Enlightainment® - A Target Group Oriented Approach
for Conveying Information on Science and Technology

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Situation

In modern societies, hopes for a future worth living in are generally pinned on science and technology, despite existing reservations towards some technological sectors in particular. A resulting ambivalent assessment - on the one hand the feeling that the basis of existence is endangered, on the other the wish to safeguard prosperity and high-level quality of living will not do much to establish a realistic and problem-conscious discussion about science and technology in the population. This process is intensified by the fact that the complexity and speed of innovation are increasing dramatically and have now reached dimensions which can no longer be comprehended in their entirety. The „Renaissance Man" envisaged by GOETHE, for example, is inconceivable in our present days in view of the enormity of existing data and its half-life. And so it is much rather a collective non-understanding and a resulting feeling of powerlessness which is taking root towards science and technology. People feel (and *in fact* are) left out of decisions and developments and are, according to FRANK OPPENHEIMER, gaining the impression of being pushed around by unknown forces. The actual comprehension of science and technology would thus not only constitute a gain of knowledge which would be positive in itself, but would also contribute a considerable emancipatory factor. In its final consequence, it signifies the ability to form independent judgments, the diminishing of scientific elitism and the participation in social processes which is a vital requisite for future development.

However, the communication philosophy regarding science and technology also depends on a number of other causalities, the most important being:

- Research and development (here as synonyms for science and technology) are financed to a large extent out of public funds, in other words taxes. Particularly in times of generally decreasing expenditure, the public simply wants to know for what and in which context money is being spent. Science and technology are thus competing with budget items such as „social „ or „defense" spending and must state and substantiate their justification and legitimacy accordingly.

- The increasing scientific and technological saturation of all areas of daily life and environment of a (post-) industrial society has resulted in security from natural dangers, such

as hunger and infectious diseases. Consequently, public awareness is increasingly focusing on potential man-made dangers which often leads to a skeptically negative attitude.

- Science and technology are not isolated processes. As explained above, they not only change a world view based on theoretical assumptions, but also, very concretely, they change the actual world. As discoveries are implemented (in other words, become technology), they have a direct or indirect effect on the daily life and activities of every individual.

While science, and here especially the disciplines of natural science and technology, as well as business interests primarily endeavor to showcase the opportunities afforded by new discoveries and the resulting new products, various interest groups and some of the media are also answering the general public's need to be informed on hazards and side effects. The parties involved thereby represent specific interest, making an unprejudiced exchange and dialog difficult. Scientists would like to make their current discoveries and visions accessible to the general public, one of the reasons being to maintain or to increase their financial support, and to convey a positive image of themselves. The general public would like to learn more about the current findings and visions of science and technology, but would also like to be informed about their limitations and dangers. The state wants to show what potential lies in science and technology and what values these opportunities have for society and each individual. The business sector seeks support for new technologies based on scientific-technological progress with the ultimate purpose of opening up new markets.

Even if the respective requirements (not motives) of the individual groups in their information and communications philosophy seem to resemble each other to a large extent, the approaches to their fulfillment are clearly different. Assuming that science, business and government formulate the supply of information, the general public represents the demand side. General marketing experiences have shown the demand side to be the decisive factor as to when and to what extent an offer is accepted. Therefore such an offer must take into account the preferences, wishes and respective requirements of the target groups. This orientation on the demand side is therefore an essential requirement for initiating an actual dialog. Such a dialog serves as the starting point for long-term conveyance of scientific and technical contents into the existential situations of the target groups. In an ideal situation, the general public will correspond with the selected target group.

Here we are confronted with an apparent dilemma: On the one hand, the target group represents a cross section of the overall population and therefore has an absolutely heterogeneous structure. On the other hand, a common interest is to be awakened. In the definition of a generally valid mechanism within one subject is bound to fail, because the interests (and background knowledge) of the individuals and groups differ too greatly. For this reason, the mechanism for communicating contents must be removed from the actual subject in order to create a basically universal field of reference. This can normally be achieved by a spectacular attraction which draws attention in itself and thereby serves as a vehicle for conveying content. Alternatively and/or in combination with this, a low-threshold relationship to everyday life and reality must be created which makes it possible to identify - and, more importantly, even to form an emotional bond - with the contents. The integration of „true-to-life stories", which can be perceived with the emotions and the senses is also a central element in communicating complex content. Whereas it is regarded as a matter of course that a growing number of everyday experiences is available in technology (computer, traffic

