78-484 have been reevaluated. We find the Thiokol position regarding design adequacy of the clevis joint to be completely unacceptable for the following reasons:

- a. The large sealing surface gap created by excessive tang/clevis relative movement causes the primary O-ring seal to extrude into the gap, forcing the seal to function in a way which violates industry and Government O-ring application practices.

- b. Excessive tang/clevis movement as explained above also allows the secondary O-ring seal to become completely disengaged from its sealing surface on the tang.

- c. Contract End Item Specifications, CPW1-2500D, page 1-28, paragraph 3.2.1.2. requires that the integrity of all high pressure case seals be verifiable; the clevis joint secondary O-ring seal has been verified by tests to be unsatisfactory.

Questions or comments concerning this memorandum should be referred to Mr. William L. Ray, 3-0459.

John Q. Miller

Chief, Solid Motor Branch

cc:

- SA41/Mrs. Hardy/Rice
- EES1/Mr. Uptagrafft
- EHO2/Mr. Key
- EP01/Mr. McCool
- EP42/Mr. Bianca
- EP21/Mr. Lombardo
- EP25/Mr. Powers
- EP25/Mr. Ray
Morton Thiokol

Wasatch Division

InterOffice Memo

31 July 1985
2870: FY85-073

TO: R. K. Lund
   Vice President, Engineering

CC: B. C. Brinton, A. J. McDonald, L. H. Sayer, J. R. Kapp

FROM: R. M. Boisjoly
   Applied Mechanics—EXL 3525

SUBJECT: RM O-Ring Erosion/Potential Failure Criticality

This letter is written to assure that management is fully aware of the seriousness of the current O-ring erosion problem in the SRM joints from an engineering standpoint.

The mistakenly accepted position on the joint problem was to fly without fear of failure and to run a series of design evaluations which would ultimately lead to a solution or at least a significant reduction of the erosion problem. This position is now drastically changed as a result of the SRM 16A nozzle joint erosion which eroded a secondary O-Ring with the primary O-Ring never sealing.

If the same scenario should occur in a field joint (and it could), then it is a jump ball as to the success or failure of the joint because the secondary pressurization. The result would be a catastrophe of the highest order—loss of human life.

An unofficial team (a memo defining the team and its purpose was never published) with leader was formed on 19 July 1985 and was tasked with solving the problem for both the short and long term. This unofficial and the authority to execute the work that needs to be done on a non-interference basis (full-time assignment until completed).

It is my honest and very real fear that if we do not take immediate action to dedicate a team to solve the problem with field joints having the number one priority, then we stand in jeopardy of losing a flight along with all the launch pad facilities.

R. M. Boisjoly

Concurred by:

J. R. Kapp, Manager
   Applied Mechanics

FIGURE 2.4 The Boisjoly Memo

Morton Thiokol

Wasatch Division

9 August 1985
E150/BGR-85-17

Mr. James W. Thomas, Jr., SA42
George C. Marshall Space Flight Center
National Aeronautics and Space Administration
Marshall Space Flight Center, AL 35812

Dear Mr. Thomas:

Subject: Actions Pertaining to SRM Field Joint Secondary Seal

Per your request, this letter contains the answers to the two questions you asked at the July Problem Review Board telecon.

1. Question: If the field joint secondary seal lifts off the metal mating surfaces during motor pressurization, how soon will it return to a position where contact is re-established?

Answer: Bench test data indicated that the o-ring resiliency (its capacity to follow the metal) is a function of temperature and rate of case expansion. MTI measured the force of the o-ring against Instron platters, which simulated the nominal squeeze on the o-ring and approximated the case expansion distance and rate.

At 100°F, the o-ring maintained contact. At 75°F, the o-ring lost contact for 2.4 seconds. At 50°F the o-ring did not re-establish contact in ten minutes at which time the test was terminated. The conclusion is that secondary sealing capability in the SRM field joint cannot be guaranteed.

2. Question: If the primary o-ring does not seal, will the secondary seal seat in sufficient time to prevent joint leakage?

