

Union, the creation of powerful free trade zones first in Europe and then in North America and South America, the rise of a global economy, the abundance of international telecommunication systems, and the refinement of powerful, low-cost communication technologies. These changes provided both the motivation and the means for countries, companies, and individuals to communicate across national boundaries. Nonetheless, international communication poses many challenges.

Those who wish to communicate across borders may have to deal with language differences and with several other important cultural differences. These differences may involve ideas about status, formality, directness, the separation or merging of business and private relationships, the goal of harmony versus honesty and candor, the degree to which truth is derived from absolute principles or is related to specific circumstances, the importance of individuals versus the importance of groups, the value of oral versus written communication, and how much shared background knowledge or context should be included in a document or presentation. In addition, the relationship of corporate culture to all of the national or ethnic cultures impinging on a specific situation may complicate communication processes.

#### LANGUAGE ISSUES IN INTERNATIONAL COMMUNICATION

Persons from countries with the same official language, such as Venezuela, Mexico, and Argentina, may be able to use their native language to communicate with colleagues across borders with very little difficulty; they may find that documents and linguistic conventions vary only slightly. However, in many cases communicators in different countries will not speak the same native language. Which language they choose for international communication may depend on international agreements or on corporations' choices rather than personal preferences. By international agreement, English is the official language of air traffic control and naval communication: Pilots landing in Moscow and Milwaukee speak in English, as do ship captains everywhere. In circumstances not covered by treaty or national law, international communication may be conducted in only one language or a combination of languages.

#### SIMPLIFIED LANGUAGE SYSTEMS

To accommodate international audiences who have limited knowledge of a specific language needed in the situation, writers or speakers sometimes communicate information with a simplified language system (1,2). Basic English, developed by C. K. Ogden (3–5), is a widely used means of preparing technical documents for international audiences with limited fluency in English. Basic English has a select vocabulary of 850 words representing crucial concepts. Similarly, International Scientific Vocabulary, a list adopted in 1959 for use in the sciences and other specialized studies, contains words or other linguistic forms current in two or more languages. English is spoken by only 750 million of the world's 6 billion inhabitants (Chinese is spoken by the largest number); but a high proportion of the world's technical specialists and engineers use English (6), making Basic English and International Scientific Vocabulary suitable for communication among technical professionals. Nevertheless, Basic English

## INTERNATIONAL COMMUNICATION

It is increasingly common for engineers and scientists in one country to send proposals, drawings, or reports to their counterparts in other countries and to collaborate with them in the preparation of documents. These actions are examples of international communication, which can be defined as the transmission of verbal and graphical messages between individuals or companies affiliated with different countries. International communication may occur face to face or by means of various media. Cultural rather than legal influences usually distinguish international communication.

Several developments in the last two decades of the twentieth century increased the need for international communication: the emergence of new states after the fall of the Soviet

has some limitations and is not especially easy for native speakers to learn to use (7,8).

## TRANSLATION

Translation is another approach to overcoming language differences. Documents written in one language may be translated into another language or into several, making them available to a wide range of readers, just as some sites on the World Wide Web present the same information in two or more languages. Translation is not always fully accurate. Source languages sometimes contain words for which no equivalent can be found in the target language. Some words may have several meanings, and a translator may select the wrong meaning, introducing connotations the author did not intend. For example, in English a "seasoned engineer" means one who has long or varied experience. The phrase draws metaphorically on one meaning of "season," "to dry freshly cut wood and prepare it for long-lasting use." However, a translator once rendered this phrase in Spanish as a "spicy engineer," which drew on another meaning of the verb "season": "to add spices or herbs to food for flavor."

New resources for translation are making it easier for engineers and scientists to communicate despite being located in different countries and speaking different native languages. On-line dictionaries can be consulted easily. The LOGOS dictionary at <http://www.logos.it/query/query.html> is an on-line, freely accessible database containing nearly 8 million entries (total for all 30 languages) produced by a network of professional translators and contributors to the site. The on-line Beilstein Dictionary (German/English) at <http://www-sul.stanford.edu/depts/swain/beilstein/bedict1.html> enables readers who are not native speakers of German to read successfully the *Beilstein Handbook of Organic Chemistry*. With a total of about 2100 entries, the dictionary alphabetically lists most German words and common abbreviations occurring in the handbook with their English equivalents. Voice entry software and an automatic translation service, now available free at the Altavista site <http://babelfish.altavista.digital.com>, are only two of many recent innovations likely to offer help to international communicators in the future.

## EFFECTS OF NATIONAL LAWS ON COMMUNICATION

National laws affect some aspects of international communication, such as forms of envelope address, means of transmission, costs of postage, delivery, taxation, or size of documents. National laws may also limit the topics that can be discussed. For example, governments may prohibit the dissemination of some types of technical information for reasons of national security or other policies (classified information or national defense secrets, for example). Some countries, such as Iran and the People's Republic of China, forbid citizens to use some forms of communication, such as the World Wide Web, or require that they use state-controlled networks.

