

The Austrian media landscape: Mass-production of public images of science and technology

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Introductory remarks

Before entering into the details of the Austrian media landscape, we would like to shortly reflect on the difficulty of conceptualising media spaces as national. While this problem holds for all the countries, it gains a particular weight in the case of smaller countries, where the same language is spoken as in the neighbouring bigger national settings. Indeed in recent decades – through developments like cable-TV, internet, etc., but also through accelerated newspaper distribution across European countries – the question of national territories cannot be posed anymore in the same way as before. People do not necessarily stick to their national information-sources, but draw on all kinds of international contexts. For Austria in particular Germany plays a rather dominant role, as there exists, partly shared cultural values, common histories and above all a common language.

It thus seems important to ask in how far this changes and redefines the concept of the "national" with regard to communication with wider publics about science and technology. Whereas a context of national production of activities, programs and sites is manageable, the context of their consumption becomes increasingly blurred, internationalised and difficult to seize. Foreign magazines and newspapers are bought, German and also foreign language TV and the world-wide web have entered Austrian homes. In particular, the latter shows a clear tendency to overcome language barriers by e.g. offering optional languages on web-sites which accentuates the described trends further. An important segment of Austrian population – in particular the younger generation – has a sufficient command of English language in order to make use of these multilingual offers.

Secondly it should be considered that the different actors in the field of media do not restrict themselves to using one type of communication medium: Print media for example maintain at the same time web-sites where they can permanently update the latest news and can offer a larger diversity of shorter as well as longer articles. Radio and TV stations offer next to the schedules and program outlines also introductions to oncoming radio and TV emissions on the web. This web presence in classical media like newspapers, TV or radio allows not only to establish an additional communication

channel with wider publics, but through the introduction of electronic discussion forums the lack of interaction with the consumers is partly compensated.

The chapter will cover print media, followed by electronic media (television, radio and internet as new medium of science communication) and will close by some reflections on science journalism in Austria.

1. Austrian print media and their science communication activities

In what follows we will clearly focused on the production and not on the reception side. For the latter we have virtually no qualitative information, which could give a refined picture on how Austrian citizens consume science information offered in the media.¹ Further it should be stressed that the English term science is used in this part equivalent to the German notion "Wissenschaft" thus including all scientific disciplines and not only the "exact" sciences.

Newspapers

One of the special features of the Austrian media landscape is the quasi-monopoly of two actors, namely Mediaprint and News-Verlagsgruppe, the latter being nearly exclusively owned by the German holding Gruner+Jahr. This close relationship to Germany has however not only to be understood in terms of ownership, but Austrian magazines (mainly produced by the News Verlagsgruppe) are (and have also been in the past) partly modelled along German examples. This quasi-monopoly, however, also leads to a low level of competition between the different journals and to more mutual arrangements of the actors.

The way science and technology are covered in the newspapers spans a wide spectrum ranging from the newspapers which have regular science sections (sometimes even with different special foci), over papers where science only comes into focus when techno-scientific controversies with political impact are at stake², over those who give only occasional news about science, to those that focus on certain aspects of private life trying to give a partly alleged "scientific" treatment of the issue, such as health, wellness or social life³.

¹ Most of what is pretended to be known about public understanding of science in Austria stems from Eurobarometer and other survey research. This learns us, however, very little about the more subtle mechanisms that are at work when people are confronted with technoscientific knowledge.

² Such instances are e.g. the legalisation of medical use of embryonic stem cells, the political conflict on the nuclear plant Temelin.

³ Concrete examples are recommendations about the daily need of vitamins, news on the impact of dieting on cancer or "scientific findings" about heterosexual fidelity.

Table 1 shows the range of coverage by the different newspapers, we have taken into consideration from which one can get a hint on the potential impact they have on the science communication landscape as a whole.

Name of the daily newspaper	Range of coverage ⁴ %	Coverage in absolute numbers x 1000
National quality press		
<i>Der Standard</i>	5,7	383
<i>Die Presse</i>	5,3	361
<i>Salzburger Nachrichten</i>	4,5	301
<i>Wiener Zeitung</i> ⁵		25
Regional press		
<i>Kleine Zeitung</i>	12,4	835
<i>Oberösterreichische Nachrichten</i>	5,3	355
<i>Tiroler Tageszeitung</i>	5,1	345
National press		
<i>Der Kurier</i>	11,1	748
Tabloid (nationally sold)		
<i>Kronen Zeitung</i>	43,4	2.930

Table 1: Austrian newspapers considered in this analysis (Data 2002)

The Austrian **daily quality press** with nation-wide distribution is represented by four newspapers: *Der Standard*⁶, *Die Presse*⁷, and the *Wiener Zeitung*⁸ all of them published in Vienna as well as the *Salzburger Nachrichten*⁹ which is published in the region of Salzburg.

