UNIVERSITY OF WESTMINSTER

WestminsterResearch
http://www.wmin.ac.uk/westminsterresearch

Notation timelines and the aesthetics of disappearance

Krystallia Kamvasinou

School of Architecture and the Built Environment

Title: NOTATION TIMELINES AND THE AESTHETICS OF DISAPPEARANCE

Author: Krystallia Kamvasinou, Post-doctoral Research Fellow, School of Architecture and the Built Environment, University of Westminster

Postal Address: School of Architecture and the Built Environment, University of Westminster, 35 Marylebone Road, London NW1 5LS

Telephone: 020 7911 5000 x3134. Fax: 020 7911 5171

E-mail: kamvask@wmin.ac.uk

ABSTRACT

Contemporary cities are frequently surrounded by transitional landscapes: ambiguous lands, non-places on the urban edge commonly experienced under the condition of speed. Although variously shaped by processes of urbanisation, logistics of road engineering, safety and ownership, and local people's lives, for travellers such landscapes are usually perceived in a state of disappearance. This condition presents a major challenge for the traditional methods used in architecture and urban design. For designers interested in the organisation and design of such mobility routes for the engagement of the traveller, a method of scripting based on notation timelines would provide a helpful supplement to traditional materplans. This paper explores the development of such a method and its roots in time-based arts, such as dance, music and film, as well as in the recent history of architecture and urban design. It does so through the presentation of an experimental study based on a real route, the train journey from London to Stansted airport.

1   INTRODUCTION

The ability to work within a dynamic frame of reference has been a recurring theme in architectural theory although it has never assumed a central position in architectural practice. Time and the awareness that this brings with it in relation to the life of buildings, cities and landscapes has been a preoccupation of a diverse array of thinkers: from Giedion's redefinition of the notions of "space" and "time" in the 30s to Cullen's (1961) "serial vision" concept, Appleyard, Lynch and Myer's cognitive studies (1964), Rapoport's perceptual environments in the 70s and finally more recent preoccupations with time in the work of architects such as Mecanoo and Bernard Tschumi, there is a line of exploration already present in the architectural discipline.

Existing tools of design have been criticised for offering limited dynamic representation and rather focusing on a static, "frozen", snapshot state of things.[1] Models, masterplans, and other architectural drawings rarely make any mention to the factor of time; indeed they seem to illustrate a "perfect" moment in time. Although references to dynamic representation have in the past frequently pointed to the works of kinetic art or of cubist and futurist painters,[2] it was not until recently with the advance of computer technology, and especially time-based digital media, 3D computer modelling and virtual reality, that a similar experience of architecture at the design stage became possible.

This paper will explore another dimension of time representation in architecture through the process of notation and the instrument of

timelines, as "a non-pictorial, notational method offers a promising approach to the problem [of the intangibility of space] […] effective in both analysis and design".[3] Notation in time has been traditionally used in science to describe change, evolution, time-series, and narrative. It is also a commonly used tool in dance, music, animation and film; the choreographic layout, the score and the storyboard are all time notations.

The suggestion is that architecture could benefit from the study of time notation in other disciplines so as to develop principles and techniques for the use and the representation of time in design. Although time-recording devices such as videocameras are now being widely used, there seems to be an intricate value in the process of notating itself, during which we use the creative skills of observation, selection and interpretation, so as to analyse, clarify and simplify our first neutral documentation.

The research that will be presented in this paper involved a series of notation timelines as part of the design process for the transitional journey from London Liverpool Street Station to London Stansted Airport by train [Fig. 1]. What was defined as 'transitional' was the journey through landscapes on the urban periphery adjacent to transportation routes. A journey, in contrast to a site, is not topographically constrained; rather, it implies a flow or passage between different sites, and normally at least between arrival and departure points. It also implies the passage of time. The transitional journey suggests a new design task called to negotiate between rapid perception and a more tangible form of space in a non-traditional territory that architects, urban designers and landscape architects are not ordinarily involved with.

2   TRANSITIONAL LANDSCAPES AND SPEED

Indeed, despite their central position in the urban subconscious as the contemporary gateways to the city, the production of transitional landscapes is defined by logistics, road engineering, functionality, safety and ambiguous ownership rather than design. Traditionally, these landscapes were part of rural land. City walls would enclose and protect city life, leaving the countryside outside. Following the evolution of cities, these 'clear' boundaries were gradually abandoned. Large amounts of peripheral land were urbanised, offering a substitute for qualities of the urban centre but producing less regulated 'hybrid' landscapes, mixed industrial, suburban and rural, parts of them variously owned by public bodies, private landowners, corporations or airport and railway operators. Through these landscapes, commuters travel to their daily workplaces and tourists arrive at the city: by car, train or bus, even if they are travelling by plane, since airports are usually located outside cities.[4] The transitional experience has become a habitual act of everyday life, performed under the temporary, moving gaze of the encapsulated user-passenger.

