

**53rd General Meeting
of the
Max Planck Society for the Advancement of Science
Halle, Germany**

**Plenary Assembly
June 14, 2002**

Speech by President Peter Gruss

**The Max Planck Society
Scientific Autonomy and Financial Support -
Prerequisites for Creative Research**

Speech

This Presidential Chain of Office is a symbol of the responsibility for the Max Planck Society. I have to admit that up until now I have successfully been able to resist wearing chains, but this one is very special.

In the middle of it in white onyx is a picture of Minerva, the guardian of the sciences and the arts. Beside Minerva are 10 plaques each with the engraved name and term of office of my predecessors. The chain will no doubt get longer with every new president, making the height of future presidents not an unimportant consideration.

My predecessors played an essential role in making the Max Planck Society a reputable institution world wide for cutting-edge basic research. On the occasion of their inauguration, many of my predecessors expressed not only happiness, but also doubts: they were apprehensive because they did not know if they would be able to do justice to the responsibility. They also expressed concern for the Max Planck Society in light of particular circumstances at respective points in time. Some were also leaving their field of research to which they had devoted so much time and energy. In my case, this means leaving the fascinating field of developmental and cell biology for several years, a field which will also form the conceptual basis for therapies to replace tissues and organs. It seems that critical self-reflection is not only permissible, but also appropriate here. It was not easy for me to give up my scientific work in Göttingen, but I did this knowing full well that the research I initiated is in good hands. Over the past years, I have been active in various capacities for the Max Planck Society and other organizations and have realized that I also enjoy working as a *Homo investigans politicus*.

In assuming this position, I am joining the ranks of exceptional personalities. This is a special honor and at the same time an extraordinary commitment. Each of the former presidents built on the work of his predecessor and counted on his advice and support. Yet, at the same time, he had to go his own distinct way. Professor Markl, I would like to extend to you my sincere personal thanks.

During my days as a student at the Technical University in Darmstadt, I got to know you as an exceptional professor and scientist. Many of your works on invertebrates are classics in the field of the physiology of behavior and perception. Even back then as one of the youngest professors you inspired us students with your rhetoric and power of motivation as well as with the manner in which you imparted your research to us. I am happy I had the good fortune to be taught by you.

Thank you for the exemplary manner in which you handed over office. During the past seven months, you included me in important meetings to give me the opportunity to become acquainted with official duties and to participate in those proceedings that extend beyond your term of office. I hope very much that I may also count on your advice in the future. I was very happy to hear about your appointment to Foreign Member of the Royal Society as well as yesterday's appointment to Honorary Member of the Max Planck Society. This is certainly one more reason to hope that you will maintain close contacts with our Society.

We all truly acknowledge your accomplishments for the Max Planck Society.

You assumed a difficult legacy six years ago. The federal consolidation program forced you to make cuts at the beginning of your term of office. You addressed the task and asserted your position. In doing so, you exhibited foresight and strong leadership while making it clear that it was never about a personal confrontation but, rather, the future of the Max Planck Society. Now, an impressive number of new institutes and appointments in the eastern federal states are the outcome of the somewhat painful cut backs in the western federal states. You successfully completed the work of rebuilding the eastern federal states, which your predecessor, Professor Zacher, began. Just this past Tuesday, for example, we celebrated the inauguration of the Max Planck Institute for Ethnological Research in Halle. During the last six years, you thoroughly renewed and rejuvenated the Scientific Members of the Max Planck Society, truly a very impressive accomplishment.

You conceived and established new programs for cooperation with the universities and strengthened the research prospects on a long-term basis, making them visible to the public through Max Planck 2000+. These endeavors have been effective on the political scene and have increased the confidence in the Max Planck Society.

I would particularly like to commend your apology regarding the Max Planck Society's historical responsibility for the blame a number of scientists burdened upon themselves while working at institutes of the Kaiser Wilhelm Society. You correctly stated that no research goal justifies disregarding human dignity and human rights, a point you stressed once again in your impressive speech "Liberty, Responsibility and Human Dignity" on the occasion of the 52nd General Meeting held in Berlin last year. You emphasized that the freedom of research and the responsibility that goes along with it are an integral part of human dignity, a fact which your endeavors to promote research on and with human embryonic stem cells for medical purposes do not contradict.