## EFFECTS OF CULTURAL DIFFERENCES

The more significant differences between national (domestic) and international communication arise from differences be-

tween cultures. Communicators in a single country tend to share the same assumptions about communication situations, genres, relationships with audiences, politeness, roles of participants, timing of communication events, aesthetics, graphical conventions, and style. Each of these assumptions may control several decisions in communication processes and may interact in complex ways. For example, ideas about politeness and respect for status are likely to combine with ideas about graphical conventions and audiences to influence document design, vocabulary (or register), style, type treatments, types of illustrations, choice of colors, organization of content, and suitability of content. Culture has been defined many ways, but most of these definitions involve either (1) the objects or actions produced by a group that shares values and beliefs or (2) the mental predispositions acquired through socialization and instruction (9,10). Although either kind of definition has advantages, both can be useful in studying international communication, which involves both communication products (such as documents, presentations, graphics, and conversations) and communication processes (rules for who may speak, ways of organizing information, and attitudes toward communication actions).

## INTERACTION OF NATIONAL, REGIONAL, ETHNIC, AND CORPORATE FACTORS

Although countries' institutions as well as informal groups may foster particular national identities through their visual symbols and documents, a national culture is not shared uniformly by everyone in a nation. A country's population may include groups of people of many different regional and ethnic heritages, and the popular concepts of national culture may not match any of these groups' practices exactly. In the United States, regional cultures differentiate Texans from New Yorkers as much as ethnic cultures do. Therefore communicators cannot adopt the conventions of one group or the other blindly; it is wise to consider what one knows about the person(s) who will receive and respond to a communication as individuals with unique characteristics, as well. The preferences of the powerful and wealthy usually enjoy prestige, but ethnic and corporate cultures may also shape document design and audience expectations.

## INFLUENCE OF CORPORATE NORMS AND POLICIES

Corporations sometimes influence cultural norms for communication by their document review systems and the ways they enforce communication norms of the headquarters' corporate culture. For example, all reports to be distributed internationally may be reviewed and issued by an individual from the corporation's home country, or all documents and communications may be produced in one language only. Western companies have been accused of imperialistic hegemony by insisting on the use of English. However, the choice of language may or may not be imperialistic, according to Weiss (11). Traditionally, languages were spread by means of military conquest. In the last quarter of the twentieth century, the principal reason for the spread of English has been the lure of participation in the global economy. English has, to its credit, often been the language of democratization and revolution,

although serious exploitation still may occur in international business through linguistic and other means (12).

### **CORPORATE POLICIES ABOUT INTERNATIONAL COMMUNICATION**

The strength of the corporate culture and the degree to which it identifies with a national culture will affect the degree to which it accommodates the local practices of its employees abroad and clients in other cultures. A foreign company may choose to (1) use the native language and communication practices of its home country in all locations worldwide, (2) use the local language for documents and conversations in offices abroad but translate corporate-level communications into the home country languages, or (3) allow each office to tailor its communication practices to the local customs. While the third option makes it easy to interact with local people, it may impede coordination among offices in various countries and reduce the likelihood that managers from the home country headquarters can communicate with local staff easily, and it tends to reduce the overall efficiency of the multinational firm. Corporate executives must decide at what level the greatest opportunities lie and where the communication problems will be the greatest, matching corporate strategy to international communication strategy, according to Leinin-ger (13).

### **WHERE TO FIND HELP**

Government departments, organizations, translation companies, consultants, on-line resources, and printed materials now make it easier to begin international communication. International groups' departments (such as the North American Free Trade Agreement Secretariat) (14), national government agencies (such as the US Department of Commerce), organizations such as the Business Council for International Understanding (<http://www.bciu.org/>), and chambers of commerce all over the world now have web sites that can be identified with search engines on the World Wide Web. Many translation companies have staff from a variety of countries who can give advice on adapting a communication for a particular international audience in addition to translating the words of an original document. Free on-line translation services can translate simple messages destined for speakers of another language (but these services may make serious errors when doing word-for-word translation).

Consultants and local representatives will provide (for a fee) advice on initiating contacts and negotiating abroad. International trade associations such as the International Air Cargo Association can provide advice on how to avoid problems (15). International lawyers specialize in reviewing documents and preparing them for use in other countries. Handy printed reference books such as Merriam Webster's International Business Communications (16) are packed with details on salutations and closing phrases in letters, how to send faxes, how to address envelopes, how to place international telephone calls, and how postage is calculated. These details can make the difference between success and interminable delays. However, it is important to avoid adopting without question broad stereotypes in the "do's and taboos" books that necessarily simplify in covering many countries (17).