Perception at speed and the subsequent arising 'aesthetics of disappearance' highlight a tension between the actual experience of these landscapes on the ground and their role as interfaces between city and countryside for the visual and cognitive orientation of the travellers. It has been suggested that transitional journeys, including the interior of the vehicle and the territory crossed, can be thought of as novel public spaces, albeit lacking "connection to the outside, which in its turn does not show signs of relation to this movement".[5]

It is the dual aspect of transitional landscapes as places of workaday habitation and places of rapid transit that creates the tension mentioned above; and there is scope in studying deeper their latter condition, as spatial practice and production processes do not ordinarily take the perception of the moving user into account. Historically however, in the theoretical discourse rooted in the fields of architecture, urban design, landscape architecture and city and regional planning there has been significant acknowledgment of this condition. The 60s in particular were a fertile time for such discourse. According to Appleyard et al, who were pioneers of highway aesthetics with their seminal work "The view from the road" (1964), "the experience of a city is basically a moving view, and this is the view we must understand if we wish to reform the look of our cities".[6]

Sylvia Crowe worked out metric measurements of distances in relation to openings on the side of the road so that there is enough time for a passer-by to perceive a view.[7] A 22' (56cm) opening on the side of the road, which can be experienced by a pedestrian at 3m.p.h. would have to be 15 or 20 times longer (440'/11m) in order to be experienced from a moving vehicle at 60m.p.h. Similar considerations are evoked by Appleyard et al and Amos Rapoport.[8] Jay Appleton[9] pointed out that the field of locomotion and the landscape, with an emphasis on motorway design, was one of the earliest areas of landscape aesthetics to be invaded by the environmental perceptionists of the 60s. This movement recognised the importance of speed and time sequences as integral part of our perceptive experience of the landscape. In his account of the work of Appleyard et al,

Appleton confirmed that it is highly consistent with the prospect and refuge theory of environmental preference, a theory that advocates the symbolism of the landscape in relation to well-being and safety.

The discourse on motion perception and motion aesthetics, however, seemed to have frozen in time until a recent new wave of interest, exemplified by exhibitions such as 'Speed' at the Photographer's Gallery in London (1998) and the First International Architecture Biennale in Rotterdam with 'Mobility' as the theme (2003); and works such as 'Breathing Cities: The Architecture of Movement' (2000); and 'Zoomscape' (2004).[10] This is indicative of an awakening of wider interest in the last ten years relocating this line of enquiry in a contemporary context.

In the analysis of transitional landscapes one has to assume an oblique viewpoint in favour not anymore of the contemplation of the architectural object but of a new sensation or experience of space. This new sensation is a result of the "disappearance" of stable objects and fixed viewpoints: for the perception of the passenger, the landscape appears "moving" through rapid changes in perspective caused by the speed of the vehicle, which plays the role of the mediator of the experience generating 'trompe-l'oeil movements' and remaking the relationships between fixed elements.[11] This perceptual condition is common in all 'moving' landscapes, including scenic landscapes that are experienced under speed; it is however fundamental in the case of the transitional landscapes, whose identity it defines.

3   NON-PLACE

The quest for identity is particularly resonant with the idea of the transitional landscape as a non-place. In anthropological terms, Marc Augé has defined 'non-places' as places resulting from new conditions of living and which are 'the real measure of our time'. In these places Augé includes '[t]he installations needed for the accelerated circulation of passengers and goods (high-speed roads and railways, interchanges, airports [...] just as much [...] as the means of transport themselves [...]'. [12] 'Transit points', 'temporary abodes', 'a dense network of means of transport which are also inhabited spaces' are among others *non-places*, characterized by 'solitary individuality', 'the fleeting, the temporary and the ephemeral', while maintaining some of the qualities of place: 'the invention of the everyday' and 'the arts of doing', so subtly analyzed by Michel de Certeau. [13]

For Augé the condition we live in – for which he coined the term Supermodernity – has resulted in a shrinking planet, characterized by an excess of time and space: 'rapid means of transport have brought any capital within a few hours' travel of any other' and so have the media. [14] Because of this condition, more often now than ever we come across non-places, 'negative spaces' that we have not chosen. The vehicle-capsule and the space it encloses together with its mobile inhabitants form a non-place as much as the external landscape that they cross; the composite of the two, inside and outside, is also a non-place in itself, a new kind of mobile public space. And so is the journey: 'with its plurality of places, the

demands it makes on the powers of observation and description [...] and the resulting feeling of disorientation [...] [it] causes a break or discontinuity between the spectator-traveller and the space of the landscape he is contemplating or rushing through'.[15]

When arriving at London Stansted Airport, for example, a tourist believes s/he is in London. Airports, according to Augé, are core public spaces or non-places of supermodernity. However, on the train trip from Stansted to London, one is at times lost: the journey can be quite confusing as it collides with the preconceived image of the city. A travel hovering between countryside and suburbia, industrial estates and marshlands does not exactly correspond to the idealised image of the metropolis presented in travel guides.

Nevertheless, this is another side of London. The trip could thus be a meaningful introduction, acknowledging the transitional landscapes as part of the contemporary condition of the metropolis. Landscape interventions could enhance awareness of the landscapes crossed and their relation to London, while negotiating the tension between static and mobile experience: workaday landscapes in their static mode, transitional landscapes assume an almost performing character when perceived on the move, if one chooses to notice. Objects 'rotate' and 'twist', appear and disappear, in an almost choreographed manner; there is a certain charm even in derelict landscapes as experienced at speed. Is it possible then that travellers passing through such terrains are able to notice the unnoticeable – phenomena that do not exist outside speed, perceptual

landscapes constructed temporarily under the interference of speed and

the passenger's perception, in other words ambient landscapes?

4   AMBIANCE AND THE AESTHETICS OF DISAPPEARANCE

Employed in music first by Erik Satie to encompass uncontrollable events, and later in the music and writings of John Cage, or even more recently in the experimental work of less undisputed artists such as Brian Eno, 'ambiance' is used in this context to connote an environment composed of several overlapping layers of attention. The landscape experience on the move does not finish at sight. Nor is it just a photogenic reproduction of landscapes blending with each other. The world on the move is not mute. There is an ever-changing soundscape accompanying the journey. The rhythmical movement of the train, the sound of it perceived together with other sounds or noise inside the carriage, the sensation of speed with landscape elements such as lamp posts flashing momentarily at regular intervals keeping a sort of tempo, the feel of a breeze caused by speed penetrating the capsule, all these contribute to a unique 'ambiance'.

