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# Science Journalism

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Science refers to knowledge emanating out of experience. Dissemination of orderly and systematic knowledge about any topic, mysteries of the natural world and the truths behind various phenomena among the general public in a perspicuous manner is known as the science reporting or the science journalism. Human beings are involved in the pursuit of knowledge about their own existence and the nature they live in since time immemorial. Knowledge related to science



appears to be very entertaining and extremely beneficial to human beings. Science journalism quenches the thirst of the audiences to know about their environment as well as themselves by providing them information about the scientific phenomena in an entertaining and perspicuous manner. It satiates their curiosities regarding various scientific inventions and discoveries. Rules of the nature are being challenged by the scientific and technological advancements.

Today if we look around us, we will immediately realize the importance of science journalism in our lives. Even as a regular journalist, we cannot ignore the importance of science and technology. We are living in the age of science and technology. Age of

science is synonymous with age of reason and logic. A science reporter should consciously endeavour to decipher the logic and the reason behind any phenomenon. If someone says that floods or droughts occur due to sinful activities of the human beings and if we, as science reporters, accept this assertion as it is and believe in it in the form of superstition, then we will not be able to reason and apply logic. On the other hand, if you have thoroughly understood the reasons behind these natural phenomena, then you will be able to justify this statement on the basis of provable rational facts. That is, you will then be able to equate these sinful activities with reckless deforestation, air pollution, etc. which are scientifically known reasons of droughts and deluges.



### History of Science Journalism

The interest of the general public towards science journalism has been increasing continuously as a result of various fascinating developments taking place in the field of science and technology, increasing literacy rate and rapidly increasing number of newspapers. There was a time when Hindi language publications either did not give any science related news or in rare cases, if they did so, their quantity as well as quality was insufficient. Two periodical magazines 'Madhuri' (Lucknow)

and 'Manorama' (Allahabad) used to regularly publish a separate column for science news in 1926-1927. In Madhuri these columns were named as 'Vigyanvaatika' and in Manorama as 'Vigyaan ke Chamatkar'. Among the Indian dailies, the Navbharat Times, published from Delhi, was the first newspaper to publish science related news and columns based on scientific themes—by Harish Agarwal—in an organized and systematic manner. 'Vigyan', published from Delhi, was the first Indian magazine dedicated completely to science. 'Vigyan Jagat', 'Vigyan Pragati' and 'Avishkar' are considered to be excellent quality science magazines. Dr. Jayant Narlikar has written a number of good books on scientific subjects. 'Dhoomketu' and 'Aagantuk' are among his most notable works.

### Some suggestions to spread awareness about Scientific Communication :

When famous Greek philosopher Archimedes discovered the 'principle of buoyancy', he ran naked to the king from his bathtub. Why did he do so? The answer is very straightforward. He wanted to share his newly found knowledge with the king. This is basic human nature. Communication, in fact, is nothing but exchange of information. As a science reporter one must have insatiable curiosity to know everything about everything happening in her/his surroundings and if s/he stumbles upon anything of importance, then s/he must gather complete information about it and report it. Following three points must be given due consideration while writing a scientific report:

1. Research and Re-Research.
2. Complete understanding of the subject.
3. Report should be written in a simple manner so that the readers can understand it with ease.

The best way to increase awareness about scientific communication is to read good scientific books and research journals. Besides, regularly viewing science based programmes broadcasted on Indian and foreign channels also helps.

### Verify Quotations to ensure Factual Veracity

There is no place for factual errors, half-truths and imaginary descriptions in science and same is the case with science journalism. Scientific facts and technical data usually keep on changing in wake of newer scientific and technological advancements. In this scientific age, quotations, books and internet are sufficient to substantiate the veracity of any information received by a science reporter. If a reporter receives information regarding any event from an institution or an individual, then it is possible that the received information may have some amount of fiction in it. Therefore, as a science reporter one must have the quality as well as the capability to verify the authenticity of any received information from multitudinous sources. 'Verification of facts' helps in finding new facts and expands the horizons of our mental capability.

