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Positive changes in the state of opinion – consistent attitude patterns

Summary

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SUMMARY

In the course of monitoring »technology acceptance and controversies about technology«, TAB carried out a representative survey on the attitudes towards technology of the German population in 1997. The present report gives the results of a subsequent survey carried out at the start of 2002, which in part addresses questions from the first survey and in part tackles new issues which are currently shaping debate about science and technology. In parallel with and supplementing the standardised survey, group discussions with randomly selected laypersons (»focus groups«) were held on several of the topics covered by the survey. The group discussions were intended to provide further information on the attitude of the population towards current scientific and technical issues.

POSITIVE SHIFT IN THE STATE OF OPINION

On the whole the survey confirms the information on the state of public opinions of science and technology which has long been established in opinion surveys.

- > All in all »technology« and »technological progress« are regarded thoroughly favourably. Only a minority of significantly less than 10% of respondents show a negative response to questions establishing attitudes towards technology.
- > However, the attitude differs depending on the field of technology. Everyday or household technology, and specifically scientific and technological progress in medicine, are almost unanimously welcomed. By contrast, there is a balance between rejection and approval for large scale or risky technologies, or scepticism dominates – as in the case of nuclear energy.
- > Attitudes to a specific field of technology can also differ sharply depending on which application is needed or which goal is associated with the use of a technology. This is particularly evident in the case of genetic engineering. Genetic engineering in medicine is favourably judged – often, one is tempted to say, uncritically, as in the case of e.g. germ track therapy. By contrast, there is an attitude of rejection to »green genetic engineering«, particularly for genetic engineering in food production. Here, there are no perceived benefits to offset the uncertainty about possible risks which people might be directly subjected to.
- > Behind the judgment of most respondents (whether they are on balance favourably or unfavourably disposed), there is a multidimensional or ambivalent image of the advantages and drawbacks of technological progress. There is



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awareness of both the importance of technological progress for the economic capability of society and the negative impacts on everyday life (more rush, loss of interpersonal contact). Increasing technology in the workplace is seen as making work easier on the one hand, and as having negative impacts on the workplace on the other. The ambivalence in respondents' judgments is also reflected in the fact that with questions on the impacts of technological progress around one third of respondents frequently select the options »neither/nor« or »undecided«.

Besides confirming the pattern described above, the survey shows a significant increase in the share of favourable judgments on technology compared with the survey from 1997. This is not limited to the general questions about the overall attitude towards »technology« and »technological progress«. Instead, there has been an increase almost right across the board in agreement with positively-slanted statements (e.g. on the economic importance of technology) and a decrease in agreement with negatively-slanted statements (e.g. on the environmental impact of technological development). This positive trend in attitudes is also apparent in the questions on individual fields of technology or applications. As the positive trend is apparent so consistently in all questions, it is entirely legitimate to speak of a generally positive shift in the climate of opinion towards science and technology between the time of the survey and the 90s as a whole. Detailed analysis of the survey data and the results of the focus group discussions permits the conclusion that the positive shift in the climate of opinion is primarily related to the perceived importance of science and technology for economic development. Even if the question of »loss of jobs due to technological rationalisation« is still important for the attitude towards technology, the continuing economic crisis and debate about the competitiveness of German industry have nevertheless contributed to a positive change in the perception of »technological innovation« as an economic factor.

TURNAROUND IN ATTITUDES TOWARDS GENETIC ENGINEERING?

A look at the evolution of attitudes towards various major fields of technology shows that only nuclear energy is excluded from the favourable shift in the climate of opinion. In this one case, public opinion is still dominated by attitudes ranging from scepticism to clear rejection. By contrast there has been a change in the attitude towards genetic engineering compared with 1997. The number of respondents acclaiming government support for this field of technology has increased significantly, even though the majority are still undecided or opposed