The notion of ambiance points to intangible space and to the intangibility of what we are to represent, posing one of the main problems in space-time representation. This intangibility has been captured in the notion of *the aesthetics of disappearance* as coined by Virilio.[16] This refers both to the experience of rapid change and fleeting boundaries and to its representation. It can be employed to relate passengers with the conditions of the landscapes they are passing through and which are disappearing, literally and metaphorically, under speed. It relates speed, the landscape and contemporary means of representation based on the moving image. Through this lens, hidden landscapes can be revealed and

new perceptions materialise, embracing disappearance from a positive outlook. So the architectural site gives way to the landscape journey, or the experience of a sequence of sites; and the object/artefact (which in practical terms could be any road- or rail-side feature) gives way to its perceptual equivalent, with a number of motion-related variations depending on the speed under which it is viewed.

In the contemporary freeways experience, speed is no longer just useful in terms of getting around easily – it also enables new ways of seeing and conceiving.[17] Speed enables 'panoramic perception', a panoptic experience of the landscape for the viewer who 'no longer belongs to the same space as the perceived objects' and sees them through the filter of 'the apparatus which moves him through the world', so that his experience is conditioned by 'that machine and the motion it creates'.[18]

Historically, the perception of motion as "disappearance" has been a central preoccupation in the arts where, since the beginning of the 20th century and industrialization, references to "the physical speed of express trains, racing cars, flying machines" appeared in tandem with "the psychological speed of reaction time required by the modern city-dweller, confronted with a dynamic multiplicity of simultaneous events and impressions".[19] The Futurists adored speed and manifested it as the principal characteristic of modernity. Cubism was one of the first movements trying to bridge the gap between perception and representation: Guillaume Apollinaire wrote in about 1913 that "the main aim of the new art is to register the waning of reality".[20] Fernard Léger spoke of new, non-habitual ways of seeing, introduced by the new means

of locomotion and their speed.[21] The world had reached a stage when perception of motion and its representation were no longer removed; an 'aesthetic of disappearance' had arisen. The 'path' became equally important with the 'subject' and the 'object'. It was now necessary to know not only the spatial or temporal dimensions of things but also their speed.[22] This path, the trajectory of light for vision, was represented through various devices in the Arts: the cubist drawings unfolding a movement through its momentary postures; optical phenomena in kinetic art[23]; multiple exposures in photography; trace forms in dance[24]. As a confirmation of the transforming power of rapid movement, the art of cinema gradually established itself as "truth twenty-four times a second"[25] through the disappearance of the individual image.

The decisive moment however for the larger scale of the landscape can be traced in the late 1960s-early 70s with the emergence of land art that made the boundaries between art, environment and landscape design disappear; the landscape could now be viewed as art from a high-speed vehicle.

As Cosgrove put it, "what characterizes, above all, the differences between early modern and postmodern landscape vision is the disappearance of lines, the dissolution of boundaries, both conceptual and visible".[26] In retrospection, although originating in the arts, the "aesthetics of disappearance" may be an appropriate strategy for the much larger scale of the transitional landscape, where "the deliberate organization of a route and the landscape around it with an eye to the traveller" may turn motion perception into an aesthetic experience.[27] More recently, work

done by Dutch practice Mecanoo in relation to planning for highways introduced time and distance collage as a way of demonstrating the new notions of shrinking space and extended time. [28] In line with the aesthetics of disappearance this representation is revealing of the non-objective dimensions of architecture and landscape, whose duration in time for a viewer passing by at speed affects their perceptual existence – in the countryside where the train speeds up, spaces shrink, while in the city where it slows down, spaces expand in the perceptual experience of the journey. Hence spaces no longer have fixed dimensions as shown on plans: they appear and disappear depending on their perceptual duration.

Such an approach requires a shift from dominant landscape theory and practice that focus on engagement with "static" spaces, where one can walk about and get involved in different activities, towards engagement with a detached and disappearing environment; a shift also from the journey destination to the journey itself, in favour of perceptual factors or meaning rather than physicality. Imaginary artefacts can be 'constructed' outside the limits of known geometrical space, but within the limits of perceived space.

5   TIMELINES

In the case of the transitional landscapes, to immobilise movement in order to "see" would mean to find ways to "freeze instances" of the landscape passing-by in our perceptual framework, so as to establish them as actual facts and to record them as memories. This was the aim of the notation timelines introduced in the research project focusing on the stretch of the transitional railway journey from London to Stansted Airport that will be presented in the rest of this article.

Notation systems are "symbolic coded systems, for the recording and later playback of information events in time".[29] In scientific writings time-series charts have been used since the late 1700s.[30] One axis shows time and its variables: seconds, minutes, hours, days, weeks, months, years etc. Multiple time-series enforce comparisons within each series over time but also between the different series.

The Stansted project involved a wider design method independent of site but dependent on time, both for the journey scale and for the momentary perception of motion. To this end the research focused on mapping the journey on timeline diagrams with a view to deriving an overall design "script" from those. Notation was therefore part of the documentation process, when facts documented through video were notated on paper, and of the design process, when design interventions were similarly notated. It was envisaged that it could become a useful tool for designers and that its applications could be extended to any scale of architectural, landscape or urban design involving motion.

Ten trips by train from London Liverpool Street Station to Stansted and back were video-recorded over the period of a week and under various weather conditions. The resulting documentation footage was analysed through repeated viewings; selected data from the video clips were then passed on to paper. Data were recorded according to the time when they happened, when they were perceived in the video frame, rather than their location on the map. Common elements in all timeline diagrams were a sectioning of the data into background, midground and foreground (BMF) in the vertical coordinate and time as the horizontal coordinate[31] [Fig. 2-3].

