# Perspectives on the knowledge-based society

## Interviews about 'Netherlands as knowledge land'

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# Introduction

**The knowledge-based society: what is it?**
The pile of newspaper and magazine articles, reports and books about the knowledge-based society has grown rapidly in recent years. The authors of these articles are unanimous on what forms the core of the knowledge-based society: a sharp increase in knowledge intensity and dynamics in all facets of our society. They observe that more and more knowledge is integrated in all of our products and services. This growing knowledge intensity affects everyone in every aspect of their lives: as consumer, employee, entrepreneur, student etc. At the same time, knowledge production and dissemination is also becoming more dynamic. ICT is steadily increasing the possibilities with respect to accessibility, speed and distribution of information.

**Trend or ambition?**
But that's as far as agreement goes among most authors. On the question of what the knowledge-based society stands for the unanimity disappears. Some authors regard the knowledge-based society as a trend, others as an ambition, and some as both: becoming a knowledge-based society is an autonomous event but we must also actively display the will to become a knowledge-based society.
The question of why we would want to be a knowledge-based society also draws different responses. Reference is often made to the Netherlands' expressed ambition following the declaration of the EU government leaders in Lisbon: to become one of the most competitive and dynamic knowledge-based economies in the world before 2010. In the translation of that objective into action, the use of knowledge for innovation in business quickly assumed a central role. The underlying idea is that innovation is necessary if we want to continue realising economic growth in the future. Others refer mainly to the contribution that knowledge can make to the quality of society. Others again say that knowledge has an intrinsic value: knowledge does not have to be useful, it can also be nice to have.

In short, the knowledge-based society is a complex phenomenon that can be considered from a number of perspectives. Taking into account the wide variety of impressions that exist of the knowledge-based society and the various types of importance knowledge has for society produces a rich harvest. It give us a clearer impression of the multidimensional character of the knowledge-based society. Which we need, since it is only by stimulating all the different functions of knowledge together that we can create a robust knowledge-based society. Up until now the multifaceted nature of the knowledge-based society has not been adequately reflected in policy.

This observation led the AWT to define and collect various impressions of 'what the knowledge based society stands for'. This collection of interviews is the result.

**Perspectives**
To focus the ideas the council formulated four perspectives on the importance of knowledge in society based on an analysis of the literature and internal discussions. These four perspectives refer to knowledge in the light of:
  a. *The producing society.* This perspective concerns the role of knowledge in promoting innovation and hence achieving prosperity.
  b. *The cohesive society.* This perspective is concerned with the contribution of knowledge to the 'good life' in the widest sense of the term. The central terms here are welfare, cohesion etc.
  c. *The reasoning society.* This perspective is concerned with the significance of knowledge for rational decision making.

d.     *The learning society.* This perspective concentrates on the importance of allowing knowledge to flow and the methods and instruments by which this can be achieved.

In defining the perspectives attention was given first and foremost to their general features. Given the area of interest of the AWT, for each perspective consideration was given to the role of the research system, the public and semi-public research institutes as a whole. For each perspective we also mention preconditions and obstacles that could affect further development of the role of the research system.

Naming roles, preconditions and obstacles resulted finally in examples of policy issues that emerged in the various perspectives. The following boxes summarise general features and policy issues.

## Knowledge in the context of the producing society

### General features

This perspective is concerned with the role of knowledge in strengthening competitiveness. Knowledge is seen here as a driving force behind innovation. Innovation is necessary if we are to respond better to the individual wishes of (potential) customers. Another central assumption in this perspective is that human capital is the primary raw material for the Netherlands (and for Europe). Since the Netherlands's stated ambition is to become a leading economic power, innovative capacity will be even more important in the future.

### Examples of policy issues

Seen from this perspective, questions arise about how knowledge can be used to best effect to increase prosperity, For example:
−   How can the interaction between science and industry be improved in such a way as to stimulate the creation of innovations?
−   To what extent should the Netherlands position itself internationally with specific choices for 'national' research themes, and how should it do so?
−   How should we treat intellectual property if on the one hand knowledge is increasingly a competitive factor but, on the other hand, we want to use knowledge as extensively as possible?
−   Assuming that the Netherlands wishes to play a leading role internationally, what is our current position and are we moving towards that leading position or are we in fact drifting away from it?

## Knowledge in the context of the cohesive society

### General features

In this perspective the emphasis is on the contribution of knowledge to the quality and robustness of society in terms of sustainability (environmental, social) and socio-cultural development. In this perspective society is not a homogeneous community but a community of stakeholders (individuals or groups), all with their own interests and needs. Sometimes these interests correspond, sometimes they conflict.

### Examples of policy issues
−   How can knowledge contribute to creating cohesion and a sense of community in society?
−   How can we use knowledge effectively to resolve social problems, for example in areas such  as care, education, ageing and safety?
−   How can we ensure that people do not become excluded from the knowledge- based society?

## Knowledge in the context of the reasoning society

### General features
The key idea in this perspective is that rational arguments form an increasingly important basis for the current structure of our society. Not only in policy, but also in companies and other organisations. Even in families, we are seeing the emergence of the 'negotiating household'. Knowledge forms the breeding ground for these rational arguments. In this perspective, ideology and the authority of a small group in society will fade into the background.

### Examples of policy issues
This perspective raises practical questions about the possibilities of using knowledge for *evidence based policy.*
− How do we deal with the tension between the complexity of social issues on the one hand and the short-term needs for knowledge and the necessary effectiveness of policy on the other?
− What is the role of knowledge in a government philosophy based more on experimentation?
− How can long-term strategic research be used effectively for policy?

