1. Introduction

Information technology constitutes an effective tool in the execution of legitimate and necessary government power. Large computer systems are, for example, employed to carry out various schemes and arrangements which constitute the very construction of our welfare society. In many respects it would seem unlikely that we could have kept up with all the tasks of the welfare state without effective computer systems. It is, for example, rather unthinkable that thousands of minor clerks should calculate taxes and benefits manually. Computer technology also constitutes an increasingly important means of control by government authorities. Computer systems are, for example, employed to protect against tax evasion and fraud against the social insurance system.

The questions I will address today concern the extent of transparency of this machinery of government. I will not occupy myself with the current situation, but rather present some legal-political perspectives and views on the subject. By definition, a system is «transparent» if it is easy for citizens to access and understand. Special emphasis will be put on computer systems in public administration, but related aspects of the bureaucratic organization will be addressed also.

Transparency is, to a large extent, a condition for effective control. In the relationship between government and citizens, computer technology is employed to make the situation of individuals transparent and, thus, subject to control by authorities. In this connection, transparency is created through

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* The article is based on a lecture held at the 25 years Anniversary Conference, Norwegian Research Centre for Computers and Law, Oslo, 17 March 1995.

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collection and storage of personal information. In today's society, individual situations are becoming increasingly transparent. Personal information processed by inter-connected computer systems not only draws the contour of a person, but also pictures the images of thoughts and characteristics.

My concern in this lecture is not these questions of privacy, nor the possibilities of moving into an unpleasant "control society". Here, I will address the "opposite" transparency problem, i.e. the question of facilitating control of those government institutions executing public powers. Notwithstanding this, there are strong connections between the two transparency questions. To the extent that we accept that computers are used by government authorities to control citizens (and I think we should accept this), the question which should be posed, is to what extent computer technology should be employed to facilitate citizens' control of government authorities. Computers should, in my view, ensure a two-way visibility which would, if realized, dramatically change the context of the current top-down control.

The basis for my discussion is the ideals of "procedural democracy" and "rule of law", which I to some extent see as two sides of the same coin. By "rule of law" I refer, first and foremost, to the fact that the powers of government authorities are bounded by legislation, implying that decisions in single cases are predictable and made in accordance with the law. When I talk about "procedural democracy" (or only "democracy"), I refer to a free society characterized by the criteria of 1) political equality, 2) effective public participation, and 3) informed understanding as the basis for public preferences.

Here, my concern is to fly the banners of those fundamental public rights which are emerging from the two ideals mentioned. In my view, such fundamental rights state the reason for a certain degree of openness and comprehensibility of the technical, organizational and decision-making systems of public administration. The ideals of democracy require an understandable and open public sector in order to have well informed and actively participating citizens. Furthermore, ideals of democracy require transparency so that citizens may execute control and co-participation in relation to democratic institutions. Transparency is also required in order to control the lawfulness of decisions in single cases, inter alia, providing equal treatment and preventing misuse of powers. I argue that such a "control by the many of the few", necessitates a generally more open and understandable government administration. In particular, it requires transparent computer systems.
2. AN IMBALANCE IN THE ABILITY TO CONTROL

This lecture is based on the contention that there is a growing imbalance between, on the one hand, transparency and control of citizens as subjects and, on the other hand, the transparency and control of the execution of governmental powers. The governments' capability of controlling its' citizens increases, while it is becoming increasingly difficult for the general public to survey and understand the machinery of government.

In times where emphasis is put on the quality of public services, and with governments pointing to the importance of co-participation of users of government offices, it may seem preposterous to claim that government administration is less penetrable and transparent than before. My view is that the service-orientation of the 1980's and 1990's was, to a large extent, a phenomenon affecting, first and foremost, the surface of public administration. Nevertheless, it must be admitted that some of the service measures have been instrumental in bringing about valuable information to citizens. However, service measures as we know them from the management style of running government, will often lead to strongly simplified explanations of legislation, administrative procedures etc. Here, when I talk about transparency, I am not primarily thinking of the insight represented by thin layers of pleasant simplifications, in the shape of glossy brochures. Instead, I wish to give attention to the problem of communicating knowledge concerning the very bedrock of legal and administrative complexity. Moreover, as will be exemplified, service measures may in fact counteract the objective of systems transparency.

