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'Unsung heroes of urban transportation': architecture as environmental design in Emilio Ambasz's *Taxi Project*

Curated by architect and industrial designer Emilio Ambasz, The Museum of Modern Art's 1976 exhibition 'The Taxi Project: Realistic Solutions for Today' involved the development and display of five taxi prototypes from local and international automobile manufacturers. 'The Taxi Project' appears as a curious final act to Ambasz's time as Curator of Design at the Museum. The taxis attracted significant criticism for both utilitarian and aesthetic aspects of their design, while the location of the vehicles within the gallery space of the Museum put them quite literally beyond reach for the general public. When the prototypes failed to appear on the streets of New York after the exhibition, 'The Taxi Project' would be remembered as an ambitious, if somewhat naïve, automobile show. By circling back on Ambasz's written and exhibition-based outputs from the late 1960s, this article posits an alternative view of 'The Taxi Project' and, with it, Ambasz's approach to environmental design. It situates 'The Taxi Project' within Ambasz's almost decade-long project to reconfigure architectural production in relation to the urban environment after modernism. While the taxi was an important and effective lens through which to examine such problems, 'The Taxi Project' was never really about the cab.

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Introduction

Reactions to 'The Taxi Project: Realistic Solutions for Today' from taxi association representatives and fleet owners were swift and decisive. The prototypes presented at The Museum of Modern Art (MoMA) in 1976 could be considered neither realistic nor solutions to the industry's problems. Prior to the exhibition opening on 17 June 1976, the press preview of 'The Taxi Project' was marked by confrontations between The MoMA's Director of the Department of Architecture and Design, Arthur Drexler, and members of two independent taxi-owner associations. Salvatore Baron and Al Kanner later told *The New York Times* that they had criticised the cost and practicality of the taxi prototypes at the event, while Museum staff reported that the pair were asked to leave following a series of heated confrontations with Drexler.¹

Noting that the vehicles were 'excessively roomy' and that 'nobody could have the nerve, without a federal subsidy, to build a steam-engine car', Baron and Kanner felt that 'The Taxi Project' overlooked the significant economic

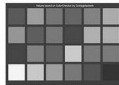
challenges faced by the taxi industry at the time.² In New York City, unpredictable fuel prices, public resistance to fare increases, and the prevalence of unregulated (sometimes referred to as non-medallion or even 'gypsy') cabs had placed significant pressure on taxi operators and fleet owners during the 1970s.³ The number of violent crimes committed against the city's cab drivers had also steadily increased across the first half of the decade, exacerbating the already antagonistic relationship between yellow cabs and the unregulated operators primarily servicing the outer boroughs.⁴ As Michael Lazar, the first Commissioner of the New York City Taxi and Limousine Commission, acknowledged, these tensions revealed an economic, racial, and ethnic divide between Manhattan and New York's suburbs.⁵

Earlier in 1976, just four months before the opening of 'The Taxi Project', the ability of the inner-city taxi to render visible the destabilised and destructive qualities of the city and its inhabitants had been underscored by Martin Scorsese's film *Taxi Driver*. Throughout the movie, audiences witnessed Travis Bickle's desolation through the very form of the taxi itself, its security partition and windshield isolating the driver from both his passengers and the decaying city. While Bickle became the perpetrator and not the victim of violence, as his cab cruised the streets of New York in *Taxi Driver*, the message remained clear: taxis do not connect the city as much as they divide it.⁶

With this in mind, the five taxi prototypes on display as part of 'The Taxi Project' exhibition may have appeared to be indifferent to the crisis conditions being felt within the industry and to the sociopolitical fracture lines invoked by the image of the cab. While the vehicles were specifically presented by MoMA and Ambasz as 'realistic', the terms of this realism were defined primarily through the Museum's collaboration with industry and the possibility for mass-production. But even in this regard, the exhibition seemed to bring together partners and sponsors with incompatible strategic priorities, while failing to garner interest from key sections of the US automotive industry.

Two of the five prototypes on display as part of the exhibition (Fig. 1), from Volvo and Volkswagen, were to be road tested by the New York City Taxi and Limousine Commission (TLC) following the closure of the exhibition. The ultimate aim was to make one or more of the models available as a purpose-built alternative to standard taxi models in use at that time.⁷ While Volvo designed a new six-cylinder diesel hatch with a sliding door and safety bar seat restraint, Volkswagen's prototype attempted to use mostly off-the-shelf components from its existing range of models with a hybrid electric-petroleum engine.