The **coverage of science and technology has experienced a clear rise in this segment of newspapers** over the last few years, both in quantity and quality. What they all have in common is a designated section for science news, which is predominantly placed in the weekend-issues as well as separate pages one or two days a week with science reporting. Also, on the level of journalists writing for the

⁴ See www.media-analyse.at/frmdata2002.html; the percentage given in the column "coverage" is calculated on the basis of having reached these people at least once. For details see <http://www.media-analyse.at/frmdefinitionen.html>

⁵ For the *Wiener Zeitung* there doesn't exist any data of coverage since this daily paper is not recorded by "media-analyse". Thus the circulation, e.g. the number of copies printed, is indicated in the table. For comparison, the Standard has a circulation of about 69.000 copies.

⁶ <http://www.derstandard.at>

⁷ <http://www.diepresse.at>

⁸ <http://www.wienerzeitung.at>

⁹ <http://www.salzburg.com>

science sections there is a clear tendency towards professionalisation and specialisation.

Science and technology reporting by the quality press has a number of clear orientations: Topics are favoured that can be presented as "research milestones", like major awards and prizes, important international conferences or fundamentally new scientific discoveries. In particular those issues are underlined, that are supposed to link up with potential interests of the readership (e.g. medical discoveries in particular in the field of genetics, information and communication technologies as well as space research). Favourites are findings that are perceived as sensational breakthroughs and in which Austrian researchers were involved. Moreover commemoration of birth and death of prominent (Austrian) scientists trigger science reporting.

Der Standard has probably the densest science reporting in the Austrian quality press. Its science and education section started with a quarter of a page and tripled over the last few years. When *Der Standard* in 1999 asked its readers in an opinion poll about what field they would like to read more about, science ranged just after the classical domains of politics and economy and on an equal level with cultural events¹⁰. So far the "science page" is included in the "culture"-section where it first shared one page with the technology oriented "communication"-column two to three days a week. Now has become a whole page on its own. Sporadically a supplementary page with science reports sponsored by the *Fonds zur Förderung der wissenschaftlichen Forschung FWF* (Fund for the Advancement of Scientific Research) is edited. Additionally *Der Standard* has also a weekly supplement, the *Album*, where science and technology issues are treated in form of feuilletons. This corresponds to a trend also observable in the German context, namely that science and technology is discussed in more heterogeneous contexts, its social implications are questioned and ethical dimensions are reflected in a broader way. This explains also why controversial issues are often treated in the *Album*. A few times a year this newspaper also produces special so-called *Beilagen* (added issues) on education and universities.

The *Salzburger Nachrichten* prints daily science and technology news on one page titled with "Knowledge, Medicine, Environment" that is placed in the first bound of the newspaper. The weekend-issue supplies one extra page concerning "Science" and "Health". It is important to underline that *Salzburger Nachrichten* has a very long-standing tradition in high quality science reporting, well ahead of other newspapers in Austria and was for a while a privileged source when people wanted to get news about scientific developments from daily papers. The *Salzburger Nachrichten* however also plays an important role for the local universities as it offers the possibility to present the work of the university publicly through the co-operative production of the magazine of the Paris-Lordon University Salzburg which is then added to the journal 4 times a year.

¹⁰ Media Analyse MA '99

Also *Die Presse* allocates pages to longer science reporting in its weekend supplement called "Spektrum", which also includes other topics. Additionally, one can find a one mid-week page treating "Education" and "Health". The space allocated to science was doubled over the last years.

Similarly the *Wiener Zeitung* offers a Friday-supplement "Extra", with a feuilleton-like section with essays, book reviews, cultural affairs, including alternating one page about "Astronomy" and "Science". Medical subjects are placed also in the "Society", "Magazine" and the "Today's life" section. There is also a "Research" section being published on Wednesday. Scientific topics appear quite regularly in varying sections throughout the paper. It is interesting to note, however, that the selection of topics is not so closely linked to the value of novelty the same extent as in other papers of the quality press.

Overall one can say that scientific journals like *Nature* and *Science* serve as reference journals for the quality press. Besides the regular science sections, techno-scientific aspects appear also in the political sections once there is a public controversy over such issues. There science is often represented in form of producing strategic expertise, decisive for problem-solving.