To summarize, I would like to repeat the words of Chancellor Schröder:
"As President of the Max Planck Society, and I feel not only there, you have brought about great things."

I would also like to express my thanks to your Vice Presidents, Messrs. Frowein, Hahlbrock, Stock, von Kuenheim, and Wegner, who assumed this additional role for the well-being of the Max Planck Society.

At this point, I remember with sincere gratitude the late Mr. Tyll Necker und Mr. Franz Emanuel Weinert. For many years, both were actively involved in different capacities in representing the interests of the Max Planck Society.

Mr. Markl, allow me to address a few words to your wife.

Mrs. Markl, we are also very grateful to you. I am sure you sometimes wished your husband had taken the rectorship offered to him in Constance six years ago and that you had a more regular family life. You found time and energy to support your hus-

band and the Society in addition to your own career. Thank you on behalf of the Max Planck Society for your commitment.

As the new President of the Max Planck Society, I would like to address my thanks to all those who made this possible.

To begin with, I would like to mention the members of the Senate: I am happy about the confidence the members show me. My special thanks goes to the former presidents of the Max Planck Society, Reimar Lüst, Heinz Staab, and Hans Zacher, whose approval and enthusiasm for our research have given me courage and strength. I would like to thank all those who wished me well and are willing to support me - colleagues, employees, supporting members, and friends of the Max Planck Society as well as everyone else who values the development of research in our country. You have all strengthened my confidence in a trusting cooperation. Finally, I would like to thank my family for their understanding, especially my wife Barbara for her willingness to accompany and support me.

Ladies and Gentlemen:

The Max Planck Society is a society for the advancement of science. Why do we need such an organization? Why do we need science?

Today, everyone has high expectations of science. Science should help us to understand the world better and make our environment more livable. Science should protect our health and promote our economic well-being. Given these points, I think it is necessary to take a closer look at the subject of "science"

If we believe Hesiod, Athena, the goddess of wisdom and the Greek counterpart to Minerva, taught Prometheus who then passed on his knowledge to the people he created out of clay and water. Prometheus was punished for this because he violated Zeus' law by introducing fire to mankind. Finally, on Zeus' command, Pandora collected every possible trial and tribulation for humanity in her famous box. She also put something else in the box that has enabled mankind to live on despite all the evil in the world, namely, hope and the ability to survive because of research and inventiveness. Part of being human is the inappetible desire to understand the world in and around us in order to survive. On the tombstone of the mathematician David Hilbert, who died in Göttingen in 1943, there is the quote: "We must know, we will know". This quote illustrates the confidence in science and the urge to perform creative research, an urge that is driven by curiosity. Curiosity and sustainable action are set in the script of *Homo sapiens*, or rather, in our genes.

The intrinsic value of basic research is its unpredictable nature. Important and beneficial discoveries, real breakthroughs, in other words, have repeatedly resulted from scientific curiosity. Alexander Fleming more or less discovered antibiotics by chance long before their application. Konrad Röntgen unexpectedly discovered X-rays, and Nicholas Papanicolaou discovered degenerate tumor cells on a swab and developed the Pap test. Originally, gene technology arose from the curiosity of the researchers and not application-oriented research. Researchers should be able to satisfy their curiosity without having to ask about the immediate use. Max Planck rightly noted that knowledge has to precede application.

The theoretical scientific findings from the last few years show that there are two ways to generate knowledge: it can either be acquired in the classical academic sense alone and independently, or generated for a non-scientific demand. Regardless, knowledge cannot be linearly converted into useful products. Knowledge is a complex interplay involving feedback and mutual dependencies. Basic research creates the prerequisites for applied research not because all findings can be applied, but rather because basic research findings are the foundation upon which we can build applications.

This necessitates a retroactive instead of prospective assessment of the value of basic research, much to the dismay of many politicians who provide us with public funding. However, if findings are suitable for application, mechanisms have to be at hand to exploit the results. In order to do justice to this demand, the Max Planck Society established the corporation Garching Innovation in 1970 to look after the transfer of technology. Garching Innovation provides information on aspects of the transfer of technology, assumes an advisory role in establishing spin-off companies, handling discoveries, and in assisting with licenses. In doing so, Garching Innovation facilitates the transfer of basic research to application in an exemplary manner.