The process of translating data from videos on paper involved the production of timeline diagrams with specific time intervals (equal spacings) and BMF structure; locating points of reference in time (based on timecode of video footage); and locating data according to points of reference. In this sense the notation system developed had similarities with a music score. In music, the score allows both the performer to play and the composer to compose. The score unfolds horizontally; vertical gridlines separate sections of equal time length. The symbols used represent not only specific notes on the octave but also their duration.[32]

We find associations to this type of representation in the notation systems of Appleyard, Lynch and Myer on "the view from the road"; also in the work of Amos Rapoport[33] in relation to pedestrian and vehicular speed and space. In the first case, vertical timelines to be read from bottom to top were used to notate space and motion, orientation and light sections as perceived along a highway; the temporal and kinaesthetic aspects of the

motorway experience were emphasised and music terms such as *tempo* and 'rhythm' used heavily. In the second case, time is mainly implicit when comparing spaces of different scales experienced in the same period of time by pedestrians and motorists. A revival of such time-based notations came in 2003 on the occasion of the First International Architecture Biennale in Rotterdam, where the agreed notation method for showing data from highways around the globe included maps in combination with time diagrams.[34]

However, movement notation has been explored in a different context (the "Manhattan Transcripts") by architect and theorist Bernard Tschumi. In this theoretical project Tschumi explores the boundaries of architectural convention or its representation by contrasting it with codes from other disciplines such as film, music and dance.[35] Graphic visualisation includes storyboarding; choreographic notations using arrows, lines, and the balance and weight of forms on the page to express movement's dymanics;[36] and three-dimensional 'trace forms', continuous volumes, as if a whole movement had been literally solidified, 'frozen'.[37]

In contrast, in a project that was intended to be realised*,* the fireworks at 'La Villette' (summer 1992) Tschumi's notations are a list of directions; a second by second account of the actions which dictate the event in space and time.[38] The notation system consists of five horizontal bands representing, from top to bottom, perspective view, plan, elevation, colour (points, lines, surfaces), and sonic intensity. The event is then mapped on 7-second intervals, notated vertically. The simultaneous recording of change in both elevation and plan for an event that by its nature is

ephemeral and intangible opens up an opportunity to track it down and perhaps 'freeze it in time' so as to be able to analyse it; or even the opportunity to include temporariness as a factor in architecture, together with typical architectural modes of representation (plan, elevation, perspective). The incorporation in Tschumi's notation system of attributes such as colour and sonic intensity suggests an ambient environment rather than a fixed artefact.

On the conventions of notation, the Stansted timelines were to be read from right to left. This reflected the initial orientation of the maps used – dismissed in the process- and the direction of the gaze documented in an outbound journey. The process involved reading the map from London outwards, with the side that the camera was looking at always at the top of the page. This provided an indicative rather than an extensive notation: one could repeat the process for the rest of the documentation footage, as well as for the other direction; the gist of the process however was attained through the current representation.

Data notated represented specific landscape factors or parameters. The choice was dictated by the author's interest in ambiance, motion and the landscape, and concentrated on ambient factors such as light, depth of field and density, landscape factors such as landscape character and use, landmarks and landscape features, stations, cuts and embankments, bridges and overheads, and apparent motion of objects in the landscape (that is represented as "duration" on the timelines). Depending on someone's design agenda, one could choose to record different factors from the ones selected here.

A composite timeline of thresholds of change showing tempo-spatial intensity was then produced. From that, a scripting of the existing journey was derived and areas where interventions could assist the continuity and identity of the journey were identified. The criterion for that was the amount of change in the factors notated – the thresholds of change provided its visualisation.

5.1. Notating Depth of Field of Vision [Fig. 2]

The vertical division of the timeline diagram in foreground, midground and background, was based on the assumption that the axis of time was the line of the railway, or the vertical plane of the window frame as presented on a plan. Foreground was the first division of the landscape, the closest to the line. A dark horizontal line represented the duration of a particular depth of field. For instance, when this line overlapped with the time axis, that implied that there was no depth of field, i.e. we were travelling inside a tunnel. When it overlapped with F (foreground) it implied a short view (up to 100m). When it overlapped with M (midground) it implied 400-700m distance and with B (background) a long view (over one Km away). All these are indicative distances, as the divisions did not represent real distance, but a diagrammatic range of distances, and information was notated based on how far the eye could see. A dashed line represented a filtered view, for instance through trees or other obstacles.

The field of vision was hence defined in relation to the video frame. How the frame was organised in foreground, midground and background, what

features remained stable and constant, how they related to things that moved and changed and how far one could see were the main issues here. When the view extended to the background, the potential for intervention stretched; if the depth of field was restricted to the midground, there was no point designing things in the background. Depending on how fast things moved in the frame of view, one could derive information about the position of objects in the depth of field, as background presents the slowest apparent motion and foreground the fastest.

These observations extended further from the classical characterizations of landscape foreground, midground and background, whereby in long distance views the eye can only perceive major topographical features, texture is uniform, colour is visible as lighter or darker parts of an overall blur, and succession can only be perceived by observing overlaps; there is little sense of depth. [39] In contrast, because of speed, succession is followed easier; and while colour is blurred, on the overall in long distance shapes and forms are clearer and their overall scale can be better perceived and in shorter periods of time.

Organisation of space into enclosure and openness was also partly present here and could be further derived from the superimposition of the current and following timelines.

5.2. Notating Landmarks and Landscape Features [Fig. 2]

"Landmarks" were defined as interesting buildings or other artefacts in the landscape that stood out of the "blur" and could arrest someone's

attention. This definition went beyond the common use of the term that refers to important buildings or monuments. Question marks indicated areas of ambiguous character.