3. THE PRIVILEGED ROLE AS SUBJECT OF CONTROL

My (somewhat surprising) starting point for this discussion of systems transparency, is that being subject to control by government administration should be seen as a privileged position, because the more a person is actively and significantly participating in important decision-making processes, the more attractive he or she will be for governmental control. If we dislike the role of being active participating actors, subject to control, we may escape, of course, by retreating from decision-making situations. By reducing personal participation in the decision-making process to a minimum, a strongly reduced number of possible offending control measures could be achieved.

In the Norwegian government administration, trends concerning public
participation, are to some extent ambiguous. In several fields, there has been a shift towards a kind of «self-service administration», where people themselves are expected to undertake the task of filling out complex forms involving many difficult legal questions. In other fields, the contributions of citizens are reduced to a minimum. Within these branches of government administration, computer systems allow the majority of citizens to relax and forget about the contents of various legislation affecting them.

Just two months ago the Norwegian Directorate of Taxes campaigned to make most of us skip the traditional tax form, and let the computers of the Inland Revenue Service take over assessments based on information electronically collected from banks, insurance companies, employers etc. The objective of the Directorate is to have up to 70% of Norwegian taxpayers choose the simplified tax form, leaving it all up to the computer systems of the Inland Revenue Service in collaboration with private companies and other organizations which have a legal obligation to forward personal information to tax authorities.

I will repeat that, according to ideals of democracy and rule of law, people should be well-informed and active participants in political and judicial life. It is easy to admit that, even in this respect, in Norway and in many other countries, we are far from such an ideal situation. It is furthermore clear, that many obstacles exist which make it unlikely that we will ever fully reach this ideal situation. However, these, like many other ideals, indicate, first and foremost, a direction for our strivings. Thus, no matter how unrealistic the objectives may be, it is important to hold on to ideals in order to defend, as a minimum, current achievements.

4. FUNDAMENTAL RIGHTS OF CITIZENS IMPLIES PARTICIPATION

If the plans of the Directorate of Taxes are realized, a considerable fraction of the tax-payers will exit, to a large extent, from the areas subjected to control by tax authorities. When we are tempted to save tedious work with, for example, the tax form, it seems to be based on the presupposition that the general public does not wish to penetrate the legislation which affects their tax assessment and economy. When citizens are invited, in this way, to become spectators instead of participants, the metaphor of the computer as a «black box», may be comprehended as a symbol of excellent service by public authorities.

If we let the computer do the job and stop worrying about the operations executed inside the black box, this may imply an ever-greater decrease in
our knowledge and insight on how the public sector in society works with regard, for example, to distribution and re-distribution of money between the different layers in the community. Moreover, we will be more and more helpless if we try to examine the correctness of government decisions concerning our lives and welfare. Such a situation would affect the very relationship between government and its' citizens in a democratic society under the rule of law, namely, the capability of citizens to participate in the decision-making and control of dispositions by government authorities. The many at the bottom may have greater problems than before in controlling the few at the top.

If we are to retain, as an objective, the ideal relationship between, on the one hand, government authorities and public administration and, on the other hand, citizens, I believe it is necessary to reject service measures which may place people outside the decision-making processes. The role of a citizen in a democratic and just society does not contain any promise of a pleasant and relaxed situation. On the contrary, being an actor in a complex and democratic welfare society calls for involvement and willingness to contribute. Moreover, the rule of law principle rests, to a large extent, on the condition that the affected parties take action to control and, if necessary, appeal against decisions which are regarded unlawful.

