encyclopedia of communications

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preface

IT HAS BECOME COMMON to speak of a communications revolution. When did that revolution begin?

It can be said to have begun when humans started to use word-language, adding it to existing repertoires of gesture, look, body signal, touch, grunt, growl, roar, moan, rhythm, intonation, melody. With the growth of word-language, humanity diverged from fellow species and acquired an oral tradition, tribal memory, the beginnings of a history.

The revolution can be said to have entered another phase as humans began to record on cave wall, stone tablet, bone, wood, bark, pottery, skin, and papyrus and different fibers messages which other humans might note. The links with past and future were strengthened. The sense of community widened and deepened. Humanity acquired a recorded history. All this favored the complex evolution of societies.

A further phase began with the devising of mechanisms for the mass production of words, images, and symbols through printing and paper and all their related technologies. The reverberating effects, so recent in human history, have only gradually been glimpsed. The wider diffusion of information and ideas, often circumventing priest and monarch, helped to upset old orthodoxies, spread heresies, and bring shifts in power and status. He who introduced printing with movable type, wrote Carlyle in retrospect, "was disbanding hired armies, and cashiering most Kings and Senates, and creating a whole new democratic world." The printing press, said the historian Trevelyan, became "a battering-ram to bring abbeys and castles crashing to the ground."

Each of these phases meant vast changes in the human experience. But the changes were spread over eons or centuries, so that few people felt they were living through anything that might be called a communications revolution. The revolution was on, but the phrase had no cause to exist. Today the situation is different. A new phase, an electronic telecommunications phase, is so rapidly reshaping our institutions, and seems so certain to bring upheaval to almost every aspect of our lives, that the words *communications revolution* have become a living reality for people everywhere. And that is the occasion for the *Encyclopedia of Communications*.

Communications is the study of ways in which information, ideas, and attitudes pass between individuals, groups, nations, and generations. It focuses on the ways a culture is transmitted and changes, and on the systems and organizations involved in these processes. While the ways have changed from one phase of the revolution to another, all the ways—from primal grunt and gesture to satellite and computer transmission—remain in action, in patterns of always increasing complexity. The complexity lends urgency to their study. A communication system serves a society like a nervous system. It sorts and distributes data, and provides for their storage and retrieval. Its signals can evoke memories, rouse emotion, and trigger action. As in a nervous system, aberrations can deeply disturb the organism. Communications scholars concern themselves with everything that may block, disrupt, poison, or distort communication. They work toward understanding such aberrations and further the quest for remedies.

That the newest communication phase would have a deeper social impact than the revolutionary advent of the printing press was perhaps already evident as television screens began to enter homes. The printing press could only influence those who acquired an ability to read, something involving effort and guidance. First exposure to the world of print has therefore generally been mediated by parent, grandparent, sibling, teacher, priest. This aspect favored cultural continuity. Television suddenly short-circuited this process. Requiring no ability beyond normal human functions, its influence on the child could begin in cradle or playpen. In countless homes, one of the first things to rivet a child's attention has been the luminous oblong, the brightest thing in the home. The child was beguiled by its swirling shapes, and soon acquired the feeling that they represented a world beyond the home. They began to form patterns in the

child's mind, about people and how they could be expected to behave. All this could bypass parent and grandparent; it reached the child long before teacher and clergy. Their later influence might add only footnotes to an emerging picture of the world, its ways and requirements.

At first many parents, noting the child's absorption in the bright tube, tended to accept their own diminished role in the acculturation process. But some grew apprehensive. Along with teacher and clergy, they began efforts to gain some control over the contents of the screen—with little success, for they encountered powerful forces. The home screen had become an unprecedentedly competitive arena, a major channel to the mind, a focal point for efforts of government, business, political parties, education, church, and other forces. All sensed a need to communicate through this medium—or wither.