### **THE DEMAND FOR INCREASED INTERNATIONAL COMMUNICATION**

#### **Political and Economic Changes Create New Relationships**

Many political, economic, and technological changes in the last two decades of the twentieth century created a demand for international communication. As reform movements swept the Iron Curtain countries in 1990, Communist governments in Poland, Hungary, and Czechoslovakia were ousted. Communist East Germany dissolved and became part of the Federal Republic of Germany. Estonia, Latvia, and Lithuania were granted independence, and on December 21, 1991, the USSR formally ceased to exist as 11 of the 12 remaining republics agreed to form the loosely defined Commonwealth of Independent States.

Because economic problems had precipitated these political changes, leaders in the new states sought assistance and development funds. The introduction of a capitalist economic system and models of doing business required communication with many people, companies, and governments formerly barred by the "Iron Curtain" of the USSR's boundaries and policies. Further, the end of the arms race between the two super powers, the United States and the Soviet Union, promoted new confidence that money formerly devoted to military preparedness could be diverted fruitfully to trade and nonmilitary activities. New international ties were formed and international communication increased, although the process was fraught with difficulties.

#### **International Trade Agreements**

The Treaty on European Union (Maastricht Treaty) formed an organization of most of the states of western Europe, the European Union (EU). The success of the liberalized trade policies sponsored by the EEC (or EC, 1957–1991) in the 1960s, 1970s, and 1980s made EEC members more receptive to greater integration of the EC. In 1987 they reached an agreement to lift exchange controls and create a unified, free-trade market in western Europe that would permit banking, insurance, securities, and other financial services to be offered throughout. The prospect of a huge, unified European market prompted multinational companies to establish businesses there and motivated other governments to contemplate forming other free trade agreements elsewhere.

Although the US Congress bitterly debated the provisions of the North American Free Trade Agreement (NAFTA) for a prolonged period, it endorsed the agreement, which began to be implemented in January 1994. NAFTA was designed to eliminate tariffs completely over time and remove many of the nontariff barriers, such as import licenses, that had helped to exclude US goods from the other two markets, especially Mexico. NAFTA also eased cross-border services rules, which ensured that US companies did not have to invest abroad to provide services in Canada or Mexico. The resulting trade increases necessarily involved many new business relationships and much international communication: According to the US–Mexico Chamber of Commerce, Mexican exports to the United States increased between January 1994 and December 1997 from 49.49 billion to 85.83 billion; US exports to Mexico over the same period increased from \$50.84 billion to \$71.38 billion (18).

Another spur to international communication came from the four-country customs union Mercosur, established originally in 1995 among Argentina, Brazil, Paraguay, and Uruguay. Mercosur has a combined market of more than 200 million consumers and a shared GDP of \$1 trillion; it has tripled trade flows in the region in a little over 2 years. A free-trade agreement including all of the Americas is a long-term goal. Latin America and the Caribbean are home to roughly 475 million people and have a total domestic product of approximately \$1.3 trillion. The European Union's plans to establish a free-trade agreement with Mexico are likely to intensify international trade and international communication as well. In addition to the international communication conducted directly by government representatives, such events prompt enormous amounts of press coverage and discussion within and between large multinational firms, all of which may have an international character.

### **Interdependency of International Business and Communication Technologies**

International communication scholar Deborah Andrews calls information systems and technology "the essential connective tissue" of international organizations (19). Without such systems, decision-making essential for inventory management, marketing, strategic planning, and customer contact would be impossible or would become prohibitively expensive.

The communication technologies and systems that support the global economy developed steadily decade by decade. In the first half of the twentieth century, international telegraph services and radio broadcasts transmitted by cable provided individuals with personal opportunities for international communication and access to information about world events. National broadcasting systems such as the British Broadcasting System (BBC) and the Voice of America (VOA) not only made people around the globe familiar with British and US values and ideas, they established English as a global language and encouraged desire for Western products, creating similarities among customers across the globe despite many other cultural differences. Television surpassed radio as the international public broadcast medium by the time Queen Elizabeth II of England was crowned in Westminster Abbey in 1953, and the event was broadcast by television worldwide.

Communications satellites support international communication by providing telephone, television, and data services between widely separated fixed locations and from fixed locations to mobile users. Proposed in 1945 by British scientist Arthur C. Clarke and advanced by the work of American engineer and scientist J. R. Pierce, earth satellites received their first experimental test in 1958 with the launch of a US satellite. During the 1960s, satellites were improved and developed, and in 1964 the International Telecommunications Satellite Organization was formed. Under its authority the first commercial communications satellite was developed to provide high-bandwidth telecommunications service between the United States and Europe as a supplement to the existing transatlantic cable and short-wave radio links. Soon satellites were launched by groups from many nations, and by the early 1970s the United States had adopted an "open skies" policy that allowed recognized legal entities to develop and launch special-purpose satellites. Satellites became the major means of routing international telephone calls in the 1970s, but by the 1980s high-capacity optical-fiber links began to be used.