I want to stress here that, regardless of what may be regarded as a true service-orientation, we should avoid employing computerized systems in a way that reduces the number of citizens who are actively participating in legal decision-making processes, concerning him or herself, and in democratic debates. Although it may reduce the number of troublesome citizens visiting the local offices, and although it may be regarded a comfort for many people to have certain duties as a citizen reduced, computers should not support such a development.

The nature of democratic participation does not, of course, imply that citizens' contributions in the decision-making process remain unchanged. On the contrary, computers could relieve, for example, the tasks of filling in forms. If computer-based measures lead to public passivity, appropriate countermeasures should be employed. Agitating in favour of simplified tax forms could, thus, be an acceptable line of action, provided that citizens are allowed and invited, for example, to access amended tax information services. Lessening the difficulties of understanding tax assessments, leading to a higher degree of readiness to lodge complaints may balance, in other words, the negative effects of simplified tax forms.

This last explanation leads me to my main point: computer technology in public administration should be actively employed to lay the ground
work for public participation, both with respect to the handling of single cases and in relation to democratic debates.

6. COMPUTER SYSTEMS DIRECTED TOWARDS THE NEEDS OF CITIZENS

The complexity and impenetrability of the machinery of government should be regarded, to a large extent, a necessary result of the political tug of war on which many of our welfare arrangements rest. In my view, complex rule systems are, to a large extent, required in order to create social just arrangements.

When complex and comprehensive legislation is fed into computer systems, it is then made feasible for public administration to handle this legislation. However, the current computer systems in public administration are designed, only to a very modest degree, to help citizens handle the same legislation. The great majority of current systems do not make it easier for people to gain knowledge about legislation and how government powers are executed.

At least two fines of action could be chosen in order to let computer systems assist citizens, providing better understanding of legislation which affects them as legal persons subjected to decisions in single cases, or as actors in a democratic debate: first, provided that general accessible documentation is worked out, the knowledge concerning legislation, gained through design of computer systems containing legal rules, could readily be shared and made generally accessible. Secondly, computer systems applied in public administration could be designed and/or modified in order to be used directly by citizens or their representatives. I will explain these two alternatives in more detail.

7. DOCUMENTED COMPUTER SYSTEMS

As mentioned, the intransparency of computer systems is often imaged as «a black box». Since the start of the NRCCL, 25 years ago, one of the tasks of the centre has been to open up this box by describing and discussing governmental computer systems. Such works have often constituted the basis for legal control of computerized operations. Describing and commu-

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1 Section 7 and 8 are to a large extent based on D.W. Schartum, Rettsikkerhet og systemutvikling i offentlig forvaltning, p. 248-259, Oslo 1993.
Communicating the systems solutions has probably been the hardest part of this undertaking. These difficulties are due, first and foremost, to an unacceptable lack of systems documentation concerning the legal contents. In several incidents, the programme code has been without commentaries. Codes consisting of a mixture of programming statements and mysterious abbreviations of Norwegian terms extracted from legislation, has, thus, been the only source from which people could learn about the actual practice of a specific government body. For people with a fancy for legal control and living language, this has indeed been a source of frustration.

My point is, that all the details of how the powers of public authorities are carried out, are embodied in the computer systems. However, the knowledge implanted in these systems is not revealed and made public. A powerful potential for carrying out legal control of government bodies is, thus, not exploited.

The collection of legal decisions which are embodied in a computer system could easily be published on paper. For example, if, in the course of systems development, it is decided that the income figure constituting the basis for calculations, should be assessed on the basis of two thirds of last years’ tax assessment of income, instead of the real income of the actual year, this choice should be made public. Such a publication would allow affected citizens and control authorities to discuss the lawfulness of such «springy» interpretations. According to my investigations, it should be expected that the computer systems in public administration contain a series of legal choices. Hiding them in the black box is, in my view, not in accordance with the principle of rule of law. It also creates tension in relation to ideals of democracy.