During recent years all the **quality newspapers have started to offer online versions** of their newspaper, all having science sections. Using new-media however does not only allow to increase the potential number of readers, but also facilitates quicker up-dating of information, permits the allocation of more space to news and offers the possibility of discussion forums. So far however the latter idea has not really worked out, as qualitative debates on issues regarding science and technology are still extremely rare.

With regard to the **regional newspapers**, the *Kleine Zeitung*¹¹, the regional newspaper with the most widespread readership, the *Oberösterreichische Nachrichten*¹² and the *Tiroler Tageszeitung* should be mentioned. The first provides two pages "Health special" on a Sunday insert called "Extra Blatt". In the second only short news about science are offered, usually placed in a small section taking up a quarter of a page on Saturdays, called "Science compact". The last shows clearly the more regional perspectives of science and technology and holds a good co-operation with the local university in Innsbruck. It publishes four times a year a special supplement dealing with university and research issues.

Somewhere **between the quality press and the tabloids** we find the second biggest newspaper in Austria with regards to the number of readers, namely the *Kurier*¹³. In contrary to the newspapers mentioned above, the *Kurier* has not a separate science and technology section. Although there is a debate about establishing one, scientific

¹¹ See on <http://www.kleinezeitung.at>

¹² See on <http://www.nachrichten.at>

¹³ <http://www.derkurier.at>

topics appear irregularly and dispersed over the "News"-, "Life"- or "Business"-sections as well as in the Sunday special, where longer series on various topics – both from the natural sciences and the humanities – are published. More regular science reporting only can be observed during public controversies or in areas of broad public concern such as health care and alimentation.

The **tabloid sector** in Austria is more or less **monopolised by one single newspaper**: *Die Kronen Zeitung*¹⁴ is the most read Austrian newspaper (see Table 1) and is, concerning coverage, allegedly the most successful paper in the world. In the print version science and technology are not featured regularly and find place only when it can be staged as of immediate relevance to peoples lives (cancer and other wide-spread diseases, genetically modified food, mad-cow disease) and where it contains a high level of newsworthiness (e.g. "The Killer-Potato" also known as genetically modified potatoes). In the online version there is – although hard to find on the site map of the *Kronen Zeitung* – a regular science section with about 10 science news articles. This newspaper is however of high interest – not for the quality of its science reporting – because of its capacity to influence public opinion in Austria also with regard to science and technology issues. Therefore in public controversies, the position of the tabloid is rather crucial. This has in the past become especially important when there are public or political decisions to be taken, as it happened in the GMO-debate in 1997¹⁵.

Weekly Newspapers

Two weekly newspapers should be mentioned here, the *Falter*¹⁶ with a relatively low range of coverage not exceeding 10% (1,3%¹⁷ on a national scale) for the area of Vienna¹⁸ (42.000 circulation). The *Falter* has no specially labelled section reporting science and technology news related topics, which are treated mainly in the political sections. **Six time a year** they produce, however, a **supplement** called *Heureka*,¹⁹ dealing with more critical analyses of scientific practise, science policy, science/society issues and university. The authors are mainly social scientists being partly also from the Science and Technology Studies field and therefore trying to present science and technology in its social and societal contexts. Each issue has a thematic focus, e.g. Genetics, Science and Politics, Science and the Third Reich or Public Understanding of Science. The magazine does not only reach the Falter-readership, but is supposed to

¹⁴ <http://www.krone.at>

¹⁵ Weber, Stefan (1995) Nachrichtenkonstruktion im Boulevardmedium. Die Wirklichkeit der "Kronen Zeitung", Wien: Passagen. One could observe that this right-wing newspaper entered a coalition with the left-wing actor Global 2000 in order to fight the release of GMOs in Austria.

¹⁶ <http://www.falter.at>

¹⁷ <http://www.media-analyse.at/frmdata2002.htm>

¹⁸ This number is also due to the fact that the Falter provides a complete weekly schedule for cultural events, cinemas, theatres, concerts etc. and this being the incentive to buy this weekly paper.

¹⁹ <http://www.fcc.at/heureka>

be also distributed to university departments, the relevant ministries and other institutions²⁰.

The highest coverage of readership has *Die Ganze Woche* with 19,9%. While it has no science section, it is interesting to remark that in articles dealing with health and wellness issues, diets and physical training, alleged "scientific facts" are often used in order to push particular recommendations.

To sum up, one can say that the sector of weekly newspapers is not very active with regard to science and technology.

