

Channel Simplification: The Modern Age of Wireless

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Abstract: Communication plays a vital role in all that a living being does. The use of codes, symbols and technology is a blessing to human beings alone from the almighty. Over the years the generations of the nineteenth and the twentieth century have witnessed great advancements in the field of communication. The steady growth, which has annihilated distance and strengthened relations, proves that man has made a good use of the intelligence which differentiates him from other living beings who also can communicate. Wireless technology has put in the hands of all, a remote control, a mobile phone which are definite blessings. It is expected that the technology is not misused as human race progresses ahead.

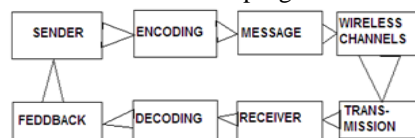


Figure 1: The Cyclical Process of Communication

Keywords: Interaction, encode, decode, intelligible symbols, channel, transmission, milestones.

I. Introduction

Communication is an activity for which no schooling is needed. Communication of the lower type, for the satisfaction of lower needs, even infants can do. What was not possible to our forefathers is a child's play to our generation because very many facets of communication have been unfolded by advancements in science and technology in the recent years. How to communicate, is no longer a problem today, thanks to our progress from wire line to wireless. Easy to carry modes of communication have come within the reach of all.

II. What Is Communication After All?

Communication is the process of exchanging words. The exchange takes place between one person and another person or persons. The context of words depends on the intended audience, i.e. the receiver, the background of information that he already has and the time and place with reference to the receiver of the words. Thus, the sender who initiates communication must be aware of at least two important factors, the already existing stock of information with the receiver and his mental level of acceptance of new knowledge. Time and place play a vital role in all the types of communication because the context of words used for communication changes from place to place, time to time with reference to the same person. Communication serves various purposes.

R.L. Birdwhistell rightly says, "Communication is multifunctional; it composes not only the primary relations of interaction, but maintains rules for the regulation of these relationships." [1] Communication provides the means of sustaining the patterned interpersonal relations without which culture would be impossible. Thus communication, since times immemorial, has been accepted as a process of sustaining the existing relationships and widening the scope of communication to develop new relationships. To sustain, enlarge and widen the scope of communication, a language was developed. A standard language which has branches of idiolect and sub-branches of idiolect became the prime mode of communication. Language is the arbitrary system of vocal symbols through which human beings of the same speech community or subculture interact and hence communicate in terms of their common cultural experience and expectations. The human interaction is equated with communication. Ultimately, what is accepted and understood as communication is, in a nutshell, human interaction. As has already been said, the context of this interaction differs from and changes from place to place, time to time and person to person.

III. What Is The History Of Communication?

How old then is this human interaction? We all know from Charles Darwin's great work, "On the Origin of Species By means of Natural Selection", that appeared in 1859, that Natural Selection can change a species in small ways, causing a population to change colour and size over a course of several generations and only the fittest survive. Natural selection can change dinosaurs into birds, apes into humans and amphibian mammals into whales [2].

Thus, one may say that communication is as old as life on the planet earth. It is also an accepted fact that the history of communication dates back to pre-history with significant changes taking place from time to time in communication modes, channels and technologies. These changes have evolved in tandem with shifts and changes in the political and economic systems. All these minor and major developments in the modes and channels of communication, wherever they have originated and wherever they have been accepted are all great milestones in the history of communications. They are the unforgettable milestones in the human history of communication. Thus we see that communication has ranged from the subtle process of exchange to full conversation and further to mass communication. Communication is possible through language, signs and symbols. Human beings can code, encode and decode intelligible symbols to communicate their messages. It is this ability of human beings which has paved the way to wireless communication.

While the intelligent and trained animals like dogs, dolphins, great apes understand the closed ended system of signs, human beings are in possession of the open ended symbol systems. That means a dog or a cat can be conditioned to understand and respond to a green circle as a sign for food but no dog or Cat can caution another dog or cat as to be careful in the presence of imminent danger symbolized by red, if a red triangle is placed before them. Thus the ability to retrospect and think of what to do next is yet another gift from the Almighty to human beings to communicate. Human beings exploited this ability and thus evolved improved and superior versions of communication.

Communication is a system of interaction with a structure independent of the behavior of its individual participants. One person does not “Communicate to” another person. He engages in communication with him. He does not even invent his own system of communications. He is a member of already existing systems and can and does make additions to it”.

Thus communication is not only multifunctional but also bound by rules and regulations. How we then are members of the already existing systems and what additions have we made to it? Over the years, man has been making spectacular progress in the communicative modes. The earliest ones of which we have been told in our childhood are the Cave Paintings

The Petro glyphs i.e. rock Carvings are the next step in the history of communication. Carvings on rock surface became possible with time. The word is derived from Petra meaning a rock or a stone and glyphic meaning to Carve. Pictograms represent a concept through Pictures or illustrations. Ideograms is another milestone in the journey because from pictures man moved to ideas. Ideograms are the precursors of logographic writing systems. We enter the bronze age to have the first writing system.