& mobility, telecommunications, etc.), the expectations of what science has to offer are generally nebulous. If at all, science is only experienced as an abstract factor with a relatively low value. According to HANS MAGNUS ENZENSBERGER it is, for example, socially far less courageous to reveal oneself as ignorant in mathematics and physics as it is in literature or music. It would appear that science has no place in the public consciousness despite the collective prejudices, hopes and fears. Furthermore, we tend to disregard that art and science have both influenced and enriched each other on many levels and that history was and is determined not only by politics, economy and war, but to a large extent also by the revelations of science. Science must therefore be stripped of its aura of remoteness and incomprehensibility, it must make the jump into the „mainstream of life". In JACK ROUSE's opinion such a jump would only be successful if those involved were to be included, not as a demographic group, but as human beings of flesh and blood.

Public Understanding of Science

Many different approaches exist already for the communication of science and technology, all of them based on the effort to convey the content to as large a public as possible. In the Anglo-Saxon world, more than anywhere else, a wide diversity of complementary activities has been established, all aimed at covering a comprehensive spectrum of presentation and dialog. This spectrum extends from a traditional museum-type presentation of contents to the integration of fashionable, modern elements, doing their best to cater to current trends.

In England and the USA, a fully-fledged movement has established itself. Since the eighties, it has been known as the „Public Understanding of Science" and it is being operated with an incredible level of vigor. The movement is meanwhile not only publishing its own paper (under this title), it is also reaching an audience through two university chairs (in London and Oxford), asserts its presence at major scientific conferences - e.g., the annual AAAS meeting(American Association for the Advancement of Science) and has become an integral part of the scientific mission. „Science in Public" or „Scientific Literacy" have long been the subjects of many books in English-speaking countries. They are not just looking into the questions of „Communication, Culture, and Credibility", nor are they restricted to presenting methods of conveying science. Instead, some of them leave no doubt whatsoever that it is still far too early to rely on the desired Public Understanding already being in existence. Examples of this are Jane Gregory and Steve Miller in their book Science in Public, Plenum Press, New York, 1998.

Characteristically, the majority of the PUS movement itself comes from science and therefore gives an academically oriented view of the general problem. The preparation and implementation work of the communication process is thereby transferred to a higher overall context and gets the benefits of the findings of the different scientific disciplines. The advantage here is the evaluation of new ideas and communication approaches. In addition, the continuity of content is guaranteed despite the shorter and shorter innovation intervals in science and technology; it provides orientation and therefore permits the treatment of fundamental questions. This cannot be successfully achieved, however, without a certain amount of educational background and interest of the target group(s). This general willingness to deal with information and to tackle a specific subject is an essential requirement for the approach intended in the field of „Edutainment".

Edutainment

The term Edutainment is derived both linguistically and in its content from the synthesis of entertainment and of conveying/learning facts. The purpose was to create a „sensible and informative" form of entertainment, suitable for meeting the ideals of public education. Major Figures or icons of the pop culture are used to produce a pictorial composition of individual scenes grouped around the learning contents to be communicated. Language courses, for example, are seen in a Star Trek background, or the history and fundamentals of music are explained in the form of an Odyssey through a concert hall. The motivation for scanning the whole range of information is derived from the wish to „go ahead", in other words to move on to a new scene or level.

The general public will feel motivated to tackle new, scientific-technological content, only to a very limited extent by the information menu offered by Edutainment. This is because the philosophy of teaching and learning is very obvious and because a predefined basic interest is required. The motivation is therefore a result of the wish to elaborate on existing knowledge and thus to expand the basis of knowledge. Edutainment is the ideal method for upgrading and intensifying existing knowledge, not so much for addressing new and unknown subjects on a low level. It should nevertheless be noted that the idea of intensifying knowledge in the form of entertaining episodes constitutes an interesting approach which unfortunately has not yet been widely accepted. The familiarization with a subject without wagging an accusing finger which precedes Edutainment is made possible by the „Enlightainment" strategy.

Enlightainment

The artificial word „Enlightainment" (composed of „Entertainment„ and „Enlightenment„) describes the attempt to pack sophisticated contents into a story in such a way that it is not the subject which plays the major role, but the packaging. A way of transporting contents almost „casually" via a compelling and entertaining plot. This does not happen through a method which starts with basic education. Instead, Enlightainment assigns priorities to results and consequences, as it is these results and consequences which have the most dramatic effect on our everyday life (the revolutionary potential of the automobile does not lie in its sheer existence, but in the consequential fact that it has completely changed the mobility behavior of society, including effects such as „traffic chaos", etc.).