Technology was meanwhile setting the stage for a world scarcely imagined brief years ago, involving an even larger role for the home screen and its pushbuttons and recorders: two-way videophone, teleconferencing, teleshopping; access, via the home communications system, to the treasures of museums, film archives, and farflung data banks. Doctors were discussing telemedicine, involving diagnosis via the home system. Governments were attracted to the thought that message-movement would substitute for people-movement. Much business could be done from the home: the madness of rush-hour traffic would recede into history. Electronic mail delivery, electronic voting, electronic education would all further the process. Would this perhaps solve the transportation crisis? But others asked: Is this the good life, to stay at home, pushing buttons and conversing with images? Would the child living among images, manipulating images, playing with images, be prepared to cope with people? Would the child be growing up in the real world or some other world?

Some sense increasing relevance in words written at the very dawn of the luminous oblong by Daniel Boorstin, later Librarian of Congress. In 1960 he observed, in *The Image,* that "we have used our wealth, our literacy, our technology, and our progress, to create a thicket of unreality which stands between us and the facts of life." He suggested that we had provided ourselves with an "unprecedented opportunity to deceive ourselves and to befog our experience."

Clearly we live in a communications phase of fabulous possibilities, whose implications are not clear. Is it any wonder that the word *communications,* a word that found little use a few decades ago, is on every tongue? That books now in print, on communications, the communications media, their problems, techniques, organization, responsibilities, and social impact, and their meaning for education, religion, business, politics, government, international affairs, and the future of the world number in the thousands? And that the study of communications, on the graduate and undergraduate levels, has found a firm place in institutions throughout the United States and abroad?

All this has set the stage for the *Encyclopedia of Communications.*

IN 1982 some sixty scholars, representing universities in the United States and abroad, were invited to come together in a series of conferences at The Annenberg School of Communications, University of Pennsylvania, to discuss the possibilities and problems of an encyclopedia of this sort. Early in the discussion a question was raised: is it wise to launch such a project in an age of rapid change? After fervent and searching discussion, the consensus became clear. Now, it was felt, *was* the time. The assembled scholars had backgrounds in many disciplines: sociology, history, education, psychology, anthropology, literature, dramatic arts, journalism, linguistics, law, economics, political science. They pointed out that the evolving field of communications had brought them together, pursuing their work in a constantly broadening context. Each increasingly needed the illumination of adjacent fields. They pointed out that the new communications explosion had similarly united many occupations in a common interest, a common quest. All felt the need for knowledge and understanding of man's continuing communications revolution, with special emphasis on the newest and most explosive phase.

And so, in due time, the decision was made. Editor and associate editors were chosen. Advisory committees were formed, to make sure all relevant aspects of communications—past and present—were represented. Specialists were engaged for graphic design, pictorial research, and relentless checking.

Specialized encyclopedias of recent years have in many cases adopted a national focus. In the field of communications it seemed essential that context and range be international. The formation of an international advisory committee therefore received the most careful attention. The *Encyclopedia of Communications* was to be international in content, authorship, and relevance, with the expectation that editions in translation would follow and that the encyclopedia would serve as a unifying element for the entire field. Writers were recruited from all continents.

In the *Encyclopedia of Communications* you will find entries of diverse length. Each major article carries the name of the responsible scholar. Each is likely to refer you to entries on related topics. A good encyclopedia can be the most serendipitous of media: by following the trail of cross-references, you may find yourself learning more than you intended. While the encyclopedia provides some ten thousand topics treated alphabetically, you will find some hundred thousand in the index. The topic on which you seek information may be treated under many headings.

The members of our advisory committees are listed in the front pages of this volume, along with members of the editorial and production staffs. With gratitude to all who assisted in this enterprise, we now launch the *Encyclopedia of Communications.*

ERIK BARNOUW

frame-by-frame photography of the paper strips, films from the earliest years of the motion picture were literally brought back from the dead. Because the original nitrate stock had long since disintegrated, many of the films had not existed for half a century. The work restored a lost chapter in motion picture history.

Author's Name

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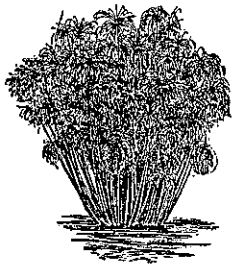
Papyrus



Cyperus papyrus, *the paper reed.*

A reed of the sedge family, associated mainly with the Nile valley, though grown at times in other areas bordering the Mediterranean. Ancient Egyptians used its pith for food and its stalks to make rope, shoes, light skiffs, and other articles. Its manufacture into writing material, which may have begun as early as 3500 B.C., gave the papyrus plant a crucial role in the history of communications.