Thus communication involves not only the ability of human beings to prepare or make ready a message, it also involves his skill as a skillful transmitter of his prepared messages. Thus encoding and making decoding possible have become his important duties.

Long distance communication became a matter of urgency as man progressed. We are aware of the ancient practices followed in tribal communities of America, Africa and Asia of using Smoke Signals, drums and flame torches for long distance communication. In fact, the Smoke Signals and drums are accepted as the oldest forms of long distance communication. These methods or Channels as they must be referred to, were great and effective communicators. The members of the respective tribe could understand the messages encoded by the Smoke and the flame and the beatings of the drum.

Whistles, Kite messages, Carrier Pigeons – all have been widely used for long distance communication. Carrier Pigeons are understood to have been widely used in the First World War. Bonfires lit on hill tops communicate briefly about danger or Victory.

Papyrus – the tall reed like water plant with thick fibrous Stems has been used by ancient Egyptians as writing material which they could carry anywhere. Thus, it was the portable writing system. Horses, Camels and Ships have also been in wide and popular use for long distance communication.

As has already been mentioned, man has been making additions to the existing Systems. The Nineteenth Century has been the most favorable time in human history for the discoveries of various modes of communications, the most important being the discovery of electricity.

The growth in communications Services over the past 50 years has been Phenomenal. The most notable achievement being the replacement of Wire line communication Systems by the fiber Optic Cables that provide high bandwidth and make possible the transmission of a wide variety of information Sources like Voice, data, etc. This is a very high Speed Communication Service all over the World. We find ourselves today in the era of modern communication. As Roy Blake rightly remarks wireless communication will be a large part of the total communication picture and knowledge of the technologies involved will certainly help a technologist to understand future developments as they occur.

IV. What Is The Channel In Wireless Communication?

A Channel is the Physical medium that is used by the Sender to the receiver. In Wire line transmission, such a channel as landline phone is a familiar instrument. Even kids know how to use them. In wireless communication, the transmission is done through the free space or atmosphere.

A Common query with respect to wireless communication is, 'Is there any possibility of Signal degradation in wireless communication? Whatever the Physical medium for message transmission, the common feature in both is Signal degradation. Whether Wire line or Wireless, Signal degradation takes place due to additive noise. This additive noise is picked up by the receiving antenna in wireless communication. Noise does not really distort the reliability of a communication Channel but it certainly affects the Speed of communication. However, modern technology will use all its high level efficiency in the days to come to first minimize and then nullify Signal degradation that is the ill effects of noise pollution on communication.

V. Impact Of Wireless Communication In Workplace

Wireless Technology has, one must say, changed the very scenario of communication. It has changed our life-style. Though not really busy, one can appear busier.

Gone are the days when "not at home" used to be the reply from the other end when contacted on landline instruments. Today one is rarely out of touch. In spite of increasing Sound Pollution, there is still greater efficiency available on wireless devices. They are all low cost devices. From Peon to an Executive, all have become proud owners of mobile handsets. Reliance on the use of wireless communication has become pervasive these days from initially being able to send and receive only voice communication, today's mobile wireless communication(WC) devices are equipped with text messaging capabilities, internet access, digital cameras, voice recorder, global positioning system(GPS) functions, music players, customized software applications etc. Singers use wireless microphone, children use Walkie-Talkie. There are wireless printers, keyboards, mouse which are not physically connected to the computer.

The remote controls of TV, Car and AC give wireless commands. Bluetooth technology has given us the wonderful advantage of data transferring from mobile phone to mobile phone. Wi-Fi technology has eliminated the use of wires. Thus, as compared to Desktop, where long cables are needed, wireless technology has made communication hazel free.

If there are the benefits of wireless communication, there are bound to be certain disadvantages. The "always traceable", "always available", "available during zero hours" is a definite intrusion in the private life of an employee. A workaholic boss spoils the holidays, vacations and zero hours of his employees. Almost all hours have become working hours. Enjoying peace of mind, leading a worry free life have become myths of the past. A mobile Phone transfers not only messages speedily but brings along worry and tension with it – it all depends on the content of the message but one can say with certainty that wireless technology has brought the time factor in its control. Distance remaining constant, time required has certainly minimized. Stallings Williams has rightly said "The impact of wireless communication has been and will continue to be very profound. Very few inventions have been able to shrink the world in such a manner"[2].

VI. Telepathy And Wireless

Telepathy is the wireless phone of the mind without bills. Once upon a time people believed in telepathic messages and accepted them as authentic. It is communication of the mind with the mind of another person. Telepathic messages of the olden times had in them an element of surprise and joy Wireless technology has made brain-to brain communication a possibility..Already research in this direction is in progress in American Universities. Japan is also at work on this subject. If research in the direction progresses and the technology becomes globally known, then, telepathic messages will not be a surprise. Mind assisted by technology will send frequent telepathic messages. From a luxury the technology will also become a necessity.

VII. Conclusion

An organization must demonstrate good, barrier-free communication. Communication that attains the desired objectives is the most effective .Wireless communication devices have endeared themselves to the masses due to their portability and low cost availability.

They are not hazard-free. However a sensible use of them can make them truly useful while mitigating the side effects also.

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