The Dutch Layers Approach to Spatial Planning and Design:
A Fruitful Planning Tool or a Temporary Phenomenon?

JEROEN VAN SCHAICK* and INA KLAASEN

Department Urbanism, Faculty of Architecture, Delft University of Technology,
P.O.Box 5043, 2600 GA Delft, The Netherlands; e-mail: j.vanschaick@tudelft.nl
*corresponding author

ABSTRACT In 1998 a stratified model that distinguished spatial planning tasks on the basis of the differing spatial dynamics of substratum, networks and occupation patterns – i.e. three layers – was introduced in the national debate on spatial planning in the Netherlands. Although using layered models was not a new thing, this model hit a nerve in spatial planning practice, initially in particular on a national level, but later also on the provincial and municipal level. Since 1998 this ‘layers model’ has developed into an approach to spatial planning and design: the Dutch layers approach. In the process it got transformed in different ways. In this paper we aim to provide information on and insight in the development of the layers approach between 1998 and 2009 both from a theoretical angle as well as that from its application in practice, focusing on the variations of the layers approach that have been constructed since its introduction. We then add our own comments to the ongoing Dutch discourse concerning the layers approach, both in general and from the point of view of the relation between 'time' and 'space'. Concluding we also answer the question posed in de title.

Introduction

The Dutch layers approach is an approach developed in the last decade in the Dutch planning praxis in which the layers stand for aspects of concern in the domain of urban and regional design and planning. The approach is of interest to us in our ongoing research around the theme 'time-oriented thinking in spatial planning and design' because of the structuring role allotted to the time aspect within the approach. More in general the approach might be of interest to a wider audience than the Dutch
language community because of the embedding of the approach in Dutch spatial planning praxis since the turn of the century. Dutch spatial planning praxis has been of interest to the international debate on planning since long. However, since the late 1990s the exemplary status of Dutch planning is being questioned (see e.g. Hajer & Zonneveld, 2000). Contemporary to this critical view of Dutch spatial planning in the context of the ‘network society’, the introduction and adoption of the layers approach has been an integral part of the Dutch discourse on rethinking the principles of spatial planning. We will start with explaining the origin of this approach, followed by a brief outline of the use of layers in spatial sciences that may have inspired this specific layers approach. The latter, because we want to point out that the layers approach didn't come out of the blue. We will then explore, firstly, the way the original 'layers model' and its development into a planning tool has been interpreted in the Dutch spatial planning discourse, and, secondly, how the approach has been used - and adapted - in Dutch spatial planning praxis during the past decade, i.e. which variations in the layers approach - and possibly trends - can be distilled from policy documents and other documents from planning practice. Basing ourselves on these building blocks we will then contribute our own points of view.

**The Dutch layers approach as it was developed in the late 1990s**

The Dutch layers approach originates in a model constructed between 1996 and 1998 by De Hoog, Sijmons and Verschuuren. In the context of the research project *Het Metropolitane Debat* (the metropolitan debate) these professional designers and planners were asked to create a base for the strategic choices that had to be made regarding the future spatial development of the Netherlands in the light of climate change, water management, the economic position of the Netherlands in international networks, urban dynamics in relation to the values and attractiveness of the landscape and the need for integral planning (Frieling 1998; De Hoog, Sijmons & Verschuuren1998a; 1998b). In their answer to this question and based on their criticism regarding blue print types of plans that show little concern for the process of transformation and interaction of different dynamics, they proposed a stratified model, on a regional level of scale, which connected planning tasks to different time scales of spatial dynamics (Table 1). True to their design background the model has an important visual
component that exemplifies how these layers are perceived in planning practice (Figure 1). Also visual schemes play a role (Figure 2).

De Hoog, Sijmons en Verschuuren suggested in their report *Laagland* (1998b: 78) (‘laag’ in Dutch meaning both ‘low’ and ‘layer’)

‘... to distinguish three ‘layers’ in the spatial organisation of the *Laagland*: the layer of the substratum, the layer of the networks and the layer of the occupation pattern. These layers know different ‘times’. …To these three layers we add the element of coherence. We consider this coherence between the layers as the domain of spatial planning: here we shoot an arrow through the strongly sectorial-coloured problem definition on the distinguished layers.’

**Figure 1** Area design Leiden-Haarlem-Amsterdam (about 35 by 50 km). The first design application of the layers approach. From left to right: (a) substratum: new conditions through water management: new drainage canals; (b) networks: new conditions through infrastructure planning: nodes, regional public transport and work areas; (c) occupation: interactions between red and green. (source: H+N+S, 1998: 38-40)
Figure 2 (a), (b) and (c) Peter Dauvellier in cooperation with H2Ruimte visualises the layers approach for the urban region Haaglanden as part of a step-by-step cyclical planning process. (a, left) Shown is one of 4 quadrants of the cycle: Verkennen (Exploring). (b, middle) illustrates how to deal with relations between the layers; (c, right) illustrates that each layer can be elaborated into detail. Source: Stadsgewest Haaglanden (2003)

Their main assumption was that the substratum physically transforms slower than the networks, which in turn transform at a lower rate than the physical structures on the occupation layer. This assumption led to the idea that the layers from bottom to top set priorities and conditions for spatial planning tasks on the other layers.
Table 1

<table>
<thead>
<tr>
<th>Layer</th>
<th>Substratum</th>
<th>Approaches</th>
</tr>
</thead>
</table>
| Layer 1 | - Dealing with the physical effects of climate change  
- Modernising the water management system | - Nature engineering  
- Civil engineering |
| Layer 2 | Networks   | - Strengthening the position of the Netherlands in international networks  
- Control and steer the growth of mobility | - Complexes approach (developing nodes for exchange of information and knowledge)  
- Corridor approach (developing mainports and hinterland connections) |
| Layer 3 | Occupation | - Accommodating spatial claims and shrinkage in relation to values and attractivity | - ‘Ecology’-approach (An ecology defined as a locally characteristic ‘life-style-environment’)  
- Mold-Contramold approach (city vs. landscape) |
|         | Coherence  | - Creating synergy between interventions         | - Conditioning spatial planning  
- Facilitating spatial planning |

Table 1 Design tasks and related approaches as they appeared in the analysis of almost 50 Dutch spatial plans for the Netherlands. The analysis organised the plans using the layers model. Source: De Hoog, Sijmons, Verschuuren (1998b)

Table 1 shows how De Hoog, Sijmons and Verschuuren viewed the connections of the layers to planning and design tasks. In addition to these strategic components explained in verbal language, the layers model and the layers approach have an important visual component that exemplifies how these layers are generally perceived in planning practice: for the substratum a map of soil and water, for the networks a map of the physical infrastructure networks and for occupation a map of built-up areas (see Figure 1).