The idea of a "motion path" as used in post production video software provided a notation method for this timeline. Landmarks on the timeline did not appear as on a map, that is as a fixed constellation of points. They also had duration. Occasionally landmarks moved in the field of vision (for instance from background to midground). Landmarks closer to the train would tend to last less than landmarks further back which tended to last longer. The latter would also appear, disappear, and reappear, frequently concealed temporarily by objects in the foreground. I started recording these points of appearance/disappearance as peaks of attention.

5.3. Notating Cuts and Embankments, Bridges and Overheads [Fig. 2]

By virtue of their close location to the passenger's viewpoint, cuts and embankments, bridges and overheads signalled a change in attention, and a blocking of the view. They emphasised enclosure and the passage to openness. The more objects passing overhead or in the foreground, the higher the visual speed or intensity. They also affected the light conditions experienced inside the train; this relation was explained in the following notation diagram (light timeline).

5.4. Notating Light [Fig. 2]

What was notated was a range of light conditions with three main variations, dark, bright and in-between. Bridges for instance appeared as dark lines on a light background, which representation-wise facilitated the understanding of abrupt change: the lines stand out on the timeline, the bridges stand out in the journey almost like "focal points" of abrupt, noticeable although minute, change. This led to the idea that interventions of this nature could also be attractors of attention. The overall timeline resembles an abstract music score, with periods of darkness introducing a certain beat or rhythm in the journey.

5.5. Notating Density of Built Space [Fig.3]

Built density was represented with grades of grey, from dark grey in the city or inside settlements, to white in open fields. Notating built density provided information about the degree of spatial openness or enclosure, in particular when used in combination with the depth of field timeline. It was envisaged that information on this aspect of the landscape would reflect changes in its feel inside the capsule-train.

5.6. Notating Landscape Use and Character [Fig.3]

Landscape use and character involved residential areas (red), industry (purple), stations (yellow), open fields (light green) and ambiguous areas (question marks). In contrast to the use of such categories in planning surveys, this timeline emphasised the variety of characters on the journey to Stansted, their repetitions and their haphazard interchange.

5.7. Notating Thresholds [Fig.3]

The thresholds timeline locates areas of continuity (through colour coded boundaries) and areas of change/thresholds (where a high number of colour coded boundaries overlap). A change of the scene's landscape character, a radical and abrupt change of depth of field resulting in apparent change in the speed of the landscape, a change from openness to enclosure, or from light to dark, it was argued that any of these changes constitutes a threshold, however the main thresholds are where many of these transitions occur simultaneously. This was something possible to deduce from other timelines and to represent in a separate timeline diagram. A few very important thresholds were also notated: their types were defined in more detail in relation to their impact on the interlinked scenes as "abrupt", "dissolved", "maintained", or "mediated", following a classification proposed by Appleyard et al.[40]

5.8. Composite Timeline [Fig. 3]

In this notation diagram, all timeline diagrams were superimposed to produce a composite timeline. This resulted in one diagram with all the information needed to decide on areas for intervention. The criterion for that was the amount of change in the factors notated - the more overlapping factors changing at a time, the more confusing and cluttered the experience; but also, very little change meant boredom.

5.9. Scripting the Journey [Fig. 4]

"Scripting the journey" addressed the overall design strategy, which followed on from the composite timeline. Scripting evoked the aspiration to restore a sense of flow and tempo akin to an experience of the journey as a performance or as a movie, with peaks of attention, repetitive scenes, pauses and other elements that constitute a good "montage". In this way, the sequential character of the transitional landscape was taken into account in the analysis and the design of it. The locations of interventions were defined in relation to the intensity of the journey (mapped through the thresholds timeline).

It is important here to define the criteria used in the 'scripting' of the journey. The way scenes succeed each other in time and in the landscape was considered to be of paramount importance. This arrangement can cause confusion, ambiguity, excitement, exhilaration and a range of emotions in between. So the combination of scenes determines their effect. An intense scene coming after a period of low interest will be welcome; too many intense scenes in a row will be tiring.

This was one of the criteria used in the 'scripting' of the journey. It is in accordance with the Kaplan scheme of environmental preference, where the involvement in the present or immediate environment is based on complexity, enough to keep somebody occupied; too little complexity is boring and too much is undesirable.[41]

Apart from the change between scenes, an overall continuity and coherence is also desirable as it aids making sense of the environment.

Coherence refers to how easy it is to organise the present of immediate environment in a spatial context, how clear its structure is and how well it fits in a setting (fittingness), as well as its repetition of elements (redundancy) [42]. Recurrent periodicity equals ease of anticipation. Secondary elements such as roadside features (lamp posts, electricity pylons etc) may be used to this effect; but also more ambient ones, such as light and shade. These should be repeatable and recognisable, points of reference or milestones.

"Scripting" drew also on suggestions from environmental psychology that "external rhythms (structure of environmental information) drive attending (attention), permitting enhanced selective attending in time (perceiving)…Attending can be "tuned" in that it adapts over time to changes in event-structure. This implies that the temporal structure of events governs the ability to attend".[43] Against the standard use of attention, awareness is dynamic, thus one can anticipate the event that is to come in time.[44] This means that an unfamiliar traveller could anticipate the next transition or event through design.

In the Stansted project 'scripting' was based on three categories of interventions: events, instances, and epochs. Events were peaks of attention and larger at scale; instances were minimal interventions with an element of continuity; epochs were variations of both through the seasons. These did not necessarily mean built structures and permanent artefacts but also subtle installations with ephemeral dimensions animated by their perception at speed. They were however extended into several types, such as events in foreground, in midground or in all grounds;

instances in relation to continuity in the field of vision, for instance by filling the "gaps" in the foreground or the midground with repetitive elements; instances to resolve ambiguity of use, activity or meaning; instances to preserve continuity or variety of light tempo; and instances to bring focus on a landmark. These areas of intervention, so far only defined in time, were then identified on the actual map of the journey [Fig. 4].