## Knowledge in the context of the learning society

### General feature
This perspective considers knowledge in terms of a process. It focuses on how and the extent to which knowledge flows through all levels and sections of society. In other words, quite apart from the objective of achieving prosperity or welfare. Knowledge is produced by many agents in society, including science, research institutes and commercial consultancy firms, but also driven individuals. The flow of knowledge contributes to increasing access to and dissemination of existing knowledge and will also provide a stimulus for further production of knowledge.

### Examples of policy issues
− How can we ensure that producers and users of knowledge have the right skills to help knowledge to flow?
− If knowledge flows through personal interaction between people, how do we ensure that there are enough people to allow knowledge to flow? How do we ensure that threatened shortages of researchers does not prevent the flow of knowledge?
− What instruments can or should be used to allow knowledge to flow as freely as possible?

The four perspectives on knowledge and the knowledge-based society presented here are not intended to be well thought-out theoretical constructions, nor are they the only possible methods of classification. They are not mutually exclusive and are not based on a common denominator. The perspectives of the producing society and the cohesive society focus on substantive issues and social objectives (economic growth or 'the good life'). The perspectives of the reasoning society and the learning society are not so much substantive, but rather suggest ways along which the substantive objectives in the first two perspectives can be achieved (through rational decision making or by allowing knowledge to flow),

The perspectives reflect the opinions and impressions of the knowledge-based society to be found in the literature and in everyday life. In addition, they illustrate how different policy priorities and problems emerge depending on which perspective is given priority.

**Interviews with trendsetters**
An initial elaboration of the four perspectives was used as a guideline for interviews with a number of trendsetters in society. This volume contains a selection of those interviews. The emphasis in the interviews was on general features of the various perspectives. A number of interviews also went into the role of the research system. The aim of these interviews was to enrich the various perspectives of the knowledge-based society, to test their usefulness and to work them out in more detail. A mix of interviewees were selected, including both people who are closely involved with the subject because of their work and experience and people who are more remote from the subject but because of their opinions, ideas and experience may be able to provide new insights.

**Major differences, but also agreement**
From the interviews it became even more evident that there are many interesting ideas about what the knowledge-based society stands for, about the appeal of the subject and about what needs to happen if the knowledge-based society is to flourish. Ideas that sometimes reinforce each other and sometimes are contradictory. Without exception, the interviewees presented their ideas with great animation. This animation underlines the fact that the 'knowledge-based society' can be an effective source of inspiration for considering the role of knowledge in society. The wide diversity of ideas and opinions that are presented in this collection offers a good illustration of the multi-dimensional character of the knowledge-based society. They illustrate the many and varied issues surrounding the further development of the knowledge-based society (and the role of the research system in it). Moreover, these issues include many dilemmas and paradoxes, and these are also discussed in the interviews in this collection.

**Disagreement**
Opinions were divided on many subjects. All of the perspectives were discussed in each of the individual interviews. Which perspective was emphasised differed greatly from one interview to the other and depended on factors such as the background and personal preferences of the interviewee. Interestingly, in particular the perspective of the producing society generated not only 'supporters' but also fervent opponents. Although no one denied the value of the economic perspective, the opponents felt that this perspective is currently emphasised too strongly at the expense of the others. Logically, the different emphases lead to different impressions of what the relevant policy issues are at the present time. But even where interviewees stressed the same perspective opinions differed about what the government should do. For example, there was little agreement among the interviewees on the question of whether knowledge development would or would not benefit from making specific choices as to the themes and areas of research. The same applied for the question of whether the Netherlands should take inspiration from comparisons with other countries or should base its actions mainly on its own strengths. The interviewees also disagreed about how much scope should be given to science.

**Agreement: interaction necessary**
Amidst the wide diversity of opinion, kernels of unanimity emerged. For instance, many interviewees expressed the importance of interaction between the various actors. If different actors join forces that can lead to new knowledge and to better access to and dissemination of knowledge. This emphasis on interaction is in itself nothing new. Up until now, however, it was usually expressed in terms of interaction between science and industry, or to a lesser extent between science and policy, for example with respect to security, health care or education. Interaction between disciplines, in the form of multidisciplinary research, has also received attention for some time. However, the trendsetters interviewed in this collection add

a fresh dimension by stressing additional new forms of interaction. Examples mentioned include interaction between different countries and cultures and between technology and culture, but also between today and the past, with the key question being: what can we learn from the past?

According to most of the interviewees, the necessary interaction will work best through networks of informal contacts. This emphasis on 'informal' means that the personal and the individual will become increasingly important. With whom you do or do not have a relationship will be increasingly important. Various interviewees pointed out that this calls for trust: trust in oneself and trust in each other. Others pointed out that the government cannot compel interaction and network forming. They say the role of the government is to create the right conditions. This role would involve supporting successful initiatives on the one hand, and making the necessary adjustments when negative developments threaten to occur.

Finally, the interviewees where unanimous about the importance of education as the predominant instrument for providing the knowledge and skills necessary for the knowledge-based society.

**Providing direction in the knowledge-based society**
The AWT shares the view expressed earlier that the government has only a limited capacity to direct the development of the knowledge-based society. The knowledge-based society can only effectively evolve if all the parties concerned make an active effort and accept their responsibility. The government is only one of these parties, although one with special possibilities which it must use where possible. For example, by providing incentives to the actors concerned: research institutes, industry, civil organisations, education, individuals and of course to itself. The AWT regards it as a task of the government to stimulate parties to think for themselves about the knowledge-based society and their own role in it. With this collection the AWT above all wants to support the government in this latter task. It wants to share the insights and ideas of nineteen trendsetters with you in an effort to stimulate your own thought processes and as food for discussion. The Council hopes that this process will lead to a clearer understanding of the knowledge-based society and help everyone in choosing their own role in it.