This layer model hit a nerve in spatial planning practice, initially in particular on a national level, but later also on the provincial and municipal level where it quickly became known as the layers approach. At the turn of the century, the layers model started to play a prominent role in the yearly explorations for a national planning agenda by the national spatial planning agency (RPD 2000; 2001). Over the next decade the layers model became formalized as a planning approach – layers approach - in national, provincial and local planning documents (Van der Cammen & De Klerk 2003). Although the
three layers remained the main ingredient, the layers approach was often amended, adjusted and reinterpreted since, as we will see further on in this article.

Cognate layers approaches

We speak of the 'Dutch' layers approach to distinguish it from other layers approaches in spatial design and planning or related domains, both 'historical' ones and present ones. It is important to understand the layers approach in relation to cognate approaches as they demonstrate that both the conceptual ingredients of the approach as well as the principle of framing planning questions in terms of layers have pedigree in the domains of geography and planning. Such pedigree may be one of the reasons why the Dutch layers approach took hold in Dutch planning praxis.

With regard to layers approaches in related domains, different authors have suggested different roots. The national spatial planning agency, the first to use the approach in spatial planning studies and policies (RPD 2000; 2001; VROM 2001a; 2001b), sees it as a fusion of theoretical frameworks from historical geography derived from Braudel (1949) and social geography – derived from Vidal de la Blache (1922). Braudel's (1949) concept of *longue durée* is seen as an important source of inspiration for the logic on transformation dynamics that is part of the layers approach.

The domain of ecology has also been seen as providing inspiration for the approach. Priemus (2007: 671) is an example: ‘as the predecessor of the Layers Approach, the Strategy of Two Networks (Tjallingii 1996) is interesting.’ One of the authors of the original model confirms this (interview Maurits de Hoog, August 2009). Also the so-called casco-approach of Sijmons (1991), another author, is often seen as a predecessor of the layers approach. However, Sijmons himself distinguishes them clearly: ‘[in the casco-concept] time is a decisive factor, as in the later layers approach, but the casco-concept focuses on a different level of scale and thus has different consequences. Where the layers approach distinguishes three layers, the casco-concept is meant to be applied at layer 3, the occupation layer.’ (Hajer, Sijmons & Feddes 2006: 40) Also derived from ecology, the so-called ‘triplex model’ is much cognate to the layers approach. This model, distinguishing between a-biotic, biotic and
anthropogenic influences on the landscape, was derived from the work by McHarg (1969) and has been very influential in the domain of landscape architecture (Roncken, 2003).

From a different viewpoint, Van Schaick (2005) analysed a series of four other stratified models that integrate societal questions with physical-spatial questions. His analysis is based on a comparison between the model of ‘social space’ by Lefebvre (1974 (1991)), the model of the ‘space of flows’ by Castells (1996), the model of the ‘network city’ by Dupuy (1991; 2008; see Figure 3a) and a model of the city as it is seen in urban design (Heeling, Meyer & Westrik, 2002; see Figure 3b). An important conclusion of his analysis was that the strength of stratified models that try to integrate societal questions with physical-spatial questions lies in the underlying time-concept and the way the model deals with network concepts. Other examples of stratified models in urban planning include Trancik’s model of urban design approaches (Trancik, 1980) and the Urbs-Civitas-Topos triad as it is used by the Dutch Scientific Council program on Urbanisation and Urban Culture (Jansen, Leerssen & Taverne, 2003).

![Figure 3a](image1.png) and ![Figure 3b](image2.png) The stratified urban planning models by Heeling, Meijer & Westrik (2002) (left) and Dupuy (1991; 2008) (right)
The development of mapping layers in urban design and planning since the 1960s can also be seen as a factor in the adoption of the Dutch layers approach in urban planning practice. An early example of mapping layers is the work by landscape architect Ian McHarg (1969) although layered thematic mapping can be traced back to much earlier dates (e.g. Harness, 1837)(see Robinson, 1955). Such layered mapping is seen as an important inspiration for the development of computational tools for mapping layers such as Geographic Information Systems (GIS)(Foresman, 1998). Since the 1990s both geography and spatial planning have seen a growing influence in using computational tools in spatial analysis and in spatial design, in particular GIS, Computer Aided Design (CAD) and graphically-oriented software such as Adobe Photoshop and Adobe Illustrator. These software families use the principle of layers as organizing structure of data and of maps. Although difficult to identify empirically as a trend, we suspect that this representational characteristic and in particular the relative ease with which multiple layers can be developed and combined, has gained much ground in spatial planning and design in recent years. Instead of focusing on the content of a layer in the layers approach, it is then the principle of superimposition itself that may have inspired the Dutch layers approach.