The writing material, also called papyrus, was made by laying strips alongside each other and covering these with strips placed at right angles to them. An adhesive and pressure were used to fuse them into pliant sheets, usually 30–45 centimeters square. These could be pasted together to make rolls, often 10 meters long, sometimes much longer. A papyrus roll preserved in the British Museum measures over 40 meters.

The reader of a papyrus document unrolled it as he proceeded, moving from left to right. At the end rewinding was necessary. Writing was on one side only. Black inks were the main writing material, but use was also made of red inks.

Papyrus cultivation, being confined to a small area, lent itself to centralized control. Such control was instituted as papyrus became an important administrative tool, maintaining the records for a growing governmental bureaucracy and involving a growing army of copyists. These tended to become a privileged class. Ancient Egyptian wall paintings reflect the role and importance of papyrus documents. In tombs papyri have been found in the hands of mummies, or swathed along with their bodies.

Under the Ptolemies cultivation was intensified to produce year-round harvests. The library founded by Ptolemy I had 20,000 manuscripts by 285 B.C. Here ideas of East and West—India, Persia, Palestine, Greece—accumulated. But the Ptolemies maintained a strict monopoly over manufacture, use, and distribution of papyrus, and thus to an extent over the circulation of ideas. Export controls over papyrus provided leverage in external relations.

When Rome captured Egypt it also captured the papyrus monopoly. The reed from Egyptian swamps became an instrument in Roman administration over an empire stretching from Britain to Mesopotamia.

By the third century A.D. papyrus was being replaced in many of its functions by PARCHMENT, a more durable medium and therefore preferred for religious and literary texts and laws, treaties, and other important records. But use of papyrus for more transitory purposes such as letters, memoranda, and invoices continued on a declining scale for another thousand years.

Few ancient papyrus documents survived the wars and damp climates of Europe. But during the nineteenth century excavations in Egypt began to bring forth innumerable papyri well preserved in tombs and dry sands. These have led to the new profession of papyrology—the care and deciphering of papyri. This has yielded rich information about the ancient world. Because financial transactions and legal disputes were the focus of many documents, the minutiae of daily life have been illuminated by the papyri. They have also given us lost works and fragments of works by Aristotle, Sophocles, Menander, Sappho, and others.

Author's Name

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Parable

Fictional tale, usually brief, involving a moral point. It generally deals with events that could happen, whereas a fable, though having a similar moral or philosophical purpose, features animals as human surrogates. Parables seem to have played a role in many cultures of the past, transmitting and reinforcing doctrines. Their role and effectiveness are suggested by the frequent use of parables in the Old Testament in such books as Ezekiel, Proverbs, and Kings, and more especially by the use made of them by Jesus, in such parables as The Good Samaritan (Luke 10:25–37), The Prodigal Son (Luke 15:11–32), and The Pharisee and the Publican (Luke 18:1–14).

With the decline of the oral tradition and the rising influence of print, the parable lost much of its earlier social role, but it has remained as an infrequently used literary genre, utilized by such authors as Kierkegaard and Kafka.

Author's Name

BIBLIOGRAPHY: Archibald M. Hunter, *Parables Then and Now* (Philadelphia: Westminster, 1971); Thomas C. Oden, ed., *Parables of Kierkegaard* (Princeton: Princeton University Press, 1978).

Paramount Pictures

One of the dominant companies in Hollywood history, Paramount was the product of a series of early film mergers engineered by the astute Adolph Zukor, an immigrant who parlayed a 1903 investment in penny arcades into film distribution and then production under the banner "Famous Players in Famous Plays." In 1916 he merged with Jesse L. Lasky to form Famous Players–Lasky; they then absorbed numerous other enterprises including a distribution company called Paramount, which dated from 1914. The amalgamation eventually took the Paramount name.