There is a difference between a map, where all points are equal, and the actual experience in time, where some scenes last longer than others, depending on the speed of the train, and some points in the view last longer than others (background), while others disappear at speed (foreground). Intervention areas were looked at in more detail, resulting in specific themes.[45] Each intervention was worked as a sequence with specific rhythm and tempo, depending on how long a particular scene would be experienced for. Storyboards were employed in order to show how scenes stretch in time. Each sequence was split in parts – phrases, depending on this duration [Fig. 5].

The notation process was thus part of a wider design method for working with "moving landscapes". This consisted of a sequence of cycles, between journey scale and momentary scale; between video documentation and timeline diagrams; between compositing, scripting and mapping; designing specific interventions and designing their variations in time; and finally designing in-between the scenes, the thresholds.

The relationship of the notation timelines to the design process was seen hence as one of critical supplement. No doubt established methods such

as masterplanning, planimetric or sectional drawing, etc are still important for formulating spatial concepts. However timelines are crucial at exploring issues to do with duration, speed and perception during the analysis stage, and at showing how design unfolds in time during the design stage. The intention was not to produce final products, to be built or manufactured; this would suggest a whole set of other processes, in relation to logistics and construction technology, which were not within the scope of the research. Rather the proposed process generates conceptual 'sketches' or 'diagrams', that can then be taken further through commonplace architectural methods. This choice of method was with a view to accommodating the needs of professional use; one could establish the impact of a proposal on the landscape and its perception from the very first stages of the design process. It remains to be shown, though, if the proposed 'diagrammatic' designs would pass the test of pragmatism in a more applied project. In the passage from design research to real product, other issues come to prominence, such as logistics, planning permissions, construction technology, materials, etc, which would have to be addressed. There is a leap between the research exercise presented here and the requirements of the professional world; but one that is not impossible to undertake.

6   REFLECTIONS ON NOTATION AND OTHER NOTES

As the process of developing the timelines took its course, a number of interesting points came to the fore. A degree of subjectivity is inevitable in any process that does not lay claim to being in the realm of science. However, the timelines allowed the systematic recording and exploration of factors that would not normally be documented otherwise, such as for instance the change from light to dark in the space of a few minutes travel; the unique rhythm that the train passage under dark overheads brings to the passengers' experience of the journey. Understanding the journey – or any other architectural site – through the recording of such information brings new dimensions to the design process.

The design method developed enables an enorchestration of the journey landscape and pinpoints where attention should be placed. That means that the designer would have an overview of the journey and places for intervention; individual interventions could then be commissioned to be designed and subsequently represented in more detail. Especially the accurate recording of parameters on timelines could extend to include more data or other types of data deemed appropriate depending on the scale of the project – but this is open to further investigation. The time limitations of this research allowed for an indicative rather than an extensive use of the timeline concept.

One can, however, speculate that such an approach might influence the more productive aspects of design, too. Buildings, 'soft' landscapes or

artefacts could be designed to be viewed in motion and read at speed, sequentially.

> "*In metropolitan cities with satellite airports, such as London, motion-related design projects could be part of 'art commissions' to improve the traveller's experience in relation to airports [with] [...] important gains [...] falling in the domain of economics, such as the optimisation of performance for railway or bus operators through increased customer satisfaction and ridership; airport operators may market their locations in relation to such routes and experience an increase in customers' preferences; finally and most importantly, this process may generate a higher community involvement with the construction of individual interventions that have a wider social impact beyond the local use [...]"*[46]

There is a tension identified between the experience of the transitional landscape by passengers on moving vehicles and, on the other hand, the experience of the same landscape by non-mobile users. The notation timelines focused on the former, on the assumption that the static experience is much better accounted for in the traditional architectural praxis, and would be a known, were designers to be involved in such commissions. Obviously both sides need to be considered in projects of this nature.

In this exploration, video represented the experience of the user, the user's point of view, and provided an overview in time, especially with the use of digital video editing packages where the timeline unfolds in front of

your eyes. This timeline function was the initial inspiration for a notation system transferring data from video on paper in relation to time and not to space. In digital film editing, by analysing the edited timeline one can appreciate how montage affects the meaning of the film, as a sequence will have a completely different effect depending on what precedes and what supersedes it.

In the transitional journey we experience a sequence of landscapes. Things make more sense as part of a period: one can recall the change from dark to light, or from enclosure to openness; a designer can thus enhance awareness through working with time rather than space change. What comes first and why, how they interrelate, what speed they are viewed under, affects how the landscape tells a story, and what effect the journey will have on the traveller.

'Duration' becomes a crucial issue in designing for a sequence of moving landscapes, in contrast to designing for one static site. 'Duration' is akin to the use of 'interval' in kinetic art, which can give a range of completely different impacts:[47]

> The drones of an airplane or the shadowy form of a hummingbird wing (individual impulses which appear continuous) are at one end of the gamut; stroboscopic photographs and oscilloscope curves (continuity shown as stationary images) are at the other.

Similarly, elements in the transitional landscape can be designed based on motion effects to materialise when observed under speed.

Each design tool has its limitations and it is within these that we are working towards more holistic approaches to design and its representation. One of the drawbacks of the method was that it required manpower to translate data from the videos to the timeline notation diagrams. The videos had to be viewed several times by one person (the author) noting one factor at a time. If that process of notation could somehow be automated, or if a crew of observers-notators were used, not impossible in professional practice, the method would be much faster.

Within this context, my last notes intend to point out variations in notation rather than prescribe the absolute system. The notation diagrams should clearly define whether things are notated at the point where they are perceived or where they are in physical space. Data recorded will depend on the time interval used. How timeline segments relate to map points is also important, as a designer needs to know how the timeline diagrams correspond to space. However, an understanding of the time structure of the journey is the most important contribution of the timelines. It suggests that the process of design could start from the temporal rather than the spatial arrangement (as represented in the timeline or in a storyboard), then move on to the spatio-temporal (as represented by the simultaneous use of spatial design tools with time-based animation tools), adding thus a novel dimension in the design process.