**The Dutch layers approach in Dutch planning discourse since 1998**

From 1998 onwards, the layers model and the resulting layers approach became an important subject in an already vivid discussion about the regional level in planning, about the balance between local and national responsibility for spatial planning, and about the importance of water-related and infrastructure problems in spatial planning (see e.g. ten Cate 1998). Despite its popularity, criticism has developed both in practice and in academic circles. But still, there are no inventories available on planning documents that use this layers approach and few studies exist that thoroughly analyse the approach. Below, we outline those accounts in which the Dutch layers approach has been evaluated and analysed as a representation of the Dutch discourse, both academic and professional, on the layers approach. Although we cannot claim to be complete, we expect few more studies of an analytical nature exist than mentioned here.
The landscape architect Dirk Sijmons, one of the founding fathers of the Dutch layers approach (see De Hoog, Sijmons & Verschuuren 1998a) addresses in a retrospective chapter ‘the further adventures of the layers model’ (Sijmons 2002: 135-150). Sijmons (ibid.) speaks – almost - consistently about the ‘layers model’ instead of the ‘layers approach’ when he means the original version from 1998. The layers model, he states, was first meant as a ‘strategic proposal to organize a multitude of spatial tasks and projects’. Strategic in the sense that not everything is equally important, but that from this ordering would arise a new logic of prioritizing one project or task over the other; a new logic of which task would belong to which level of government. The basis for this logic was the planning horizon of these tasks. ‘It was a working philosophy, a strategic model, a planning concept. Since then it went its own way’ (Sijmons 2002: 146). Sijmons describes how he is slightly surprised by the popularity of the model after 1998; especially since ‘the layer concept is an agreement in the here and now, without pretentions of universality and eternal value. At another time or at another scale other priorities will fit.’ (ibid.) In the following part of his text, Sijmons distinguishes between two directions in which the layers model mutated. Along the first direction, exemplified by the Ruimtelijke Verkenningen 2000 (spatial explorations; RPD, 2001) the model became ‘heavier’. Along the second line of development, exemplified by the Fifth Memorandum on Spatial Planning (VROM, 2001a), the model was slimmed down.

Sijmons (2002) signals that the ‘heavy’ line of thinking tries to develop the layers model as both a descriptive and an explanatory model grounded in history. Sijmons states that this translation of the normative character of the 1998 model ignores the strategic component of the layers model as a whole, including planning tasks on each layer. He signals that the ‘weighting’ of the layers model, especially in its ‘substratum’ layer, makes the model inflexible and ‘bottom-heavy’. Sijmons is even more critical of the development he signals in the Fifth Memorandum on Spatial Planning. In his view, it is a dead-end to develop the layers model as a neutral instrument for editorial purposes, in particular, when the approach is subsequently abandoned in the concrete spatial vision presented in the planning document. These statements, however, didn't put a halt to the debate on the layers approach, nor stopped the
different ways the layer approach became interpreted in practice. The Dutch Social-Economic Advisory Council SER had already advised positively on the layers approach as included in the Fifth Memorandum seeing it as an important basis for an integral vision of spatial quality (SER, 2001). In line with this positive review of the layers approach, Teunissen sees, in 2002, much room for improvement. He formulates the following focal points for the further development of the layers approach: (1) spatial quality and the layers approach, (2) interactions on and between layers, (3) complex interaction of highly dynamic and less dynamic layers, (4) the layers approach as instrument for plan development and the shaping of coalitions, and (5) the fit between development-oriented planning and the layers approach (Teunissen, 2002).

In 2006 Sijmons is stronger in his disapproval than in 2002: ‘The layers approach is meant as a contribution to the political-administrative steering of the ‘spatial business’… it was a story about a subsidiarity. But it has often been used as a description of reality. That was a big mistake. They confused a planning concept, which it is, with a kind of director’s trick to go through the same material in a new battle order.’ (Hajer, Sijmons & Feddes, 2006: 41) And later on in the book: ‘I am happy we invented it and that we applied it a couple of times in a nice way, and maybe we’ll use it again, but you shouldn’t make it obligatory’ (ibid.: 55).

Zonneveld gives two explanations for the rift between the layers approach as analytical framework and the content of spatial policies in the Fifth Memorandum. On the one hand, Zonneveld (2005: 10-11) explains, there was an internal professional dispute on the approach. On the other hand, ‘it was impossible to carry [the layers approach] through because large, spatially relevant policy domains are not part of the Fifth Memorandum or indeed any spatial planning memorandum.’ In the end, politically, the Memorandum could only limit itself to policies with regard to occupation patterns, more in particular to containing urban development. This rift, we assert, seems to have had significant consequences for the further life of the layers approach in spatial planning practices.
In their work on the history of Dutch spatial planning, Hans van der Cammen and Len de Klerk reconstruct the rise of the layers approach as part of the discourse around the turn of the century in their chapter on ‘networks [or networking] in the new century’. Their introduction of that chapter indicates the unease of the profession with developments at the end of the 20th century: ‘Apparently the societal dynamics exceeded the rate of adaptation of the physical environment and spatial planning did not seem to be capable to bridge that gap.’ (Van der Cammen & De Klerk 2003:363) In this chapter, they explain that although the underlying reasoning of the conceptual framework might be faulty, it is a framework that carries three major design and planning tasks for the 21st century: the spatial dimension of water management, the spatial consequences of increased mobility and new spatial concepts for urbanisation and for so-called ‘natural’ landscapes. But their analysis of the layers approach does not delve deeper than that. They limit their final remark on the layers approach to its increased popularity at the turn-of-the-century.

Vonk-Noordegraaf (2003) takes a different approach. Instead of positioning the layers approach in the discourse, she analyses the value of the approach in comparison to three other ‘area approaches’. Her analytical framework is built around the normative premises, vision and method of each approach that result in a concrete product of the approach. Although she recognizes that there are many possible interpretations of the layers approach, she focuses her analysis of the layers approach on the version as it was developed in RPD (2001) (Vonk-Noordegraaf 2003: 29, 35). She concludes that for the approach to deliver concrete results it is necessary that involved actors subscribe to the underlying rules-of-the-game of hierarchical planning in which planning tasks on the layer ‘substratum’ are conditional to those on the layer ‘networks’, which are conditional to those on the layer ‘occupation’. She signals two reasons why the layers approach is often abandoned after being used in the analytical phase of a planning process. Firstly, Vonk-Noordegraaf states, the conceptual framework offered by the approach is often seen as too rigorous to be applied in real-life planning, especially in an intersectoral planning processes. Secondly, it lacks in theorisation about what to do in an urban planning process after having done the analysis using the layers approach. She finds that this often requires a translation into and/or a combination with other conceptual frameworks to result in concrete
planning products. Although deemed valuable for spatial analysis (Vonk-Noordegraaf 2003: 89), she concludes that the layers approach, as she analysed it, is ‘not of value’ to create a spatial plan (ibid.: 41). In addition, when she compares the layers approach to other supposedly integral area-based approaches, she concludes that integration often means safe-guarding an agenda in the planning process based in other fields of expertise than spatial planning. Werksma, Dauvellier, Maring and Puylaert (2007) have a more positive and pragmatic attitude towards the layers approach. They sketch the possibilities offered by adapting the initial layers approach for practical purposes. Their point of view is that the layers approach offers possibilities for interdisciplinary and intersectoral planning processes.