Period of Growth

Beginning as a production and distribution company, Paramount in 1919 embarked on a massive theater-acquisition and theater-building program, and became one of the five Hollywood "majors"—largely self-sufficient production-distribution-exhibition firms with substantial control over their markets. During the heyday of the big-studio era, each of the majors sought to produce features at the rate of one a week and to premiere them in "first-run" theaters in major cities, largely studio-owned, with subsequent release to theaters designated as "second-run," "third-run," and so on. Independent theaters acquired the films by subscribing to a service of 52 features, 52 shorts, and 52 newsreels per year under blind "block-booking" contracts. The weekly *Paramount News* was launched in 1927 as part of this service. Independently made films might be acquired to fill out the service, but the emphasis was on the company's own productions.

The Paramount talent roster included a number of European directors (Ernest Lubitsch, Erich von Stroheim, Joseph von Sternberg) and stars (Pola Negri, Marlene Dietrich, Claudette Colbert) who tended to edge the studio toward sophisticated comedy. With a strong contingent of British actors (Clive Brook, Herbert Marshall, C. Aubrey Smith, Cary Grant), Paramount turned frequently to the British Empire for romantic themes. The studio felt less at home with gangster films and westerns but produced them occasionally. A strong comedy lineup included the Marx Brothers and a carefully controlled Mae West. A more elegant naughtiness, continental style, was the studio's hallmark.

Landmark Antitrust Case

The name Paramount became attached to the largest antitrust case in motion picture history, a pivotal event: *U.S.* v. *Paramount et al.*, launched in 1938. But the "Paramount case" was actually a suit against eight companies—the five "majors" (Paramount, Warner, Loew-MGM, RKO, Twentieth Century-Fox) and three "minors" (Universal, Columbia, United Artists). The eight were closely associated. They loaned stars to each other, but never outside the system. Out of every dollar earned at the box office as the distribution share, about 90 cents went to the eight companies. The remainder, earned mainly at fringe theaters, went to a handful of "independents." The antitrust suit charged that this high degree of market control, which had tended to keep out foreign films and hamper the rise of independent producers, was the result of block booking and ownership of key theaters. The five majors owned 70 per cent of all first-run theaters. As remedy the suit sought to end block booking and force the majors to divest themselves of their thousands of theaters. The minors did not own theaters at the time of the suit but were included because they too practiced block booking.

Censorship Issue A factor in the case was the Hollywood code with its Production Code Administration, established in 1931 to give teeth to the code. The eight companies had agreed to release no film without approval of the Production Code Administration. The system listed a number of topics, including interracial romance, as taboo for the screen. To meet code requirements, sinners regularly met death through automobile accidents or natural disasters, apparently in divine retribution. The American Civil Liberties Union, charging that the system was a national censorship system privately administered, filed an amicus brief in the Paramount case.

Reorganization The suit was suspended in 1940, with some restriction on block booking; it was reactivated in 1944, and in 1946 was won by the government. Affirmed by the U.S. Supreme Court in 1948, it brought about a drastic reorganization of the film industry. Block booking was banned. As to theater ownership, the divestiture details were worked out in a series of consent decrees. Paramount, the largest owner—it had owned more than a thousand theaters—split into two companies: Paramount Pictures, a production and distribution firm; and Paramount Theaters, the exhibition chain. The latter soon merged with the American Broadcasting Company, previously a part of the National Broadcasting Company but set adrift in another antimonopoly move.

With sharply reduced market control, Paramount Pictures canceled most long-term contracts with directors, actors, writers, and technicians and pared production schedules. *Paramount News* was terminated. The studio, like the other defendants, tended to become a financier and distributor of films by independents. By the end of the 1950s, half the features released by Paramount and its codefendants were independently produced. American independent producers increased in numbers, and their films won a rising share on the market, as did foreign films. The Production Code Administration lost influence, since its constituent members no longer controlled the theaters. A considerable relaxation of motion picture theme restrictions could be observed during the following years.

Paramount posters, 1930s style.

Average volume of feature films released by Hollywood majors

	1935–1939	1940–1944	1945–1949
Paramount Pictures	47	40	24
Loew-MGM	42	41	28
Radio-Keith-Orpheum	42	43	33
Twentieth Century-Fox	50	48	32
Warner Brothers	55	33	21

Oligopoly period, with market control by majors

Some restriction on block booking, but antitrust suit shelved

The suit reactivated, and won by U.S. government

During the 1945–1949 period the films released by the majors included many made by independents. This became a growing trend.

