

Introduction

As it moves into the new millennium Austrian society is undergoing significant change, particularly with regard to politics, the economy and technology. Politically, general framework conditions have changed fundamentally over the last five years as a result of membership of the European Union. The development of a public sense of European identity that can be observed is proof of the integration process's dynamism. Economically, new challenges have been created by the greater integration of the Central and Eastern European countries and with it the pressure from and need for migration. At the same time it is still barely possible to assess the extent of the changes that the world-wide technological revolution is creating in all areas of human society. Together, the present five research institutes of the Social Sciences faculty of the Austrian Academy of Sciences seek to investigate these social transformation processes as comprehensively as possible.

The Institute for Technology Impact Assessment, founded in 1994, investigates the effects of technological developments and how society responds to them, in particular in the areas of the digital revolution, biotechnology and health care provision. In addition to invaluable pure research it also undertakes commissioned research to provide a range of concrete solutions for government action.

The Institute for Demography, founded in 1976 in close association with the Austrian Central Statistical Office, is the only national research body in its field devoted to the analysis of demographic processes (births, deaths, marriages and/or divorces, and migration) and their origins in Austrian society.

The Institute for Urban and Regional Research conducts empirical social research within geographical contexts, focusing in particular on migration and segregation, for example with regard to social and professional mobility and the housing and labour markets. The Institute was established in its present form in 1988 and is principally concerned with urban and transformation research, especially in the Central European states and Latin America.

The objective of research into societal processes is hence synergistically pursued from various angles as is clearly shown in the work of the newly established Institute for Research into Institutional Change and European Integration, which replaced the Institute for Socio-Economic Research in 1998. The transformation of the concept of the na-

tion state and the quality of the European integration process per se, as well as the impact of new communication systems on the economy, the transnationalization of politics, and changes to the borders of democratic communities all form the core of the Institute's research interest. Research into the impact of the digital revolution in particular provides a point of contact with the work of the Institute for Technology Impact Assessment.

Pure research into the role of the mass media in political communication has been carried out by the Commission for Historical Press Documentation since its foundation in 1994. Its contribution to the study of collective consciousness phenomena of the past and the present is based on research into cultural indicators.

Problem-based approaches of an interdisciplinary rather than a discipline- or subject-specific nature are the criteria applied by each individual research institute, each deriving value from the constructive overview of their combined results. The main concentration on Austria as the field of research has undergone a marked expansion in the last five years in particular to include interaction with neighbouring European countries. The next five years will see this integration broaden further through greater involvement in collaborative networks deliberately chosen for their international nature. This appears all the more urgent given that the upheavals caused by the technological revolution at the start of the millennium are now on the point of creating fundamental and cross-border changes in politics, the economy and society. The field of social sciences will hence be of exceptional importance over the next five years, not only within the Academy but also for research in Austria as a whole.

The Commission for Historical Press Documentation (CHPD)

The main objective of the research programme

The core of the CHPD's research interest is the question of the role played by the mass media in political communication, in particular the question of the basic cognitive structures inherent in the media's portrayal of politics. Investigating a question like this necessarily involves a long-term dimension; on the one hand it requires a suitable instrument for analysing the temporal-comparative perspective, such as the concept of *cultural indicators*, and on the other it requires knowledge of the structural and

economic development of the media system. Current research focuses on the daily press which has been an influential element in political communication from the days when political freedoms and franchise were extended at the end of the 19th century to the present day (albeit in differing media constellations). It is now able to build on a comprehensive record of press data – covering Austria and, in part, Germany – which was created in the first phase of the Commission's work. The Commission was founded in 1994 and its investigations into the media thus far, using indicators based on social psychology or political science, are in line with the international trend in communication science research in

- long-term studies
- focusing on the interpretative work of the media
- integrating theoretical approaches from related disciplines

Seen from the perspective of democratic theory the mass media ideally create a public forum for political decisions as well as for social needs, thereby contributing to social integration. On the one hand, as institutionalized general public forums they provide other institutions involved in the inter-media process (such as political parties, churches or associations, as well as social movements and informal interest groups) with the means for fulfilling their specific functions. On the other hand however, they also operate as entirely independent political actors in that it is part of their remit in democratic regimes to reveal key problems, identify the causes, debate the ways they can be resolved, and to apportion responsibility. Journalistic practices which are employed to great effect in this process have led communication science to postulate the theory that the media construct their own media-reality or more than one media-reality.

Basing the role of the mass media in democratic theory determines the temporal dimension of the research programme in the same way that it determines the priority given to particular research questions. For example, for analyses whose current main focus belongs to the period leading up to the end of the First Republic or the Weimar Republic respectively, and which, it is hoped, will be extended in stages to the period after 1945, the point of departure is the process of democratization which began in the last quarter of the 19th century as a result of the introduction of universal suffrage, a process which, not coincidentally, was accompanied by the growth of the mass press. Choosing the longer-term perspective shifts the emphasis of research onto the issue of the changing relationship of the mass media with the political system and towards other institutions which are part of society's inter-media structure; as a result, the consequences of the differentiation process themselves become a subject of research. The task here, in addition to investigating the way in which the mass media deter-

mine subject matter, is to examine the basic cognitive structures which are involved in the processes of journalistic selection and transformation and which are, at the same time, present in the way subjects are portrayed. Evidence of the impact these structures have on the way political information is assimilated by its recipients has been produced on numerous occasions.