Hugo Priemus analyses the layers approach from the viewpoint of ‘changing preconditions for planning’. Rather than analysing planning practices, he critically reviews the theoretical basis of the layers approach. He sets out ‘to amend this approach and to propose a network approach, as a method to consider spatial variants and spatial economic investments alternatives within the framework of green, blue, traffic, ICT and urban networks’ (Priemus 2004: 268). In a second paper (Priemus 2007), he extends his argumentation for this amendment. Priemus’ main critique concerns the hierarchy between the layers of the layers approach. He describes and substantiates that the theory of differing spatial transformation rates at each layer is not supported by real life spatial dynamics. The basis for his amendment of the layers approach is based on reciprocal relationships between layered networks on multiple scales: (1) networks of the substratum (blue and green), (2) networks for transport, ICT, water and energy, (3) urban networks (both the co-operating cities as well as the dynamic spatial pattern of urban functions).

Recently, The Netherlands Institute for Spatial Research explicitly chose not to use the layers approach to formulate ‘spatial questions of the future for the current policy agenda’ (Schuur, Janssen, Klaver, Pieterse & Snellen, 2007). The authors of that explorative document gave two reasons. Firstly, despite cartographic and stylistic advantages in particular in design processes, there is no direct relation between the layer on which a development occurs and its urgency in policy making.
According to the authors, this makes it difficult to develop policy recommendations from an analysis based on the layers approach. Secondly, the layers approach complicates matters, because it simplifies functional distinctions, hierarchical relations between layers and the differences in rate of transformation. For this reason it offers little room, the authors claim, to think about future spatial questions in the long term.

Summarising the above we conclude that the original layers model was meant by the 'inventors' to be hierarchical in the sense of a temporal level of scale (from less dynamic to highly dynamic) as well as to which level of government tasks belonged (spatial level of scale); that the model was not to be seen as a model of reality; and that it was not to be seen as static but as flexible. After the transition of the model into an approach criticism focuses on the assumptions regarding the level of dynamics; that the theory behind the approach neglected real-life planning problems and was unsuccessful with regard to interrelating sector decisions; and that suggestions of the approach being useful in developing policy recommendations or producing concrete spatial plans was a fallacy. Other authors take a more pragmatic view underlining the usefulness of the approach for developing integral visions, for interdisciplinary work, and for planning tasks in relation to different types of networks.

The discourse outlined above is clearly part of a wider debate in spatial planning in which professionals and academics are trying to make sense of spatial planning and design tasks against a background of social and economic changes. Perhaps for that reason, the Dutch layers approach triggers a value-laden discussion either supporting or heavily criticizing the layers approach as a relevant planning approach. This of course invites a look at what was happening in the mean time in spatial planning practice.

**The layers approach since 1998 in Dutch practice**

In this section we describe how the perception of the layers approach has developed in spatial planning practice. We aim to clarify the diversity of perceptions of the possible workings of the layers approach along two lines of analysis: (1) key documents and (2) the embedment in planning practice.
**Key documents**

The Dutch layers approach has become a widely accepted approach in mainstream spatial planning through a number of key documents that explicitly promote it. The list of key documents in this paragraph (Table 2) shows that the discussion on the layers approach has been largely practice-driven with a key role for national planning circles. As might be expected, a closer look at these documents shows that the interpretation of the layers model as a layers approach has known variations from the moment of introduction of the layers model. Each key document in the process of adoption of the approach in planning practice shows new interpretations and/or roles for the layers approach.

**Embedment in planning practice**

The layers model can be found in many policy documents on spatial planning. On a national planning level it has been present since the *Ruimtelijke Verkenningen 1999* (spatial explorations) (RPD 2000; see Figure 4), and subsequently in those from 2000, which is regarded as the birth ground of the layer ‘approach’ (RPD 2001). The *Fifth Memorandum on Spatial Planning* (VROM 2001a) and the *National Spatial Strategy* (VROM 2006) adopted the layers model in its analytical chapter. The most recent document from the Ministry on Spatial Planning *Randstad 2040* (VROM, 2008) again refers to the layers approach as one of its building blocks although not as central as before: ‘For a sustainable Randstad it is necessary to properly balance between the three dimensions of sustainability (people, planet, profit) and between the three layers from the layers approach’ (ibid.: 71). An important administrative level at which the layers approach in its fullest sense has been adopted is at the provincial, i.e. regional level. Especially in the regional provincial plans (*streekplannen*) just after the turn of the century its philosophy if not the approach itself is almost omnipresent (e.g. Provincie Noord-Brabant, 2002; Provincie Noord-Holland, 2002; see for an overview PBL, 2008). But the layers model, if not the layers approach, has also been adopted in many places on a local level, either in municipal structure plans (e.g. Gemeente Amsterdam 2003) or in vision documents on future local developments (e.g. Driehoek RZG, 2003). Further, the layers model has often been used in plans of
smaller municipalities (see e.g. http://www.logo-dcmr.nl or http://www.vng.nl > search [MILO]; acc. July 2009).