According to Carl Friedrich von Weizsäcker, the sciences have a three-fold benefit: the benefit of acquiring knowledge, the benefit of more options to act, and the benefit of developing a more conscious human personality. These three points are truly an essential basis for the future of our society.

Mr. Markl:

The Max-Planck-Haus you are handing over to me today is indeed in good shape, but even the most well-kept "Haus" requires constant care. In times of limited public funds, the Max Planck Society requires the necessary financial scope to maintain a high level in its current projects, but also to tackle new and innovative projects.

I see this as the central challenge during my term of office. In order to perform basic research, we require reliable conditions, in other words, long-term planning stability. The recommendation from the International Commission on System Evaluation of the DFG and the Max Planck Society comes to mind here: "The commission feels that it is necessary that the Max Planck Society's capacity to act and perform be secured in the future through medium-term financing and a reliable appropriation of funds. Medium-term planning predictability is an absolute must for the Max Planck Society to perform its tasks successfully, to renew itself, and to develop in the directions mentioned in the report."

Leading politicians have emphasized the importance of basic research. Those countries that invest increasingly in education and research reap the economic benefits of the competition among national economies and countries. Chancellor Schröder recently drew attention to this fact on the occasion of the inauguration of the Max Planck Institute for Cell Biology and Genetics in Dresden. Minister Bulmahn impressively underscored the fact that our society thrives on education and research. Minister-President Stoiber stressed that high-level basic research guarantees success and a competitive edge.

The all-encompassing importance basic research has for the economy is quite clear; basic research is the foundation of technology transfer, basic research creates jobs, promotes economic development, and safeguards the future of our country. An adequate framework is necessary to remain competitive. Initially, the federal government and responsible politicians from some federal states signaled support for spending increases. I was very happy to hear this. Minister-President Teufel even openly proposed a national research pact. He called for the federal and state governments to agree to guarantee the DFG and the Max Planck Society an increase rate of 4 percent for the next three to five years to provide a solid planning basis.

In a few days, the Bund-Länder Commission is going to make a decision on the future budget of the Max Planck Society. Although we are aware of the serious situation of public budgets, especially those of the federal states, it is most imperative and indeed in the interest of everyone to set a financial framework that gives the Max Planck Society the necessary budget increases and planning security to fulfill its future tasks successfully and sustainably. The increase rates mentioned in the negotiations are not adequate to finance the justified research requirements. It cannot possibly be the political goal to grant researchers in Germany merely compensation for tariff and inflation rates. This would cause an immediate halt to innovative programs, and, in light of the financial burden of rebuilding the eastern federal states, deep cuts, not only in the development of newly-founded institutes, but also in the budgets of all the other Max Planck Institutes. I would like to call on everyone involved to handle the valuable aspect of supporting research responsibly and to make securing the future of research a top priority so that we remain internationally competitive.

I don't expect unrealistic growth here. In light of the present economic situation, we are not demanding that the budget be doubled in five years, as is the case at the National Institutes of Health in the USA, although this would certainly enable us to initiate new and necessary measures. Similarly, we are not demanding an increase in per capita expenses for research from \$US 580 to almost \$US 900 as is the case in the USA. We are not demanding that the gross domestic product for research and development be immediately increased by 3 percent. We are happy about the explicit approval the federal German government gave in this respect at the EU summit meeting in Lisbon. The federal government's sustainability report states that it plans to reach this level by the year 2010.

We are expressly calling for resolute action as well as definite and courageous steps in budgetary negotiations so that we can become and remain competitive in research on an international level. At the same time, we are also calling for long-term planning stability as recommended in the System Evaluation. Just as during the successful period of rebuilding the eastern federal states planning stability should be laid down for several years and guarantee an appropriate financial basis for the research mission of the Max Planck Society.

Ladies and Gentlemen:

The Max Planck Society has not lost ground, but our international competitors in research in the age of the information society have become quantitatively speaking stronger. The expectations our fellow citizens have on science are, as I have already mentioned, high. Of course, the Max Planck Society wants to do justice to these expectations. How does the Society go about doing this? The Max Planck Society does

not deal with several areas and topics. Instead, it sets specific focuses in cutting-edge research areas. Our scientists research a wide range of fundamental processes such as the origin and development of the universe, the string theory, the attempt to synthesize the theory of relativity with the quantum theory, the formation of the solar system, the natural processes in our environment, the attempts to solve global energy problems, mathematics and computer studies, the development of new materials, research on the smallest parts (nanotechnology), hybrid structures promising innovations in the area of biosensors, biomechanics, and bioelectronics, gene research, and cell biology.