There was an issue with notation on paper. Our accustomed way of reading and writing on paper in the western world by definition implies a direction of movement from left to right. The proposed timelines were to be read from right to left which corresponded to a singular outward

journey (still, it was possible to read them from left to right as well). A third layer of movement was that of the things notated: an object that would move to the right in relation to our direction of travel (facing) would be notated moving from right to left in relation to time. Only in a representation without temporal dimension would such contradictions be overcome, such as for instance that of J. J. Gibson in "*The perception of the visual world*,"[48] or the choreographic layouts and trace forms, where time is implicitly represented through the object's trajectory or with directional arrows in an otherwise time-less sketch.

7 CONCLUSIONS

Acknowledging the transitional landscape as a public space in its own right, no matter how temporary, allows for design to occur 'in-between' the physical terrain and its temporary occupants. Time and motion become crucial parameters in this design process as speed turns landscapes into landscape sequences, and site design into itinerary design.

The documentation of a journey in time through notation timelines enables design decisions to be taken at the journey scale in ways similar to composing a music score or scripting a film. A similar documentation can be undertaken at the scale of specific interventions in order to ensure design proposals that unfold with time and work with motion perception. As in music, rhythm and tempo, repetition and continuity, pitch, duration, and intensity are tools to work with time and the landscape. As in film, the sequential arrangement of spaces is the prime element of any design for transitional landscapes.

Time-recording devices such as video provide the designer with a vast database into which one can dive in order to gain more understanding about space, especially "moving" space, through careful observation, something not physically possible with other means, such as sketching, models, etc. However, to be useful for a designer this information needs to be selectively represented on paper, and related to time and space. Timeline drawings chart this selection process and aid the processes of observation, clarification and interpretation.

With the help of timeline drawings, the designer can determine the positions and sizes of proposed elements according to observations on the video footage, such as rhythm and flow of motion, pauses, and depth of field, and not according to abstract site plan indications. The notation method proposed in this paper enables a "scripting" of the landscape journey and pinpoints where attention should be placed. That means that the designer would have an overview of the journey and where interventions could be positioned; then artists, architects or other designers would be commissioned to make the relevant works. Especially the systematic recording of parameters on timelines could extend to include more data or other types of data deemed appropriate depending on the project, hence allowing for flexible and process-based design.

The notation timelines presented refer to a specific example from landscape design for transitional landscapes. However, as Appleyard et al have suggested, similar methods can be transferred to architectural projects of any scale and enable architects to visualise a building's, a neighbourhood's or a city's life in time; in other words, they can be used "to thaw the frozen image".[49]

ACKNOWLEDGMENTS

LIST OF FIGURES

overlap). The composite timeline superimposes all previous timelines for comparative analysis.

4   Stansted project – scripting the journey; types of instances and events; mapping the script. The top drawing is a composite of all timelines showing how the script emerges. For instance, you can see Event G located between the residential area of Tottenham Hale and the industrial area just after the river Lea (canal) and how it merges with instances to form an introductory intervention (described in Fig. 5). The middle drawing is the script timeline. The drawing at bottom left describes the particular symbols used for different types of instances and events. The drawing at bottom right locates the instances and events from the timeline onto the journey map. It also numbers the event-interventions from A to G.

5   Stansted project – design unfolding in time: water intervention with time intervals/phrases, Walthamstow marshes/event G. This was an event situated in an area identified as the introductory, or arrival, zone to London. Just before entering the city, between Tottenham Hale and Bethnal Green, where the sudden increase in density alerts the viewer to the fact that the train is approaching urban land, there is a sequence of less clear sites. The intervention was to act as an introduction to the city, marking the condition of arrival (or departure). Its aim was to reconnect the passengers with the hidden attributes of the landscape they were going through, which was for its most part 'submerged in water': concealed from view through high embankments, water reservoirs surrounded the railway line, followed by the Walthamstow marshes, where

the intersection of two railway lines takes place, and the River Lea, a clear demarcation line between city and transitional landscape. The intervention had three unfolding parts, first, a solid wavy wall, second, an illuminated fence, and third, the water explosions. The wall as a static structure could be used by the local community as a children's playground, while being perceived from the train as a fluid element. The illuminated fence was to be triggered by the passage of the train, while the water explosions generated a certain rhythm in the landscape subliminally linked to the water reservoirs. The top drawing describes the rhythm and sequencing of the intervention, while the bottom drawing is a choreographic layout representing its motion dynamics. The drawings are composites of background map with indication of intervention, time sequencing, and still frames from edited video clips.

ENDNOTES

[1] See, for instance, P. Thiel, "Unique Profession, unique preparation," *Journal of Architectural Education* 17/1 (1962), pp. 8-13, and D. Willis, "On weathering: the life of buildings in time," *Journal of Architectural Education* 48/2 (1994), pp. 126-129

[2] Thiel supports that such works offer "plastic suggestion[s] as to the transformations in appearance of forms as we move around them or as they move past us" ("Unique Profession, unique preparation," p.11).

[3] "Unique Profession, unique preparation," p.12.

[4] N. Barley, *Breathing Cities – the architecture of movement* (London, Birkhäuser Publishers for Architecture, 2000).