The two prototypes from the United States, American Machine and Foundry (AMF) and Steam Power Systems (SPS), were developed through funding from the Department of Transportation's Urban Mass Transportation Administration (UMTA). They formed part of an initiative concerned with very low-emission para-transit vehicles. Following the exhibition, these vehicles were to be tested in Massachusetts by the Department of Transport. As part of this process, they were to be assessed primarily in terms of their suitability specifically as a form of semi-public transport for older passengers, passengers with limited



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This image will display properly on a monitor calibrated to 5500 K, 2.2 gamma when using the embedded working space profile

mobility, and residents of outer city areas with limited access to established public transport systems. Developed by much smaller Californian companies with expertise in steam engines, the appearance of the AMF and SPS models was much less familiar than the prototypes from the larger European automobile companies. Where the AMF featured a curved body with a cutaway roof-line to the rear sliding doors, the SPS was a much higher van with bi-fold rear doors and an automatic ramp system.

The final prototype, manufactured by Alfa Romeo, was the only design to be attributed to a single author, Ital Design's Giorgetto Giugiaro. A compact minivan powered by the company's existing dual overhead-cam four-cylinder engine, the Alfa was exhibited *hors concours*. While the company had volunteered a vehicle that complied with Ambasz's design specifications, it was a model developed for the European market. Unlike the other prototypes on display, it was not intended for manufacture within the United States.⁸ While each of the five prototypes exhibited were responding to the same design specifications provided by Ambasz, not all of the vehicles were developed with the same priorities and end uses in mind. In addition to funding from the UMTA and private automobile manufacturers, the exhibition as a whole

Figure 1.
Installation view of the exhibition
'The Taxi Project: Realistic Solutions
for Today', MoMA, NY, 16 June–7
September 1976, New York,
Museum of Modern Art (MoMA),
The Museum of Modern Art
Archives, NY, catalogue number:
IN1137.8, © 2019, digital image,
The Museum of Modern Art,
New York/Scala, Florence

was sponsored by the Mobil Oil Corporation, generating a challenging range of stakeholder priorities.

Reviewing 'The Taxi Project' for *The New Leader*, art critic Vivien Raynor expressed scepticism about the future of the industry and the importance of the taxi as a form of public transport, while also criticising the prototypes for their 'dowdy' aesthetics.

Indeed, the city would be the poorer were it to be taken over by any of the models shown at MOMA. They are very well displayed under spotlights and beside a mock Manhattan skyline in darkened blue and black rooms, yet the prototypes are dowdy-looking. The noncontending Alfa, in green (the rest stick to yellow), has the best shape, but they are all fairly boxy and deep-sided, looking a little like delivery vans with picture windows. Some of the catalogue pictures seem more elegant: they were taken with a fish-eye lens and the distortion helps.⁹

This sense of distortion registered both in the presentation of the taxi prototypes as solutions to the 'taxi problem', as well as in attempts to make these pragmatic products fulfil the role of design objects within the context of the Museum. The result was, for critics like Raynor, a curious display of objects that could not be taken seriously either as 'real' taxis or as design objects (Fig. 2). Rather, Raynor suggested, 'The Taxi Project' offered only evidence of the designer's (more specifically Ambasz's) lack of concern for the legibility and relevance of their work for the end user. This sentiment, she argued, contributed to the ejection of the taxi association representatives at the exhibition preview. Referring to the incident as a 'bizarre spectacle', Raynor noted that it might be considered 'no more bizarre than what [Baron and Kanner] were thrown out of: the government and a multinational petroleum giant playing at innovative reform'.¹⁰

For Ada Louise Huxtable, as architecture critic for *The New York Times*, the realism of Ambasz's project was to be found instead through what she saw as the exhibition's concern for the long-suffering taxi passenger. Attributing both the taxi industry and Detroit's 'hostility' towards 'The Taxi Project' to a short sighted resistance to increased upfront costs associated with producing and purchasing purpose-built taxis (Fig. 3), Huxtable sided firmly with the plight of the New York taxi passenger as the end user. In fact, for Huxtable, given the current situation:

There was nowhere to go but up. Anyone who has endured the purgatory of most New York cab rides knows that this is not transportation; it's sado-masochism. The average New York taxi is a combination of dilapidation, filth, inefficiency and acute Rube Goldbergian discomforts designed to torture, humiliate and frustrate, for a price. The passenger has a Hobson's choice. There is the Checker, which gives head and legroom but is usually in a sprung-suspension, tattered plastic, pothole-banging state of decay, with the most terminal cases driven by counter-culture followers of Emerson Fittipaldi, ignorant of the city's geography and uncaring of the rider's destination. Or there is the modified Detroit motorcar, in which one crouches, crippled, in coffin-like gloom on broken seats, straddling the driveshaft or plunged into pools of muddy water among the cigarette butts,



Digital Image © 2004 MoMA, New York

while admiring the ad hoc design of hand-cobbled partitions and paste-on signs giving clues to hidden door handles. (Lucky you, if you get an independent who has decorated with plastic flowers and chartreuse shag rugs.)¹¹

According to Huxtable, Ambasz's attempt to position the taxi prototypes within a discourse on public transport systems cast some much-needed light on the dire conditions experienced by passengers accessing this service in New York City. The more fanciful aspects of 'The Taxi Project' were not so much related to the technical details or the cost of the prototype vehicles, but rather to the expectation that one might hold the industry to a higher standard.

In the end, it seems that the only unrealistic thing about this realistic taxi project is the premise that both passenger and driver are entitled to a decent ride and that taxis should fulfil stated tasks reasonably and well, with the least possible environmental damage.¹²

The idea that the exhibited material in 'The Taxi Project' might more clearly relate to a broader set of design and transportation issues was also touched on by Robert J. Salgado in the motoring section of *The Evening Bulletin*. In

Figure 2.

Installation view of the exhibition 'The Taxi Project: Realistic Solutions for Today', MoMA, NY, 16 June–7 September 1976, New York, Museum of Modern Art (MoMA). Gelatin-silver print, 7.5 × 9.5 in. (19.1 × 24.1 cm), photographed by George Cserna (copyright: unknown), The Museum of Modern Art Archives, NY, catalogue number: IN1137.9, © 2019, digital image, The Museum of Modern Art, New York/Scala, Florence



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Figure 3.
Installation view of the exhibition
'The Taxi Project: Realistic Solutions
for Today', MoMA, NY, 16 June–7
September 1976, New York,
Museum of Modern Art (MoMA),
The Museum of Modern Art
Archives, NY, acc. n.: PA342, ©
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of Modern Art, New York/Scala,
Florence

what could be a reference to the work of architect and urban planner Shadrach Woods, Salgado's column was titled 'Taxicab Design is Everybody's Business ... or It's Nobody's'.¹³ Avoiding a detailed description of the prototypes on display, his column focused instead on a discussion with drivers from the United Cab Company about the factors preventing the development and uptake of alternatives to existing taxi models from Checker and Dodge. For Salgado, the exhibition component of 'The Taxi Project' was perhaps the least interesting aspect of Ambasz's project. Writing some months after the exhibition (and after riding in the Volvo prototype in Sweden), Salgado lamented the limitations of the display format for the taxis, pointing out that taxis 'are meant to ride in not look at, and you couldn't even sit in the five prototypes'.¹⁴

Generally speaking, press coverage of 'The Taxi Project' and its wider reception evaluated the exhibition on the terms that the Museum and Mobil (as the exhibition's major sponsor) had provided: as a showcase for automobile companies looking to expand into the North American taxi manufacturing market. Accordingly, the pragmatism and success of the project was judged in terms

of the taxi prototypes' ability to make it out of the Museum and onto the streets of New York City.

In fact, Ambasz was well aware that the possibilities for reshaping the role and experience of the taxi system as a mode of urban transportation situated beyond the design of the taxi vehicle itself. Despite all appearances, 'The Taxi Project' was not as much about *realistic solutions* for the taxi industry as it was for the city and architecture's capacity to make a critical contribution to its development. The development of the taxi prototypes and the material presented around them were more aligned with Ambasz's specific priorities concerning forms of architectural agency and the restructuring of architectural production in relation to the concept of 'environment'.