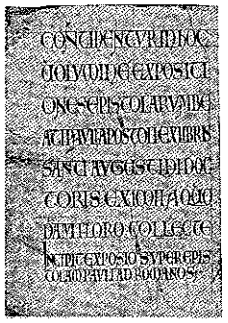
Role in Television

In the 1960s Paramount Pictures began production and worldwide syndication of television series. In 1966 it merged with Gulf & Western Industries. In the 1970s it engaged in various CABLE and HOME VIDEO ventures. It remained a powerful entity, seeking to redefine its role in a changing environment.

Author's Name

BIBLIOGRAPHY: Michael Conant, *Antitrust in the Motion Picture Industry* (Berkeley: University of California Press, 1960); I.G. Edmonds, *Paramount Pictures and the People Who Made Them* (San Diego: Barnes, 1980); Will Irwin, *The House That Shadows Built* (Garden City: Doubleday, 1928); Gerald Mast, *A Short History of the Movies* (New York: Pegasus, 1971); Edward C. Wagenknecht, *The Movies in the Age of Innocence* (Norman: University of Oklahoma Press, 1962).

Parchment



Title page from high-Romanesque manuscript.

Samuel Pepys.

The skin of animals prepared for various uses including writing material, drumheads, and other products. Finer grades are known as vellum (Fr. *veau,* "veal"), originally denoting parchment from the skin of a calf. Parchment takes its name from the city of Pergamum, where parchment achieved rising importance as a writing material during the second century B.C., although its use in various parts of Asia went back to much earlier times.

When Eumenes II of Pergamum (197–159 B.C.) was hampered in efforts to create a major library because of an Egyptian ban on export of PAPYRUS to Pergamum, he fostered improvements in the processing of hides, set up manufactories, and imported goatskins from a wide area. As a by-product of animal husbandry, parchment was not subject to the kind of regional monopoly that affected papyrus. Yet it remained scarce and expensive—disadvantages outweighed by its durability, which made it ideal for libraries and other archives. At first only one side of the skin, the nonhair side, was used for writing; the side from which the hair was stripped was generally darker and rougher. Improvements in processing gradually made both sides usable. Another factor was that parchment could, in time of supply shortage, be reused by washing or scraping off earlier writings. It is likely that valuable earlier records were sometimes sacrificed to this advantage. Reused parchment manuscripts are called palimpsests. By using chemical reagents, researchers can sometimes restore washed-out lines sufficiently to decipher it.

At first a parchment was rolled like a papyrus document. But in the early centuries A.D. a new form, the CODEX—parchment sheets bound in book form—began to gain favor. From the fourth century on, parchment was the dominant writing medium. Most abbeys made parchment and manufactured codices, and monastery copyists continually made copies of texts considered essential for the rearing of new scholars. The scarcity of parchment and the skills of the monastery copyists tended to give the church a decisive voice as to which ideas and information would remain in circulation and which would not. In the words of Harold Innis (1950), this won for the church a virtual "monopoly of knowledge"—a monopoly eventually undermined by the arrival of PAPER and the PRINTING PRESS.

Paper had been used in China since the second century B.C., and its use had spread to Japan. Samples came westward over the SILK ROUTE, but the secrets of its manufacture apparently remained in the far east until A.D. 751, when a battle at Samarkand brought into Arab hands some Chinese prisoners familiar with the process. Bagdad and other Arab cities became paper-making centers. By the twelfth century Fez, in Morocco, was said to have several hundred paper mills, and the manufacture spread to Spain, Italy, and elsewhere in Europe, setting the stage for the explosive arrival of the printing press. Subsequently the use of parchment in the field of communications subsided rapidly except for book bindings, honorary certificates, and other ritual uses.

Author's Name

BIBLIOGRAPHY: Elizabeth Eisenstein, *The Printing Press as an Agent of Change* (New York: Cambridge University Press, 1979); Harold A. Innis, *Empire and Communications* (Oxford: Clarendon, 1950).