Such cognitive structures over-simplify the complexity of politics. Attention was drawn to them as early as 1922 by Walter Lipmann (*pictures in our heads*) and most recently they have been discussed in terms of *framing* or *second-level agenda-setting*. Such structures include attribution patterns and ideological moral concepts (i.e., causal and ideological structures), which, according to the *framing* approach, can be regarded as abstract and cross-subject frameworks for interpreting political issues and concrete *policy options*. A suitable instrument for the purposes of a specifically temporal and/or geographical comparative analysis of these is the concept of *cultural indicators*. This concept was formulated for mass communication research principally by George Gerbner and Karl Erik Rosengren and has been tested in numerous long-term investigations analyzing the content of, for example, television programmes (*violence profiles*) and editorial commentary in daily newspapers (*freedom and equality indicators*).

The development of future research

On the one hand elections represent the apex of political communication and, on the other, of all the political developments which occur regularly and are featured in the media, they have the greatest effects. Current research interest therefore focuses on election communication as the "classic" research field in communication science. In the long term however we would welcome an expansion of the range of research subjects to include areas of politics or political content from other fields, such as, for example, media coverage of the arts.

- The "winners' and losers' perceptions" indicator, based on attribution theory, was developed and tested in a pilot study of Berlin newspapers from 1928-1932 in order to analyse post-election media reporting; several recent studies have demonstrated that this coverage significantly affected society's interpretation of the election result which redefined the balance of political power. Based on Richard Hamilton's underlying theory, according to which a "right-wing" climate in the press is supposed to have created favourable conditions for the rise of the NSDAP, the investigation is to be broadened – in harmony with Jürgen Falter's analyses of the sociology of voters – to include the period from the parliamentary elections of May 1924 to those of November 1932.
- The sociometric analysis of intermedia perception which was carried out as a companion study is

a methodological contribution to determine the content analysis of primary media, which are attributed special significance because of media interdependence (*inter-media agenda-setting*). The approach can be regarded as the methodological equivalent of the practice common among journalists today in making inquiries by asking questions; it also enables investigations of an historical dimension to be made into the principal functions of the media system. Since the definition of primary media in communication science also presents a suitable criterion for sample formation, it will be used in the long-term study described below.

- Hitherto all previous Commission investigations into election coverage have applied the indicator "voting recommendation" in their analysis of the line taken by newspaper editorials. Now, for the first time, a wide-ranging research project – from the parliamentary elections of 1897 (the first elections with universal [male] suffrage) to the present day – is to carry out a comprehensive analysis of the ideological moral concepts communicated by Austrian daily newspapers. It will be defined on the basis of the *cleavage concept* developed by Seymour Martin Lipset and Stein Rokkan for the way in which European political parties are created. A pilot study to test this methodological instrument is currently concerned with a comparison of the coverage of the 1901 and 1911 parliamentary election campaigns in German-language daily newspapers from a selection of Austrian Crown Lands. Their results are discussed in relation to the characterizing features of the structural development of the daily newspaper market as part of the social modernization process.

While the pilot study mentioned above represents a first attempt to relate cultural and social indicators more closely to one another, social indicators in the field of the media are also used discretely to describe structural changes in the press market. Such studies can, for the first time, have a solid factual basis thanks to the press records produced by the Commission. They include a comparison of the differentiation process in the media (sub)system represented by the daily newspapers in the metropolises of Berlin and Vienna from the close of the 19th century to the 1930s, and an analysis of the concentration processes in the Austrian daily newspaper market after 1945 which is to be carried out as part of a European-wide comparative study for the Institute for Journalism and Communication Research in Hanover. In order to investigate the economic framework conditions, a theory of network analysis was tested by examining the question of the integration of newspaper business enterprises into the economic system; it was based on the example of public limited companies which published Viennese daily newspapers from 1902 to 1938.

The most important CHPD publications are the series *Die Wiener Tageszeitungen (The Viennese Daily Newspapers)*, of which Volumes 3 (1918-1938) and 5 (1945-1998) are now available, and the contributions made at regular conferences, the most recent of which was *Wahlen und Politikvermittlung durch Massenmedien (Elections and the Portrayal of Politics by the Mass Media)*. The journal *Relation*, published twice annually since 1995, is an interdisciplinary forum for the discussion of the diverse relationships between *Media – Society – History* (the journal's subtitle). The documentation produced at the CHPD (press data, currently for Vienna 1889-1998, Austria 1945-1998, and Berlin 1918-1933, as well as business data for Vienna 1902-1945) can be accessed as databases and are also partially available online.

Collaboration and interdisciplinary work

Collaborative ventures date back as far as the time when the computer-assisted documentation models needed for gathering press data were developed, with experience being closely shared with the Dortmund Institute for Newspaper Research and German Press Research in Bremen. The Commission's current research activities maintain this tradition both with respect to comparative studies of content (for example with the Institute for Journalism and Communications Research and the Otto Suhr Institute for Political Science at the Free University of Berlin) and with regard to the further development of methodological approaches (as, for example, with the Graduate School of Business at Stanford University). Along with this, discussion of concepts and interim findings from international research is promoted through interdisciplinary workshops which are always prepared and organized in conjunction with twin institutions (such as the Hans Bredow Institute for Media Research at the University of Hamburg and the Ludwig Boltzmann Institute for Historical Social Science in Vienna)

Staffing and Infrastructure Requirements

As far as possible archive research, coding and the implementation and evaluation of data should not be carried out on the basis of temporary contracts since the cost of the longish period of induction and the intensive training required is not repaid if staff are only given short-term employment. An increase in the number of research staff is hence urgently needed, from the current level of 3.5 research posts (of which 2.5 are funded by the Academy, and 1 receives outside funding) to 5.5 (3.5 Academy-funded, 2 receiving outside funding). To ensure that the library is staffed continuously and to provide support for organizing proposed workshops, an increase in the size of the office staff from 50% to 100% is desirable.

An IBM Netfinity server has only recently been acquired, paid for from the investment budget. The new server and the switch to using Windows 2000

are intended only as a medium-term adaptation of the workstations equipped with less powerful PCs either by upgrading them or by the purchase of more powerful PCs.