Accordingly, this article positions 'The Taxi Project' within the context of Ambasz's earlier written and exhibition-based work, as a project concerned with the question of architecture's agency during the period that has come to be called 'postmodern'. From the late 1960s onwards, Ambasz had been interested in the development of a discourse around 'environmental design', and the structure of environmental design processes. This thinking formed the basis for the project 'Institutions for a Post-Technological Society: The Universitas Project' (culminating in the 1972 Symposium at MoMA) and informed the direction of Ambasz's most well-known exhibition at the Museum, 'Italy: The New Domestic Landscape'. Through his conceptualisation of environmental design, Ambasz rejected disciplinary specificity, but not necessarily the notion of disciplines as such. While refusing the term 'architecture' to describe the design processes and outcomes that he engaged with at the Museum, he nonetheless continued to privilege the figure of the architect within environmental design as 'the professional supposed to provide design solutions to environmental problems'.¹⁵

Importantly, *environment* was understood here not primarily through the lens of sustainability (although this was certainly included in the term), but rather as the context for human activity more broadly.¹⁶ As such, the term was capable of articulating a range of design processes and responses, including modes of architectural production that actively rejected or critiqued object-driven outcomes. For Ambasz, when seen as part of environmental design, architectural production could engage with the built environment not only in terms of buildings and spaces, but increasingly through a series of emerging networks and systems. This attitude towards architectural production opened up the possibility of developing a form of political engagement for the discipline within the context of the Museum. At the same time, it activated Ambasz's commissioning processes for exhibition content as a component of the environmental design process.

Taxi as microenvironment

Ambasz had already established a clear interest in environmental design and design education before taking up his first position as an assistant curator at MoMA in 1968. As a Visiting Professor at Ulm School of Design in 1967, he delivered a series of lectures, the first of which was published in *Perspecta* in

1969 as 'The Formulation of a Design Discourse'.¹⁷ Within this paper, Ambasz referred to the role of the architect only twice, used the term 'architectural' just once, and did not mention 'architecture' at all. Despite this, the examples Ambasz used throughout the paper referred to the design process for a building and to the role of the architect as an environmental designer. In fact, in the opening section of his paper Ambasz asserted that

the architect, who is the professional supposed to provide design solutions to environmental problems, has little knowledge on how to deal in abstract with the structure of problems as such, and, moreover, of the fact that his solutions will ultimately adopt physical form, he has little understanding of many of the meanings of the forms which he manipulates.¹⁸

Retaining a key role in the formulation of environmental design solutions, Ambasz placed the architect firmly within the field of environmental design. At the same time, he described an inherently architectural design process within this category. Drawing on this notion of environment, Ambasz's interest in transportation and the automobile emerged early in his appointment as Curator of Design at MoMA. References to the automobile and public transportation as 'microenvironments' capable of facilitating access to the city is evident in his exhibition-based work as early as 1970, during preparations for both for the opening of 'Italy: The New Domestic Landscape' and 'The Universitas Project'. This idea preceded his interest in taxis more specifically, as did global events such as the 1973 oil crisis that brought significant attention to questions around the sustainability of the private automobile.

Opening in May 1972, 'Italy: The New Domestic Landscape' was a high-profile exhibition that brought together over 180 consumer design products and eleven purpose-designed 'environments' from Italian designers and architects. Like 'The Taxi Project', 'Italy: The New Domestic Landscape' might at first appear to be more firmly focused on industrial design and manufactured products. But recent interest in the 'Environments' section in particular has drawn attention to the significant architectural content of the exhibition.¹⁹ The design of the 'environments' for 'Italy: The New Domestic Landscape' followed a fundamentally architectural process, and the designers invited by Ambasz to contribute to this section were almost exclusively architects.²⁰

In its final form, the 'Environments' section of 'Italy: The New Domestic Landscape' consisted of eleven commissioned responses to a Design Programme developed by Ambasz. This programme asked designers to 'search for the meanings of the rituals and ceremonies of the twenty-four hours of the day, and to design the artefacts and spaces that give it structure'.²¹ The selected environmental responses were divided into three categories: 'Design as Postulation', 'Design as Commentary', and 'Counterdesign as Postulation'. Within these categories, 'Design as Postulation' contained two further sub-categories: 'House Environments' and 'Mobile Environments'.