Pepys, Samuel (1633–1703)

Writer of a diary celebrated for its charm, its intimate disclosures, and the insight it provides into seventeenth-century English life. He was poor when he began the diary in 1660, but in later years he rose high in government service, experienced dramatic ups and downs including an imprisonment in the Tower, and served twice as secretary to the Admiralty. He appears to have been an able civil servant. As a diarist, Pepys was far more candid than he would have been if writing for a public purpose. This gives the diary its special value as a window on his world. It was written in shorthand and a code of his own devising, which was not deciphered until more than a century after his death. Publication of the diary in fairly complete form—a multivolume enterprise—was not achieved until the 1890s. It has become a classic of its era, rich in small revelations.

In a diary entry of August 19, 1666, Pepys indicated that a new communication device, the magic lantern—which proved to be a precursor of the film projector—had arrived in England. The idea of the magic lantern had been discussed by the Jesuit scholar Athanasius Kircher in 1646 in the book *Ars magna lucis et umbrae* (The Great Art of Light and Shadow). The Dutch scientist Christiaan Huygens is thought to have given the idea practical form a decade or so later. There are references to magic-lantern demonstrations on the Continent during the 1660s. Pepys's 1666 diary notation tells us:

> . . . by and by comes by agreement Mr. Reeves. . . . He did bring a lantern with pictures in glass, to make strange things to appear on a wall, very pretty.

Pepys bought "the lantern that shows tricks" for the entertainment of friends.

The name Pepys is pronounced *peeps.*

Author's Name

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Perception

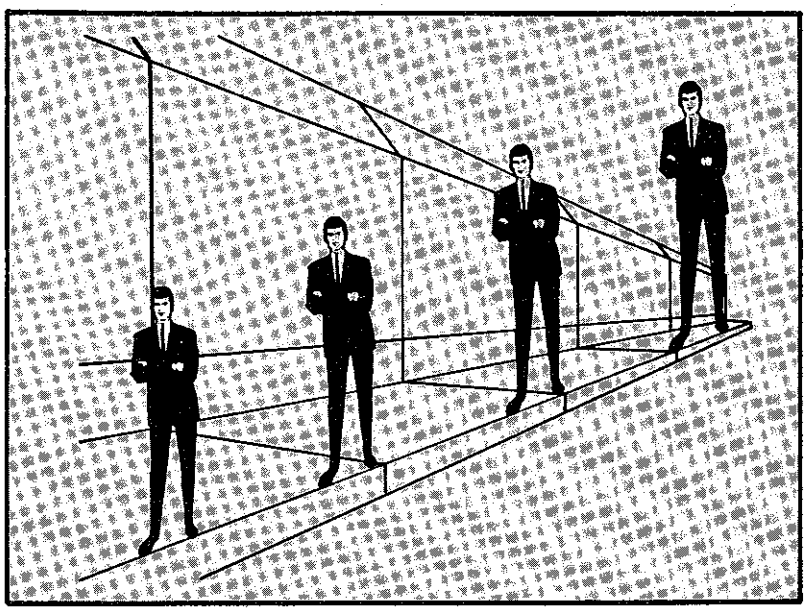
This topic is discussed in four sections:

1. *The Study of Perception*
2. *Techniques and Theories*
3. *Perceptual Development*
4. *Social Perception*

1 The Study of Perception

The study of perception is an attempt to understand ways in which observation of things, people, and events depends on the observer. Perception results from energy impinging on the senses; the processing of the energy results in experiences that vary—and may vary widely—from one individual to another. From birth, from the first intercommunication between mother and child, the child develops patterns of expectation that affect its perception of things, people, and events. Thus a lifetime of experience conditions perceptions, and habitual patterns of perception condition future perceptions. This raises questions as to how sure we can be of what we think we know. Such questions are obviously important in daily life, in which we often encounter—and are inclined to shrug off—contradictory perceptions. They are of crucial importance in the processes of law. They are important to all involved in communication media, whether as producers, writers, speakers, politicians, teachers, preachers, propagandists, or advertisers. All are concerned with the ambiguities and contradictions of audience perceptions.

Psychologists have been leaders in the study of perception and have developed diverse experimental techniques. These have included so-called illusions. Thus a person is shown a drawing of four men identical in size, and readily seen as such. Yet, with the addition of a few background lines, the men are seen to be of quite different size. Once this perception takes hold, one can scarcely divest oneself of it. This suggests the great extent to which our habitual structuring of our environment holds a grip on our perceptions.