Table 2

<table>
<thead>
<tr>
<th>Key documents 1998-2008</th>
<th>Year</th>
<th>Position of the layers approach</th>
<th>Reception of the document</th>
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</thead>
<tbody>
<tr>
<td>Report <em>Laagland</em> (De Hoog, Sijmons, Verschuren, 1998a)</td>
<td>1998</td>
<td>Key organizing principle for the analysis of future spatial plans; steering principle for prioritization of plans</td>
<td>First document presenting the layers model, triggered a discourse on the layers approach</td>
</tr>
<tr>
<td><em>VINEX-studie H+N+S</em>: Leiden-Haarlem-Amsterdam (H+N+S, 1998)</td>
<td>1998</td>
<td>Organizing principle of the design study</td>
<td>Celebrated as the first and most complete application of the layers approach</td>
</tr>
<tr>
<td><em>Ruimtelijke verkenningen</em> 1999 (RPD, 2000)</td>
<td>2000</td>
<td>First official national planning document in which the layers model is mentioned, one of several discourses relevant to European planning, amended with a cultural layer</td>
<td>Not well known with regard to the layers approach. Key document for literature on European Spatial Planning.</td>
</tr>
<tr>
<td><em>Ruimtelijke verkenningen</em> 2000 (RPD, 2001)</td>
<td>2001</td>
<td>Central to the argumentation to put ‘substratum’ or ‘underground’ firmly on the policy agendas for the coming decade</td>
<td>Well received, still often referenced; perceived as the first document using the layers approach on a national planning level</td>
</tr>
<tr>
<td><em>Vijfde Nota Ruimtelijke Ordening</em> (Fifth Memorandum on Spatial Planning) (VROM, 2001a)</td>
<td>2001</td>
<td>Analytical framework in the introduction of the Memorandum</td>
<td>Received with wide criticism, rewritten after shift in government as Nota Ruimte, role for layers approach hardly changed in new version</td>
</tr>
<tr>
<td><em>Leve(n)de Stad</em> (3 volumes of essays) (VROM, 2001b)</td>
<td>2001</td>
<td>Incorporated and interpreted in a series of essays on ‘networked urbanization’</td>
<td>This document gave a first taste of the future interpretations of the layers approach; vision document for the Fifth Memorandum</td>
</tr>
<tr>
<td>Handleiding MIRUP (Stadsgewest Haaglanden, 2003)</td>
<td>2003</td>
<td>Key element of the step-by-step planning guide</td>
<td>Key document for further development of guides to spatial planning with an environmental agenda. Basis for website ruimte x milieu.</td>
</tr>
<tr>
<td>Website <a href="http://www.ruimtexmilieu.nl">www.ruimtexmilieu.nl</a> 2004 version</td>
<td>2004</td>
<td>Key element of the set of planning instruments on this website (initially as key organizing principle of the proposed approach for integrating policy agendas)</td>
<td>Used in local planning practices; website redesigned between 2006 and 2008 to focus on spatial quality rather than on integrating the layers of the layers approach</td>
</tr>
<tr>
<td>Website <a href="http://www.ruimtexmilieu.nl">www.ruimtexmilieu.nl</a> 2006 version</td>
<td>2006</td>
<td>One of the analytical instruments in environmentally aware spatial planning processes</td>
<td>The website became too complex according to project leader and content developers</td>
</tr>
</tbody>
</table>

Table 2 Key documents in the development of the layers approach between 1998 and 2008
Although the presence of the layers approach in policy documents is an important indicator, it should also be seen as significant that professional courses, guidelines and handbooks have eagerly adopted ‘the’ layers approach, or an interpretation of it, as part of the toolbox for practical spatial planning, but also in related fields such as transportation and environmental planning (see Table 3).

**Figure 4** The first occurrence of the layers approach in an official, although explorative, policy document. The layers approach is embedded in a whole range of discourses related to the European Spatial Development Perspective (ESDP) and adapted to include ‘the cultural dimension’. Was the layers approach not viable to begin with? Source: RPD (2000)

<table>
<thead>
<tr>
<th>Examples of professional promotion of the layers approach</th>
<th>Type of instrument</th>
<th>Organization</th>
<th>Web reference (accessed July 2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Atlas Amsterdam</strong> (Dijkstra, Reitsma, Rommerts, 1999)</td>
<td>Atlas of historical urban development structured by a version of the layers approach</td>
<td>Under guidance of dRO Amsterdam</td>
<td>none</td>
</tr>
<tr>
<td><strong>4xAmsterdam – Ontwerpen aan de stad</strong> (de Hoog, 2005)</td>
<td>Popularized, personal vision on urban design in the city of Amsterdam</td>
<td>Private product by author, facilitated by dRO Amsterdam</td>
<td>none</td>
</tr>
</tbody>
</table>
Table 3 Examples of promotion of the layers approach in professional circles.