News Magazines

The segment of weekly news-magazines is mainly represented by *Profil*²¹ (8,1% coverage²²), *Format*²³ (5,5% coverage) and *News* (17,8% coverage)²⁴. The first two magazines have a separate section on science and technology situated in the last quarter of the issue. They have in fact both, a regular page on science news and more extensive features of several pages if there are more controversial issues or hype-stories. In *Profil* the science section is combined with an IT-column and overall clearly technology dominated. *News* only reports on science if "hot issues" (e.g. BSE or the nuclear power plant Temelin in 2002) come up.

It certainly also holds, for Austrian media, that as soon as issues that are related to science and technology, allegedly concern the national or even international public, like in the cases of BSE, Temelin or climate change, science reporting makes its way into politics, business and recently also to the front pages.

Popular Science and Special Interest Magazines

There is, a very small number of Austrian popular science magazines that aim at presenting and analysing issues in the field of scientific and technological development. This is partly linked to the fact that there are a number of German popular science magazines (GEO, P.M. etc.) that are sold in Austria. Thus the potential market for new products of that kind is extremely small.

The only magazine that could be designated as a popular science magazine in a broader sense is the *Universum Magazin*²⁵, which appears 10 times a year (70.000 circulation), in parallel to the TV series with the same title. Being sponsored by the *Austrian National Science Foundation* (FWF) it features documentations to the

²⁰ It is sponsored by the Federal Ministry for Education, Science and Culture.

²¹ <http://www.profil.at/aktuell/index.html>

²² The figures given for the coverage are taken from <http://www.media-analyse.at/frmdata2002.html>

²³ <http://www.news.at/format/> or directly <http://www.format.at>

²⁴ <http://www.news.at/> via this site, Format as well as some other magazines can be accessed; not the least it gives one example of the high concentration of the Austrian news magazine industry.

²⁵ <http://www.universum.co.at/>

corresponding TV series (which is mainly on nature and animal life) but also on general issues of science, technology and nature. However the themes are selected according to the criteria of being non-conflictual and pleasure/aesthetic-oriented, this policy being reflected in the magazine's subtitle "The most beautiful magazine of Austria".

In the medical sector there are two magazines *Gesundheit* (Health) and *Gesünder Leben* (Healthier living) with a rather broad distribution. They do however not understand themselves as popular science magazines.

In addition to those there exist several magazines focusing on specific leisure activities that integrate also scientific knowledge directly linked to specific topics. Thus in the area of hunting, gardening, or domestic animals one finds science communication from the fields of zoology, ethology or veterinary science. Of course the audience is in those cases extremely selected.

An example of **magazines** with a **clear stakeholder orientation** (entrepreneurs, managers, engineers, scientists and students) is *Austria Innovativ* published six times a year (12 000 circulation). It cannot be bought issue by issue in book stores or bookstalls since it is distributed to selected consumers directly. It contains news from the – mainly Austrian – science and technology field with a clear focus on technological issues, presents new research projects and products, highlights their use and implementation, and regularly features articles on policy issues, sometimes also on the meaning of certain technologies for society at large.

When dealing with issues printed by small research institutes one should mention the example of *Soziale Technik. Journal für sozial- und umweltverträgliche Technikgestaltung* (Social Technology. Journal for the Shaping of Socially and Environmentally Sustainable Technology)²⁶. It is issued by the IFZ²⁷ (Interuniversity Research Centre for Technology, Work and Culture) four times per year and has a circulation of 1500. The journal is divided into the sections "new biotechnology", "environment and energy", "women and technology", "information and communication technologies" and additionally hosts a guest-editorship where national and international research departments get the opportunity to present their work. The basic idea of the journal is to socially and politically contextualize S&T while at the same time advocating practical solutions and approaches. The publics addressed are also already quite specialised thus it is not available in the ordinary press shop.

²⁶ <http://www.ifz.tu-graz.ac.at/sote/>

²⁷ <http://www.ifz.tu-graz.ac.at/>

2. Electronic Media in Austria and their role in science communication

Television

Although formally the national broadcasting monopoly of the *Österreichischen Rundfunk ORF* (Austrian Broadcasting Corporation)²⁸ fell a few years ago, there is nationwide still only little competition when it comes to the Austrian news sector on TV and radio. The ORF still has the right to charge fees, and, despite the quasi-liberation of the market pretends to continue to fulfil its task of playing a central role in education and culture (*öffentlicher Bildungsauftrag*). At the same time it tries to adapt, especially in the entertainment field, to the new requirements emerging through competition with private channels that mainly broadcast from/in Germany. However one can definitely state, that features and series on science and technology are not perceived as attractive enough to a wider public, and thus this domain remains rather marginal in the overall program.²⁹