The Institute for Demography (IfD)

The main objective of the research programme

The IfD's main responsibility is to research the demographic structure and development of the Austrian population and its underlying dynamics (birth and mortality rates, migration) in their social, economic, geographical and temporal contexts. This also covers analysis of the reasons for demographic change and the diverse consequences of population development for the various fields of politics and society. Present and future problems which feature constantly are principally that of the low birth rate being far below the level at which births replace deaths, the pluralization of biographies and forms of family life, international immigration and the necessity to integrate foreigners, the mortality rate which is dropping and yet is socially uneven, the imminent and rapid ageing of the population, and the consequences of social-demographic structural change. The IfD conducts pure research in the fields of demographic economy and population mathematics.

There is no sense in making fundamental changes to these main tasks given the framework conditions (the only Austrian research institute in the field of demography, limited staff and budgetary resources). However, the analysis framework is broadening noticeably as a result of European integration and collaboration with institutes in the EU member and candidate countries. The IfD stands by its decision not to conduct demographic research of the developing countries as a general principle, even if some studies do occasionally relate to them (e.g. population-economy-environment in sub-Saharan Africa).

The grouping of subjects in the field of applied demographic research into fertility/family, migration/integration, and mortality/ageing is to be retained because all these fundamental factors of population development are continuously relevant and produce political outcomes in the form of population-related legislation and aid, which in turn need to be evaluated. As a rule demographic structures and processes only change very slowly. Cohort effects (new generations growing up) become particularly influential, but so too do ageing and periodic effects, with the result that the three are often barely distinguishable from one another. Nevertheless, emphases should be shifted when this is indicated by new developments.

The development of future research

- One of the main emphases in formal demographic research and, in the medium term, in the field of demographic economy as well, will be the

creation of models for analyzing the interaction of demographic, economic and environmentally related factors. A practical application comes from sub-Saharan Africa where a vicious circle exists between the gradual elimination of natural resources, agricultural stagnation, poverty, and high population growth rates. The poor quality of the data necessitates an extensive sensitivity analysis which in turn provides a source for deducing the conditions in which the vicious circle occurs, in particular in the context of the degree of income inequality.

- The second main focus is the dynamics of age structures. Age is the most important variable, on which many other demographically relevant variables are dependent. The dynamics of age structures are of great political relevance; an ageing population requires enormous adjustments in many areas. Stable age structures, around which formal demography has revolved since the time of Euler and Lotka, do not exist in reality. In transition periods with changing patterns of fertility, mortality and migration, age structure can suffer from imbalances; their origins and what consequences derive from them need to be investigated. The development of a *Theory of Population Politics* is planned, mathematically supported and based on the observations of Arthur and McNicoll. The point of departure combines a population model with a model of one specific year's accumulation of capital, with the birth and investment rates acting as control variables. In addition, age structure models for examining the dynamics of population are to be applied in the areas of unemployment, human capital and epidemiology (HIV/AIDS). Synergy with the Department for Applied Demography is to be expected.
- In the field of *applied demographic research* a distinction needs to be made between two areas which will continue to determine the future work of the IfD. The first is concerned with studies carried out within the framework of investigations into generic social questions which have some relation to demographic processes. The second advises directly on policy and is concerned with producing reports on demographic situations and collaborating on official department and government reports which are relevant to demography. In the latter context there is a project which is to look into the role of population science in politics in the period between the two world wars. The following questions are being investigated in their respective fields of research:

Fertility, establishing a family, family politics and social politics

Following the sharp fall in the birth rate in the 1970s, births in Austria again dropped in the 1990s

(to 63% of the level at which births replace deaths). The last few decades have witnessed many changes which will continue to affect future generations: Together with the fall in the birth rate there has been a rise both in the age at which women first have children and in the percentage of illegitimate births, a fall in the number of first marriages, an increase in the age at which people marry, and a rise in the divorce rate. These changes will be accompanied by improved levels of education, closer alignment of the levels of education of both sexes, and an increase in the number of women in gainful employment. At the same time the traditional female role model will become less and less important. This raises the following questions:

- Given the demographic processes outlined above, to what extent are transitory phenomena present in the life-cycle (marrying and having children at a later age) and to what extent do they lead to permanent “new” demographic biographies and forms of family life?
- What part does the extent to which a woman can reconcile the demands of career and family play in the desire to have children and establish a family? How far do institutional and socio-political framework conditions affect this?
- What consequences do educational and qualification opportunities for men and women, and sexual relations between partners, have on establishing a family and forms of family life? What is the position regarding the role of fathers and fathers’ participation in family life?
- What identifiable impact have welfare state structures and national state policies (social, employment, family and gender policies) had on birth rates and families in Europe since the 1980s?

Migration, the integration of foreigners, migration policy and policy towards foreigners

In order to overcome a (sectoral) labour shortage Austria will continue to need immigrants for decades to come. The relevant legal requirements introduced in 1993 have made it possible to a large degree for immigration to be politically controlled. Currently, integration takes precedence over new immigration, although the percentage of immigrants who remain in the country is largely unknown. The enlargement of the EU will affect Austria’s position as a target country or transit country for international migration. The following research questions are to be investigated in the medium term:

- What migration patterns developed in the 1990s? In what ways does the socio-demographic structure of the “new” immigration differ from traditional labour migrations?
- What opinions and attitudes of Austrians regarding foreign immigration and integration can be established by continuing with previous studies?
- What is the position of the “second generation”

of immigrants; what possibilities do they have and what are their expectations for the future?

- What is the scale of “the need for immigration” up to the year 2050 that can be calculated on the basis of the various plausible assumptions arising from the expected developments in the age structure of the Austrian population (*replacement migration*)?