One thing is more or less controversial interpretations in computer programmes, another thing is the complete series of procedural operations carried out by computer systems. In Norwegian legislation, there is little emphasis on making the procedures clear, by, for example, demonstrating which procedures to follow in order 1) to decide if a person is eligible to receive a social insurance benefit or not, and 2) in order to calculate the benefit this person will receive. Because legislation is often of a fragmentary character, it takes juridical knowledge to establish the correct «paths» through the relevant legal texts. In the computer programmes of the public organ being responsible for that area of law, almost all such procedural questions are decided upon. However, this knowledge does not accrue to the citizens, but is stored in computers. In my view, it is desirable that the legally significant procedures of computer systems be made public.

A minimum requirement should be that street level officers may access
the described information. Today, these officers, and even officers in central administration, do not have direct access to documents describing the detailed procedures followed by computer systems. Thus, computers not only hide the juridical contents for citizens, but the secrets of the «black box» are not even revealed to the officers in charge. The key is often held in the systems department, and detailed explanations of the legal contents of the automatic operations, can only be obtained there. Against such a background, it is a legitimate question to ask how street level officers could possibly live up to the general statutory duty to give legal guidance to citizens.

8. Public Computer Systems

In 1972, Alan F. Westin, the founder of the modern privacy debate, pointed to the fact that computers were not found on street corners and in free nature, but in large and powerful organizations. 23 years later we observe that computers are the property of a great and growing part of the population. Text processing systems, accounting systems and other systems often being software applications used by individuals, constitute, beyond doubt, useful aids in every day life. However, my contention is that a computer in almost every home has not supplied the general public with more power in relation to government authorities. This assumption does not imply that I reject possible positive effects originating from Internet, for example. However, electronic highways inter-connecting government authorities within and between nations, will probably have much greater significance for their powers, compared to the increased influence for citizens, of example, the capability of collecting documents from the World Wide Web or leaving a message to president Clinton on Internet. The potentials of communication technologies, in particular, and of information technology in general, are on the other hand, considerable, as a tool to strengthen the power of citizens in relation to government authorities.

In other words, at the same time as government authorities are employing computer technology to have better control of citizens, computers are only to a very limited extent utilized to support public insight and control of government authorities. Thus, as previously stated, I assume computer technology may yield a growing imbalance between the government’s capability to control citizens and the citizens’ capability of controlling government.

There are trends which indicate that the future task of surveying the computer systems of public administration will be even more challenging. First of all, computer systems are becoming more and more comprehensive and complex while, at the same time, being subject to more rapid change. Moreover, the inter-connection of systems create patterns which make it necessary to observe a web of software applications rather than stand-alone systems. The picture I draw is, in other words, a situation were public administration and, thus, Government, will have their hands on still more powerful, complex and impregnable computer based tools servicing the execution of government powers.

In a situation where inter-connected computer systems which, due to improved methodologies and tools, allow rapid and extensive changes, it would, in my view, represent a scorn against citizens to put them off with paper material, while at the same time powerful computer systems are under the control of government administration. In my view, public authorities and citizens should have access to synonymous computer systems. Computer systems in public administration, containing legal rules, should not, in other words, primarily be seen as the exclusive tool of the administration, but instead be regarded as a common vehicle for various actors of society. Citizens, the decision-making authority, special control authorities, members of Parliament, business and trade unions are among the actors that should gain by such access. Furthermore, these systems should be adjusted and supplemented in order to facilitate the special needs of the different groups of users. What I picture is, in other words, publicly accessible computer systems with many faces, but with a common core of legal norms represented in the computer programmes.

General access to computer systems of public administration should be based on the same pricing principles as for public access to paper documents. This may imply that the bottom will fall out of a promising market for computer systems based on the intransparency and impenetrability of public regulations. However, in my view, such a market would be an example of a totally unacceptable synergy between the public and private sectors.

A wide and comprehensive access to computer systems should not lead to a lower priority of traditional rules, but rather constitute a supplement. In the «Rechtstaat», citizens should control Parliament and Government by means of legal rules constituting the framework for the execution of public powers.