Our scientists try to answer a number of basic questions: How does one go from the simple to the complex? How does our brain work? How do organisms fit into and adjust themselves to natural processes? How do our living conditions influence human behavior and thought? How do humans learn? What can we learn from this process for the organization of our education systems? How is the coexistence between people and state regulated? What is the importance of the state, the legal system, and international norms? What is the function of the state in the future? How does biological nature and the culture of mankind influence human behavior? All of these questions produce answers to central questions surrounding our very being.

The Max Planck Society fulfils its mission by offering exceptional researchers in promising and internationally competitive basic research fields excellent working conditions. In doing so, we are guided by two principles that I would like to emphasize once again, namely, attracting excellence and complementing university research. The main task is to identify first-rate researchers in promising areas and offer them the best working conditions possible at our institutes. This involves assessing the work on a regular basis, continually developing our research profile, and questioning the quality of our research. We want to be the best, not only as far as the quality of our researchers is concerned, but also in the selection of research topics and the strictness of our quality control, namely, the modern version of the Harnack Principle. The principle of complementing ongoing research at universities is also very important. The institutes of the Max Planck Society complement and deepen the research spectrum at universities by cooperating closely with local universities.

The Max Planck Society is very highly regarded both nationally and internationally for its excellent research results. The numerous scientists who achieve these results feel well-looked after at the Society. I became convinced of this fact during my visits to sixty of the eighty institutes. Regardless of the section be it the Humanities Section, the Biology and Medicine Section, or the Chemistry, Physics and Technology Section, I was continually impressed by the enthusiasm the scientists have for their research and their desire to uncover new findings at the cutting edge of science.

The International Commission on System Evaluation confirmed these exceptional achievements: "Two aspects contribute to the exceptional position of the Max Planck Society within the German research systems. The scientific members have achieved internationally esteemed research results and have earned the reputation for the Max Planck Society. They established very successful research facilities for the carefully chosen research areas. The fact that these results have secured the Max Planck Society a permanent standing among leading international research facilities is demonstrated by the widely sought after recognition its scientific members enjoy. These results are

also due to the institutional basic financing of the Max Planck Society, which the federal and state governments equally assume. The Max Planck Society enjoys considerable freedom in employing these funds, which enable the Max Planck Society to independently determine and organize its tasks and develop a close association among institutional tasks, typical institutional forms and the allocation of funds.“

This is, indeed, impressive confirmation of the leading position the Max Planck Society enjoys as a result of its outstanding scientists and a maximum level of autonomy.

Finally, the Max Planck Society contributes to the fundamental and essential task of supporting junior scientists. The Max Planck Society can only provide intensive support through close cooperation with other scientific institutions.

The central importance of the universities in this respect is indisputable because they are the basis and junction of the research system. They assume a key role in educating scientists for the next generation. The welfare of efficient universities is therefore a vital interest for the Max Planck Society.

What can we do here given the fact that the annual budget of the entire Max Planck Society equates to roughly that of two large universities?

To begin with there are some well-established measures such as

- appointing scientists to director positions within the Max Planck Society and to a chair at a university;
- DFG-sponsored cooperative efforts in special research areas, focus programs, and graduate colleges;
- opportunities for scientists to work on post doctorate qualifications (*Habilitation*) or similar qualifications;
- newly-established tandem projects combining cutting-edge basic research at Max Planck Institutes with clinical research at universities and;
- cooperative efforts bringing together scientists from Max Planck Institutes and universities.

Finally, I would like to mention the International Max Planck Research Schools.

My goal here is to increase the support for the research schools. Ideally, as many institutes as possible should join up with partner universities within the scope of graduate education.

In my opinion, the benefits for the International Max Planck Research Schools are at least four-fold:

- Firstly, we have managed to attract promising junior scientists; more than half come from other European and non-European countries.
- Secondly, the rather traditional and standard disciplines are complemented in an appropriate manner.
- Thirdly, the program strengthens the profile of an entire research region.
- Fourthly, it allows scientists from the Max Planck Society to assume teaching duties.