Mortality and morbidity, population ageing

The life expectancy of the Austrian population will continue to increase in the future. The decisive factor here is the fall in the mortality rate of older people. In addition, years with a high birth rate are currently reaching retirement age and this will be repeated after the year 2020. The consequences of these developments for Austria’s age structure can be easily predicted: the number and the percentage of older people will rise. Relevant research questions which can be formulated are:

- How do social differences in mortality develop as a whole and how do they differ in respect of causes of death?
- What are the consequences for the next 50 years of policy measures that can be deduced by interlinking models used to investigate demographic, economic and pension law parameters?
- How do adults’ and old people’s way of life, state of health and expectations of life in old age change as they get older?

Unlike in the majority of industrial nations, no longitudinal study has hitherto been carried out in Austria into issues of changes to the course of their life which individuals make in adulthood. A panel study of this type, which requires a great deal of organization, expense, and a large methodological apparatus, is to be set up at the Academy over the next few years.

Consequences of the changes in the demographic and social structure

The changes in the population structure and social structure affect important areas of politics and society such as the education system and the qualification structure/labour potential of the population. In this field the IfD possesses high-quality databases and projection models for the secondary and tertiary education sectors and for the transition to the labour market. Analyses of the consequences of this structural change, and the outcomes of empirical investigations into them will continue to form part of the Institute’s research in the medium term, becoming increasingly significant in the light of dramatic changes in education.

Collaboration and interdisciplinary work

Examples of innovations in the IfD’s work include:

- new scientific discoveries (mathematic control theory with distributed parameters in formal

demography, comparative welfare state classifications in the analysis of the demographic effects of policies),

- new socio-political paradigms (gender mainstreaming: gender policy approaches in the development of investigative instruments and in the analysis of the extent to which women can reconcile the demands of gainful employment and family. “Accuracy” in social policy: the impact of tuition fees as early as secondary level in the education system, new calibrations in education projection models),
- new collaborations, for example the EU-sponsored network of integrated population research (NIEPS) the objective of which is to further develop investigative and analytical instruments in the three areas of fertility (gender, family and work), migration (cultural specificity and integration of migrants) and population ageing (ageing and intergenerational solidarity),
- new possibilities and instigators of ideas; a post-doctoral researcher is to be appointed to assist in the realization of the long-cherished plan to set up a longitudinal study into ageing. This in turn will consolidate ageing as a subject area within the Institute’s programme, provided that adequate funding can be secured from the Academy and outside sources.

Population research is an inter- and multidisciplinary science per se. Researchers trained in formal science, the natural sciences and social sciences all work at the IfD. Synergetic close cooperation with the Austrian Central Statistical Office is a fundamental structural characteristic of the IfD. Over the years different disciplines have carried out a number of joint research projects, and individual members of the Institute have themselves been involved in interdisciplinary projects. The current research programme continues to cater for collaboration with establishments outside the Academy on a considerable scale, in both formal and applied demography. In addition to collaboration which is already underway future joint research projects are planned with the following institutions:

- the IIAS Laxenburg, the Max Planck Institute for Demographic Research (MOI) in Rostock, and the RAND in Pittsburgh: the dynamics of age structure,
- the Observatoire Démographique Européen (St-Germain-en-Laye): analysis of population development/demographic monitoring,
- the University of Wisconsin and the MPI in Rostock: analysis of fertility characteristics in families with stepchildren.

Staffing and infrastructure requirements

For the key areas of demographic research to be adequately staffed, the number of research positions urgently needs to be increased in the medium term to twelve (as shown in the findings of the 1997

evaluation). Only in this way could at least two researchers be employed in each individual area, thereby guaranteeing continuity of research in the event of a member of staff leaving. Closely related to this is the fact that the Institute’s support infrastructure is in urgent need of reinforcement: in 1997 the evaluators suggested increasing the numbers to eight (six research assistants – it would be absolutely essential that some of these be computer specialists – and two office staff).

The Academy has already been notified of the need to increase the amount of room space available by approximately 200 m². The preferred location for this would be the Kegelgasse site as there is no room for an extension at the first site of the Austrian Central Statistical Office. Both sites have adequate computer infrastructures but there is a shortage of computer support staff. From a research perspective there has so far appeared to be little sense in seeking funding for research from outside the public sector. It is true that sponsorship might have been forthcoming from private insurance companies and/or associations, but attempts to reconcile that sector’s needs with the Institute’s research interests proved unsuccessful. In view of the long-term nature of the imminent ageing of the population, research focusing on “ageing” ought possibly to be of interest to the pharmaceutical industries, the producers of medical technology and electronics, as well as to those concerned with nutrition, fitness/“wellness”, housing and travel.

The Institute for Urban and Regional Research (ITR)

The main objective of the research programme

The main objective of the research carried out at the ITR will remain more or less unchanged with regard to the areas already focused on in the year 2000. It will continue to lie in the fields of *Comparative European and Latin American urban research*, *Transformation research* and *Empirical social research*, with the main focus on *segregation and migration*. New to the programme is the inclusion of *Alpine research* which arises from the opportunities offered by a new major focal area of research at the Academy and the Ministry of Science. The existing main focal areas will of course not only continue to move forwards over the next five years but will also be treated in greater depth.

- In focusing on *Urban Research* the range of questions on suburbanization in relation to housing and economic functions is to be broadened to become more international. The inclusion of the Institute in the COST C10 project *Outskirts of European Cities* provides a good basis for this. In addition, the work of the projects studying the competitiveness of European conglomerates is to be intensified; the setting up of an European town monitoring scheme is under consideration. Inves-

tigations into the structure and dynamics of the retail trade and service industries appear especially relevant in this context. Although metropolis research has become increasingly international, Vienna will remain an important area of reference and investigation. A broader range of questions are dealt with in this area (culture, post-event utilization of facilities etc., environment, the function of squares).