As the political rivalry of the Cold War played itself out, electronic communication capacities had been developed to make possible the international communication that would be necessary for the operation of large multinational companies and the shifts of funds and information in an global economy.

### **Engineering as Global Profession**

By the end of the twentieth century, expanding commerce around the globe created new demands for engineering. Multinational companies rushed to establish operations in the EU or to expand operations around the world. Developing countries built plants, sponsored infrastructure projects, and sought foreign capital for resource development projects—all engineering-intensive. Large engineering companies merged to form giant multinational companies such as Halliburton, Kvaerner, and Bechtel corporations to seize these opportunities. Coordination in such companies and contact with clients and vendors promoted a dramatic increase in international and intercultural communication. The interaction between client firms and engineering companies often involved the formation of project teams consisting of engineers from several companies and countries. The character of international communication changed as teams communicated and writers working at multiple locations across the world collaborated on the preparation of documents with electronic technologies. Instead of communications being authored by an individual or group in one country for receipt by an individual or group in another country, international engineering communication often involved groups of people from several cultures using processes of collaboration to benefit similar groups in another company. "Groupware" (software programs that allowed individuals in several countries to work together over simultaneously or asynchronously over a network) facilitated this new kind of document preparation and decision-making (20). Widespread use of consultants in engineering projects also increased the amount of international communication as outside experts became involved in international projects. The employment of persons from many countries in the giant engineering firms made engineering an increasingly international and intercultural profession.

### **INFLUENCES OF CULTURE ON COMMUNICATION PRACTICES**

#### **Cultural Influences on Communication**

International communication expert David Victor (21) argues that international communication is predominantly intercultural communication. Drawing on the work of anthropologists such as Hall and Hall (22,23) and Hofstede (9,10), he recommends that individuals about to become involved in international communication become aware of cultural influences by looking at seven factors: language, environment/technology, social organization, conceptions of authority, differences in representing or omitting background information necessary for interpretation, nonverbal behaviors used in communication, and attitudes toward time. Language rates attention from the cultural point of view because of the way that particular vocabularies influence perceptions of reality. It also rates attention because fluency and comprehension also have relevance for media choices in international communication. A person who has low fluency may be much more able to inter-

pret a fax or e-mail message with the aid of a dictionary than to understand a fast-paced telephone conversation.

Beliefs about the physical environment and technology may also affect communication. In rugged terrain, face-to-face meetings may seem too troublesome; telephone conversations or e-mail may be better. Some companies adopt new technologies much more readily than others. Second, although the firms creating electronic technologies, especially software, usually follow US notions of design, greater nationalism everywhere tends to valorize local traditions and to increase resistance to global standards. Processes of technology adoption vary: In some countries the latest technology may be given to the most prestigious manager; in others, executives may resist learning to use computers because it might signal that he or she did not need the status symbol of assistants or secretaries.

Differences in status and gender may prohibit communication between some persons in a culture and prescribe paths for communication for others. Understanding to whom a message should be sent (and by which means) may affect whether the message is received at all. US expectations about women's rights to job opportunities and equal treatment are not matched in most other countries. Women who are planning to work abroad or to communicate internationally should consider how to realign audiences' expectations (23–25). A more comprehensive knowledge of gender differences can help everyone create more successful international communications.

The researchers E. T. Hall and M. R. Hall introduced the term “contexting” to describe the way different national groups vary in their preferences for including in a document all the background information necessary to interpret a particular message correctly. The more the groups tended to rely on shared experience, the less likely they were to include all of that commonly held knowledge in their reports, letters, and memos. The more mobile the society and the less likely the society was to have a single shared, dominant culture, the more likely that all the necessary references and details would be included in the document, handout, or presentation.

The Halls ranked countries on a continuum according to how much they relied on stored information versus transmitted information. The following list of cultures from various countries and regions illustrates this continuum, beginning with the countries that rely on information shared in common by all participants and moving forward to those that most prefer all information to be explicitly represented: Japan, Arabic countries, Latin American, Italian, English, French, North American, Scandinavian, German, and Swiss–German. Countries that prefer to rely on shared knowledge or context are called “high context”; those that prefer to include all the information in the document are called “low context.” People from high-context countries typically feel that documents from low-context countries tell them much more than they need, expressing a condescending or paternalistic attitude toward the audience. People from low-context countries typically feel that documents from high-context countries are sloppily or carelessly prepared and incomplete. Hypertext documents that allow readers to follow several paths through a body of information and to seek additional information as needed provide one possible solution to this discrepancy, provided that all parties are willing to use the technology.