These are four good reasons for strengthening and even expanding the program. Naturally, the universities alone are responsible, as before, for conferring Ph.D. degrees.

In addition, the Max Planck Society is establishing research groups at universities as part of a pilot project. The goal is to organize temporary junior research groups or research departments at universities to give new structural impulses. The results of the project remain to be seen. Maybe the groups can be continued for a particular time period, perhaps the group will develop into an institute, although this is not the initial intention. The research groups offer a maximum degree of flexibility as far as topics and organization are concerned. Max Planck Institutes sponsoring these can ensure adequate integration. All of these measures should strengthen the interaction with the universities so that both sides benefit.

However, as important as all of these efforts are, they are all subject to financing. I am confident that these convincing programs will receive the necessary increase in financing. Money is not everything but in this case it can buy us the ability to compete internationally.

The best people in any field are always rare. Whoever strives to attract or keep the best scientists requires both internationally competitive education systems and career prospects. What has to be done here?

It is extremely important that scientists have the opportunity to perform independent research after their postdoctoral studies. The junior research groups in the Max Planck Society, established in 1969, are not only important for Germany, but in the future they will assume an increasingly important role in Europe. The research groups offer young scientists complete independence at an early stage and provide them with adequate research infrastructures and funds. Thus, junior scientists have access to optimal conditions in their very critical qualifying phase. It goes without saying that continuing these activities has high priority.

To a certain extent, the laws governing part-time and temporary employment are inadequate. The amended university framework law (*Hochschulrahmengesetz*) gives the Max Planck Society more leeway. Two points are decisive. Firstly, the amendment only includes limits according to the university framework law. In the future, limited employment contracts for specific projects and those funded by third-parties have to be possible after the qualification phase. Secondly, the university framework law enables our junior scientists to pursue a career at the university.

Junior professorships must not be the only prerequisite leading to university appointments. The law allows the states to appoint junior professorships to W2/W3 professorships without publicizing the vacancy. Young scientists at non-university institutes are understandably quite apprehensive about this.

If universities proceed in appointing from their own ranks, they are jeopardizing

- the future of the universities,
- opportunities for scientific employees at non-university institutions, and
- their own efforts to attract German scientists back to Germany.

Competition remains the rule of thumb meaning that the top people in every field have the best chances to assume leading positions. Performing scientific activities at the Max Planck Society is just as valuable as having a junior professorship: these two qualification routes have to be continually regarded equally. This necessitates organizing teaching possibilities through cooperation agreements with universities.

It goes without saying that many of the best are women, which is why I intend to increase the number of female scientists. This involves evaluating current programs to acquire more female scientific staff members and department heads.

When we speak about equal opportunities for women we also mean support for families. In order to combine scientific work and family life, the framework has to be changed accordingly and existing child-care facilities at individual institutes have to be expanded. The Max Planck Society has to become a modern and family-friendly employer so that scientists, both male and female, can adequately pursue their research activities during their child-rearing years.

Education for graduate students is only successful if there are enough students even in the less popular subjects such as chemistry and physics. It is absolutely imperative to spark pupils' interest in the natural sciences early on. The results of the Third International Mathematics and Science Study (TIMSS) as well as the PISA Study, which my colleague Mr. Baumert at the MPI for Human Development directed, were shocking. There is a dire need to improve the quality of education, especially in the natural sciences. The universities and research institutes are also called to task here. Offering teachers further training and selective project sessions gives them the possibility to introduce new findings and the potentials of modern research to their pupils, thereby capturing their interest for the sciences. As an organization for the advancement of science, we are also obliged to concentrate on this aspect of our mission.

The spectrum of research institutes in Germany is broad. In the last few years, the research scene has changed. The universities remain at the top of the list. However, the "Blue List" (Blaue Liste) of institutes now includes the Wissenschaftsgemeinschaft Gottfried Wilhelm Leibniz (WGL). The Hermann von Helmholtz Gemeinschaft Deutscher Researchszentren is made up of large - scale research institutes. The Fraunhofer Gesellschaft and its institutes are applied research institutions, as in the past. The goals and missions are different, but they complement each other. Improving cooperation among organizations is an obvious necessity. Our joint goal is to strengthen research to hold our ground in the wake of growing international competition. This does not mean that all research organizations have to be treated the same, but, rather with respect to the respective tasks assigned to them.