Answer: MTI has no reason to suspect that the primary seal would ever fail after pressure equilibrium is reached, i.e., after the ignition transient. If the primary o-ring were to fail from 0 to 170 milliseconds, there is a very high probability that the secondary o-ring would hold pressure since the case has not expanded appreciably at this point. If the primary seal failed to last from 170 to 330 milliseconds, the probability of the secondary seal holding is reduced. From 330 to 600 milliseconds the chance of the secondary seal holding is small. This is a direct result of the o-ring's slow response compared to the metal case segments as the joint rotates.

Please call me or Mr. Roger Boisjoly if you have additional questions concerning this issue.

Very truly yours,

Beta G. Russell

Bryan G. Russell, Manager
SRM Ignition System
BGR/10

cc: L. Wear, SA42, E. Skrobisewski, SA49, I. Adams, MTI/MSFC

be: J. Kilminster, A. McDonald, R. Ebeling, J. Ewell, B. Brinton, A. MacBeth, R. Boisjoly, A. Thompson, S. Stein

FIGURE 2.5 The Russell Memo
writing when he typed the final sentence: "We stand in jeopardy of losing a flight along with all the launch pad facilities." Unlike Miller's more technical memo, Bosi-
joy's memo works a personal approach to the problem. His appeal is humanistic and attempts to garner a symp-
thetic response from MTI management. By sensing the loss of human life, Bosiroyd includes real, live humans—a point often overlooked in the aerospace world when dealing with hardware problems.

The Russell Memo
Brian G. Russell's memo attempts to answer questions presented by NASA's James W. Thomas Jr. concerning the secondary O-ring sealing surface (the outer of the two field joint O-rings). Although technical in nature, two of Russell's statements represent what should be MTI's position concerning field joint erosion.

First, Russell states that "secondary sealing capability in the SRM field joint cannot be guaranteed." This statement is especially relevant due to his finding that "at 50°F the O-ring did not re-establish contact in ten minutes...." Second, Russell states that "from 330 to 660 nanoseconds (after ignition), the chance of the secondary seal holding in small." In other words, if there is initial blow-by of the secondary sealing O-ring, the chance of the O-ring resealing is small. It is ironic that Russell mentions the low temperature problem and the resealing of the secondary O-ring problem in the same memo. These two factors are exactly the cause of the failure of Challenger's left aft field joint.

Conclusion
There are three facts that are certain when looking at the events of the Challenger disaster:
1. MTI knew of the field joint problems, both with design and temperature; 
2. NASA also knew of the field joint problems; 
3. The warnings were ignored and Challenger and her crew were lost.

The presidential commission concluded that the low temperature was the ultimate cause for the loss of Chal-
lenge. Hence, the field joints have been redesigned with an added heat element to keep the field joints at a constant 80°F.

The commission also concluded that communication, both internal and external, was faulty. They wrote: "Communication during the launch decision process was inadequate"; furthermore, "Key individuals' objec-
tions to launch were not registered to the top program officials" (V2, 1-17).

Some Possible Explanations
Why were key individuals' objections not registered to the top program officials? The three memos seem clear enough, but why did a communication problem occur despite these and other communications warning about problems?

One possible explanation is that the writing style of the engineers' memos discussed here was not framed properly for higher level management. Dorothy Winnor discusses Brian Russell's memo to James Thomas. Winnor agrees the memo clearly shows that "the statement necessary for the secondary O-ring to return to sealing position was a function of temperature. The lower the temperature, the longer the secondary O-ring tool. Moreover, at temperatures below 50°F, the O-
ing did not return to position at all." Winnor wonders if the experts were simply ignored by bureaucrats or if some other explanation is possible. Winnor suggests that "the meaning of these data was not obvious for those who read the memo when the memo was first written." Winnor says the writer of this memo "passed on the in-
formation as though the meaning of the data was obvious and thus gave his reader no help in interpreting." Winnor critiques the memo's lack of impact. For ex-
ample, it has a weak closing sentence: "The conclusion was the conclusion that secondary sealing capability in the SM field joint cannot be guaranteed." The writer could have written something like "The conclusion was not effective at temperatures below 50°F, and thus the joint is highly vulnerable to catastrophic failure in such temperatures." Or the writer could have framed the memo differently, emphasizing that the temperature data was his reason for writing the memo. Perhaps fram-
ing the information differently would have helped the reader to interpret the information differently. The ques-
tion and answer format implies that the writer produced the data only because the reader asked for it, not be-
cause the data were important in themselves.