<table>
<thead>
<tr>
<th><strong>Ruimte X Milieu website</strong> (Space and Environment)</th>
<th>Guide for sustainable area development</th>
<th>Commissioned by Ministry of VROM and Stadsgewest Haaglanden</th>
<th><a href="http://www.ruimtexmilieu.nl/">http://www.ruimtexmilieu.nl/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leren voor duurzame ontwikkeling</strong> (Learning for sustainable development)</td>
<td>Multi-year learning program on several tools for planning with sustainability</td>
<td>Provincie Zeel &amp; Zeeuwse Milieuvereniging</td>
<td><a href="http://www.zmf.nl">www.zmf.nl</a> ; <a href="http://kreeft.zeeuwd.nl/zeester.doc/ZBI-O">http://kreeft.zeeuwd.nl/zeester.doc/ZBI-O</a> /ZEE/ZEE0/8001/800114_1.pdf</td>
</tr>
<tr>
<td><strong>IPO advice on regional structure visions</strong></td>
<td>Advice on content, process and implementation of regional structure visions</td>
<td>IPO (InterProvinciaal Overleg)</td>
<td><a href="http://www.ipo.nl/scripts/download2.php?publication=658">www.ipo.nl/scripts/download2.php?publication=658</a></td>
</tr>
<tr>
<td><strong>Cursus Milieu en Ruimtelijke Ordening</strong> (Course Environment and Spatial Planning)</td>
<td>Professional training</td>
<td>Geoplan</td>
<td><a href="http://www.geoplan.nl/home/ruimtelijke-ordering/ruimtelijke_ordering_algemeen/milieu-en-ruimtelijke-ordering/">http://www.geoplan.nl/home/ruimtelijke-ordering/ruimtelijke_ordering_algemeen/milieu-en-ruimtelijke-ordering/</a></td>
</tr>
<tr>
<td><strong>Duurzaam Bouwen website</strong> (Sustainable Building website)</td>
<td>Portal to information on building sustainably</td>
<td>SenterNovem (Agency for Ministry of Economic Affairs)</td>
<td><a href="http://duurzaambouwen.senternovem.nl">http://duurzaambouwen.senternovem.nl</a> (until 1 August 2009, then moved to <a href="http://www.vrom.nl">www.vrom.nl</a>)</td>
</tr>
<tr>
<td><strong>Promotion in press releases, websites and lobby</strong></td>
<td>n/a</td>
<td>Provinciale milieufederaties</td>
<td><a href="http://www.natuurenmilieunederland.nl">http://www.natuurenmilieunederland.nl</a></td>
</tr>
<tr>
<td><strong>Hoe Maak Ik Een Structuurvisie</strong> (How do I make a structure plan)</td>
<td>Consultancy instrument/advertisement</td>
<td>Consultancy firms: VHP, Urban Management Consultany, Urbanet</td>
<td><a href="http://www.structuurvisies.nl">http://www.structuurvisies.nl</a></td>
</tr>
<tr>
<td><strong>Sustainable Urbanism</strong></td>
<td>Consultancy instrument/advertisement</td>
<td>Consultancy firm BuildDesk</td>
<td><a href="http://www.builddesk.nl/gebiedsontwikkeling/duurzame+sustainablebouw">http://www.builddesk.nl/gebiedsontwikkeling/duurzame+sustainablebouw</a></td>
</tr>
</tbody>
</table>

**Please, may the real Dutch layers approach stand up**

The analysis so far shows that there has been a strong drive, in particular from national planning circles, to promote the layers approach. However, it also shows that in that process the layers approach gets adapted, amended, recombined and at times marginalised. In this section we focus on variations of interpretations of the layers approach. Hagens (2006) gives an example why it is important to pay attention to these variations. A special-interest group speaks up: ‘Reasoning from the layers approach, the area … is not suitable for urbanization. We do not understand why the State gave permission for development here. The neighbourhood will come where in fact it can’t be …. local government keeps saying it applied the layers approach, but the first ideas show that that is not true’ (adapted from Hagens 2006: 26). We have found four issues around which variations get constructed:
- Level of scale, both temporal and spatial
- Hierarchy of planning priorities
- The different roles contributed to the Dutch layers approach
- The reinterpretation of the content of a layer and of the amount of layers

Temporal scale and spatial scale

Time is said to be at the basis of the layers approach (De Hoog, Sijmons and Verschuuren, 1998a). One would then expect a firm theoretical grounding of the concept. Several authors, though, signal that the link between layers and particular time scales or horizons is not valid. For example, Priemus (2004; 2007), and Van der Cammen and De Klerk (2003) take this point as one of their main reasons to criticise the layers approach. Moreover, we can find very different interpretations of the temporal scale in applications of the approach (see Figure 5 and Table 4).

Table 4

<table>
<thead>
<tr>
<th>Source</th>
<th>Dynamics on the occupation layer</th>
<th>Dynamics on the network layer</th>
<th>Dynamics on the substratum layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Hoog, Sijmons, Verschuuren (1998b)</td>
<td>25-50 yrs</td>
<td>50-100 yrs</td>
<td>100-500 yrs</td>
</tr>
<tr>
<td>RPD (2000)</td>
<td>Low rate of change</td>
<td>Moderate rate of change</td>
<td>High rate of change</td>
</tr>
<tr>
<td>RPD (2001)</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>50 - &gt;500</td>
</tr>
<tr>
<td>VROM (2001a)</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
</tr>
<tr>
<td>Provincie Noord-Holland (2002)</td>
<td>1 generation/cycle on the building market</td>
<td>Faster than substratum</td>
<td>&gt;100 years</td>
</tr>
<tr>
<td>Sijmons (2002) on temporal scales</td>
<td>5-10 yrs</td>
<td>10-30 yrs</td>
<td>20-200 yrs</td>
</tr>
<tr>
<td>Sijmons (2002) on planning horizons</td>
<td>5-15 yrs</td>
<td>15-50 yrs</td>
<td>50-100 yrs</td>
</tr>
<tr>
<td>Werksma (2002)</td>
<td>10-40 yrs</td>
<td>25-100 yrs</td>
<td>50-500 yrs</td>
</tr>
<tr>
<td>VROM (2006)</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>Slow/longterm</td>
</tr>
<tr>
<td><a href="http://www.ruimtexmilieu.nl">www.ruimtexmilieu.nl</a> (2006)</td>
<td>10-40 yrs</td>
<td>20-80 yrs</td>
<td>&gt;100 yrs</td>
</tr>
<tr>
<td>Senternovem (n/a)</td>
<td>Highly dynamic</td>
<td>Moderately dynamic</td>
<td>Slightly dynamic</td>
</tr>
<tr>
<td>Provincie Overijssel (2009b)</td>
<td>5-50 yrs</td>
<td>50-100 yrs</td>
<td>&gt;100 yrs</td>
</tr>
</tbody>
</table>

Table 4 Dynamics relevant to the three layers of the layers approach found in the literature. Note that the meaning can differ. Sometimes life span, sometimes planning horizon, sometimes transformation time, often a non-explicit mix of these
Some of these variations can be explained by the particular document focusing on one or a combination of the following: planning horizons, market cycles, the time necessary to negate interventions in physical space, observed transformation dynamics or as a metaphor for how untouchable a layer should be for spatial interventions. In most of these documents an explicit justification for choosing one time indicator over another (e.g. 5-50 yrs instead of 5-10 yrs) is absent, although the use of time scales remains the same throughout all documents. Often the temporal logics are not linked to spatial scale, with the exception of RPD (2000) (see Figure 5).