Differences in nonverbal behaviors may cause misinterpretations. In Western countries, looking another person straight in the eye is considered an indication of honesty, forthright-

ness, and trustworthiness. However, in many other countries, averting the eyes is a sign of respect and deference. The westerner trying to show trustworthiness by direct eye contact may insult an audience because of his or her presumed lack of respect. Posture, gestures, and how close people stand to one another can also cause discomfort and misperceptions about the other person's intentions. Victor's chapter on nonverbal communication offers a good review (21).

Attitudes toward time control the pace of communication and differ widely from culture to culture. In Mexico, the individual is considered very important, being prepared is highly valued, and relationships govern decisions. As a result, being punctual has less significance than taking enough time to deal fully with a valued person's needs or being completely ready for a conference. In contrast, US, German, and Swiss business people usually value punctuality or staying on schedule for its own sake. In contrast, in countries where time is thought of as something all around one, like a pool of water, the urgency of linear notions of time and efficiency are largely irrelevant. The pace of communication will be governed by other considerations. Negotiation about one's feelings about time can be very helpful, because when individuals independently try to adopt one another's attitudes toward time, mutual mistakes can occur. Discussing the matter discreetly in advance can clear the air.

Regardless of the benefits of trade, greater interaction and differences in cultural preferences increase the probability of miscommunication. Preparing to understand the cultural dimensions of international business can prevent some of the most obvious errors and reduce frustration and misunderstanding (26).

## PROBLEMS RELATED TO INTERNATIONAL COMMUNICATION

Ineffective international communication can have many costly results, especially in engineering and technical communication. Miscommunication can lead to different understandings of proposals, instructions, change orders, and design specifications. Differing attitudes toward time may result in costly delays. A casual tone or failure to present materials in the proper style may sabotage a relationship. Failure to anticipate differences in technologies may result in incompatible systems or mechanical problems on a project. Legal difficulties and infringement of international agreements could occur if documents are not reviewed by knowledgeable counsel.

Poor international communication strategies can result in unnecessary costs if strategies do not match corporate mission and strategy: For example, translating every document into another language would be a mistake if the corporate strategy is to do no more than sell products through an agent. Selected labels, promotional materials, and installation and repair instructions would be the documents worth translating in that situation.

## HOW TO COMMUNICATE WITH INTERNATIONAL AUDIENCES

### An Overall Approach to the Process

Six cultural dimensions, some of which have already been discussed under influences of culture on communication prac-

tices, are centrally involved in composing processes and document design in international communication, Tebeaux and Driskill (27) believe. Brief discussions of these elements and their implications for document design follow.

**Value of (Emphasis On) Either Individuals or Groups.** Societies may emphasize either individualism or belonging to a group. For example, the United States prizes individual liberties; Japanese citizens see group membership as a principal source of identity. Letters to a business or person in a group culture should emphasize the relationship the writer is attempting to establish with the organization and deemphasize what the writer wants. Instead, a writer should stress how the business relationship between the two companies can flourish. It would be rather tasteless to single out individuals for commendation; speaking of “we” would be more appropriate than referring to what “I” want. In a group-oriented culture, correspondence may not include a greeting to a specific individual (not “Dear Mr. Chang” but the anonymous “Dear Sirs”) because the communication is perceived to be between companies, not between persons.

A conversational style in documents written to members of group cultures will foreground the sound of the message, rather than the visual clarity of the main issues. Courteous phrases, though formulaic, may nonetheless sound socially appropriate. Having a social voice is more important than having a personal or idiosyncratic voice, just as bowing correctly is more important than bowing with a flourish. To design a layout for a group-valuing audience, emphasize the identity of the organization: photos of groups and corporate landmarks will be more acceptable than photos of individuals (except for the president and chairman). Some document designs will not work for both types of cultures.

**Separation Versus Merging of Business and Private Relationships.** Cultures that separate business and private relationships expect a formal and impersonal style, content focused on tasks or issues, and a severe or utilitarian layout. In contrast, cultures that emphasize relationships and merge business and private relationships often include personal observations and personal information in cover letters (though not in proposals or reports) and use a reserved but positive tone. Casual style and forms of address should be avoided as not offering sufficient respect to the reader. Indirect messages, as opposed to direct, to-the-point-messages, are usually appropriate. Borders, elegant serif fonts, embossing, crests, high-quality paper, and centered headings are among the appropriate choices. Similarly coordinated designs for brochures and reports suggest belonging to a group. Using correct titles consistently shows that the writer knows everyone’s correct place in the group.

**Degree of Distance Between Social Ranks.** In high-power-distance cultures, using correct forms of address can make a big difference to audiences. Take time to find out specifically to whom to address a report or letter, the title or rank of that person, which names to place on the distribution list, and what rank each decision-making individual holds. Establishing the correct tone in addressing the intended reader(s) and thus recognizing the appropriate distance needed between writer and reader(s) can establish the proper identity for the writer. Thus, tone in high-power-distance cultures may need

to be more formal if the reader holds a position that is relatively superior to the writer’s. Official formats, consistent graphic hierarchies, and communications designed for special occasions, such as commemorative scrolls, announcements, and commendations, will be appreciated.