Yet we can go beyond the wording of these memos to a deeper problem. The communication problems here are chiefly the result of one discourse community—management (in this case, consisting of many levels of management—manipulating the knowledge framework of another discourse community—engineers.

Paul Dombrowski identifies two ways management re-conceptualized the O-ring problem. First, an anomaly—"charing of some O-rings—gradually was considered no longer an anomaly. Charing became acceptable af-
ger a succession of completed space shuttle flights prior to the Challenger flight. "The very success of these flights was taken to demonstrate that exposure of the O-
rings to the exhaust gases was not a serious concern and could and should be tolerated." If the mission was successful, and if an O-ring broke but the break was not bigger than before, then this became evidence that char-
ing should be tolerated. "Thus what was never to happen
came to be permissible, even being taken as an
indication of safety rather than danger," stated in the re-
port. "But rather than identify this condition as a joint
didn't seem, that is, a joint that had already failed,
NASA elected to regard a certain degree of erosion or
blow-by as 'acceptable.'

The second major re-conceptualization occurred when management increasingly questioned engineers at both MTI and NASA "pressing them to prove that their reservations involved certain peril to the mission." Engineers were forced finally to perform a complete flip-
flap on the way they normally handled assumption and the burden of proof. According to Dombrowski, engi-
ners at both MTI and NASA "found themselves in the
situation of being asked by management to prove abso-
lutely and certainly that the Challenger flight would end
in disaster." Engineers "were totally thrown into con-
frontation from this new posture to the change of assumption and conceptualization." Traditionally, the job of these en-
gineers was "to prove that the vehicle would fly safely." Traditionally, management is supposed to scrub the flight if engineers could not assure shuttle safety. At the teleconference, however, the evening before the launch, "When engineers could not prove that Challenger would not certainly go up in flames, management took their im-
plicit assumption that Challenger would fly as thus con-
formed and unqualified." Bosiroyd comments on how the situation was re-
served from what engineers were normally expected to do: "This was a meeting where the determination was to
not launch, and it was up to us to prove beyond a shadow of a doubt that it was not to be done. This is in total re-
verse to what the position usually is in a preflight con-
versation or flight readiness review. It is usually exactly
opposite to that."
political judgment. Different situations or contexts determine different styles. We must adjust the style to suit the occasion.

Second, Lanham offers a more complex answer.

The second kind of answer to "Why bother?" is simply, "Are you willing to sign your name to what you have written? To present yourself in public—whether it matters to anyone else or not—as this kind of person?" In a sense, it is a simple question: "Whatever the advantage— or disadvantage—ought I do this?" The primary moral question: If everyone else is committing murder, ought I do the same? Do you choose to encumber the world on its terms or on your own? A simple question but one we must all answer for ourselves. 40

For Lanham, the ethics of style is a matter of personal ethics. Lanham speaks of the "primary ground for morality, the self." 41 He refers to this self as both a dynamic and static entity: "It is static when we think of ourselves as having central, fixed selves independent of our surroundings; an 'I' we can remove from society without damage, a central self inside our heads. But it becomes dynamic when we think of ourselves as actors playing social roles, a series of roles that vary with the social situation in which we find ourselves." 42 Lanham observes, "Our complex identity comes from the constant interplay of these two kinds of self: Our final 'self' is usually a mixed one, few of us being completely the same in all situations. If we were completely sincere we would always say exactly what we think—and cause social chaos. If we were always acting in an appropriate role, we would be certifiably insane." 43

Lanham's static and dynamic selves correspond closely to ethos and persona as they are discussed in Chapter 9. Ethos is the character of the writer, the writer's integrity, competence, objectivity. Persona is the mask or assumed identity of a writer. In the process of writing, one is in constant interplay. Whenever a writer tries to be sincere, one requires playing various social roles, requires assumed selves or identities or personas. But persona begins in the self. As we mentioned earlier, Lanham suggests our identity lies in the interplay between the static and dynamic selves. And this is the case for ethos and persona.