Science popularisation produced for Austrian national TV (ORF 1 and 2) mainly consists of short breaking science news during the general news (which happens rather rarely), of the Friday night so-called "Future Magazine of the ORF" entitled *Modern Times*,³⁰ of a main evening nature oriented documentary series called *Universum*³¹ and of a nearly one hour long late-evening broadcast called "Kreuz und Quer" (criss-cross). *Modern Times* aims at producing techno-science news in an entertaining way and claims promoting "new developments and tendencies that will concern larger audiences".³² This is perceivable in style as well as in content, as the image of science produced is that of a problem solver. Recently, there is trend towards addressing more of Austrian science and technological issues in order to create a positive image of Austrian research and its positive societal and economic impact. Also, environmental and "sustainable" technologies are at the centre of interest. Every two weeks this broadcast is focused on health issues and technologies. *Modern times* has a strong internet presence with audio and video technology, it has already published two CD-Roms, the latest called "Planet Erde 2000". Both could be labelled as infotainment having roughly the same design, focusing on "all important questions of the future at the end of the century". These products are advertised on ORF TV, and it is important to note the mutually reinforcing nature of these activities within a quasi-monopolistic set-up as described above.

Universum is transmitted two times during the week in the main evening time slot at a quarter past 8 pm. The topics chosen come virtually exclusively from the domains

²⁸ <http://www.orf.at/>

²⁹ The TV series *Universum* is the only exception.

³⁰ <http://www.orf.via.at/modern.times/>

³¹ see also the popular science journal mentioned above

³² See on <http://kundendienst.orf.at/sendungsinfos/sendungsprofile/orf2/mt.html>

nature observations and wildlife in the style of "celebrating the beauty of nature".³³ Science is thus represented in an extremely uncritical way using the image of science as "solving secrets and enigmas of nature". In their profile the producers state that this design aims at motivating people to preserve nature or how they call it "the miracles of the blue planet". The editors clearly avoid any intrusion of environmental problems/catastrophies as having an all too negative connotation. The Tuesdays' series are mainly on topics in zoology and biology, the documentaries on Thursdays focus on the earth and the cosmos, that is on the geo-sciences and space sciences.

"Kreuz und Quer" touches on a large variety of issues regarding from humanities and social science issues over philosophical topics to science and technology.

Besides the two Austrian channels there exists broadcasting co-operation with 3sat and BR Alpha. BR Alpha is the educational channel of the Bavarian television. Each day of the week 3sat broadcasts – similar to *Modern Times* – a series about science, technology and medical issues at early evening-time, called *Nano*. Regarding the subjects there is a topical focus on new media and telecommunication. Once a week "HiTec features news from the technology sector. Since 2002 Alpha Austria broadcasts daily at 9 p.m. with a science focus on Mondays. These are partly retransmissions, partly special productions for Alpha Austria.

Overall one can say that there is little space attributed in the Austrian TV to science and if so, it is generally placed in the late evening slots, where the audience is rather limited. The only exception is *Universum*, where its nature orientation seems to make it suitable for a main evening programme.

National Austrian Radio

A more varied approach is taken by Austrian national radio. It is an important space of innovation in institutionalised communication channels of science and technology to wider publics. Apart from the classical radio transmissions it co-produces the new science internet portal maintained by the ORF and which has gone on-line in January 2001.

Until the privatisation of Austrian radio four years ago, there was no other national competitors in existence. With the liberalisation of radio broadcasting a number of new stations were created, all trying to compete in the domains of pop music, light entertainment, traffic news, etc. Thus the ORF Ö1 Programme remained more or less the only one broadcasting more high quality programmes featuring classical music and jazz, longer and specialised news programmes, and science features. While, in contrast to the TV programme, natural sciences and humanities/social sciences get approximately the same amount of time allocated there is still a slight bias towards natural science and technology.

³³ See on <http://kundendienst.orf.at/sendungsinfos/sendungsprofile/orf2/univdi.html>

There are about 30 programme points around scientific issues per week plus 25 shorter items in the regular broadcasts. The first category includes the *Radiokolleg*, a daily programme with the intention of education and information featuring three topics throughout the week. Furthermore there is *Dimensionen. Die Welt der Wissenschaft* (Dimensions – The World of Science), a daily magazine of 30 minutes in the early evening giving an overview on a specific research topic from the sciences or humanities or discussing scientific products, their generation, their practical and sometimes societal implications. A slightly different approach towards science and the humanities has *Menschenbilder* (Images of the Human) that portrays specific professionals, mostly social scientists. Here, instead of scientific outcomes and research results, the biography of the portrayed scientist stands in the foreground. It is the only emission where scientists from a human perspective come into focus. Two regular broadcasts touch very shortly on science and nature: *Vom Leben der Natur* (The Living of Nature) where – mostly biological – scientists talk five minutes about animals or plants, the other five-minutes-long program is called *Wissen aktuell* (Knowledge up-to-date). Other specialised programmes are *Matrix*, a journal on computers on Sundays and *Von Tag zu Tag, der Radiodoktor* (Day by day, the radio doctor), a forum where the auditors can pose questions via telephone about medical subjects. The *Salzburger Nachtstudio*, a programme mainly for a rather educated audience deals among others issues with philosophy and humanities, as also does *Diagonal, Radio für Zeitgenossen* (Diagonal, radio for contemporary people). Both present science and humanities in a feature-like way.