**Figure 5** Indicative grades of the impact of the scale levels on the layers and vice versa. Source: RPD (2000: 112)

In addition to the inconsistencies about temporal scale we found that the appropriate spatial scale for the application of the layers approach is apparently a matter of debate. Many accounts prevail of
application on much lower spatial scale levels than the original regional level of scale of which Sijmons stipulated that it was the only appropriate scale for their model (Sijmons 2002). The MIRUP-guide, for example, uses a fictive example on the neighbourhood level (Stadsgewest Haaglanden, 2003). On the other extreme, the RPD (2000) considers the relevant spatial scale levels up to the 'global scale' (see Figure 5). In addition, the 'grade of impact' which the RPD suggest in that Figure would imply to consider multiple scales on each layer and on each scale multiple layers with different prioritisations.

_Hierarchy of planning priorities_

A major point of disagreement in the debate on the layers approach is the perceived necessity or dysfunctionality of promoting a – somewhat sectoral - hierarchy of planning tasks on the basis of the layers approach in the sense that decisions on a lower layer condition the ones on the layers above. Hagens (2006: 25, citing VROM, 2006) provides us with a typical example from the Nota Ruimte: ‘of the three layers …not one is most important for spatial development’; while the policy document states not far below: ‘at the same time it is inherent to the layers approach that the bottom layer sets conditions for those on top’. Although De Hoog, Sijmons & Verschuuren (1998b), the RPD (2000) and Sijmons (2002) explain that a hierarchical planning strategy is a fundamental property of the layers approach, outside these documents and within the spatial planning domain little has come of this claim.

Two alternatives have developed in practice. One is the neutral application of the layers model as an organising instrument for analytical maps, even though this has been heavily criticised by both the original developers of the layers model and in the wider planning debate after the publication of the _Fifth Memorandum on Spatial Planning_. As far as we know though, many municipalities still use the layers approach in this way. The other alternative is to disregard or marginalise the hierarchy from the original 1998 model and to focus on the integrative possibilities that the approach offers. In this alternative, one uses the layers approach as a way to facilitate integrating sectoral interests in spatial planning processes. Examples of this approach can be found on the website www.ruimtexmilieu.nl
(accessed June 2010) and in training and consultancy practices as those promoted by Geoplan (see Table 3), by Werksma (2002) and by Werksma, Dauvellier, Maring and Puylaert (2007). In their view it is an integrating tool to put sustainability issues and interdisciplinary planning back on the agenda of spatial planning. However, the transformation of the website www.ruimtexmilieu.nl in the last years exemplifies that the layers approach in itself is not suitable to carry this on its own. It was to be adapted to incorporate the problems encountered in concrete planning processes and, lately, to incorporate urban quality as a central criterion.

The different roles contributed to the Dutch layers approach

Much ambiguity prevails with regard to the role that the layers approach plays in urban planning and design. Several authors (e.g. Sijmons 2002; van Schaick & Klaasen 2007) have paid attention to the mixing of different roles within single planning documents. The following ambiguities exist about the interpretation of the instrumental value of the layers approach:

1. The layers approach is a model i.e. a reduction of physical reality; is an approach giving guidelines for a planning process; is a metaphor whereby each layer indicates a set of actors, a set of interests or a set of tasks
2. The approach is descriptive (what constitutes our city region); is analytical (either a plan analysis or situation analysis); is strategic (instrument for searching, qualifying, prioritizing and choosing certain solutions over others).
3. The approach is integrative (framework for co-operation or negotiation between sectors and/or stakeholders); separates i.e. stimulating possibly conflicting sectoral policy agendas; is a combination of both.
4. The approach is a communication tool (facilitating participation by laymen), is an editorial tool (in particular for planning documents); is a building block (for a future policy); is a leading philosophy (influencing agenda setting and the development of new ideas).

While the simplicity of the model suggest an easy framing of planning problems, these ambiguities show that it is in fact not as simple as it seems.
Reinterpretation of the content of a layer and of the amount of layers

Since the layers approach has been analysed and applied, it has also been adapted. Two examples demonstrate the major ways in which it has been transformed and amended. Remarkably, there is not much debate on these transformations. As a first example, RPD (2000) added a ‘cultural dimension’ as fourth layer to the layers approach to connect it better to other discourses in European spatial planning (see Figure 5). The Provincie Overijssel (2009a; 2009b) demonstrates a second, more recent example where the original layers approach got transformed into something new, both adding a layer and transforming the content of the layers. Starting out from the original layers approach principles in Figure 6, the vision document ends up with four new layers based on the characteristics of this specific area: the natural layer, the layer of agricultural landscape, the urban layer, the pleasure and leisure layer (Figure 7).

Figure 6 Dynamics in the layers approach in schematic form: Provincie Overijssel (2009b; image by H2Ruimte and © beeldleveranciers.nl)
Figure 7 The maps representing the four layers used by the Province of Overijssel in its Regional Spatial Vision 2009. Source: Provincie Overijssel (2009a)
Comments

In this article we described an approach to spatial design and planning that was introduced in the Netherlands in 1998 as the Dutch layers model, and how variably its development has been in practice into what the past decade has become known as the Dutch layers approach. Starting point of interest was the way in which, certainly in the original model, spatial planning was connected to the notion 'time', in other words to the dynamics of natural and societal processes. From this point of view we see a fundamental problem regarding the layers approach. We will start, however, with contributing in more in general to the ongoing discourse concerning the approach.

In general

The model in it most rudimentary form distinguishes three ‘layers’ that constitute the physical-spatial urban system: substratum, networks, and occupation. To describe the layers approach, however, only as a model does not capture what it is. Swiftly being coined an ‘approach’ rather than a model, the layers approach is not meant to be a model in the sense of a reduction of a specific physical reality. The compiling of layers in the model needs rather to be seen as a ‘frame’ within the domain of urban and regional design and planning. The ‘frame’ that the layers approach offers is both descriptive in nature, i.e. what subsystems is the physical-spatial system composed of (agreeing with Sijmons that this may differ from situation to situation), as well as prescriptive, i.e. normative: how should designers and planners act upon the transformation processes at each layer and, particularly, with regard to the interaction of layers. More in general frames like this assist planners and designers in acquiring insight in their role in the domain of spatial planning and design, in their planning and design tasks and in the complexity of their work (compare this, for example, with the use of theoretical frameworks in research).

