The history of the future of a new town
Milton Keynes, the 'Forest City'

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Abstract
The history of Milton Keynes' future, including both the realized and unrealized schemes of this new town in the United Kingdom, provides crucial information that can be used to inform future scenarios. Milton Keynes, which was established in 1970, was envisioned as a Forest City and implemented a landscape framework of *beads*, *strings* and *setting* for urban grid forms. The agency of future landscape visions are investigated using futures methods, including backcasting and representational studies, alongside interviews, GIS, drones and fieldwork. The landscape visions contribute to the city's existing and future identity, which has not been fully accounted for in Milton Keynes studies.

Keywords
New towns / Future cities / Urban landscape / Landscape scenarios / Design cultures

Introduction

> The plan shall lay the foundations on which an organic process of development will grow and become a living reality as the people who come after us plan and build for the future . . .[1]

How can the exploration of the differences between what was proposed and what was realized throughout an urban design process provide valuable insights into the growth of a new town? In this sense, the analysis of the history of the future visions of Milton Keynes in relation to the morphology of the site offers comprehensive material for the discussion of the adaptability, flexibility, social development and planning phases of new towns in the UK and beyond.[2] As one of the most significant new town projects in the UK, the planning process of Milton Keynes, initiated in 1967, involved the integration of planning, architecture and landscape on an unprecedented scale. Contemporary Milton Keynes presents the most extensive urban landscape in the UK, with over 24 km^2 and more than 22 million trees.[3] It recently acquired city status and is now a governmental flagship town for economic growth.

Milton Keynes' future direction raises important questions. As Matthew Carmona and Valentina Giordano state, there is a continuing design deficit for local authorities in the UK and a lack of landscape and urban designers across the UK, with two-fifths of local planning authorities still having no access to urban design advice, two thirds with no landscape advice and three quarters with no architectural advice.[4] Milton Keynes provides an example, and also faces significant future challenges with contemporary growth and further expansion to the west and east, as shown in the adopted *MK Futures 2050* commission strategy report.[5] The aim of this article is to account for how future visions operate from a city-scale structure to specific grid

square schemes and to cast a critical eye on their legacies. There is a pressing need to gather evidence of the sources in which Milton Keynes has viewed its future by looking at its past. The proposed infill for south Milton Keynes in preparation for the East-West Rail infrastructure project between Oxford and Cambridge, using an old varsity line, potentially suggests that the urban landscape of Milton Keynes can drive and support contemporary scenarios for critical urban development, particularly by backcasting to the founding new town material and adjacent visions of the future.[6]

Milton Keynes' urban landscape

As London and the southeast populations expanded in the mid-twentieth century, the number of planning studies and government reports set a precedent for the establishment of new towns in the UK (Fig. 1). Developed from garden city legacies, these studies include the Barlow Report, the Abercrombie Greater London Plan, the New Towns Act and Traffic in Towns. As for Milton Keynes, the first visioning exercises had only concentrated on smaller existing settlements. Geoffrey Jellicoe proposed a futuristic city à la Le Corbusier for Wolverton, Buckinghamshire, in 1945, and the Engle plan proposed a J.G. Ballard-esque high-rise for the town of Bletchley to expand. However, the most significant vision was called 'Pooleyville' and was devised by Buckinghamshire County planners Fred Pooley and Bill Berrett. They envisioned a centralized, accessible point-of-use monorail transit system for its residents, which could be viewed as one of the earlier forms of ecological sustainability principles.[7] Pooley and Berrett originally proposed a design with four monorail loops connecting living areas like 'beads on strings', with a central work and service zone: a plan prioritizing public transport and subordinating the automobile.[8] While Pooleyville was never realized and, as Michael Edwards states, diplomatically shelved, the design material and visualizations were influential in the final city vision for Milton Keynes, formally designated in 1967 in a 88-km^2 area.[9] The 'new polycentric low-density city' would incorporate the existing towns of Bletchley, Wolverton and Stony Stratford as well as another fifteen villages, and farmland delivered by a development corporation.

Finding suitable research methods to document historical future visions and unrealized design schemes and how this affected actual delivery is a significant challenge. Evaluating such schemes for Milton Keynes is incredibly difficult due to the intangible nature of the development corporation's broader architecture, landscape and design cultures, only accounted for through oral histories of surviving members and archives. For example, the original plan for Central Milton Keynes (CMK), as developed by the design team in the strategic plan called PlanMK 1970, differs dramatically from the sketch model presented and from the eventually realized CMK led by Stuart Mosscrop and Christopher Woodward, which opened in 1979.[10] CMK is one prominent example of deviation from the original car-oriented vision, which was crucial for achieving Milton Keynes' growth economically and culturally, but it also follows critical strategic moves to address regional destination retail offerings and office development.[11] As Edwards states, this retail offering came at the cost of access and viability of other grid-square subcentres.[12] However, Christopher Williamson, through a survey methodology and comparative case, argues that the quality of CMK is its building height regularity, structure and order, and future capacity for transport options.[13] However, it is affected adversely by traffic dictating the environment, with limited landmark features and civic focus.[14] Milton Keynes is, therefore, a vital city for understanding future visions and the dynamics of their realization.