- In *Transformation research* the perspective is to be broadened from the Eastern and Central European states to include Latin America, initially involving only pure research. This basis will allow comparisons to be made in the medium term, from which support for decision-makers and problem-solving strategies can be developed. In addition, issues surrounding the new information media are studied within the framework of global transformation.
- *Segregation and migration research* pursues four strategies: scientific analysis of social and professional mobility and of the housing and labour markets, together with questions of ethnic segregation and integration, and of xenophobia. Here too, studies are not only conducted in Europe but also in Latin America in order to exploit intercultural experience.
- A new major focal area, *Alpine research*, has emerged from the framework of collaboration on *The International Committee for Alpine Research*. The intention is to create a new international emphasis in order that current investigations, which still focus heavily on Austria, can be compared within the entire Alpine region. The first step planned is an analysis of the changes to the geographical structure of the area and its problems, covering the whole of the Alpine region. The Institute's strategy is based on its interdisciplinary organization, which it hopes will gradually make it the central focal point for coordinating Austria's contributions.

The development of future research

The ITR's policy in recent years to focus on only a few, but very innovative major areas of research is to remain unchanged because it has proved very successful, enabling the ITR to achieve a high status in the scientific community.

As the current major research areas require long-term investigation and remain highly relevant in the medium term, it is anticipated that they will be retained until 2005. The current studies of individual components of projects will, however, be terminated at the end of their designated term. Work on the ITR's previous major research area, investment and real estate, will shortly be concluded with the completion of a study into investment in Vienna.

Research into mathematical theory and model development, which was terminated in 1999, will not

be resumed. Should the project for an *Atlas of the Alps* become a reality, however, traditional cartography, which used to form a major part of the work many years ago, will be revived, although not on the same scale. In the event of this crucial, international project being realized, the Institute's objective is to represent Austria and to conduct the part of the research concerned with the Austrian Alps. However, the production of the atlas is also being contracted out. University institutes and publishers have already offered to collaborate on it.

None of the current research will be terminated prematurely. All the projects are running to schedule and no great difficulties are anticipated. The progress made with findings in the projects points to a successful conclusion with relevant results.

Collaboration and interdisciplinary work

All the subject areas are at the forefront of international research in the geo- and regional sciences, in particular in human geography, and are therefore of equal importance. They will produce new insights, both in terms of content and from a methodological perspective. In addition, ideas will be developed for sustainable urban development planning, for coping with the social and economic problems of transformation and the problems of ethnic cooperation in multicultural societies.

A large number of new scientific discoveries, ideas and synergetic effects can be expected from more extensive participation in existing international and interdisciplinary collaborative networks with

- COST (Coopération européenne dans le domaine de la recherche scientifique et technique),
- GINCO (Grenoble, Innsbruck, Nagano, Chambéry and others),
- The International Committee for Alpine Research,
- EU partnerships

Further collaborative ventures are being actively sought. The lack of a member of staff who is an expert in methodology and is familiar with "geographical information technology" still presents a problem. To attempt to carry out modern geographical research without computerized geographical information is barely conceivable nowadays. Specifically, a new research position which embraces these requirements is absolutely essential for the areas of comparative European urban research and for transnational Alpine research where large quantities of data need to be coordinated, administered, processed and interpreted.

The multidisciplinary composition of the permanent staff at the ITR (geographers, sociologists, political scientists, folklorists, historians) means that research subjects can be treated in a strongly interdisciplinary way. Close integration with neighbouring disciplines has hence been a characteristic of the Institute, both in the past and the present. Existing

cross-disciplinary cooperation with political decision-makers, regional administrative bodies and planning agencies will be consolidated in the future. The networks for both segregation research and for urban research (COST, a virtual reality project, competitiveness) have been staffed from across disciplines. Cooperation is an ITR trademark, and the numerous publications in national and international journals, some of them published jointly with colleagues from abroad, testify to the Institute's active policy on cooperation. The positive experience of a project carried out on the Internet (a virtual reality project) will lead to greater use of new communication technology in future collaborations with colleagues abroad. Partnership subjects are to be found particularly in social science disciplines (sociology, political science, demography). New subjects may be added as a result of the regional science focus on Alpine research (biology, geology).

The ITR strategy for the future is to continue to develop international collaboration networks. New partner institutions have been found in Mexico and Chile, cooperation with Israel (the Ben Gurion University) is being broadened as is the network in the field of Alpine research (universities, CIPRA, the International Committee) and in information technology (UNESCO). Cooperation already underway with scientific partners in the USA (Chicago, Gainesville, San Diego, Baltimore) is to be stepped up and, if possible, is to lead to a research project extending over several years.

Staffing and Infrastructure Requirements

The considerable importance of GIS-assisted research necessitates the creation of a new research position in geographical information technology. It is doubtful whether restructuring existing jobs would be possible for this purpose, as staff are already working to full capacity, and their unique scientific specializations in any case constitute a very important part of the Institute's standing. Care will also have to be taken to ensure that funding is available for free-lance collaborators for the large workloads involved in preparing EU projects (project initiation and planning). The ITR prides itself on its status at the forefront of European research, and the flexibility in staffing on which this depends is hence of great importance.

There is already barely sufficient space in the ITR buildings for the team and project members funded from outside. Makeshift arrangements are the order of the day, such that additional rooms will have to be found in the medium term. On the other hand the infrastructure, especially with regard to computers, is exemplary and only requires to be kept up to date with the latest technology.

The medium-term research programme presents a number of incentives for bodies not traditionally associated with sponsorship. Some component studies are designed as proposals for the EU, other

areas (in particular projects on Vienna and the surrounding region) are of interest to the City of Vienna and the Provincial Government of Lower Austria. In view of the development of more and more aids for decision-makers involved in area planning and utilization, the Institute is considering marketing products for end-users (manuals, guidelines, educational tools etc.). Finally, Cooperation with UNESCO is to be broadened in order to attract further research funding.