The approach only provides a concrete framework for decisions related to arguments from a perspective of spatial transformation dynamics and that only if the temporal level of scale is related to the spatial scale - which, unfortunately, differs from subsystem to subsystem, and also within subsystems (Klaasen 1993; 2004). For his reason we agree with those who state that the approach is
not a planning concept in the sense that it is a 'recipe' for a specific design or plan. It is normative in
the sense of prioritising certain planning tasks over others and it is normative with regard to who is
responsible for which planning tasks (see Table 1), and on what governmental level. This is in line
with Dirk Sijmons’ suggestion cited in the literature review above that other levels of scale than the
original regional one would require new agreements on prioritisation. That would imply that a layers
approach could be applied on many different levels of spatial scale, provided that the temporal logics
of the layers are fundamentally shifted.

In practice we find: differences in the hierarchical prioritisation of planning tasks; confusion about
appropriate levels of scale for the successive layers; and variations constituted by the practical
 adoption of the approach by sectoral planning specialists playing a prominent role, such as water
specialists or transport specialists. These variations are often related to the diversity of roles the layers
approach has played in relation to a particular planning process, and is exemplified by the different
ways in which the approach gets visualised – or not visualised – in planning documents. Regrettably,
however, usually without justifying these variations on the 1998-model. This of course causes
confusion among those participating in the planning process, resulting in misconceptions. But our
analysis did not allow for registering definite trends in this respect. The most fruitful use of the
approach might be as a tool for analysing a specific situation. However, for that the layers approach as
such was not developed – and isn’t needed, as also before 1998 plan situations were always analysed
from different perspectives.

The number of variations on the original 1998-model seems to be linked to the popularity of the layers
approach in practice, the latter stimulated by the Ministry of Housing, Spatial Planning and the
Environment that played an important role in promoting the layers approach in planning guides, and
by pointers from umbrella organisations in spatial planning. This obviously did not result, however, in
a consistent and substantiated application of the approach, as the list of ambiguities about the role of
the approach in physical planning shows (see section above). Improving the approach, for instance
following Teunissen's suggestions (see section on 'planning discourse') would, in our opinion, make
the actual application of the approach as a framework even more complicated, and would as such not enhance the quality of spatial plans and designs.

It remains for us to comment on those who hold the pragmatic view that the layers approach assists in either stimulating integrative planning or, on the other hand, clarifying conflicts, or that it can do both. As far as we know corroboration for the truth of this assumption is lacking (is this corroboratory anyway?) - it might be true though, in particular for laypersons.

*Regarding time-oriented spatial planning and design*

The starting point of our interest in the Dutch layers approach concerned time-oriented thinking in spatial planning and design. In this context the layers approach is an exemplar of the way in which mainstream urban and regional planning and design deals with incorporating time aspects in spatial planning practices, i.e. focusing on transformations in the physical environment, processes with a large temporal grain compared to people’s life span. Thinking about the relation between ‘time’ and ‘space’ in this way was a fundament for the original 1998-model, based as this model was on the differences in transformation pace of the layers, and on what the latter meant for prioritizing some planning and design tasks over others. In this original model the temporal levels of scale were also related to appropriate spatial levels of scale and so to appropriate governmental levels. Although the transformation-pace-argument is indeed in many cases used as basis for adopting a layers approach, it is then generally abandoned in the actual planning, i.e. it is, more often than not, form without content. Arbitrariness seems to be the appropriate label to put on the differing time horizons of the different layers in the different documents.

There is another side, though, to time-related spatial planning and design when one realises that the function of the built environment implies the accommodation of temporal-spatial patterns of use linked to social-cultural and economic as well as natural daily and weekly processes; processes that are rather cyclic instead of linear; processes that are subjected to biological and cultural restraints and that have a relatively small temporal grain. Diverse as the layers approach has become, still none of the
layers approaches in the plan documents studied is enriched with a ‘use layer’ – not even in those cases where a cultural layer was added. A critical view on this lack of attention to this user side in the Dutch layers approach has been expressed before by Priemus (2007) and Van Schaick and Klaasen (2007). There is a general lack of attention in spatial planning and design to this ‘carrying’ function of the built environment, and not just in the Netherlands (Klaasen, 2004; Drewe, 2005). A profound discussion on the time concept and further research on time-oriented planning and design is called for, going beyond the layers approach.

Conclusions

Although the original ideas behind the 1998 layers model were clearly articulated (though already disputable), from the muddle of the many variations and the underlying debates on the layers approach since then, we can’t but conclude that - although officially promoted as such - the Dutch layers approach is not a ready-made format for design and planning that just needs some adapting in a specific context. Neither can we support ideas about 'exporting' the approach across the Dutch borders, with the exception maybe of its use as ‘framing’ complex planning contexts, in particular in explaining the complexity of physical planning to laymen. In our view the layers approach seems to be no more than again another, temporarily popular, framework for which the world of designers and planners is well-known; exemplary in other words for an ongoing ‘conversation’. The prevalence of the layers approach in guides for spatial planning ensures the application of the approach in at least one more generation of structure visions on the local and the provincial level of governance. However, there are indications that the popularity of the layers approach is already declining. Also, many of the issues addressed through the layers approach – such as the relation between spatial development and mobility, or the role of environment and ecology in planning - are not new, but are newly wrapped up. Other new ways of wrapping are developing in which the Dutch layers approach is recombined and marginalised in favour of other spatial planning frameworks, for instance network-based approaches and ‘sustainability’ approaches in all their different meanings. Accordingly our answer to the question posed in the title of this article is that we look upon the layers approach as a temporary phenomenon.
Acknowledgements

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References