PlanMK 1970, the strategic vision, delivered and interpreted as a master plan, can be observed without much deviation from the original intention, demonstrating the importance of strategic plans and visions. Where there was a deviation, this was mainly in the structural zones and the master plan's grid roads, and several factors played their part, such as the need to offer a central core identity, the need for extensive retail offering and job creation, and the need for residential amenities among competing pressures and complex economic and societal issues. Milton Keynes was designed for the automobile and to be navigable primarily by car. As accounted for by Michael Edwards, later design changes have remained problematic in terms of social cohesion, identity and urban design.[15]

A spatial structural vision from the outset, Milton Keynes was developed through various iterations. One particular vision, however, prompted by chief architect and planner Derek Walker (1970–1976), was that it was to be a 'Forest City' based on the automotive vision and the recreational need of residents.[16] This article explores the landscape typologies that made up the future vision of the Forest City and discusses the feasibility of this through the examination of two components of the Milton Keynes grid system and two specific grid squares, the designed scheme for the National Bowl and the unrealized grid element known as Cowcommon Canyon. The rationale for this research is to first understand the agency of unrealized works and visions, the design imaginary and the realized design schemes and how they contribute to the recreational urban landscape and attempts to address the broader identity of Milton Keynes in the 1970 vision. Secondly, these areas are part of a critical total urban landscape typology and an important focal point for the city's future through continuation or deviation from the original plan.

Methodology

What justifies a study of planning visions and historical artefacts of future landscape schemes? In the case of Milton Keynes, planning documentation and archives have resulted in several major academic studies that examine social histories, architectural forms and planning phases.[17] These studies have scrutinized the social establishment of the new town, as well as the establishment of its 'image', political landscape and identity. However, there are significant gaps in the discussion, primarily concerning its urban landscape, which makes up around 20 per cent of the entire city. This applies in particular to the early planning phases in the 1970s, which set the structure for the city.[18] There is every reason therefore to revisit Derek Walker's conceptual vision of Milton Keynes as a Forest City (1970–1974), urban designer Andrew Mahaddie's visual communication of the city, as well as some significant landscape works, such as the Belvedere at Campbell Park.[19] This article also discusses the ideas developed by John Csáky, an events designer, and Neil Higson, a landscape architect, who created major interventions across Milton Keynes' grid squares. Societies shape themselves through the images of the future they construct, and it is important to account for the multiple patterns of thought embedded in designs and the prospective environments they contain. Such focus is not intended to detract from broader contributions by those involved in the creation of Milton Keynes from its inception to the present, but to account for the design cultures developed, as well as the history of the future for the post-war urban landscape of new towns.

The more specific question here, however, is how to study future visions and representations in relation to realized results, in order to understand the urban landscape. The study that formed the basis for this paper utilized various techniques

and methods, including interviews with key actors and fieldwork at the National Bowl and the Blue Lagoon in Milton Keynes. The research utilized GIS techniques, drone mapping[20], embodied ethnographic fieldwork,[21] and archival material (notably accessed through the Milton Keynes City Discovery Centre). The study also incorporated future studies methods to bring a critical lens to the visions marshalled here. While James Corner has accounted for the agency of landscape architecture mapping,[22] future studies methods can provide a supplement through foresight studies or horizon scans, systems modelling and anticipation studies for rigorous forecasting. While futuring is often embedded in planning 'visions' at the governmental and local levels and features in Milton Keynes itself, the futures method used in the present study could be summarized as backcasting, an approach that, as Simon Elias Bibri states, 'discuss[es] the future from the opposite direction of forecasting'.[23]

The novelty of adopting future studies methods is to identify the dynamics and complexity of planning and, against traditional linear historical accounts, to include also the aforementioned history of the future, studied through representational practices relevant to the actual landscape.[24] Furthermore, the active consideration of representational practices inserts important epistemological critique into the methodological approach.[25] Re-drawings by the author were used and created to understand the agency of the representations in two ways. First, to comprehend the original drawings and their embodied ideas of how to create a recreational landscape as well as forming the new town identity in the wider PlanMK context.[26] Secondly, to support discussion and correspondence with members of the original design team who authored these drawings. There was much intangible information about the design cultures of Milton Keynes in its establishment. Richard Buckminster-Fuller and Steen Eiler Rasmussen (and many others) would contribute theories to new town planning, architecture, landscape and design in Monday-evening lectures and presentations to the MKDC team, and the talks influenced the office's design culture and range of visualizations. For example, Derek Walker's own design board as chief architect contained sources from Kevin Lynch, Bauhaus and Capability Brown, hence indicating Walker's use of post-garden city forms to create the Forest City vision.[27] However, this kind of information was not straightforward to gather, as conflicting accounts and different weightings to the activity emerged from interviews, making it challenging to account for primary perspectives.[28] Using the right terminology when discussing landscape and urban design in the 1970s was also important. The term 'placemaking' did not exist when Milton Keynes' urban landscape was created. It is also not appropriate to discuss this period using the theories and categories of 'green infrastructure' or 'landscape urbanism', which are contemporary concepts that do not apply to past forms, even though there are several correlations.