Chapter Summary

Simply defined, ethics is the study of right and wrong conduct. Ethics concerns all kinds of behaviors, not just decisions concerning language. But when decisions concerning language are faced daily with all kinds of ethical eidoses, and it's not always easy to make the help, but, usually, a more systematic approach is more helpful.

Knowing how to determine obligations, ideals, and consequences for a particular action can be particularly helpful in judging the morality of an action involving language. Also, you can use a four-step approach to judge the morality of a language action: listing all possible actions that are available, and reviewing what you know after these first three steps and deciding which action is most ethical.

Often a style may be ambiguous, deceptive, or pretentious and not be unethical. More often, however, your style may be unethical when you deliberately use ambiguous, deceptive, or pretentious language for questionable obligations or ideals and if there are damaging consequences. The four kinds of doublespeak—euphemisms, jargon, gobbledegook and bureaucratese, and inflated language—are all good examples of unethical language. Of course, there are other strategies for lying with language, by omitting essential or damaging information, for example.

The ethics of style cannot be separated from the ethics of the self. As Lanham suggests, the ethics of style is a matter of personal ethics. Who you are as a writer is a matter of your static and dynamic selves, your ethos and persona.

Ultimately, a bureaucratic style is often an unethical style because it undermines both the ethos of the self and the necessary respect for others that underlies most ethical systems. It dehumanizes the self and society.

Case Study 8: Deception and the Exxon Valdez

The Exxon Valdez oil spill affected 1244 miles of the Alaskan coastline and resulted in devastating effects on the ecosystem and the Alaskan people. The disaster also provided proof of the devastating effects of deceptive writing. The Exxon Corporation and the Anchorage Daily News were two of the agencies that intentionally offered false information. To avoid as much publicity and liability as possible, Exxon not only deliberately withheld or offered vague information, but also minimized the extent of damage and exaggerated the ecological recovery. The Anchorage Daily News exaggerated the extent of damage, desperately misrepresented sources, and twisted information to produce inflammatory news stories to increase sales of the publication and to protect the ecology.

Exxon Corporation

The Exxon Corporation went in with big guns and "hired Burson Mustang as its public relations firm after the spill. Previous clients included the military dictatorship in Argentina, the Romanian dictator Nicolae Ceausescu and Union Carbide after the Bhopal disaster. As the recovery progressed, the people and agencies dealing with Exxon came to realize the corporation could not be trusted with the truth. As an industry analyst observed, "big oil had once again raped the public trust." 45

People

For many of the Alaskan people, the coastline and water provided their livelihood. Even before Exxon offered to pay for their help with the cleanup, many Alaskans responded. However, the health warning Exxon issued to the people about exposure to the oil and dispersant used was not made available until long after the work started, and the warning minimized the effects of exposure. As Exxon Material Safety Data Sheet for Inpil Eap22, issued on 28 July 1989, in the middle of the cleanup operations, states:

In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water. As a precaution, exposure to liquids, vapors, mist or fumes should be minimized... Inhalation of high vapor concentrations may have results ranging from dizziness, headache, and respiratory irritation to unconsciousness and possibly death.... Prolonged or repeated skin contact may cause skin irritation... Components of the product (2-butoxyethanol) may be absorbed through the skin and could produce blood and kidney damage. Symptoms of overexposure include paleness and red discoloration of the urine... Exxon shall not be liable for any loss or damage arising out of the use thereof. 46
Although the statement does suggest that exposure can cause death, that phrase is buried in the middle. Phrases like “as a precaution” and “prolonged or repeated skin contact may cause skin irritation” mislead the reader. Facing a possible loss of their means of support, the people could easily read the statement as the lesser of two evils.