to this. It remains to be seen if this will prove a lasting turnaround in attitudes towards genetic engineering. The clearly critical attitude towards green genetic engineering – particularly towards genetically modified food – has continued. There are considerable reservations about such applications – as the focus groups also show – because of the presumption of health risks. By contrast, the use of genetic engineering in a medical context is seen as clearly positive. Hopes for success in combating diseases like cancer give both research and application a substantial bonus. However, when it comes to evaluating concrete biomedical procedures – such as preimplantation diagnostics (PID) – there is marked ambivalence in attitudes. The survey did not yield an unambiguous picture of opinion here. The pattern of answers to various pro and con statements which respondents were shown, together with the statements in the focus group on PID, show the dominant ambivalence and in part contradictory nature of judgments, which were shaped by the positive associations of »avoiding illness and suffering« on the one hand and fear of misuse and unease at what is seen as breaching proper limits (»more than humanity has a right to do«) on the other hand.

Overall, it must be said that there is little knowledge among large sections of the population of not only the technical and scientific relationships in biomedical processes but also ethical arguments which play a role in political debate on the pros and cons of new biomedical procedures such as PID. The impression is irresistible that much of the population knows very little about the intensive debates at parliamentary level on biomedicine in general and PID and stem cell research in particular. Moreover, there is relatively little willingness to explore the issue of PID beyond what may be in the daily news.

BSE AND ELECTROMAGNETIC RADIATION

The situation is entirely different for issues where people feel directly affected. The cattle disease BSE has very clearly led to major uncertainty among much of the population, with a corresponding need for information on the actual health risk. Various surveys show that a sense of acute danger from BSE is fading over time. However, according to a TAB survey in February 2002, only 30% or so of the population felt that the BSE problem was under control and there was little need for further concern. The BSE scandal has clearly led to a significant crisis in confidence in consumer protection and to marked scepticism about conventional agriculture and food production. Just under half the respondents agreed with a shift in principle towards ecological agriculture, even if this meant higher prices.



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To a lesser extent than in the case of BSE but still very evident is the uncertainty about the health risks of the high-frequency electromagnetic fields emitted by cell phones in the course of implementing the new UMTS cell phone standard. Even though – as the focus group discussion on UMTS shows – only a very few people know anything about existing limits and the state of research into health risks of electromagnetic fields, this question is a concern for much of the population. Over half the respondents agreed with the statement that people living near cell phone transmitters should be concerned about their health. Again, over half the respondents feel existing limits are inadequate, and almost two thirds feel that information on risks provided by cell phone operators and government agencies is inadequate. The focus group on this issue confirms the conclusion suggested by widespread cell phone use that concern about health risks need not be tied to a fundamental rejection of UMTS. It is, however, clear that only a few people would be prepared to accept a transmitter in their direct proximity without further thought, and that there is a strong expectation that operators and local authorities will provide detailed and early information on planned locations.

COMPUTERS AND THE INTERNET

In the field of IC technologies the survey shows that computer use has become increasingly accepted as normal, to the point where it is now evidently an item in everyday use, with growing Internet use a contributing factor. There has been a change from just a few years ago in that most people no longer use the Internet just at work. Almost one in three respondents say that they use the Internet regularly at home, and this rises to every other respondent in the under-30 age group. However, the »digital divide« has become even more marked: some 40% of respondents say they have no Internet access and do not even feel that the Internet could be useful for them personally. Internet continues to be a technology which is used primarily by younger people and people of working age. According to the survey, only c. 7% of those in the over-60 group have Internet access.

SCEPTICISM ABOUT POLITICIANS' INFLUENCE

A generally more favourable attitude towards science and technology is also evident in answers to statements about political management and the economic and ecological impacts of technological progress. Compared to 1997, the proportion of those agreeing with the statement »Without new technologies we would lose out in competition with other countries« has risen from 10% to around 40%, and only 32% of respondents (compared with 37% in 1997) now agree with the



statement »the use of technology must be reduced to preserve the environment«. However, politics seems not to benefit from the generally more favourable climate of opinion. Scepticism still dominates with regard to politicians' ability to control developments. The focus groups also show widespread mistrust in politicians' ability to act, particularly where questions of preventing risk and protecting consumers are involved. There are also indications that a basically positive attitude towards science and technology is extensively linked with a relatively fatalistic attitude to the chance of controlling technological development at all, and particularly to the chance of individual citizens being able to influence questions of technology policy.

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