During the research, a large amount of material was only available in analogue form. Some hand drawings and sketches lacked context. Therefore, the hand drawings needed to be georeferenced using a first-order polynomial transformation. This was matched to the OS Mastermap data product and supplemental drone-derived photogrammetric maps created by the author. This process articulated the current site conditions, allowing for a better understanding of how the sites and designs connect with larger urban recreational parks and transport landscape corridors contained in PlanMK. The drone surveying techniques provided high-resolution DTMs, which allowed the digital drawings to be overlaid and compared with modern conditions, additional GIS layers and planning information. However, due to their

intangible nature, such historical design materials pose broader analytical challenges for research, especially when it comes to evaluating the cultural impact. This article, therefore, is not exhaustive, and the paper focuses on the landscape and urban design cultures as part of a broader vision of Milton Keynes as a Forest City. Several unrealized designs for Milton Keynes have also not been fully accounted for here.

A Forest City vision

Backcasting to the original Milton Keynes vision as a Forest City means revisiting the Milton Keynes Development Corporation (MKDC) as its consultant planners began planning the new town in December 1967. Lord Campbell was the chairman, Richard Llewelyn-Davies, Walter Bor and John de Monchaux formed the plan, and Fred Pooley was a special advisor. Melvin Webber's urban planning and futurist theories helped inform the transport grid system. Webber's writing heavily influenced the MKDC to create a grid plan based on extended social contact and attachment to the new town.[29] As a result, MKDC developed a grid pattern of squares of approximately 1 km^2, though this changed later in the city's morphology. In addition, roads were designed to be separated and to run between catchments and not dissect them, with a series of underpasses for pedestrian routes. However, this segregated approach caused various contentious issues that continue to cause problems, including a lack of grid block identity from the view of the road. The cyclist, delivery robots and pedestrians share segregated paths of red tarmac called red ways (coined by Don Perkins) which run 320 km (15 per cent of residential use) that provide benefits but also some of safety and crime perceptions such as wayfinding issues, underpasses and low street lighting.[30]

The 1970 plan had set out the principle of landscape and open space as a 'green city'. However, it was only through Derek Walker's joining as chief architect (1970–1974) and his challenging delivery of PlanMK that the Forest City concept emerged, later to be followed-up through the forming of a central landscape team led by Neil Higson in 1976. Indeed, as Higson remarks, 'the real landscape challenge was to design and create and structure a new city', and the first schemes required adaption.[31] Extensive periods were necessary for plant establishment, even using quick-growing species, and planting plans had to be fit for the future. The realization of the urban landscape vision almost depleted the European tree stocks. However, the legacy of this scheme in the early formation of Milton Keynes and succession has resulted in two issues. First, limited biodiversity in the original scheme has had to be addressed in subsequent landscape works. Secondly, contemporary major development has resulted in the large-scale removal of trees, which deviate, from the original grid structure plan.

The cover of the June 1973 issue of *Architectural Design* featured a photograph of the design team scattered around a mature tree as the representative of the Forest City concept that Milton Keynes was arguably based on. Following Derek Walker, the development of a Forest City involved screening urban blocks, buildings and structures, which would not reach full effect until the trees and designated park spaces gained maturity. Milton Keynes' spatial grid must be understood as a car-based model, but it is also a connective tissue of the urban landscape as a whole. The vision was based on four main landscape typologies: 1) Linear parks, 2) Open spaces and woodland, 3) Recreational landscape and 4) Transport landscape.[32] A general settlement principle of three to five per hectare was the initial idea to enable this vision, this to deliver a density lower than many of the 'problematic' major cities identified by the planners and architects.[33] In reality, however, the actual result was

between 15 to 25 dwellings per hectare.[34] As Michael Edwards states, the Department of Environment enforced density-based cost controls affecting the range of local housing densities and social housing, resulting in the delivery of homogenous suburban grids and the need for additional planting and forestation for mitigation.[35] Thus, the housing issues also contributed, in part, to the emergence of the Forest City idea.

During the first ten years (1970–1980), Milton Keynes took shape as a crescent linking Stony Strafford to Bletchley, then developed to the west and east (Fig. 2). The grids would be punctuated with large open park spaces (though this green space was not entirely by choice). In the new town, 28 km of the linear parks lay in flood plains and were, therefore, 'un-developable'.[36] The linear parks are critical, and many unrealized design schemes are focused on these areas. Higson developed a landscape typology for linear parks and recreational landscapes, amalgamating historical villages. A general landscape scheme was developed through the notions of *strings*, *beads* and *setting*. The first, *strings*, referred to linear parks running on either side of the River Ouse and its tributaries, *beads* are areas forming communal gathering spaces in the city. While *strings* would form a network of green corridors containing footpaths, established first to develop the continuity of the park system, *beads* would consist of sculptures, gardens, car parks, pubs and leisure facilities as focal points to the strings. *Setting*, finally, was used for woodland, grassland and water areas and mitigating historical towns, essentially bulk open space.[37]

Higson created a landscape framework from UK National Park examples, noting the need for multiple uses, agriculture, forestry, recreation and events, so that the land would generate revenue for maintenance. Likewise, Higson's team responded in landscape design to each grid square, totalling one hundred squares. Each square was intended to have its own identity and neighbourhood, each with a local centre hosting services, overlapping catchments and draped on the Buckinghamshire topography. The city grid would use a vertical and horizontal road numbering system, essentially a 'green grid' transport landscape. Some grid squares contained industrial units, while others possessed city-rural aesthetics.