That which applies among organizations also applies within each one. The interdisciplinary and transdisciplinary work at the institutes has to be strengthened. The institutes also have to work increasingly inter-institutionally because more than ever the challenges of the twenty-first century demand intensive communication and interaction among scientist, especially at the cutting edge of disciplines and their institutional character. I regard this to be one of my main tasks at the Max Planck Society.

Part of this entails cooperating with business enterprises. There is a possibility of establishing centers or clusters in related research facilities once a critical size has been

reached. Clusters are an essential factor for the economic development of regions. Not too long ago, Boston Consulting analyzed cluster formations in the biomedical area. The comparison shows that cluster formation in Germany needs to be supported and improved. Science plays an important role here because it continually provides the basis for new processes and application possibilities. The institutes of the Max Planck Society make essential contributions in every region. In order to improve efforts to integrate all of the science organizations efficiently, a concerted action on the part of research institutions including the universities, the Fraunhofer Institutes, the Helmholtz Institute, and the Leibniz Institute would be in order.

I feel that science and research organizations will definitely have to develop adequate scientific coordination and integration processes for specified areas so that together the pooled strengths of individual organizations create the largest possible concentration of excellence possible. I am looking forward to contributing to this essential task.

I have already gone into the necessary financial scope, but it is also necessary to rethink legal and societal viewpoints. Roman Herzog captured this idea in the speech he gave in Berlin with the phrase: "*Durch Deutschland muss ein Ruck gehen*" (Germany has to adapt to the changing times). Basically he said that innovation begins in the head, meaning our attitude toward new technologies, work, and educational forms, indeed, our overall attitude toward change in general.

It is no secret that we Germans are very apprehensive when it comes to innovation. There is nothing wrong with thoughtful deliberations and critical assessments of new developments. However, these debates should not get in the way of creativity and innovation. The notion of responsibility, which every scientist sensitized to moral questions embraces, obliges us to argue symmetrically, that is, according to the best of one's knowledge and belief. Responsibility also obliges us to weigh the advantages and the risks of plans and to act accordingly. Hans Jonas rightly stated that in today's world we have to refrain from acting if there are valid doubts. Nevertheless, refraining from acting can also have consequences because this is a form of passive action. Often this point is not considered in discussions.

Developments in the biotechnology branch are a good example of this. More than ten years ago, the first gene technology law forced German research to go abroad because the law was very restrictive. However, this law did not halt gene technology research and its application because research, as I mentioned before, is international and its foundations lie in the open and pluralistic world order and world economy.

In reaction to the negative consequences in science and economics, the gene technology law was finally amended in 1993. The framework was changed to the benefit of research and the psychological tone in general. Today, Germany leads Europe in establishing biotech companies.

However, we cannot allow ourselves to sit back and relax. Laws have to progress with the times. It is important for Germany to realize that the resulting risks and opportunities in connection with these laws are growing, a decisive fact for continuing to plan scientific and economic developments in this area.

The protection of animals has been incorporated in the basic constitutional law, a fact that can lead to further restrictions for research. State goals are intended for the lawmakers who then have to make sure that there is a good balance between the freedom to perform research and sufficient animal protection. Essential and compulsory animal experiments for medical progress or basic research must not be hindered or made more difficult by bureaucratic measures. This could lead to irreparable damage for the developing biotech industry and naturally for biomedical basic research. Ultimately, it might then only be possible to develop new medications and strategies abroad. If German scientists find themselves involved in legal conflicts, the Max Planck Society together with the DFG and, I am sure, other science organizations will stand up for them and offer them support.

Recently, the law on the import of human embryonic stem cells was passed thereby adding to the Embryonic Protection Law. In a responsible and reasonable fair debate, the members of the Bundestag agreed to allow the import of human embryonic stem cells under special conditions. I welcome this development very much. Because only those stem cells lines existing prior to January 1, 2002 may be used for research, we will not be in a position to develop therapeutic applications from human embryonic stem cells. Nevertheless, a base has now been established so that research into the advantages and disadvantages of embryonic and somatic stem cell systems can take place. We will be able to make essential contributions in basic research in this area.