Why not pass Acts of Parliament as programme code? The logic behind this suggestion, obviously, could be that since computer programmes, in fact, represent the applied legal contents of legislation, these programmes
should also be legislation. In my view, it is extremely important that we retain legislation in natural language. The reasons for this are many. One major argument is based on the fact that the programme statements are unambiguous, leaving no room for discussion of how it should be understood. Thus, programming code as legislation, implies a rule system which, in an authoritarian way, dictates the answers. In such a situation, the viewpoints of citizens will lose significance. I regard the many uncertainties which are linked to legislation written in natural language, as an «invitation» from the legislature to the public to continue discussions concerning many important details which the law describes. Holding high the ideals of democracy and rule of law, I regard it a totally unacceptable line of action to stop this exchange of views between government authorities and citizens. I regard it as important to uphold the objective of generally readable legal rules, and to retain general decisions which leave room for a conflict of opinion. If programming code or other kinds of formalism pass as legislation, or, if the requirements of programming are colouring the legal text, an even larger fraction of the population than today would retreat from attempts to read, understand and raise objections against legislation.

9. LIMITS TO COMPLEXITY?

The theme of this lecture has been the lack of transparency of computer systems in public administration. If computers are regarded, first and foremost, as a tool to execute these powers, what lies at the bottom of this discussion is the degree of transparency in society itself, and in public administration in particular.

In my view, computer technology is not a totally neutral tool in regards to the problems of transparency in society. Even if complexity is created through a political process, computer technology makes it easier to handle complexity and large volumes. Objectives of effectiveness in public administration and cost reduction have, particularly during the last decade, held a high priority. To the extent that complexity and large volumes are regarded as serviceable for these objectives, computers may tempt us to choose to retain and increase the complexity and/or volume of rules and regulations.

For example; new rules of means testing may be added to legislation, increasing rule complexity and necessitating the processing of increased volumes of information. In order to cut down on administrative expenses, already collected information is re-used in the processing of different
arrangements, creating novel interdependencies between legislation and execution of powers. It could (and should) be questioned if, or to what degree, such measures lead to increased efficiency and cost reductions. Notwithstanding this, it should be debated, however, if there should be limits for the complexity and interdependencies of government powers in a democratic society. Does computer technology contribute, in other words, to the making of an inter-woven pattern of public powers of a nature which is impossible to control by citizens? If the answer is «yes» (and I believe it is), then the question is to what extent we should retreat from seemingly profitable measures supported by computer technology, in order to protect and cultivate fundamental interests of citizens. Furthermore, we should ask what kind of computer aid we should develop in order to serve the fundamental rights of citizens. Our approach to computer technology should, in other words, both be protective and reserved, and at the same time, offensive and active.

10. LIMITS TO EFFICIENCY?

While advocating for fundamental public rights, what worries me the most, is what I comprehend as a massive and one-sided drive towards improved cost-efficiency by means of computer technology. One aspect of a cost-benefit approach is, for example, that most expenditures could only be defended if covered by gains due to increased efficiency or through income from a market. It is possible, that computer-based measures to support fundamental ideals of our society, such as democracy and rule of law, would be cost-efficient. However, such cost-benefit assessments would probably contain so many elements of uncertainty, that the conclusions would be of little value. Of much higher importance is, however, that we should be careful, and only to a limited extent evaluate, in light of the economy, the conditions under which fundamental public rights exist.

Our society is not based on freedom and justice because this is the most cost-efficient way to construct a society. On the contrary, we should often regard these values as goods in which we indulge ourselves. Thus, in my view, the task and challenge for every democratic country being under rule of law, should be to proudly demonstrate that money is being invested in order to secure these fundamental ideals and principles. My advice is to follow «pathfinders» who actively seek to support rule of law and democracy, accepting that «there is a cost to the goods of citizens’ fundamental rights».