All four men are the same size.

The Child The study of perceptual development must begin by focusing on the child. The patterns set up in the first days, weeks, and months are seen as long-lasting in effect. From the moment of birth, communication between mother and child involves touch, sounds, tones, warmth, pressure, nourishment, and words as well as a continuation of prenatal cradled holding and rhythmic rocking. To this the child evolves a rapidly growing repertoire of responses, which soon take in father and others. The nature of this early intercommunication forms a framework for all the child's later involvement in communication processes. A void in the early intercommunication appears to be potentially damaging. Experiments in maternal deprivation carried on with monkeys have shown possible long-term ill effects. Observation of children deprived by circumstance has shown the possibility of similar results, such as alternating periods of anxiety, apathy, and hostility. These can exert a long-term influence over perceptions of people and events—including, eventually, people and events encountered via the mass media: newspapers, magazines, radio, film, television.

The problem of how people develop knowledge of the world around them was pondered by the ancient Greek philosophers, and in modern times has been the subject of study and speculation since the ENLIGHTENMENT. In the seventeenth and eighteenth centuries dispute focused on the question of nativism versus empiricism. The empiricists, such as Locke and Hume, held that people got their knowledge of the world through their senses; that the mind begins as a sort of blank slate on which experience is written. The nativists assumed innate, prototypical ideas and thought patterns. The nineteenth century introduced an emphasis on experimental work in the physiology of the senses, which led to further elaboration of perceptual theory. HERMANN HELMHOLTZ, a leading figure of the period, carried on the empiricist tradition but added the notion of "unconscious inference." He felt that certain assumptions were developed through repeated sensory experience and were drawn on, whether consciously or unconsciously, to interpret any momentary sensory input.

In modern psychological theory the problem is no longer whether perception is innate or learned, but how it develops. Experimental study has played an increasing part. During World War II psychologists found that perceptual skills could be improved and sharpened by training, with implications not only for the military but for many other fields of endeavor. Studies in comparative psychology and ethology introduced other avenues of research. Both interspecies studies and cross-cultural research received increasing emphasis in the postwar years. In one interesting cross-cultural study, Allport and Pettigrew compared responses of different ethnic groups to illusions and found certain differences. They inferred these to be the result of varying experiences, ecologies, and education. Nevertheless, the question of innate factors remains unresolved.

Social perception has been another area receiving increasing attention. This focuses on the question of the extent to which a person's needs and expecta-

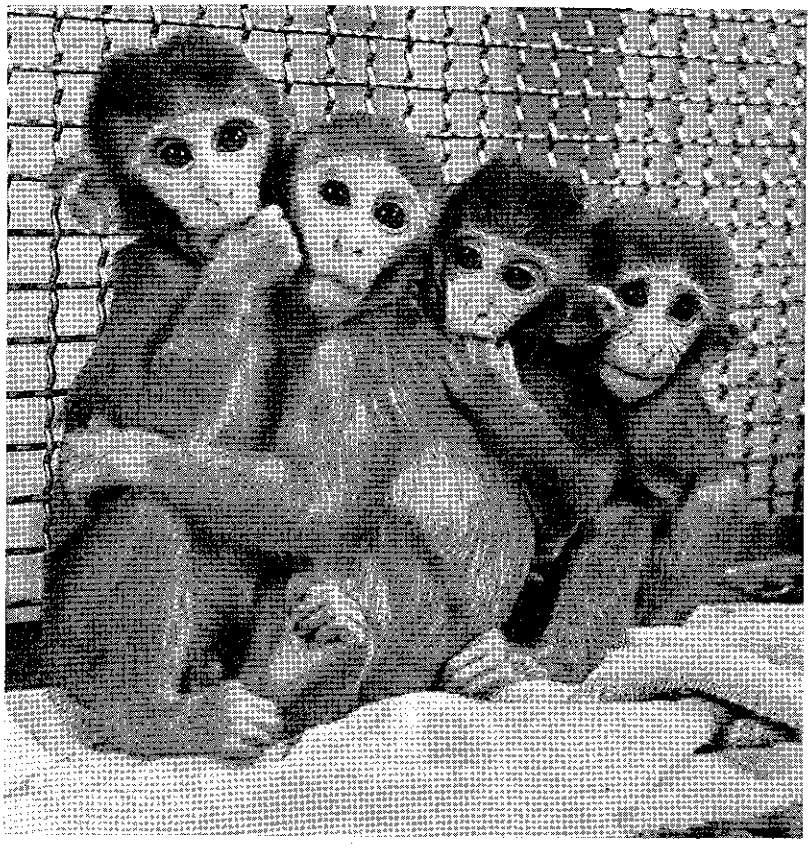
tions affect perception of people and events. The term "person perception" is used to denote the study of how we come to know and think about other people, their characteristics and qualities.