While many architectural experiments yielded mixed results in terms of longevity and social settlement, the Linear Parks, Open Spaces and Recreational Landscape embedded in the plan from the outset, adjusted by Walker's Forest City framework and delivered by Higson, were what provided Milton Keynes with longer-term flexibility and new town place identity and success. Indeed, this emphasis was reflected in the Greentown group, a loose social collective that sought to establish a self-build eco-community in the 1980s for a third garden city of 14 ha in Crownhill.[38] Social collectives and community lobbying groups were sought and consulted in the first development phase of the New Town, and the Greentown group is a strong example of how many Milton Keynes residents sought a voice in shaping their neighbourhoods, including addressing the segregation and isolation of grid systems.

Looking forward, the *MK Futures Report 2050* (2016) by David Lock Associates suggests a need to increase environmental assets alongside planned growth in the same model of the original 1970 strategic vision. It highlights the significantly valued landscape and waterways from the inception of Milton Keynes, including Ouzel Valley, Loughton Valley, Teardrop Lakes and Grand Union Canal.[39] Thus, the original vision and landscape framework could arguably still be conceptually considered as a Forest City and correlate with contemporary visions of Milton Keynes' future to 2050 with over 22 million trees by 2017 and more than 24 km^2 of parkland. Malaury Forget defines contemporary Milton Keynes as an 'urban

laboratory' with pioneering ecosystem approaches and green infrastructure.[40] The landscape framework supported many of the designs for these spaces, yet there are specific tensions with these in terms of implementation and in terms of how contemporary visions for strategic growth respond to the original strategic vision of 1970.

Grids, forms and urban landscape

The 1970 Plan for Milton Keynes established a grid system and transport infrastructure that could accommodate future changes. The Llewellyn-Davies team recognized each road's need for unique features, including the mixture of soft and hard edges, varied planting, embankments, reservation widths and fluid movements through local centres.[41] Although the grid system primarily promoted a car-based transport network, the transportation landscape, which spans around 130 km, contributes to a broader landscape framework and connectivity. PlanMK presented a car-based new town, but the introduction of roundabouts instead of road junctions resulted in many design changes. Volume 2 of the PlanMK outlined fundamental social dynamics, which were informed by feedback from residents. In 1979, Milton Keynes Development Corporation (MKDC) commissioned an urban studies project by Bristol University's Centre for Urban Studies, which involved interviewing residents and creating a perception map of Milton Keynes. The map included wayfinding information, descriptions and recognition of the city's icons. According to Mark Clapson, the city's grid layout reflects an aspiration for movement and meaningful connection with its social, cultural and economic life.[42] At the development corporation, the role of the urban designer was less defined in the 1970s, yet fundamentally contained elements of urban design as understood today. Andrew Mahaddie had a critical role in communicating how each square was supposed to be experienced from the road by utilizing visualization techniques of sketched still frames and presenting future scenarios similar to the compelling method employed by Kevin Lynch, Donald Appleyard and John Meyer in *The View from the Road* (Fig. 1), which is based on a series of sketch frames (cinematic storyboard) to visualize motorway aesthetics and identities as the road user enters each grid square and catchment.[43] As John De Monchaux states, Mahaddie would in this way

> . . . put forward certain principles and illustrations for exploiting the opportunities inherent in the larger pattern of a continuous mesh of pedestrian routes, local roads, and main roads; and it advocated and a careful and systematic evaluation of what was achieved as each new centre and place was developed.[44]

Andrew Mahaddie himself would describe the city grid as a metaphor for an open society and an efficient way of dealing with the car, and this idea resonates with PlanMK and Webber's grid theories.[45]

However, the actual realization and experience of the grid road that was so important for the planners in the first decade caused some issues. While it revolved around the idea of not creating barriers and self-contained grids but, through landscaping, instead screen neighbourhoods from the road, the result was not satisfactory.[46] John Kelcey set out the planting and ecology frameworks for grid roads, later delivered by the central landscape team.[47] The later *City Structure Report* (1980) identified many grid road challenges, failures and deviations from the original plan. The subsequent

design response to the City Structure report intended each square to have ‘overlap’ from one grid to the next for a demographic, social mix aided by the red tarmac ‘redways’ and pedestrian routes, but grid segregation remains. This grid layout underwent several iterations for interconnection and was more successful outside the earliest Milton Keynes settlements and substandard row block housing. Unfortunately, such housing is now at the end of its lifecycle and needs to be replaced, for example Coffee Hall (Fig. 3). As Milton Keynes ages, there are regenerative needs for sections constructed within the same period, such as Netherfield and Fuller’s Slade, which feature a high level of deprivation. The vision of the plan requested housing variety, and the actual first phase of housing delivered architecturally risky and mono-singular units, evidenced by contemporary extensive retrofitting and council regeneration planning agendas dominating the future morphology to 2050.