Another important field of activity of ORF radio (mainly its department of Science, Education and Society) is the organisation and documentation of symposia and so-called "Enqueten" (investigations into specialised subjects). The latter are mainly one-day fora where invited guests – mostly scientists – give talks that are then discussed by a broader audience. Past events have been for example on "Molecular medicine and the new human being" or "Austrian language in the Age of Information". Seen from the advertisement and the level of presentation and discussion it clearly aims at touching an interested, rather educated audience. Three times a year, international symposia usually lasting for two or three days are organised (e.g. "The Future of the Cities"; "The Future of Youth" and "The Future of Information"), where international experts in the field are invited to discuss these issues. These Symposia raise more specific questions and become, in part, fairly academic, but seem to attract a large part of the respective local professional communities around a certain topic of interest. These events are all documented on audio and video, the longer features of them are then broadcast on Ö1 and/or on TV summarising the argumentation and trying to make it accessible to a wider audience.

Internet as a new medium

The internet is becoming a more and more important tool in communication technology processing a twofold function: As a topic of the many discourses around modern science and technology but also as a forum and information resource for those discourses.

From being a rather specialized tool, the internet has meanwhile been ascribed as being a motor of societal democratisation, a shift that means an extreme change in functionality.³⁴ It is stated frequently that everyone who seeks for special information via the web is seen to be able to do so and likewise everybody would have the right to give whatever information about whatever topic onto his/her website to be read by the web-public. Therefore a widespread argumentation on the impact of the internet on society goes as follows: The web would offer possibilities to overcome societal, sexual and racial constraints and even the construction of virtual identities should allegedly now be possible. Especially, the opened and freed access to information resources would imply an emancipatory effect on the public. The openness or "freeing" is often seen as subversive in a political sense in the way that it will change the society at large. But, when actually looking into these media one gets the impression, that the expectations are by and large not really fulfilled. The discussion fora are a good example for that. So far they are widely offered, but not widely accepted and used by the public.

For our purpose it might be important to recollect the web as a medium where science and technology can be communicated under special conditions and in which way benefits are taken from it. The permanent stressing of the increasing meaning of the internet for modern life has presumably lead to a pressure on organisations, companies and institutions to design their web presence as well to create spaces (e.g. internet portals) on the web where they can optimally profit from the communication possibilities provided by the internet.

It must however be stated that still in Austria, the rate of people with internet facilities is (still) relatively low, especially home "connections". Further the "medial internet-literacy", as one could call the competence of using the web, is not given among large parts of the population, depending on age, gender and class. In particular people with a higher educational level get easier access to the information present on the web. Furthermore it should also be taken into account that obtaining a piece information is not the same as acquiring knowledge which would then allow people to make decisions or set actions. The question of how people manage to convert the information they find on the web into applicable knowledge remains still open and unpredictable.

Nearly all the media, organisations and institutions mentioned in other chapters can also be accessed through the web. In addition, it is getting more and more common for

³⁴ Nowadays the internet is often equalised to the world-wide-web that we describe here since it is the primary information medium transported via the internet.

Austrian quality newspapers to refer to web sites at the end of articles where further information about a topic, full versions of an interview or other hints can be found, not to mention their online-services with additional link-collections or the maintenance of online-archives in order to make search possibilities available to externals. Similar tendencies can be observed for scientific institutions. A lot of communication and promotion is made via partly rather sophisticated and multi-functional home-pages – the electronic equivalent to the printed information folder – where also printed material can be down-loaded directly.

In our portrait of the Austrian internet and multimedia space concerning science-communication we have to be rather selective and will restrict ourselves to web pages whose function and aim is a PUS action. That means we exclude web pages whose aim is only to install the web presence of a PUS-actor as an "electronic information folder". The following part is thus dedicated to the internet as a forum for communicating science and technology.