[5] See "Reclaiming the Obsolete in Transitional Landscapes: perception, motion, engagement," *Journal of Landscape Architecture,* 2006/2, pp.16-27 (p.19)

[6] D. Appleyard, K. Lynch, and J. Myer, *The view from the road* (Cambridge, Massachusetts: The MIT Press, 1964), p. 63

[7] S. Crowe, *The Landscape of Roads* (London, The Architectural Press, 1960)

[8] Appleyard, Lynch, and Myer, *The view from the road*. A. Rapoport, "Effects of scale and speed of movement" in A. Rapoport, *Human aspects of urban form – towards a man-environment approach to urban form and design* (Oxford, Pergamon Press, 1977), pp. 240-247. A. Rapoport, "Pedestrian street use: culture and perception" in A. V. Moudon, *Public*

streets for public use (New York, Columbia University Press, 1991) pp.80-92.

[9] J. Appleton, *The Experience of Landscape* (London, John Wiley and Sons, 1975)

[10] N. Barley, *Breathing Cities – the architecture of movement* (London, Birkhäuser Publishers for Architecture, 2000). M. Schwarzer, *Zoomscape – architecture in motion and media* (New York, Princeton Architectural Press, 2004).

[11] See M. de Certeau, *The Practice of Everyday Life* (Berkeley, University of California Press, 1984), p. 112.

[12] See M. Augé, *Non-places: introduction to an anthropology of Supermodernity* (London, Verso, 1992), p.34.

[13] *Ibid.,* p.78-79.

[14] *Ibid.,* p.31.

[15] *Ibid.,* p.84.

[16] P. Virilio, *The aesthetics of disappearance* (New York, Semiotext(e), 1991).

[17] P. Virilio, *The vision machine* (London, British Film Institute and Indiana University, 1995)

[18] W. Schivelbusch, *The railway journey* (New York, Urizen Books, 1979), quoted in K. Ross, "La Belle Americaine – car culture in post-war France" in J. Millar and M. Schwarz, *Speed: Visions of an accelerated age* (London, The Photographers Gallery and The Trustees of the Whitechapel Gallery, 1998), p.68.

[19] P. Wollen, "The Crowd Roars - Suspense and the Cinema" in Millar and M. Schwarz, eds., *Speed – Visions of an Accelerated Age*, pp. 82, 85.

[20] Quoted in: Virilio, *The vision machine*, p.49.

[21] Quoted in: Millar and Schwarz, eds., *Speed – Visions of an Accelerated Age,* p.95.

[22] Virilio, *The Vision Machine,* p. 74.

[23] G. Rickey, "The morphology of movement - a study of kinetic art" in G. Kepes, ed., *The nature and art of motion* (London, Studio Vista, 1965), p. 81

[24] A. Hutchinson-Guest, *Dance notation - the process of recording movement on paper* (New York, Dance Horizons, 1984), p.86.

[25] Well-known phrase attributed to film maker Jean-Luc Godard that refers to the principle of the moving image of cinema.

[26] D. Cosgrove, "Liminal Geometry and Elemental Landscape" in J. Corner, ed., *Recovering Landscape – essays in contemporary landscape architecture* (New York, Princeton Architectural Press, 1999), p.116.

[27] J. Van Adrichem, "From Limes to Hot-Air Balloons: Nineteen Centuries of Mobility" in F. Houben and L. M. Calabrese, eds., *Mobility: A Room with a View* (Rotterdam, NAi Publishers, 2003), p.367.

[28] Houben and Calabrese, *Mobility: A Room with a View*, p.30.

[29] B. Viola, *Reasons for knocking at an empty house* (London, Thames and Hudson, Anthony d' Offay Gallery, 1995), p.102.

[30] See E. R. Tufte, *The Visual Display of Quantitative Information*, (Chesire, Connecticut, Graphics Press, 2004)

[31] Time-series graphics "should tend towards the horizontal, greater in length than in height" - in perpendicular intersections, heavier lines should indicate a data measure. Tufte, *The Visual Display of Quantitative Information,* p.186.

[32] For the use of notation in architecture in relation to strategies of indeterminacy developed in music see C. Macnaughtan, "Indeterminate notation and sound in the space of architecture", *The Journal of Architecture*, 11/3 (2006), pp.335-344

[33] See footnote 8 in this article.

[34] Houben and Calabrese, *Mobility: A Room with a View*

[35] A. Vidler, *The architectural uncanny: essays in the modern unhomely* (Cambridge, Mass., The MIT Press, 1992)

[36] A. Vidler, *The architectural uncanny*, p.106-107.

[37] B.Tschumi, *The Manhattan Transcripts* (London, Academy Editions, 1994), p.10.

[38] B. Tschumi, *Event-Cities (Praxis)* (Cambridge, Mass., and London, The MIT Press, 1994)

[39] See T. Higuchi, *The Visual and spatial structure of landscapes*, (Cambridge, Mass., and London, MIT Press, 1983)

[40] Appleyard et al, *The view from the road*, p.18.

[41] S. Kaplan and R. Kaplan, *Cognition and Environment: functioning in an uncertain world* (New York, Praeger Publishers, 1982), pp. 82-83.

[42] *Ibid*., pp. 81-83

[43] Large and Jones (1999, p.149), quoted in H. Heft, *Ecological Psychology in context: James Gibson, Roger Barker and the legacy of William James's*

radical empiricism (Mahwah, N.J., and London, Lawrence Erlbaum Associates, 2001), p.184.

[44] Heft, *Ecological Psychology in context*, p.184.

[45] For a detailed account of interventions generated through the design process described see "Reclaiming the obsolete in transitional landscapes: perception, motion, engagement," *Journal of Landscape Architecture*, 2 (2006), pp.16-27

[46] *Ibid*, p.26

[47] Rickey, "The morphology of movement - a study of kinetic art" p. 106

[48] James J. Gibson, *The perception of the visual world* (Boston, Houghton Mifflin, 1950), p.121.

[49] Willis, "On weathering: the life of buildings in time," pp. 126-129