One cannot repeat the moral obligation of scientists often enough. The primary responsibility they have is to produce reliable information. Scientists have the duty to make sure that those using the findings can rely on the information to solve problems. This applies even when the findings, as in the case of human embryonic stem cells, require a weighty moral decision. Democratic decisions made by free individuals will always be a compromise and will never satisfy everyone. During the debate on stem cell research, there were loud calls to restrict research to somatic stem cells. As scientists and *Homines politici*, we cannot accept this restriction on research subjects because this contradicts the freedom constitutional law guarantees researchers. Our task as researchers is to determine the best possible approach to a problem within the law that is so tightly knit in international comparison that we often have no room to breathe. President Rau elegantly posed the following question:

“If we set high ethical research standards in our country, might we not have to reckon with the fact that we may soon just have standards and no internationally competitive research?”

Ladies and Gentlemen:

Today, half of the citations come from only ten percent of the publications. Only a few bright individuals are responsible for a very large portion of scientific progress. Clearly we have to make a very special effort to win and keep these valuable and gifted scientists in Germany. We require an immigration policy and flexibility.

Scientists who head a significant department at a university in the USA, forfeit an average of 30 to 50 percent of their net income if they become a member of the Max Planck Society. It is hard to make convincing arguments for them to move Germany. Moreover, current immigration laws together with numerous hurdles make it difficult

for highly qualified scientists and their families to come to Germany. It would be great if the new law did away with these hurdles.

Flexibility not only for top researchers, but also for our scientific employees and technicians is definitely a prerequisite. Current laws governing part-time and temporary employment and the numerous regulations in the public service are, in many cases, not in the interest of employees and lead to lay-offs after five years. This personal aspect and the resulting lack of efficiency for science should be avoided. The DFG shares our opinion here and in other areas of research policy.

Ladies and Gentlemen:

Allow me to come back to the mission of the Max Planck Society.

Even though our primary goal is to perform cutting-edge research, we are, nevertheless, obliged to inform our funding providers, in other words, the people of Germany, in a comprehensible way of our efforts, work, success, and our fascination with science. We also have to inform the public in a timely manner about possible implications of new findings.

It is also our task to reduce the increasing gap between those few people with special knowledge and a large number of people who feel overwhelmed by and dependent on new findings and developments. This is imperative. In a survey conducted by Emnid, 44 percent of those questioned believe that tomatoes that have not been genetically manipulated have no genes at all. When scientists asked legal experts in Pennsylvania preparing a draft where the human genome is located, one-third of them responded "in the brain". Only 1.5 percent of Germans feel they are well-informed on gene technology. Obviously, quite a lot of work needs to be done here. By informing the public, we secure the future of basic research.

We have to convince people that it is an absolute must to invest in science, particularly when it comes to securing our future and moving ahead. We have to make it clear that new findings stemming from basic research are the basis of our civilization because we can rely on this knowledge in theoretical arguments and can act on it. This is the only way for us to answer the recurring question of our right to existence and ensure the necessary investment in science. I am confident that we can achieve this and thereby guarantee permanent acceptance in the eyes of the public.

The money tax payers provide us is a sign of their confidence. We owe it to them to document the efficient use of the funds. The quality management the tax-payers rightly demand is embodied in the methods and mechanisms of the well-regarded peer review system.

The Max Planck Society has used this system right from the start: Mr. Zacher and Mr. Markl have systematically developed it further. We engage highly regarded international scientists for the evaluation process. More than two-thirds of the experts come from abroad, the majority from the USA. In general, the system applies the ex ante and the ex post evaluations and embellishes them if necessary.

Yet, the evaluation procedure should not hinder creative work, otherwise there will be nothing to evaluate. I am in favor of critical evaluations and reports but within reasonable limits.

The introduction of flexible budget management enables us to allocate tax-payers' money more effectively. Here I'd like to mention a few key elements such as the flexible allotment of individual budget posts as required, carrying over funds to the next budgetary year and the elimination of the plan stipulating the number of employees in salary groups. This increased flexibility requires our funding providers to set new stipulations for adequate research support. We are in the process of discussing this with them and have already developed a number of planning and control measures.