In low-power-distance cultures, strict recognition of business hierarchies and use of formal address gain less favor. Some corporate cultures emphasize low power distance by instituting casual dress and open-door policies and having a flat hierarchy in the organization. Some west-coast computer companies in the United States are known for this kind of culture. A wide variety of formats may be used, and informal layouts and casual typefaces will be acceptable. The style of the message can also be more casual.

**Universal or Relative (Particular, Situated) View of Truth.** Some cultures tend to emphasize principles that should hold true everywhere. Theocracies (where a single religion dominates the government) are an extreme of this form. When writing or speaking in a universalist culture, one should be as specific and concrete as possible. Clarity and precision via format, diction, syntax, and usage will be valued. In argument structure, reference to agreed-on principles should lead to interpretation of specific details; alternative possibilities need not be given as much attention. If the deity is considered all-powerful, scheduling and planning may be deemphasized inasmuch as outcomes and events will be seen as dependent on the will of Allah or the preeminent deity. Drawings of normative cultural types and national symbols, especially time-honored ones, may be successfully associated with products or services rather than photos of specific individuals. Traditional layouts that may look busy to westerners will be acceptable.

In societies where truth is conditional, dependent on specific situations, principles may be less convincing than the particularities of a plant, system, community, or problem. Organizing material chronologically to show the history of a situation or design will establish the truth of one’s claims better than indicating that it conforms to a national or international standard.

**Contexting.** Some cultures expect that a message will include all necessary background information; in contrast, others may expect that a reader’s knowledge of matters not included in a document will make correct interpretation possible. Discussed above, this cultural property affects what is included in a document or presentation more than any other aspect of the communication. Time spent reading about and studying the history and background of a high-context culture in advance of communication will help a great deal. For example, reading the slim volume published in 1989 by Mitsubishi Corporation, *Tatemae and Honne: Distinguishing Between Good Form and Real Intention in Japanese Business Culture*, will make a newcomer in Japan familiar with many terms and concepts occurring in business (28).

**Predisposition Either to Accept or to Avoid Uncertainty.** If readers are willing to accept uncertainty, problems can be named and explored, risks discussed, and options explored. In cultures that avoid uncertainty, documents are valued for documentation and governance purposes. Problems may remain implicit. (“Better to let sleeping dogs lie” would be a telling adage in such a culture.) Forms, tables, and many ap-

pendices serve the needs of high-certainty-seeking cultures. Images associated with certainty (such as flowcharts that make outcomes clear), elaborate borders (the kind on stock certificates), high-quality paper, traditional layouts, precise physical images (such as photos, boxed quotations, or principles), and presentation techniques that look permanent (embossing, engraving, framing) will be valued.

Each of these six cultural dimensions may combine in different sets in a particular society. Once the particular profile of a culture is reasonably clear, the associated design choices can guide the composing process at key points. Several other structured approaches have been formulated for applying the characteristics identified by anthropologists; often these are illustrated with the authors' consulting experience and can be very helpful to persons with little experience (29–35).

### Presenting to International Audiences

If at all possible, it would be good to find an opportunity to observe a presenter from the country or culture in which you intend to present. Presentation styles are affected strongly by attitudes toward power distance, individualism, rank, dependence on context for interpretation, and tolerance for uncertainty.

In cultures that value groups over individuals, expect to present with averted eyes and body language that signals deference and respect. Stress nonbusiness topics unless a relationship has been well established, at which time specific information about a business project may be acceptable. Formulaic apologies for the inadequacy of one's efforts will seem courteous and respectful. Keep to the time schedule, but do not emphasize or refer to time in the talk itself.

In contrast, Western audiences expect direct eye contact, no apologies, clear organization that addresses decision-makers' concerns first, problem recognition and analysis, and a task-oriented approach.

### Preparing Images and Graphics for International Audiences

People from different cultures often do not interpret graphics in the same way. It is important to explain the graphic and label any icons or signage so that audiences will recognize these symbols. Deborah Bosley has shown that icons especially vary widely even for basic information (36). William Horton's work, while generalizing perhaps too much, is worth consulting for problems in intercultural representation in technical documents and software (37). Kostelnick (38) reviews two approaches to cultural adaptation of designs. Graphics, style, and a variety of other issues in carrying out international communication can be found in collections of essays such as Andrews' or Lovitt and Goswami's (39,40) and special issues of the *Journal of Business and Technical Communication* and the *Journal of Business Communication*.