Earlier in the development of the exhibition, however, Ambasz had conceived of a much wider range of environment categories, including multiple transportation sub-categories. In 1970, Ambasz described a series of 'total environments



from private environments, such as living/kitchen environment; bedroom/bathroom/solarium environments to public environments such as shopping environments, automobile and public transportation environments, leisure environments, ship environments, etc.’.²² In other proposals for ‘Italy: The New Domestic Landscape’ circulated to potential sponsors and partners during the same time, Ambasz also mentioned the sub-category of ‘public transportation environments’ as forming part of the exhibition.²³

While Mario Bellini’s *Kar-A-Sutra* (Fig. 4) would ultimately be the only automobile environment included in the final exhibition, it is clear that the role of the car in the urban environment remained of significant interest to Ambasz throughout the early 1970s. In a memo dated 4 June 1971, he submitted a proposal to Arthur Drexler for an exhibition called ‘City Taxi’.²⁴ At this moment, Ambasz explained to Drexler that, in addition to the \$20,000 that the Italian automobile company FIAT had committed to ‘Italy: The New Domestic Landscape’, they were also prepared to contribute another \$12,000 for the proposed ‘City Taxi’ exhibition. This would not just showcase FIAT designer Pio Manzù’s 1967 prototype vehicle for the company, but also explain the research and development process behind it. While it was received ‘enthusiastically’ by the board of trustees, this initial proposal for the exhibition was shortlived. Just

Figure 4.
Mario Bellini, *Kar-A-Sutra*,
developed for the exhibition, ‘Italy
the New Domestic Landscape’, The
Museum of Modern Art, 1972
(Valerio Castelli, Centro K.),
courtesy of Mario Bellini Architects

three days later (on 7 June 1971), Ambasz's contact at FIAT, Oddone Camerana, sent a telegram informing Ambasz of Fiat Vice General Manager of Safety and Development's opposition to the project on the grounds that the 1967 prototype did not meet the most recent US safety standards.²⁵ Two years later, in the midst of the 1973 oil crisis, Ambasz met with Dr Wilhelm Raithel at the Urban Mass Transportation Administration (UMTA) within the US Department of Transportation to discuss their involvement in what was then being referred to as the 'City Taxi Programme'. Earlier that same year, the Administration had established the Para-Transit Vehicle Project to address the need for suitable transportation options for those without access to existing public transport systems.²⁶ This intersection with the strategic aims of the UMTA offered Ambasz an opportunity to position the taxi in relation to 'environment' through this para-transit vehicle status, as a system that could increase access to the city and even inform patterns of urban development.

At this point in the development of the exhibition, Ambasz saw the 'City Taxi Programme' as consisting of two parts: a 'Demonstration', and an 'Interpretation' section. While the former would present a series of taxi prototypes that could be mass-produced as para-transit vehicles in the short term, the 'Interpretation' section would contain material directed at communicating the ways in which a redesigned taxi system could help shape the future development of the city. In a grant proposal submitted to the National Endowment for the Humanities Public Programme in 1973, Ambasz noted that, while the 'Demonstration' section would provide details regarding the technical specifications and design standards, the 'Interpretation' section would connect the role of the taxi to 'the sociocultural and aesthetic development of the city' through its status as a form of semi-public transport.²⁷

At around the same time, Ambasz also described these exhibition sections in correspondence with the UMTA as 'today' and 'tomorrow', with outcomes from the collaboration with the Para-Transit Vehicle Project included in the latter.²⁸ These earlier iterations of 'The Taxi Project' provide some insight into Ambasz's interest in framing the taxi prototypes as an initial step towards greater and more flexible access to the city for a wider cross-section of the community.

The broader energy-related economic concerns facing the United States at this time also prompted Ambasz to reconsider how to garner interest in prototype development from major American automotive companies. The lack of interest in the small car market within North America had, up to that point, prompted Ambasz to focus more on securing interest in the project from Europe. But economic conditions following the energy crisis hinted at a shifting landscape for the private automobile in North America. To secure their participation in the 'City Taxi Programme', Ambasz needed to present a strong economic model to automobile manufacturers in Detroit, while still being clear about the social and urban-scale possibilities for a taxi understood in terms of its contribution to public transport. Early in 1974, Ambasz noted the emergence of two quite distinct attitudes towards the taxi within the exhibition:

The same oil crisis that has sent the German and Italian car industries into a tailspin has helped convince Detroit to assume the development and production of small cars. Now, therefore, is the time to contact them. In addition, I think that as a result of our discussions, the Department of Transportation is now convinced that taxicabs are a semi-public form of transportation.²⁹