Because oil dispersants add another chemical, harmful to humans, minimizing the available information had harmful affects on many Alaskans. In a data sheet released by the Arco Oil and Gas Company, the dangers of exposure to oil are more clearly expressed:

Prolonged exposure to crude oil vapors can cause central nervous system depression. Hydrogen sulfide can be absorbed through the skin and can produce toxic effects... Aspiration into lungs may produce chemical pneumonia... May contain benzene which in humans is associated with blood diseases such as anemia and leukemia... Signs and symptoms of central nervous depression produced by prolonged inhalation of crude oil vapors may include headache, dizziness, nausea, incoordination, convulsions, unconsciousness, and death.54

Even after reports started appearing of workers being directly exposed to the oil and mixture of oil and dispersants, "an Exxon hygienist reported that, after preliminary analysis, a crisis could continue working."55 The report by the Exxon hygienist deliberately misled the workers and assured them there was no serious damage in the exposure. Hundreds of workers suffered health related problems due to that exposure. According to Randall Scarlett, an attorney for many of the workers affected, "There is no doubt that some of the individuals are going to die."56

Ecosystem

The extent of damage to the ecosystem was so wide spread it is still being investigated and is not completely determined. In The Exxon Valdez: A Case of Virtul Reality, Andrew Rowell reasured a statement in 1993: Rick Steiner, an Associate Professor at the University of Alaska, comments: "Four years after the spill, oil still remains trapped in mussel mats in the inter-tidal zone, being picked up into the food chain..."57 Steiner adds, "There really is no such thing as oil spill restoration. You cannot fix a broken ecosystem like you fix a broken car."58

Despite the vast amounts of data available on the ecosystem damage in 1991 and still being reported four years after the spill, Exxon released statements such as this in 1991: "It is extremely unlikely that hydrogen concentrations resulting from the spilled oil have had or will have any adverse effects on plants and animals living in the water column of Prince William Sound and the Western Gulf of Alaska, including commercial fishery species."52

Exxon deliberately reported false information: "As Exxon spokesman said on National Public Radio in the USA in June 1980 that the company had found only 330 dead birds and 70 otters, despite the fact that tens of thousands of corpses had already been recovered. The official later said he had misunderstood the question."56

Because of the lack of concern shown by Exxon for the Alaskan people and the ecosystem, another statement in 1991 also rang false. "Concern for the environment and for the well being of our employees is a long standing Exxon tradition which remains a guiding principle today."56

Questions

1. How would you apply the three basic criteria of obligations, ideals, and consequences to Exxon's decision in this case study?
2. How would you apply the three basic criteria to evaluate the Exxon hygienist's actions?

Ecosystem

The Anchorage Daily News produced inflammatory and misleading reports that kept the Alaskan people upset and angry. For example, Anchorage Daily News staff writer Charles Wolford reported that NOAA Scientific Support Coordinator John Robinson had proclaimed that "if [subsistence users] don't like it (oil on the shoreline), they can go somewhere else."55 The Alaska Department of Environmental Conservation increased the problem when "an information employee faxed copies of the article to native villages and corporations throughout the state."56 Later, Wolford admitted that Robinson really hadn't actually said that "subsistence users can go somewhere else;" and perhaps he had been "too glib" in his summary of what he had observed.57

Although the reporters and editors of the Anchorage Daily News were at times intentionally deceptive in their writing, the deception did help to create opposition to Exxon. The Anchorage Daily News came to function as the opposition or thorn in the side of the big oil company. And employees of the Anchorage Daily News were another big thug in the story. They, unlike the Exxon officials involved in the cleanup, lived in Alaska. While Exxon was trying to divert the world's view in another direction, the Anchorage Daily News kept the world's view open to the disaster and caused Exxon to try continually to fix the problem.

Questions

1. In what ways was Exxon wrong to deceive the public about the extent of the oil disaster? Justify your answer based upon some of the strategies discussed in this chapter.
2. In what ways was the Anchorage Daily News wrong to deceive the public?
3. What other examples can you identify of corporations deceiving the public on such a grand scale?

Exercises

1. Look at the following ethical guidelines. For each one, discuss the quality of ethics established in the document.

Example 1

An Engineer's Hippocratic Oath

I solemnly pledge myself to consecrate my life to the service of humanity. I will give to my teachers the respect and gratitude which is their due; I will be loyal to the profession of engineering and just and generous to its members; I will lead my life and practice my profession in uprightness and honor; whatever project I shall undertake, it shall be for the good of mankind to the utmost of my power; I will keep far away from wrong, from corruption, and from tempting others to vicious practice; I will exercise my profession solely for the benefit of humanity and perform no act for a criminal purpose, even if solicited, far less suggest it;