## ETHICAL ISSUES

Ethical issues in international communication may be analyzed by several ethical frameworks: outcomes, intentions, and relation to codes or professional standards. The general injunction, "first, do no harm," measures outcomes by the type of effects. Communication that leads to exploitation of international audiences, physical damage to users or equipment,

environmental harm (such as sale of insecticides or chemicals banned in the country of manufacture), or political dependency or loss of cultural heritage can be faulted by application of this criterion. Judged by intention, deliberate communication to mislead international readers by omission of detrimental information, false promises, or representation of out-of-date technology as current or desirable would place blame with the sender.

US standards for liability based on a failure to warn (rather than negligence or defective production) may apply when the manufacturer or communicator was in a position to have known about a hazard and failed to warn the user. When a product is inherently hazardous, the manufacturer is responsible for being able to show that the risks were recognized and weighted against the prospective benefits to the consumer. To meet this responsibility, manufacturers and engineers should maintain files within the company that documents its deliberations. Hazard communication is especially challenging since both words and pictures or drawings may not be interpreted by international audiences in the ways manufacturers or sellers intend.

Professional engineers should consult the ethical codes of their professional engineering societies as well as their corporations in considering their responsibilities in specific communication situations. Most societies have ethical codes. The Institute of Electrical and Electronics Engineers code (41) can be found at <http://www.ieee.org/committee/ethics/coe.htm>, and a discussion list can be subscribed to at that site which allows users worldwide to discuss emerging problems and concerns. Corporate codes of ethics may also apply to particular situations. Legal considerations must always be taken into account, but should not be judged sufficient to encompass the full range of ethical issues at stake.

Challenging ethical dilemmas usually develop when competing goods must be reconciled. Technical innovation may produce benefits that simultaneously have negative secondary impacts in some circumstances. Planning that takes into account long-term effects or secondary outcomes may minimize negative results and preserve positive intentions. Catastrophes can cause extreme hardship in developing countries and serious liability exposure for companies.

Few people have discussed the broad question of how communicators should serve *international*, not merely national or corporate, interests. New approaches to the ethical dimension of communication, such as the one proposed by Schultz (42), have appeared but without focusing on international communication. To be international in one's thinking about communication is to consider the effects of communication on all stakeholders regardless of national affiliation. Communicators should ask how they can re-envision the process of communication, their colleagues, their companies, and their research to contribute to a more just international community.

## THEORIES OF INTERNATIONAL COMMUNICATION

### Universalist Theories

Beliefs about great commonalities undergirded early modern approaches to international communication. Universalist views of communication assume that all people share a common humanity; and this shared concern for family, survival, beauty, peace, and so on, provide the basis for cooperation

and communication. Similarly, some linguists, such as Matsu-moto (43), are currently searching for linguistic universals in international communication. The challenge in this approach is to understand the interplay between context and universal linguistic features, as Yli-Jokipii attempts to do (44). C. K. Ogden's work on language theory (3,4) posited a limited number of semantic universals in all languages. English required only 18 verbs to capture these key concepts, he argued, and his system of Basic English added 600 nouns, 150 adjectives, and a small number of "operatives" ranging from prepositions to modals with which Ogden believed it was possible to represent the meaning of some 4000 verbs used in English. With these basics, people who spoke other native tongues would be able to express these same fundamentals on which their own languages also rested.

### Social Science Theories

International communication and intercultural communication are not yet well theorized despite the massive increase in the number of e-mail messages, reports, and proposals that speed across the globe. Theory lags behind practice, and practices change rapidly. The need for more helpful, useful theories is acute. Communication specialists have borrowed from anthropologists and sociologists, turning to Hall (22,23), Hofstede (9,10), and Trompenaars (45) for categories to describe foreign audiences. Victor's *International Business Communication* (21) is compact but draws illustrations of anthropological categories of difference from a wide range of nations. Goodykunst and Kim's collection (46), *Readings on Communicating with Strangers*, reviewed and applied social science research and scholarship for the benefit of communication instructors and specialists. Their approach, however, emphasizes the strangeness of the audiences involved. Similarly, Scollon and Scollon's *Intercultural Communication: A Discourse Approach* (47) applies discourse analysis techniques used in linguistics to help students "overcome discourse barriers." This conception of international communication as an assault against barriers, with its connotations of contest, obstruction, winners (and losers), unfortunately positions participants in combative rather than collaborative roles and raises ethical issues.

The good things that have been borrowed from the social sciences have been applied nearly as far as they will go in explaining international and intercultural communication. Furthermore, virtually none of these theories can be used to explain cognitive processes or has integrated concepts of electronic technologies into its explanations. Work in computer-mediated communication (CMC) has been concerned with cultural but not intercultural differences (48–52). Labeling prospective audiences by categories identifies probable predispositions of cultural groups, but the actual processes of specific individuals remain beyond reach. In an era of rapid change, advice that constructs others on the basis of data collected months or even decades ago is more likely to lead to stereotyping than to understanding. A different sort of theory should be developed that attends more to mutual processes of adaptation, feedback, and adjustment, with and without technologies. Theories and models that account for corporate processes are also needed, such as Leininger's, which shows the possible benefits of aligning corporate strategies and communication policies.