Further deviation from the 1970 vision can be seen in contemporary housing typologies in the Western Expansion Area (Fairfields), which suited large house builders delivering executive homes from nowhere. As Edwards states, the plan’s flexibility resulted in variations to the original vision, critically affecting connectivity and public transport and exacerbating inequalities.[48] Numerous issues cited by Edwards highlight the deviation from the original Milton Keynes vision, including detailed design guidance and the failure to anticipate private sector housing delivery patterns, denser housing development along streets, and social housing mix, all contributing to grid segregation. In addition, residential lobbying, crime and safety fears required several adaptions to the tarmac pedestrian ‘redways’ as social experience clashed with the designed space. Thus, the transport landscape is highly contested compared to the recreational urban landscape regarding the vision and the reality. The future relationship between high-speed transport roads and the transport landscape also caused issues in 2005, resulting in council debates concerning the reduction of grid road transport speeds and the promotion of alternative means of transport. This included the release of strategic land from the Parks Trust and the promotion of alternatives to grid roads through the ‘City Streets’ principle of side road parking for the Eastern Expansion Area (Broughton) in the Local Plan of that year.[49] Yet while the introduction of City Streets were widely described as a planning disaster,[50] grid roads also remain incompatible with recent policy changes, which reference high pedestrian fatalities on the roads while at the same time calling for grid road extensions.

Neil Higson and a revised landscape team, supported in budgetary terms by Fred Roche, commented on the early phases of grid roads and housing schemes, pointing out that:

> . . . feeble tree growth and bare earth mounds produced a sense of desolation, and early attempts at grid road planting were myopic, one kilometre at a time, and became merely decorative large-scale herbaceous borders devoid of any continuity across the city, exposing housing areas, and with no ecological foundation.[51]

Their message was that the focus should fall on the transport landscape to adapt to necessary urban design changes for grids and local communities through a return to PlanMK 1970’s original vision of connectivity and specific grid identities, which would not significantly alter Milton Keynes as a Forest City.

The effort to adapt the transport landscape is the most contentious issue of Milton Keynes as part of a Forest City vision, as major changes will be needed to address the long-standing deviations and failures of the grid superstructure. The Forest City benefits can arguably be seen in terms of the identity it creates in the work of Higson. The municipal 'Cathedral of Trees' based on Norwich Cathedral, Newlands, is one example, created on a 5-ha site in 1986. Another is the Labyrinth Maze, based on the Saffron Walden Rosicrucian Maze at Willen Lake, Campbell Park. Higson notes that landscape design was often side-lined by other design professions, but the Tree Cathedral was an important node in the Forest City vision and has become a space for contemplation, as evidenced in the Bucks Garden Trust site appraisal of 2018.[52] The connected park systems and cultural spaces were also supported by other teams in the design of consistent street furniture by Brian Milne and Geoff Hollington, such as bus shelters, globe street lamps, waste bins and iconic 'new town' metal oval-punched benches from 1970 as well as key experiments with playground design. The different design teams contributed to the qualitative success of linear parks and open spaces with the later establishment of the Parks Trust in 1992, for longer-term management and stewardship gifted in perpetuity when the development corporation was wound down. First, the handover was contentious; later, land management was also debated, particularly the transport landscape. The Parks Trust has powers for endowment in new development areas and is a guardian for Milton Keynes' four main landscape typologies, totalling over 24 km^2.[53]
The extent to which these designs are managed and maintained is a further issue for stewardship. The backcasting study revealed a hierarchy in the Forest City vision and nuance in the landscape framework, in that the transport landscape provides substantial critical volume, ecology and green infrastructure to Milton Keynes, whereas the recreational urban landscape provides core identities to the city.

National Bowl and DIY parks

The broad vision of Milton Keynes as a Forest City can further be understood through a change of scale and an examination of a chosen grid square and adjacent landscape representation. The National Bowl concert venue is located north of Bletchley and was formerly a brick pit. Due to the extensive cut and fill required for the large new town grid network on the undulating Buckinghamshire topology, soil surplus from the construction of Central Milton Keynes was used for the pit, which greatly reduced the cost of transportation and disposal. In 1973, the idea was conceived to create a performance and event space by constructing a large horseshoe-shaped mound of earth. This was a crucial part of the Milton Keynes recreational landscape. John Csáky, an events designer for MKDC, executed a series of concept drawings of the horseshoe embankment surrounded by trees, built between 1975 and 1978 (Fig. [4 / 3]). The arena has a 200-m diameter with 12.5-m-high banks and a venue capacity of 65,000. To the east of the arena is the A5 major road, and to the west is the West Coast main railway line. An educational nature reserve called Elfield Nature Park is also located perpendicular to the railway line. The National Bowl was intended as one part of Higson's landscape framework of *beads*, a self-contained recreational landscape entertainment grid square as part of a linear park. The Bowl connects to a series of balancing ponds called Teardrop Lakes (Loughton balancing lakes) and has footbridge access and rights of way at several points of the site. The National Bowl also has a strategic helipad. The intention of the Bowl can be found in Csáky's original sketched vision, and the first iteration included an underground lake, a water park, airshow displays, a bohemian