The communication philosophy in question is thus not aimed at presenting and describing science and technology in the form of isolated results, instruments, procedures and processes, but in describing its positive and negative effects in their economical, social and political context. Science and technology are to be identified as a part of social life and also in their inner social functioning. By highlighting points of contact, interfaces and relations, complex contents are in this manner made lucid because they become comprehensible. This clarity, in other words, the recognition of effects, possibilities and problems, forms the basis for a rational approach to science and technology, which is followed by the communication of *existing applications, perspectives and visions as well as basic principles* (Fig. 1).
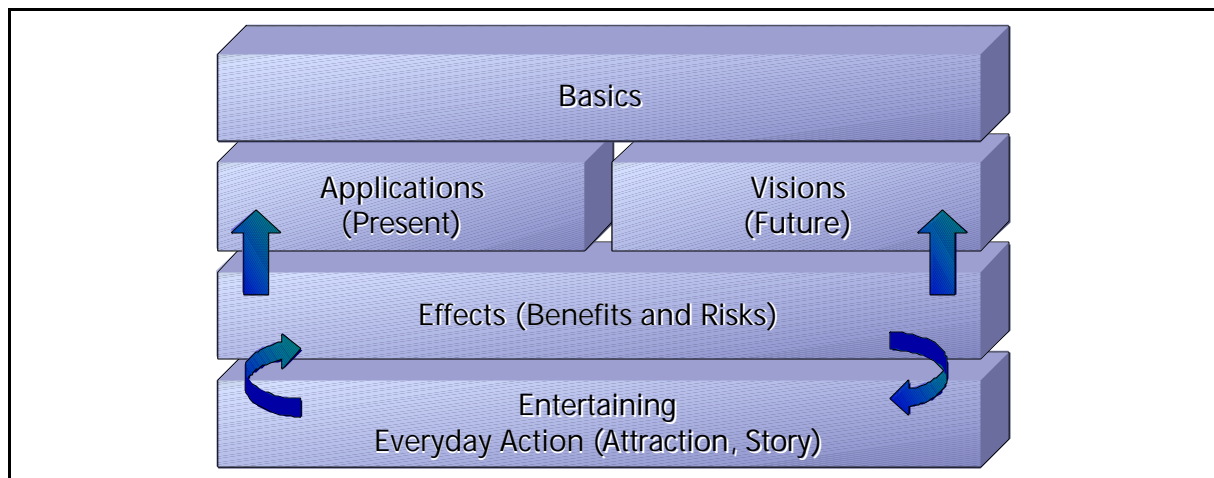
Fig. 1: Four-level model for the communication of knowledge

Knowledge can only be communicated in the manner described if the general preferences and wishes of the target group in question are known. Only if one is aware which type of transport vehicle (story) is considered to be attractive, can this be employed for the conveyance of knowledge. The medium selected for the story is another important criterion, because in the last analysis the presentation must take account of the leisure activities of the target group, also taking into account such details as different viewing habits, etc. The core element of the Enlightainment strategy is the consistent orientation towards target groups, and the related need for a communication menu which addresses existing demands.

The story must, in addition, be spelled out with a view to its scientific-technological content, so that the subject can be conceivably and naturally integrated. The more „exotic" the contents, the more unrealistically and implausibly can these be conveyed, because it then becomes almost impossible to create a credible story. Finally, an Enlightainment attraction is produced that in itself appeals to the selected target group. The scientific-technological content is communicated absolutely naturally without the need for background knowledge or any particular interests. Emotionally speaking, Enlightainment provides the waterwings for the first strokes in the sea of knowledge. If an interest is awakened, a variety of possibilities exist to inform oneself independently about the various aspects of the respective subjects.

The practical application of Enlightainment

Enlightainment is basically suitable for linking subjects from science and technology with a variety of existing principles of entertainment, with the question being both „How can I integrate contents into my form of entertainment?" and „What kind of packaging do I need for my contents?". To permit science and technology to execute the required jump into the „mainstream of life", in other words into the perception and consciousness of the general public, they must cease to look down their noses, but must instead become to a certain degree part of everyday (commonplace) life. In accordance with the basic idea of Enlightainment, this is the only possibility of being recognized as existent and relevant by broad parts of the population. In this way, initiating factors for the conveyance of scientific-

technological contents present themselves in a multitude of different areas („leisure activi-ties"): soap opera, video games, books, plays and shows, TV shows and films, radio etc.

Some of the Enlightainment projects described above are in the process of being imple-mented by the Forum für Wissenschaft und Technik, the presented strategy having been envisioned and developed by this institution.