The Institute for Technology Impact Assessment (ITA)

The main objective of the research programme

The ITA's major fields of research are to be retained. The focus will continue to be on information and telecommunication technology, medical technology, biotechnology, the environment, and on both general and policy aspects in the field of technology impact assessment (TA); studies which cut across these areas focus on regulation in its widest sense and on the problems which arise at the interface of organization and technology. Within these fields there are however two main emphases: in the field of environment the departure of a prominent member of staff has led to a restructuring of the work on sustainability; in the medium term questions examining preventive environmental protection will be more central to the Institute's research. In the field of telecommunications the emphasis of the ITA's research is gradually shifting to focus on the impact that the digital revolution is having on all areas of life, from the digitization of science through the digitization of state administration, the service industries and medicine, to the implications it has for privacy.

The development of future research

From telecommunications to the digitization of all areas of life

Seen from the perspective of the ITA the telecommunications revolution – from monopoly to regulated competition and from copper wires to fibre-optics and mobile communication – is not over yet, but the course of future developments has already been determined.

- As a result the ITA continues to study key issues such as competition between the network providers or – within the framework of an EU project – the European Union's strengths and weaknesses in the field of the basic technology required for the seamless integration of computer-based equipment, in order for them to act in the future as an almost imperceptible aid for carrying out a multitude of everyday activities.
- Of greater relevance to the ITA now however is the growing number of problems which are arising – independently of the media – with regard

to the implications of the digital revolution for the individual areas where it has been introduced. Four sets of implications will form the core of the ITA's long-term research in the period under review: the implications

- for scientific research,
- for the service industries and government in particular,
- for medicine (within the framework of the field of medical technology),
- for privacy.

Most of these topics have been the subject of Institute research for some time now. Now that the main focal areas have been combined they will be investigated more intensively over the next few years. Accordingly they are presented below in greater detail.

- The ITA's studies into the implications of the digital revolution for scientific research come under the heading *Cyberscience* and are partly carried out using the facilities of the Max Planck Institute for the Study of Societies in Cologne. They are based on the assumption that using networked computers as an investigative instrument not only changes the processes involved in research work (information gathering, communication, composing the text, etc.) but also its content and structure (links, hypertext, direct access to material, etc.) and the whole area of publishing and libraries (Internet, electronic publishing which can be constantly updated). A paper on this topic has already been published, and work is currently in progress on a project for the Fund for the Advancement of Scientific Research. Following on from this, investigations are planned into the scientific purposes of the information and communication technology used, the innovative service industries on which it is based, and the new forms of research activities and organization it creates. A further important question for research is the relationship between communication in scientific research on the one hand and non-technological influences (social, cultural, political, economic factors) and the production of results on the other, as well as the influence both of these factors have on the content of research.
- Digitization and electronic networks present particularly important possibilities for the *service industry sector* and, most especially, for state service industries. The Institute recognized the growing importance of this topic area early on and has been studying the developments known as *e-government* since 1998. Further to a wide-ranging study commissioned by the Federal Chancellery specific topics have been formulated in detail, e.g. one-stop government. Within the next two years a large EU project into innovative service industries will identify and analyze forward-looking models and scenarios of service industry production in EU countries. The full

spectrum embraces service industries, administration, transport, tourism, the environment, health, and services for people with special requirements. The dangers posed to social cohesion which go hand in hand with the digitization of an increasing number of areas of life are studied under the heading of the *digital divide*. Based on an earlier study which assessed the situation in Austria, the analysis of barriers to and use of the new information infrastructures is an on-going activity.

- In the past the ITA has investigated the impact of digitization on *medicine* by, for example, taking the digital hospital or Medcard as case studies. At present, too, interesting projects in this field are under discussion; however, it will be difficult to realize them because of a bottleneck in capacity which is largely due to the amount of work required by the HTA (Health Technology Assessment – see below under: Medical Technology).
- Over the next few years the ITA will be dealing more than ever before with the implications of digitization for *privacy*. As with other areas, the topic is not really new to the Institute: component studies have already been carried out on aspects of the topic in the fields of payment transactions and health care. Work is currently in progress on a preliminary study into encroachments on privacy commissioned by the Federal Labour Chamber. The point of departure for the planned extensive research programme on *Privacy* is the data traces relating to activities in many areas of life which the new electronic media leave behind more or less unsystematically; increasingly, however, data-gathering has become intentional. People are largely unaware of the connection between everyday activities, the use of services, and the data-gathering that goes on in the background. The basic right of privacy is increasingly being called into question by state authorities as well as by commercial suppliers. The planned research initially aims to demonstrate empirically the databases in which an "average Austrian" can end up at various stages of his/her life. The intention is to deduce various scenarios from the empirical analysis which in turn will be used to derive regulatory needs on the one hand, and a choice of actions for individuals and consumers on the other.

The growing significance of HTA in the field of medical technology

In recent years the Institute has become increasingly involved in looking at health technology assessment, the effectiveness of medical intervention and its economic and organizational implications. From both a medical perspective and from the perspective of health policy (the cost explosion) HTA is extremely relevant and is consequently not only the

subject of intensive study abroad, but is already in use there as a regulatory tool. In order to get HTA research off the ground the ITA has over the past few years used its own resources to fund pilot studies. Initially, interest in these studies came largely from abroad but in the meantime they have generated considerable excitement in Austria as well. It is currently still too early to assess how much of the Institute's staff time such projects will take up and the extent to which it would be expedient for additional research positions to be funded from outside. Medium-term planning in this field, in particular with regard to the division of labour in HTA and tele-medicine, will only be possible as the year progresses.