### Postmodern Theories

Limaye and Victor point out that the prevailing paradigm for intercultural communication research is linear and process-based and that reconfigurations of the Shannon–Weaver model have dominated communication research (53). The Shannon–Weaver model arose from investigations of World War II military communication difficulties and included elements prominent in battlefield situations: senders, message, and receiver—a sort of walkie-talkie model. Various models derived from this basic threesome have also displayed the medium and "noise," a representation of both electronic or mechanical difficulties as well as other communication problems. No people with personalities or their cultural predispositions or expectations were included. This family of representations is a clearly appropriate model for those who are working on communication equipment, but it is inadequate for representing the multitude of factors that influence communication success. However, new experiments in theory have explored the relevance of Donald Davidson's externalist philosophy, Thomas Kent's paralogic hermeneutics, and the Taoist yin–yang principle to furnish new approaches to intercultural communication (54,55). Yuan, for example, focuses on what is static and what is changing (yin and yang) in each speaker's behavior to describe how speakers from two cultures each adapt their own cultural styles in a transaction (55). By abandoning the anthropological classification systems, Weiss attempts to recast all communication as a process of translation, a move that brings him back (in some senses) to Linda Flower's contention that at the heart of composing is a process of rerepresentation (56).

## RESEARCH METHODS

### Empirical or Quantitative Studies

In empirical or quantitative studies, researchers measure aspects of international communication such as frequency, channels selected, costs, systems used, efficiency of groups using particular software, number of documents produced, types of documents produced or transmitted, and communication paths. The general purpose is to determine what is happening so that outcomes may be predicted in the future and processes can be controlled. The resistance of cultural phenomena to quantification has made empirical approaches alone less suitable for international communication than in domestic or monocultural communication, where quantitative studies can determine group norms and establish genres and conventions more readily.

One approach is consistent with the historic method of instructing others shows model letters for imitation. The researcher accumulates documents created by a single national group or by employees of a single national firm and compares their features in order to define, for example, the "German" credit letter or the "US" letter of request (44). Although this approach may reveal some conventions and genre features, the data are usually not placed in context, little is known about the situations in which the documents were written, and the ethnic background and history of the writers are not known. Since so many employees in companies today are drawn from many diverse groups, often deliberately, the writers in a French company may not be acting in accordance



with their own background. Corporate culture may be overriding most influences of “national” origin. Because the approach focuses on the document features, it may not succeed in identifying features were chosen, why what specific conventions mean to readers, or how the information is used in the situation.

### Ethnographic or Qualitative Studies

In ethnographic or qualitative studies, the researcher becomes a participant observer of the discourse community for an extended period of time. The researcher accumulates copious notes, logs, interviews, and other evidence of what happened in a specific community in a particular period. Well established as a technique in anthropology, ethnographic research has been used to “bring back” the inside story on communication in foreign countries. However, the impartiality and even the ability of the outsider to understand what is going on have been problematic in proving the validity of the observations.

Most important, the key reason for doing communication research is to be able to generalize on the basis of the observations and to teach insights to others. If the results of qualitative research are held to be applicable only to a single discourse community studied, then this method cannot fully accomplish the objectives of the broader community. Since new technologies facilitate and influence new communication practices, it will be especially important to find qualitative techniques that take less time to conclude research, otherwise, findings may be irrelevant to the changed technological settings and groups when the research is published.

### ISSUES FOR FUTURE STUDY IN INTERNATIONAL COMMUNICATION

In addition to the need for new theories and models of international communication, researchers need a new infrastructure for studying international communication and reporting results. The competition between companies and the remoteness of communication sites make it difficult for researchers to gain permission to observe or to obtain materials to study. Furthermore, when the researcher remains within a firm or location for an extended period, he or she tends to become a member of the organization or discourse community and to be pressured for assistance in producing successful communications. This kind of participation jeopardizes the research by contaminating or modifying the process observed.

Nonetheless, the rapid rate of technological adoption and innovation can quickly make obsolete what has been taught for a long time. For example, e-mail has become quite ubiquitous without receiving much attention from textbooks, which have continued to stress the primacy of printed documents and correspondence. Researchers need better access, quicker turn-around time, and greater access to employees who are involved in international communication. New trade alliances should include provisions for research to monitor and improve communication among companies involved in international trade in their regions. Governments also should fund research as part of their efforts to promote commerce and international investment. Studies of the effects of negotiation training and dispute resolution would also seem worth funding in order to

increase success in the ongoing expansion of trade that, from the beginning, has required international communication.

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