campsite and a giant natural maze, among other elements in four sketched schemes. The National Bowl is, therefore, a critical asset, and its future should be carefully considered. Csáky designed Teardrop Lakes to the north and also proposed a project called ‘Las Venice’ (c. 1974), a landlocked pier and pit bridging the Teardrop Lakes in the Bowl. The balancing lakes were an essential scheme to alleviate flooding from the Ouzel River. In the Las Venice proposal, which was not realized, a connected railway meets a kart track, a tree walk and an observation tower (east of the A5). The main connecting area between the Bowl and the Teardrop Lakes hosts a tented steam power museum, leisure islands, a water organ and other recreational facilities such as a beer garden, a cycle track and a golf dome. Various development corporation projects for much-needed leisure environments and recreational landscapes, such as the National Bowl, also featured in the unrealized ‘City Club’ proposals between 1972 and 1977, which, as Derek Walker states, ‘fell foul of the property and timidity of the public and private sector leisure industries, respectively’.[54]

While this realized concept created a national concert venue, the Bowl has declined in usage, and its future is in question. The last major concert held there was in 2015, due to competing leisure facilities at Stadium MK, financial viability, the lack of all-season capability as a venue, the absence of a permanent pavilion, and structural issues with the bank armatures. There have been a series of alternative regeneration proposals for the site, including an indoor water park in 2014 and a cultural hub in 2017. The Milton Keynes Council suggested various future options, including training grounds for the MK Dons football team and various sports facilities (such as badminton, tennis and cycling) with occasional venue capability in a development brief in 2013. Milton Keynes Development Partnership and Milton Keynes Council handed over the site on 1 January 2021 to Inter MK Ltd with initial design and planning work by Populous Architects. Additional development is also being sought for Elfield Park nature reserve. In part, the future of the National Bowl as a recreational landscape is supported by the local authority though there is a handover of this asset to a private company through enabling development grants and commercial operations. Many of the proposed facilities are dispersed in contemporary Milton Keynes and scattered across the broader grid open space. In the discussion of the social aspect of Milton Keynes by planners and academics, David Donnison mentions a need for ‘memorable places’ and focal points and ‘the need for identifiable places where many people feel important things have happened, that involved not only them but other people’.[55] Indeed, the National Bowl was one such venue for residents and visitors and contributed to Milton Keynes as a spatial strategy. Melvin Webber stated this important influencing of the original vision as follows: ‘The next stage of urbanisation planning will be guided by the concept of selective development—by the formulation of tactical programs that conform to strategic plans aimed at bringing the left-behind groups into contemporary urban society.’[56]

The National Bowl was a project to create a tactical and social identity for Milton Keynes. The project was partially successful and enjoyed a relatively long period of success. However, questions were raised about the viability of the National Bowl in the advent of the realization of the additional speculative Las Venice scheme, which raises interesting questions about whether this would have been more successful in the long term.

Milton Keynes Council had plans to revitalize the Bowl as a strategic objective between 2016 and 2022, but later amended them to deliver a football ground. Back

in 2013, the council's development brief to provide a multi-adaptive recreational space with all-season use identified the site as a planning 'wicked problem'. The recent decline of the Bowl correlates with the dispersal of facilities and the event venue duplication at the Stadium MK southeast of the Bowl from 2007. The National Bowl concept reflected the idea that the city is made up of heterogeneous groups of people communicating through space, allowing many forms, events and relationships to emerge.[57] This is evidenced by attendees' oral histories and experiences that have been captured by the Living Archive of Milton Keynes. The National Bowl was designed to be a recreational landscape site that facilitated new identities, external visitors and social events, essential in establishing a new UK town's local and broader identity.

Cowcommon Canyon: Bletchley brick pits theme park

The second grid square for examination of the recreational landscape and contribution to the Forest City vision was presented in a 1973 project called 'Cowcommon Canyon' in a work on layout paper (Fig. [5 / 4]). Understanding the drawing's purpose and Mahaddie's conceptual formation is crucial to developing Milton Keynes' iconography and the recreational landscape. Mahaddie explored the future of the brick pits south of Bletchley, surrounded by the London Euston rail line and now the East-West Rail terminus at Bletchley. The brick pits at the site predate the 1947 Town & Country Planning Act. The 1970 plan labelled this area as brickfields and not for development, though the Blue Lagoon is designated as an asset with connected green space and a reserve site to the south.[58] The proposal predates the site as a designated nature reserve. Cowcommon is an important artefact as it helps reveal the design thinking and embodied ideas of fulfilling a need for recreational space and using the existing landscape as a basis for intervention. Again, this was a strategic grid square to provide a *setting* for the more expansive Forest City and landscape framework. Cowcommon Farm was a long-established farmstead at the site and was thus used as the concept name. Mahaddie proposed a national recreation centre combining participation in the arts, sports and education with an entertainment area shown in this plan. Overlaying the drawing is the description of the site, transcribed here in the article ([Figs. 5 & 6 / Figs. 4 & 5]), and it is crucial to examine the scheme proposals for the area in detail.