### Consultation with the 'Subject Experts' to verify the Facts

There is no one better than the scientists and the technical experts to authenticate the veracity of the scientific facts and phenomenon and to explain the technical intricacies. Therefore, a science reporter should always keep a list of the prominent scientists and the technical

experts living in her/his area handy. This list should have their home and office addresses as well as their contact numbers. No journalist ever gets anything on a platter ready to eat. S/he has to build everything from scratch with his hard work. Whenever you visit any scientific establishment, you must first meet the public relations officer of the institution and apprise her/him of the reason/s for your visit. You must make sure beforehand that the scientist you are going to meet has an expertise in the subject matter related to your report and that s/he is the right person to guide you in an appropriate direction. Punctuality is a must. Questions should be prepared well in advance. Responses to the questions must be recorded with utmost caution; if necessary, supplementary questions may be asked and doubts can be clarified. Such interviews can either be published with the main report or can be given separately as a 'box-item'.

#### **General Reference List of Scientific Words**

Generally, when we receive information about any scientific news, then it contains some technical words that are part of the scientific vocabulary. These words are difficult to understand for the common reader/listener and therefore, as a science reporter it is important for a person to not use them in their original form in the report, but to translate them into the common everyday parlance by appropriately explaining them in simpler words. Therefore, it is imperative that a science reporter must refrain from using esoteric scientific and technical jargon and prepare her/his own lexicon incorporating their easier and simpler substitutes. Such a lexicon can be prepared with the help of scientific libraries and institutions. Help of subject experts may also be taken for the purpose.

#### **Sources of Science and Technology News**

If you wait for science and technology news, then it will reach you in due course of time, but by that time it would have already reached almost everybody else as well and therefore, it will lose its exclusivity as well as its importance. So, a science and technology reporter should always be alert. S/he should regularly visit the scientific and research institutions working in her/his area. But at the same time it should be kept in mind that these are not the only sources of science and technology related news. Government departments concerned with public health, supply of water, telecommunication, infrastructure construction, transportation, etc. also indulge in scientific research and use science and technology in various ways to achieve their objectives. For instance, a news is received—'Rampur

gets its tallest landmark; an 18 floor skyscraper'. This is a general news that was received from the construction company. This is a matter of pride for the residents of Rampur, but a science reporter must look at it from various different angles. S/he can go to the office of Public Works Department to ensure the veracity of the claims made about the height of the building. Certain pertinent questions such as – 'Is this Rampur's first step in the direction of becoming a jungle of concrete?' or 'What sort of arrangements are made to ensure supply of water and electricity to the building?' After that the reporter can also meet the architect of the building and get her/his perspectives and the experiences s/he had during the construction of the building. Questions regarding safety of the building such as regarding the evacuation arrangements made in case of fire in the building or the preventive steps taken to avoid any such accident can also be raised. If the report is presented in a simple language and in a cogent manner, then there is not an iota of doubt that it will be liked by the readers and will give rise to healthy debate regarding such issues. Press conferences, press handouts and policy declarations by the ministers are not the only sources of science and technology related news. Many natural phenomena and occurrences also form a very fruitful source of good science news. For example, an epidemic, salinity of water, good or bad water resources management, population density, non-conventional or renewable sources of energy, flora/fauna, etc. are all very rich sources of science news. A science reporter shall not only identify the presence of problems, but also delineate the reasons behind them and their ramifications. To get accurate answers, a science reporter needs to find the right person/s. In aggregate, a science reporter should keep 'thinking while observing' and 'observing while thinking' while compiling a science or technology related news.

#### **Science Journalism: Development and Environment**

At present, a lot has been written and spoken about the environment and related issues. Print as well as electronic media give





daily doses of environment related news or features to their audiences like a doctor. In other words, writing on environment has taken the form of a mantra for the science reporters, but as a science reporter one must be very attentive and careful and should continuously endeavour to maintain high standards of reporting as well as writing.