Internet Portals

The ORF's internet site has installed an online-portal on science under the address <http://www.science.orf.at>, the *Science ORF Portal*. This project was mainly implemented by the science department of the ORF radio station, but includes now also the work of the ORF TV station's science department. To realise this project the ORF co-operated with a lately founded firm called "ORF.ON". It is in the Austrian context the largest initiative in this sector and thus shall be described in more detail here

The portal consists of three components:

1. Announcements and documentation of the events organised by the ORF like symposia and enquetes: The idea behind it is to have in the long run a full documentation of all past events as an archive. Also the abstracts of all talks and contributions are collected there, especially in advance to current events. Thus interested persons can inform themselves more thoroughly.
2. The science news channel maintained under the co-operation with the science departments of ORF radio station and TV station. Scientists have been largely invited to become authors of contributions to the news section.
3. The so-called "forum" which is designed as an interactive space between science and the public with discussion rooms about science beyond the usual practise of science reporting. Austrian natural scientists, social scientists and representatives from the humanities take on the position of "hosts" and – ideally – independently produce input concerning their work, their academic life and the assumed implications of their work for society. They are free to design and appropriate this space, so that they can invite guests or involve their students in

the discussion. The public is invited to comment and enter the discussion via emails that are published online. Also, the chosen group of scientists should be personally accessible for interested readers via email.

In the whole the *Science ORF Portal* has become a major information source with regard to science in Austria – and beyond –, as well as links connecting to the broad spectrum of institutions and initiatives concerned with science and technology. Since the launch of the portal roughly two years have passed. It is interesting to see that the forum idea has not been worked out as what it was initially proposed to be as most of the news are produced by the ORF journalists themselves and not by scientists. The same holds for the discussion discussion-fora which are not used in a very extensive way. If it comes to a debate, the quality is extremely varied which is also due to that the forum is not moderated.³⁵

Moreover, there have been constructed several internet services that are exclusively online and can be classified as active attempts to contribute to a public understanding of science however all of them having a bias towards medical and health subjects. One is *surfmed*³⁶, which went online in late September 2000. It is a kind of health site – this style being very common in the US – run by a company that provides extensive information on health prevention, healthy diet, balancing life style, beauty, consultations for "love and life" and spiritual wellbeing going along with a hypertext structured handbook on all kinds of illnesses, their symptoms and treatments. Also, a medical practitioner specialised in the relevant field and practising geographically close to the patient can be chosen via the web site. A "surfmed-club" can be joined at a certain fee which gives access to the following services: individual health and diet plans, personal expert advice obtained electronically within 48 hours. Further health video tapes can be borrowed by members, and a personal email-service gives news and updates tailored to the member's fields of interest and medical conditions.

From a quite different perspective the *Gesundheitsinformationsnetz GIN* (Health Information Net)³⁷, is also an internet information resource on health, medicine and social welfare, maintained by the medical faculty of the University of Innsbruck in co-operation with the company *Prodata* that supported the web pages. It aims at providing information on and linking to a large amount of institutions in the Austrian health and social services structure. Different from the former the services of a health information site are designed from a medical professional perspective.

A third so-called Health Server is *Gesundes Leben* (Healthy Life)³⁸ with up-to-date health news as the organisers put it. It was founded by the *Fonds Gesundes Österreich*

³⁵ Bernhofer, Martin (2001): Cyberscience – Was macht die Wissenschaft im Internet?, Gegenworte

"Digitalisierung der Wissenschaften .

³⁶ <http://www.surfmed.at>

³⁷ <http://gin.uibk.ac.at/>

³⁸ <http://www.gesundesleben.at>

(Fund for Healthy Austria)³⁹ which is a platform for "supporting health" as it is stated on its website. The fund provides listings of projects and activities concerning health prevention, maintain a service for self-help-groups and launches requests for project-proposals in the health sector.

The Health Server *Gesundes Leben* which is one of the central activities of the association informs about health prevention, fitness, alimentation and healthy lifestyle as well as about illnesses and its therapies. Also, one can find an event calendar with dates of medical congresses and lectures, courses, spiritual seminars and sports workshops and also longer articles on special topics reaching from backbone exercises over the danger of tick stabs up to how to make an ecological compatible spring-cleaning. Spaces of interaction with the audience are given by an email service tailored to the interests of the user and a discussion forum. The former is a newsletter whose topics are personally chosen in advance by the user as being of interest and comprehends an event calendar and short news concerning health. The discussion forum provides an "open-accessed, democratic discussion platform" for users where they are invited to discuss on given topics such as depressions, diets or allergies. Comparing to *surfmed* which has a similar aim at providing a health information service, *Gesundes Leben* stresses the plurality of opinion that would inspire the discussion on contended issues as it is said on the website. At *surfmed* the interaction space does follow the common pattern of "patient asks– expert answers".