During the time of the drawing, the brick pits were 30 m deep, and Mahaddie described it as a 'Canyon' that would be transformed into a community asset. The plan was to excavate the canyon to create a 77-m truncated cone with a diameter of 152 m (discus) (1). The main Euston line on the perimeter would provide direct access to public transport (2). Mahaddie envisioned a monorail connecting Milton Keynes station to the theme park (3). The monorail would connect to a parking boulevard and offshoot pedestrian routes, buses and escalators leading to the park's features (4). The site is designed to allow for some climate control, enabling 24-hour operation. The more active areas are located on the north edge of the canyon, while the quieter areas are situated on the south.

The proposal suggests building a gradual web pier that spans the hill and the north edge of the canyon. Below the pier, there will be water terraces and an open roof deck with viewing platforms, restaurants and travelator features. A spidery steel aqueduct bridge will also be constructed (5). The north edge of the pier will feature a grass cliff with several recreational and educational facilities (6). The park will also have climate adjustments, including Mediterranean-style surfing beaches, swimming pools, winter gardens and tropical palm houses (7). Visitors will progress through the

park, and the climate theme will change as they do so. An adjustable glass roof with an automatic blind system will enable the climate system (8). Additionally, Cowcommon Canyon will have sports areas, theatres, casinos, bars, museums, apartments and studios. These parts are articulated by a hand-drawn line with colour block underlay, which could be understood as a heuristic process as Mahaddie analyses the site and articulates new iconography.

Located further west along the south-facing slope is a playground, fairground and garden area that is well protected from the elements. The area is divided into a structural service grid (9). You can find an electric maze to the southwest, which features several amusement systems and rides, including an electric car and a three-dimensional maze with (1970s) computer support (10). To the west of the site, there is a large 'mole' mound, with a smaller one next to the colossus, which serves as an event space (11). The first elevated area on the site is a 'medieval village' with a castle, a globe theatre, craft demonstrations, a market, herb gardens, jousting tournaments, maypole, feasting and pageants. The village is designed to have a residential population of craftsmen and teachers, which would further medieval cultural history similar to contemporary Bradwell Abbey's educational facilities in Milton Keynes (12). On a terrace below this village to the east, a waterfront village spreads around the lake, where Mahaddie references and combines urban forms from Portmeirion, Port Grimaud, Mousehole and St Tropez (13). The highest west slope wood is a quiet area of lotus pools and healing areas. Cable cars and railways provide transport up the prominent truncated hill. The landscape features large-scale environmental sculptures, including a colossus lady holding a giant globe as a platform from which Milton Keynes can be viewed (14 and 14a Section). The colossus provides a key marker for visitors and an iconic signature of the theme park. Surrounding the colossus are coloured ground forms of lights and inflatables, bubbles and catwalks, glittering surfaces and transparent planes that blend into the water terraces. The terraces enclose the canyon's eastern end, run flush to the grass cliff, and feature hanging gardens and grottos (15). The surrounding areas would be kept low-key for the local community. Further to the west could be a 'Western extension', including rodeo and ranch skills. The sketch suggests using brick waste and excavation instead of the usual filling of pits, which the same strategy materialized in the National Bowl.

The actual use of the site was that it became a landfill, though later reports called for brickfield land reclamation and conversion to parkland with commercial recreation facilities for the wider area (1995). Further east is the Lakes estate, which has suffered significant deprivation, and the council has begun a major housing regeneration scheme by HTA Design.[59] Mahaddie's drawings function as an assemblage that is not prescriptive. Cowcommon Canyon was a scheme based on American theme parks executed in this vein. Milton Keynes later received its national theme park by constructing Gulliver's Land west of Willen Lake in 1999. Cowcommon Canyon prompts the question 'what if' with the unrealized scheme presenting opportunities missed and potential alternative futures. The Blue Lagoon nature park has exceptional biodiversity, particularly insect species, flowering plants and the lake used by the local scuba diving club. The site would not be viable for the Cowcommon Canyon proposal today. However, the broader brickfields and landfill sites remain strategically crucial for placemaking as East-West Rail infrastructure connects via a flyover on the west coast mainline to Bletchley Station, and wider regeneration is envisaged, including parkland.[60] Ambitions like those of Mahaddie could create iconic place identities in a period when standardized edge periphery

mono-executive housing is being delivered across Newton Leys, south of the Blue Lagoon and the Salden Chase housing development between Bletchley and Newton Longville. The Cowcommon Canyon proposal should be considered a tactical grid square recreational landscape within a much broader Forest City landscape framework that is fundamentally part of a drive to create Milton Keynes' identity.