Like any recipient of public funds, the Max Planck Society is obliged to render account. We have been doing so long before political policy required us to evaluate our scientists. We have used our experience with longstanding evaluation procedures to continually develop them. The most recent development was the introduction of the extended evaluation every six years within the scope of the assessment of an entire research field. This is in addition to the evaluation performed by the scientific advisory board of each institute every two years. The resulting reports from the research field commissions are passed on to federal and state governments as well as to other private funding organizations. These reports document the appropriate allocation of funds and show that the autonomous supervision processes we have developed are an exceptional basis for creative and innovative research.

Research is necessary and helps ensure the well-being of individuals and society. This fact will and indeed has to help us in acquiring private funds. On the occasion of its fiftieth anniversary, the Max Planck Society together with the Donors' Association for the Promotion of the Sciences and the Humanities set up the Funds for Excellence and collected donations. Indeed, many members of the Society have made donations to support research activities. I would like to convey my sincere thanks to all of them.

We would like to continue building on this private commitment in the future. Being more active in organizing fund raising activities and collecting donations should enable the Max Planck Society to perform more flexible research and meet its societal tasks such as communicating knowledge.

Finally, I am very interested in the Society becoming more international. The cooperation with the European Commission in particular will become increasingly important. The Max Planck Society has already made a contribution in formulating and structuring the 6th EU Framework Program. In the future, more recognition has to be given to basic research.

Part of the activities involves making the application procedures less bureaucratic. Establishing an office of the Max Planck Society in Brussels has contributed to improving communication and mutual understanding. Similarly, our representative in Berlin should convey our interests to the federal government and sensitize the politicians to our needs. We hope to assume a more effective research policy role thereby improving the interactions between science and politics in our country.

We will expand the good contacts to research organizations in Poland, the Czech Republic, other states in Central and Eastern Europe, Russia, and China, but also to our partners in the EU, such as France and England, and naturally to the USA and Japan. I also intend to spend time broadening the traditional cooperation we have with Israel, particularly with our partners at the Weizmann Institute. In difficult political times it is most important to keep up the contacts between the scientists.

To conclude, I would like to summarize the goals I have set for my term of office.

The goals that extend beyond the Max Planck Society include

- establishing financial leeway for basic research that is knowledge-driven and open to application;
- working towards internationally competitive laws and general conditions in gene technology, animal protection, and embryo protection;
- introducing a research tariff law which provides for performance-related and internationally competitive remuneration - when it comes to attracting the best, the MPS has to be in a position to make competitive offers; and
- contributing to establishing an internationally competitive school and university education.

I have set the following goals for the Max Planck Society:

- recruiting top scientists both male and female from all career stages
- tightening appointment process
- increasing flexible support mechanisms
- establishing interdisciplinary and trans-disciplinary interactions within and outside of the Max Planck Society.
- close cooperation with universities and German science organizations.
- increased international interaction, particularly with the USA and Japan.
- intensive dialogue with the public
- taking advantage of the willingness private individuals have for making donations to science and developing fund raising activities

This is indeed a long list, and it certainly contains a number of goals that can only be reached indirectly or over a long period of time. During my term, I am sure there will also be more tasks to add. I am happy that an exceptional team is available to support me.

I am looking forward to working with the Secretary General, Dr. Bludau, and the committed employees at the Administrative Headquarters. I am equally looking forward to working with the members of the Scientific Council and the Sections, as well as with the respective commissions. The people holding these positions in the Max Planck Society devote time above and beyond their own research interests to contribute to the further development of the Max Planck Society. I truly value their exemplary commitment. Let this be a sign to many other colleagues to devote time for the benefit of our organization.

Last but not least, I am looking forward to working along side the current and future Vice President, Mr. Stock, from the board of directors of Schering AG; Mr. Wolfrum,

Vice President for the Humanities Section; Mr. Mehlhorn, Vice President for the Chemistry, Physics and Technology Section; and, finally, Mr. Jäckle, my long-time friend, who is assuming this role for the Biology and Medicine Section. I have the utmost confidence in this great team and I hope they have yours as well.

Ladies and Gentlemen:

We have to live with the legacy of Zeus and Pandora. Through Pandora, Zeus forced and at the same time enabled humanity to assume responsibility for the future. He forced humans to be creative and imaginative to protect themselves from dangers and to meet new challenges. Thus, perpetual research is the fate of humanity. Both the Max Planck Society for the Advancement of Science and I will, indeed, do our very best to make lasting contributions.