While techniques have varied considerably, some consensus has emerged. As in other complex cognitive processes, judgment of other people is seen as constantly avoiding complications, so that people are perceived as more homogeneously good or bad, kind or cruel, friendly or unfriendly, than can be shown by any independent measurement. The other person is thought of as a configuration of highly integrated characteristics.

The tendency to "make sense" of another person's behavior includes an inclination to ascribe intentionality even where an assumption of intentionality is objectively unwarranted. There is also an inclination to see others as origins of actions or situations, thus forcibly integrating the person and the situation in which the events are taking place.

There is also an inclination to place a person in a category according to some easily identifiable characteristic—sex, age, ethnic membership, nationality, occupation—and then to attribute to that person, correctly or incorrectly, qualities believed to be typical of members of that category. The term "stereotyping" is used to refer to this kind of categorizing. The tendency to stereotype may mislead but may at times lead to accurate inferences—a factor that probably encourages the stereotyping tendency. The wide use of stereotypes in the mass media, and the extent to which they influence popular perceptions, is of special concern in communication research. The period of World War II, when cooperation among persons of diverse ethnic, national, racial, and occupational groups became a crucial matter, witnessed increasing concern over stereotyping and the development of possible strategies for counteracting its dangers.

Monkeys showing effect of maternal deprivation.



The tendencies to attribute intentionality and causality, to integrate discordant information, to attribute particular dispositions on the basis of diverse and variant cues—all these can be seen as efforts at simplification and stabilization of a highly variable human environment. All can be hazards to effective and fruitful communication and are a focus for continuing communications study.

Still another area of study is the extent to which one's perceptions are locked into one's language and into habitual, traditional vocabulary and terminology. Important problems of intercultural and international relations are involved. Here LINGUISTICS and SEMANTICS have important contributions to make to communications study.

Still another area of perceptual study is subliminal perception. Its role in communication processes has been the subject of experimentation in the fields of advertising and propaganda.

2 Techniques and Theories

The full range of social science research techniques has been applied to problems of perception and the development of perception. These have included sequential studies, comparative studies involving both animal and human subjects, and such techniques as illusions and RORSCHACH TESTS.

Experimental study of perception faces subtle research problems. A subject's response to a "stimulus" is the focus of the study. But how can the stimulus be systematically and objectively specified? Does the researcher's own perception of the stimulus complicate the process? Numerous approaches to this problem have been used. The problem emphasizes the value of diverse research procedures.

There are several reasons for the contemporary interest in so-called deprivation studies. These began with monkeys and other animals but have also to some extent been applied to human subjects. Testing the effects of a severe reduction in the level and variety of sensory input, such studies have provided valuable observations on communications problems. The terms "sensory isolation," "stimulus deprivation," "sensory deprivation," and "perceptual deprivation" have been used to describe the procedures involved. Whatever the terminology, the observed results have included behavioral changes, disturbances in perception, thinking, and motivation, and sometimes hallucination.

While experimental research of this sort originated only recently, parallel phenomena have long been reported. Observations of prisoners in solitary confinement, miners trapped underground, polar explorers, and sailors in long-term isolation have drawn attention to the changes in behavior of people exposed to isolation. Such reports have included disorientation, hallucinations, and various emotional and cognitive disturbances. Prisoners subjected to political indoctrination or "brainwashing"—a term first used in the Korean War—showed similar reac-