Futures and unrealized designs

As Katy Lock and Hugh Ellis noted, the principles of a twenty-first-century New Town Development Corporation require a strong vision and the ability to retain community assets while maintaining flexibility in governmental policy.[61] Studying the history of the future of Milton Keynes raises questions about the assumptions made, and highlights conflicts and questions about the present. The Forest City concept by Derek Walker and the landscape framework established by Neil Higson are examples of strong visions for future development. This is particularly important for Milton Keynes, which has faced criticism of its town and social identity, as explored in works by Mark Clapson and Ruth Finnegan's *Tales of the City* (1998). The social histories and anthropologic research are, however, separated from the predominant literature on Milton Keynes' planning documentation, and this article's contribution to knowledge is to provide a critical account of a landscape development process that has resulted in Europe's most significant green infrastructure network through transport corridors, recreational spaces, housing and industry. The idea of Milton Keynes as a total Forest City can be sustained as an argument in its morphology, but only with reference to the critical enhancements made by Higson in the first phase of the strategy. Design ideas that underpin and provide secondary support for these plans are critical to the vision and strategy documents, many of which have been materialized.

This study highlights three critical points. First, the use of future studies, backcasting and methods for the examination of representational practices through fieldwork can reveal the complex elements between realized and unrealized design schemes, how ideas gestate, remerge or become discarded, that are not revealed in linear historical accounts. Second, studies between representation and realized landscape underpin the importance of landscape architecture, processes for creating identities of places and the intangible nature of design cultures as embodied in representations. And third, the history of new towns in the UK requires the understanding of various future scales, from broad city visions to urban interventions. Backcasting allows future visions for the city to be strategized and evaluated, and this information can feed into future scenarios.

For these future scenarios, the following questions should be taken into account. In their totality, would the schemes discussed here, unrealized and realized, address long-standing prejudices and perceptions as concerns the concept of the Forest City? Did the vision of Milton Keynes as a totality, indicative of these design schemes, go far enough? And to what extent will the Forest City and landscape framework set some fifty years ago be continued as Milton Keynes, now with city status, further expands? While these are speculative questions, the schemes discusses are artefacts that function as reflectors of a broader strategic planning vision that was, to an extent, achieved as a Forest City.

There are, however, limitations in the study in terms of designing appropriate research strategies. Futures studies do not have defined processes for the use of methodologies, and the author's interpretation of backcasting research design could be subject to critique. The rationale for concentrating on the recreational landscape

as part of the broad landscape framework of Forest City could also be critiqued for not properly exploring the transport landscape and contested spaces in a more comprehensive way. Yet the transport landscape is often conceived as reserved space (for future MRT) or as a management screening device. Furthermore, local authorities' relationship with city-making changed dramatically when development corporations were abolished by Margret Thatcher in the 1980s, English Partnerships became involved in the late 1990s, and the Parks Trust was formed, creating a complex tapestry of ownership and management of landscape highways difficult to analyse with the adopted methods of the paper.

Research into the history of future landscape and mobility could, however, address this gap. The contemporary transport landscape is far from Milton Keynes' original vision and intention, shaped by the development of various parameters for grid forms and grid roads and is highly contested. However, Milton Keynes other landscape typologies, particularly its recreational landscape at a time when cities in a post-Covid world realize the importance of open space and healthy places, demonstrate the importance of landscape-led planning in new towns and future settlements. Such partial or unrealized documents in the short development period of new towns are critical histories for articulating the importance of landscape visions, typologies and designs for the future. As Lee Shostak states: 'When the history of landscape architecture in the twentieth century is written, Milton Keynes will be one of the successes in Europe, there is no doubt about that.'[62] Moreover, these visions and works are artefacts of futures that connect to broader reflections of our ideas, life and the future direction of places.

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Figures

Figure 1.
A timeline of the Forest City. Top left: Canal walk, Woughton on the Green, Andrew Mahaddie, c. 1975. Top right: Andrew Mahaddie, grid square, grid roads, pen on layout. c. 1975. Park planning principles from *The Planning of Milton Keynes*, Chesterton Consulting on behalf of Milton Keynes Development Corporation (1992), 15.
Redrawn by the author

Figure 2.
Linear parks and open space, Milton Keynes, designated boundary 1969, from: Neil Higson, Milton Keynes Development Corporation, *Planning Manual* (1992).
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Figure 3.
Grids and urban landscape typology: Shenley Wood grid square, Shenley Church end curvilinear housing, Linford Wood grid square, Coffee Hall linear grid.

Redrawn by the author

Figure 4: National Bowl (Loughton Bowl), John Csáky, 1973.
Redrawn by the author

Figure 5.
Cowcommon Canyon, Andrew Mahaddie, 1973.
Redrawn by the author

Figure 6.
Cowcommon Canyon, overlay description, Andrew Mahaddie, 1973.
Redrawn by the author