A similar situation applies in the field of *environment*. The project on *Concepts of sustainability* relied heavily on the personal initiative of one particular member of staff who has unfortunately since left the Institute. Staffing and financial considerations suggest that an immediate continuation of the project would not be particularly appropriate. Staff in this field are currently involved in several projects on preventive environmental technologies. A longer-term plan is for research to include the following main focal areas: sustainability and environment policy plans for precaution and prevention, the obstacles to and motors of the development and deployment of preventive and future-oriented environmental and sustainability technologies, and their potential for being accomplished.

Biotechnology, and general as well as technology policy aspects of TA

The field of biotechnology will see the continuation of research which has so far successfully focused on risk concepts, acceptance, and the analysis of debates surrounding technology in society. On the one hand it is concerned with licensing criteria and the regulation of genetically altered organs and products. In particular, an analysis is planned of the preventive principle which, despite being controversial, is becoming increasingly significant as a regulatory tool. Its other concern is to continue comparative studies into the public perception of genetic engineering and into policy in this area in Austria and Europe. Research's role in providing insight here represents a particular challenge.

Over the next few years the shape of the Institute's work will be influenced not least by the EU project on *Life Science in European Society*, which runs over three years under the auspices of the 5th EU Framework Programme. Its objective is to produce a comprehensive picture of the public perception of biotechnology/genetic engineering and of policy in this area in the countries concerned. It also aims to create a basis for making meaningful comparisons. A comparative evaluation of the latest Eurobarometer survey, media coverage and biotechnology policy in Europe, will form the core of a forthcom-

ing book with ITA involvement. Thereafter more fundamental questions will be investigated, such as the relationship between public and published opinion, the conditions for trust in decisions on regulation, the relationship between knowledge and acceptance, the social representation of threatening images of biotechnology and of controversial applications such as stem cell research, genetic analysis and the reasons for the controversy surrounding genetically altered food products. As the debate over genetic engineering is paradigmatic for controversies over risk in modern societies, studies in this field may produce results which apply generally and not just to the case study itself. The history of the debate and the part played in it by democratic politics in particular are to be made the subject of an important book, specifically written to be comprehensible to a wider audience.

As Austria's specialist TA institution the ITA is responsible for general and technological policy aspects of TA as the centre of a network, the TA databases, the TA newsletter, organizing conferences, monitoring new methodology and TA research bodies abroad, in addition to its responsibilities in the field of technology foresight. The Delphi studies are a valuable tool for developing technology policy plans. The Institute assisted both the Federal Ministry of Transport, Infrastructure and Technology and the Ministry of Employment, Trade and Commerce in this with regard to space travel, preliminary research in IT and the e-economy. As well as this the Institute investigates the methodology of participative and parliamentary TA which – unlike in other countries – is currently still not regarded as important in Austria; it is involved, for example, in the EU project on *Participative Methodology for Assessing the Impact of Technology and Technology Policy*, which aims to evaluate the influence of participative TA and its particular influence on policy in Europe.

All these research activities will be continued over the next few years.

Collaboration and interdisciplinary work

Interdisciplinary and cross-discipline collaboration, although not methodologically syncretized, takes place with a large number of foreign TA institutes; on the one hand this takes the form of joint projects and on the other it results from membership of institutional networks. The Institute has had experience of involvement in EU projects for a long time (since 1988), which has created a stable basis for good cooperative relationships with several foreign research institutions. The principal collaborators and commissioning bodies of note within Austria are the Federal Ministries of: Transport, Infrastructure and Technology, Agriculture and Forestry, the Environment and Water, Social Security and the Generations, Employment, Trade and Commerce, the Federal Chancellery, the Federal Labour Chamber and the regional hospital operators.

Staffing and Infrastructure Requirements

Additional staff are particularly required in the field of medical technology and the protection of privacy. These major subject areas were left out of extrapolation tables for various reasons: they are relatively new, specific qualification requirements are difficult to assess because it is not yet clear whether and to what extent outside funding can be obtained for the work, but most importantly, it is in precisely these areas that highly qualified staff are very difficult to recruit given the Academy salary scales. For the present the ITA will make do with service contracts. By the year 2002 at the latest, however, staffing will need to be reviewed.

The Institute for Research into Institutional Change and European Integration (ICE)

The main objective of the research programme

Founded only in 1998, the ICE devotes its research to the phenomenon of the transformation of the concept of the nation state in the face of liberalization, globalization, regional integration, migration, and the federalization of multinational societies. The question of European integration as a process of legislative compression and the quality of this new concept of "nationhood" form the core of the Institute's research interest. Changes to the nation state are driven in no small measure by the emergence of a European information society and a digital economy based on a new communication system which is studied under the heading "mediamatics" (media and telecommunications technology). The two subject complexes overlap in the question of the changing conditions and quality of the public political process and the system of laws resulting from the transnationalization of politics and developments in the media sector. The Institute also analyzes the way in which the definition of democratic communities and their borders are changed by supranational European integration, transnational migrations and national minorities' demands for autonomy.

The question of the conditions and the physical embodiments of institutional change resulting from de-nationalization tendencies is the common denominator of these research topics. The ICE's attempts to answer these questions are fundamentally based on the theories of new institutionalism which are the theories best suited to facilitating the interdisciplinary approach essential to investigations of this subject area. The Institute's research staff come from the disciplines of political science, communication science, and law and economics. What particularly makes the Institute's work of special value for research is its innovative combination of institutional theory, policy research and law while always remaining aware of the history of the processes un-

der investigation. This approach manifests itself in the following projects in particular:

- the implementation of EC law in Austria,
- the debate over a European constitution,
- the transformation of political parties as a result of European integration,
- media and telecommunications technology policy for the digital economy.