There is a very basic tenet of journalism that one must not cram one's copy with too much data and make it cumbersome so that each and

every reader can read and understand it without any extra effort. Now we can discern the effect of development on environment in following lines:

“Awareness about the environment starts at your home. Suppose we live in a small house. Suddenly, we realize that population density in our area is increasing; prices of the property are skyrocketing and a large number of high-rise buildings are mushrooming in our locality. Now we look at the internal environment of our home and find that the amount of sun rays entering our home has dwindled significantly; pristine free flowing breeze of air that made us feel invigorated is no longer there; air has become filled with pollutants and dirt and it has become well-nigh impossible to breathe in an open environment. Our family members have become more prone to diseases. Water supply has been reduced considerably and now we get it for only one hour in the morning and evening. When we open our windows to take some fresh air after electricity supply goes off abruptly, nothing but putrid smell pervades our home and we have no option but to breathe that polluted air. Birds that kept the trees around us alive with their incessant mellow chirping are nowhere to be found. Roads are overcrowded with people and vehicles.”

The point to be noted here is the manner in which multifarious modern technological developments have transformed our surroundings. The element of development cannot be denied, but is it feasible to achieve development at the cost of our environment? We can discern its reasons and effects in the underdevelopment of the rural areas. In this manner, this vicious circle keeps on rotating. For

instance, rural underdevelopment and over-population leads to immigration towards the cities, rapid increase in number of slum areas within the city limits, destruction of the urban environment, increase in city limits engulfing surrounding rural areas, continuous fall in the already abysmal living standards of the rural populace, etc.

As a beginner in the field of science journalism, you may not get many opportunities to cover important conferences or seminars, but rest assured that you will get your chance sooner than later. Even during the starting phase of your career you will get a lot of opportunities to establish yourself and make a name for yourself in the field, but you will always face the questions such as, “Do you have keen scientific acumen?” or “Are you attentive?”

### **Effect of Science and Technology on Societal Issues**

Modern age is age of science and therefore, is an age change. Rapid changes are visible in every sphere of life whether it is communication, construction or extraction of mineral resources. Perhaps rapid developments in the field of science and technology are responsible for disintegration of joint families and continuous friction between societies.

As a science reporter you not only perform the job of compilation of news, but carry out a much more important task of presenting complex scientific and technological developments to the common readers in an easily understandable manner. This will be possible only if your report is simple, easy to read and composed in an attractive manner as opposed to the formal scientific reports coming straight out of laboratories. For instance, a forest officer first studies thoroughly to learn about various flora and fauna and then classifies them into different groups. Thereafter, s/he studies their mutual interrelationships and in this manner s/he accumulates and assimilates complex information about them. Similarly, a science journalist learns about the tricks of the trade by moving ahead step by step and learning from her/his experiences. Events should be evaluated from local, regional, national or international perspective. Points of view of the readers should always be kept in mind. While writing about science and technology related issues, their impact on the society; implementation and execution and their effect on the readers should be taken into account.

### **Choice of Language in Science and Technology Journalism**

Writing should be well-organized and clear. Words used should be simple and easy so as to render the report easily comprehensible for

each and every reader. A reporter should be absolutely clear in her/his mind about the message s/he wants to convey to the readers. If s/he has any sort of doubt whatsoever in her/his mind regarding the story, then s/he will not be able to do good reporting. Basic point is that the science and technology are based upon reasons and therefore, the reasons must be explained clearly. By logically presenting the facts in a coherent manner, a science reporter must try to form a clear picture of a scientific event or a phenomenon in the minds of the readers.

#### **Structure of a Science and Technology based Report**

The structure of science and technology based reports is not different from the structure of the general news. First comes the intro, which should be the best part of a report, and then, the body, in which everything is explained in detail. It is not necessary to inculcate all the five W's and one H in the intro, but all of them should be answered in the complete report. The most important factor is practice. Greater the amount of practice in the art of news writing, lesser the amount of time wasted in rewriting stories and better the outcome of your efforts.

#### **Human Interest**

Public, evidently, is more concerned about the issues in front of it and the issues that directly affect it. People should feel that you are one of them and if you are able to do that, then success will not be far from you.

#### **Do not distort the facts or present them in a provocative manner**

Do not serve baseless and provocative facts or data to your readers. This could prove detrimental not only for you but for your organization as well. If any reporter loses her/his credibility, then it becomes next to impossible for her/him to achieve commercial success. Just like a scientist, a science reporter also searches for the truth.

Awareness and curiosity of the audiences towards science journalism has increased significantly in the last few decades. In spite of being uninteresting, creative and inspiring science based news does not lose its attractiveness and utility. They create a place for science and technology based news in the minds of the readers and they became more attracted towards science journalism.