Multimedia Products

Regarding the multimedia product sector the market is also, like the print media market, dominated by foreign companies, mostly German and English-speaking products are offered. A mentionable exception are some CD-Rom's by the ORF that are for sale. The already mentioned TV emission *Modern Times* published both, the first one, "*The Modern Times CD-ROM*" in 1997, was based on contents of their regular emissions; the latest one being called "*Planet Erde 2000*" (Planet Earth) is a guided tour throughout the new millennium, its "challenges of science" and its "most spectacular missions of research". Both contain interactive applications where the user "could verify his knowledge about the future"⁴⁰. The design is a composition of educational and entertaining elements, "infotainment" if one wants to put it in buzzwords.

³⁹ <http://www.fgoe.org/>

⁴⁰ All citations from <http://www.orf.via.at/modern.times/magazin/ausgaben/archiv/mt118.html>

3. Some reflections on Austrian science journalism

If one wants to understand the relation of science and media in Austria, it is quite revealing to look at the situation of professionalisation of science journalism and of other science mediators. Indeed for quite a long time there were no science journalists in the strict sense, instead journalists covered among other issues also science and technology. Thus this topic was seen as of minor importance and could be treated for many years only on a spot basis.

Despite this more marginal role played by science journalism there existed a Club of Austrian Education and Science Journalists, founded in 1971, which is member of EUSJA, the European Union of the Societies of the Science Journalists, since 1973. In 1991, it initiated the Central European Association for Science Journalism with the members Austria, Hungary, Slovakia and Slovenia.

Another indicator for this lack of importance attached to science journalism is the fact that the Austrian programme that counts as internationally accredited and is described as an all-round training for future journalists⁴¹, offered no special focus on science journalism. (It is organised by the Danube-University in Krems and its International Centre for Journalism.) No other professional school for science journalism or an academic education in this domain existed in Austria until recently.⁴²

Thus most science journalists in Austria come from the disciplines or fields they eventually write about and have usually acquired their skills "learning by doing", i.e. while already working in the media field. It means however also that there is neither debate about common standards in science journalism nor is there any corporate identity developed in this area.

Things started to change during the last years, as the need for specialised science communicators was gradually perceived as crucial. A first such training course in science communication started – largely funded by public money – in autumn 2002, its prolongation for another year is still unclear by the time this report was written.⁴³

Finally, it should be mentioned that efforts are made to advance quality in science journalism by the Ministry of Education, Science and Culture. They award a biannual State Prize for Science Journalism to individuals who "take up issues of science and research in a generally comprehensible and competent way to raise and deepen the interest in and acceptance of science and research among the public"⁴⁴

⁴¹ <http://www.donau-uni.ac.at/journalismus/>

⁴² Hömberg, Walter (1990) *Das verspätete Ressort. Die Situation des Wissenschaftsjournalismus*, Konstanz: Universitätsverlag

⁴³ <http://www.scimedia.at/>

⁴⁴ Ministry for Education, Science and Culture

Summary and general observations

- The situation of media is in many ways rather curious in the Austrian context: quasi-monopoly of two media groups; TV and partly radio there is still in a situation of quasi state-monopoly; among the daily newspapers one tabloid holds a quasi-monopoly on mobilizing a broader public on controversial scientific or technological issues; there is a strong influence of the German market of popular science on Austrian productions.
- Regular reporting on science and technology in Austrian media has only become stable and established during the last decade. This is extremely late compared to other European countries and hints at the difficult situation of science and technology in Austrian Society.
- During the past years actors in this domain have clearly diversified the channels of simultaneous communication on science and technology trying to create through this higher visibility and synergy effects been the different actions taken. (e.g. radio makes an internet portal; TV series are made in parallel to a popular science journal; newspapers have web-pages and organize discussion events)
- Although there are professional organizations for science journalists, there is still no clear professional identity – it was only during 2002/03 that the first academic training course for science journalists was offered, this being only in a pilot phase.
- There is very little critical science reporting dealing also with the societal impact of science and technology. This happens only in cases of conflict where often the degree of polarization does not allow a productive critical debate.
- There is still in many cases public sponsoring necessary to allow for activities in this domain (e.g. the journal *Heureka*, the academic training course for science journalists, science pages in magazines and newspapers).
- From the point of view of themes treated in these media health issues, biomedicine and genetic engineering, more high-tech as well as environmental topics have definitely become the central subjects of science communication.