The newly introduced focal area under the heading *The borders of political communities* belongs to the field of normative political theory and comparative political science. Over the last 10 years normative theory debates on citizenship, nationalism and cultural difference have increasingly become context- and practice-oriented. Within the framework of the debate the main focal area takes an innovative approach by interpreting these questions as arguments concerning the borders of political communities and it is on this basis that it aims to develop approaches towards democratic solutions.

The development of future research

The main focal areas which have been investigated since the Institute was established in 1998 will remain unchanged. The subject matter will, however, be treated in greater depth and breadth:

- Once the project on *The implementation of EC law in Austria* has completed its investigations in the area of the courts, the results will be subjected to an evaluation which will integrate methods from law and social science. At the same time the emphasis in the area of *Legislature and administration* is on an enlargement of the fields of law. The volume of material produced by the state's administrative and judicial functions is too great to manage within the everyday activities of a university institute, and justifies the creation of a new research position at the Academy specifically for this purpose. The conclusion of the work in the legal field of *Telecommunications* has been followed by studies in the fields of *Environmental law, taking account of the Federal Provinces* (main area of focus: environmental compatibility review), *Taxation law* and *The right of access to the professions*.
- The new focal area of *Ways towards a European constitution* represents a broadening of previous approaches. It starts with a description of the national traditions and debates surrounding constitutions in a selection of EU member states (Austria, Germany, France and the United Kingdom) as seen from the perspectives of political science and law. These are then to be tested for their degree of compatibility or incompatibility with the new debate surrounding a constitution in the European context. The key issue is the problem of representation, for which as yet no complete theory exists at either national or supranational level, an area which hence remains neglected in democratic theory.

- Based on methodological work within the framework of the project on *The transformation of European political parties* the combination of institutional theory, and political party and policy research is exemplified by investigating the specific question of the extent to which national political parties and associations adapt themselves (a) to the European integration process in the areas of Economic and Monetary Union (EMU) and (b) to media policy. The first of these problems is dealt with in an in-depth analysis of the consequences of EMU for national budget and taxation policy, wages and labour market policies. At the point at which the subject complexes of European integration and media development intersect the common ground is investigated by questioning the extent of the conditions for and the quality of the openness of politics in the media. What significance do developments in the media sector have (e.g. the break up of the broadcasting monopoly, the growing importance of the Internet) for the potential for political debate and for the development of democracy in general? How does this affect individuals' and groups' chances of participation? This final question is also to be investigated with regard to aspects of gender.
- The projects whose main research areas come under the heading *The European information society* focus on the way communication systems in society are changing in the direction of media and telecommunications technology, and the way the economy is heading towards a digital economy. It also focuses on changes in politics described as the transformation of state sovereignty in the communications sector. In order to consolidate the findings made thus far in the area of communications systems in society, the impact of the Internet, digital television and mobile communications are now being investigated in greater detail. With regard to the question of the digital economy, analyses are following changes in the market structure resulting from e-commerce and new electronic payment systems, which are being investigated in the tradition of Carl Menger's theory of the origins of money. Once the transformation of state sovereignty in the communications sector has been successfully hypothesized, the intention is to analyze new regulatory approaches such as self-regulation and co-regulation, as well as alternative forms of market power controls.

Collaboration and interdisciplinary work

In planning each of the major research areas and projects careful consideration has been made of current political and economic problems and the research desiderata which accompany them. Alongside empirical investigations, particular attention is paid to the development of theory. The common denominator is the changes to institutions and the

socio-economic, political and legal results of the transformation process.

The project on *The implementation of EC law in Austria* is of great importance for several reasons: it attempts

- firstly, to throw light on the situation in Austria in as comprehensive a manner as possible by including, for the first time, all three functions of the state in its investigations, and
- secondly, to contribute to European implementation research, often going beyond research already conducted in other member states both in terms of quantity and quality.

The reason for this on the one hand is that all three state functions are the subject of investigation and on the other it is because the implementation process is being analyzed using methods from law and social science. Not least among the Institute's aims is the plan to set up a *European law dialogue* to provide Austrian researchers with a forum for discussing their findings, in the tradition of an old project initiated by the Academy's Commission for European, International and Private Law.

The projects on *The transformation of political parties as a result of European integration*, *The borders of political communities* and *A European constitution* are at the cutting edge of research today both academically and in terms of European politics, intended as they are to find answers to the question of European democracy. A whole series of international institutes for research into European issues have set up similar studies and projects in the last few years, such as the investigation of the question of European political parties by the TEPSA (Trans European Policy Studies Association) and the European University Institute in Florence, the University of Sussex's project on *One Europe or several*, within the framework of the ESRC (European Social Research Council), the Mannheim Centre for European Social Research programme on *European Governance* for the German Research Council and the Berlin Institute for European Politics' investigation of the question of a European constitution. Contact between the ICE and these institutions continues to thrive.

The studies which come under *The European information society*, in particular those on convergence in the communications sector, electronic commerce via the Internet, and the transformation of the concept of the nation state in the communications sector, touch on problems which lie at the heart of the European information society and its economic basis. The results of research published thus far have met with high international and national acclaim. They contribute both to the re-orientation of studies within the discipline of communication science and to policy changes in the communication sector. The empirical results of studies of e-commerce in Austria also provide a basis for international comparison. These projects are being

pursued in collaboration with colleagues from Europe, Japan and the USA.

Staffing and Infrastructure Requirements

For the research projects to continue to progress successfully, more staff need to be recruited, while essential room conversions are under way. The continuous up-dating of computer hardware and soft-

ware with the latest technology must be assured independently of the separate issue of the replacement of defective equipment.

The ICE's research projects attract sponsorship from politics (the government and the parties) and industry (especially from companies involved in the digital economy), but also from supranational bodies such as, for example, the European Commission and the European Court of Justice.