The Detroit-based manufacturers respectfully declined Ambasz's invitation to contribute to the 'City Taxi Programme', but prototypes from Volvo and Volkswagen in Europe were eventually forthcoming. A separate section of the exhibition dedicated to explaining the links between the taxi prototypes and their possible implications for broader social, political, and economic conditions within the city also did not eventuate. In its place, however, Ambasz developed a direction for the exhibition catalogue that attempted to communicate these ideas through a series of critical essays. In his opening remarks of his introduction in the exhibition catalogue, he declared taxis to be 'the unsung heroes of urban transportation', arguing that:

The taxi vehicles presented at the Museum have successfully answered many of the very rigorous requirements set by the Design Specifications Manual. They represent what is feasible today within the constraints of the present economy. They are practical and realistic solutions that industry can produce at reasonable prices and that can be operated economically. These taxis, specially designed for meeting urban traffic conditions, might considerably improve the quality of life in the urban environment [...] Taxicabs are not the panacea for the problems of mass transportation, but, as this project shows, they can go a long way toward providing us today with better urban transportation. This is no small contribution to ensuring that our cities have a future.³⁰

The taxi's visibility during the 1970s, and especially its iconic status in New York, rendered it as an effective lens through which to investigate the importance of transportation as a form of access to the urban environment. Situated between the private automobile and mass transit systems, the taxi intersected with emerging sustainability issues in the wake of the energy crisis, carrying with it significant implications for both the automobile industry and government bodies such as the Department of Transportation. Moreover, the idea that taxis might function as a vital component of access to the city for those living outside existing public transport networks, older members of the community, or those with a physical impairment (Fig. 5), offered an expanded view of the industry beyond the convenience of hailing a cab in midtown Manhattan.

In part, the difficulty Ambasz faced in declaring taxis 'the unsung heroes of urban transportation' was the level of separation from the urban environment at large inherent within the institutional structure of MoMA. The Museum, and its Department of Architecture and Design in particular, relied on the shift in status that occurred when objects and artefacts from outside the institution made their way inside its walls: a transition from everyday product, or from process, to object for display.³¹ As the automotive journalist Salgado had observed, one of the most important differences between the taxis on 53rd Street and Ambasz's prototypes inside the gallery was that one 'couldn't even sit' in them (Fig. 6).

Figure 5.
Volkswagen taxi prototype with
passengers ['The Taxi Digitale (1)
Project: Realistic Solutions for
Today' MoMA Exh. #1137, 16
June–7 September 1976], dated:
c. 1970s, gelatin silver print, 10 1/
8 × 7 15/16 in. (25.7 × 20.2 cm),
published on page 71 of the
catalogue 'The Taxi Project: Realistic
Solutions for Today'. copyright
holder and rights status unknown,
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Exhibition Records, 1137.134, The
Museum of Modern Art Archives,
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Modern Art, New York/Scala,
Florence



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Even so, this separation also undoubtedly made Ambasz's interactions with corporate sponsors and industry partners (that is, the funding model for the exhibition) possible. The institutional presence of MoMA offered companies the opportunity to be associated with the environmentally and socially driven ambitions of 'The Taxi Project', while showcasing their products to Manhattan's elite. The need to produce a series of narratives about the work on display in response to competing interests was something with which Ambasz was quite familiar. His ability to secure funds for large-scale projects and purpose-built structures had already been established through his direction of 'Italy: The New Domestic Landscape'.

Taxi as access

In the wake of the student and worker protests across Europe in 1968, Ambasz began work on a two-stage project entitled 'Institutions for a Post-Technological Society: The Universitas Project'. Concerned with the development of a new kind of experimental institution to address the design of



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Figure 6.
Interior of Volvo taxi prototype
['The Taxi Project: Digitale (1)
Realistic Solutions for Today'
MoMA Exh. #1137, 16 June–7
September 1976], dated: c. 1970s,
transparency, 2 1/2 × 2 3/8 in.
(6.4 × 6.1 cm). Published on page
55 of the catalogue 'The Taxi
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Today', copyright holder and rights
status unknown, The Museum of
Modern Art Exhibition Records,
1137.146, The Museum of Modern
Art Archives, New York, object
number: ARCH.9011, New York,
Museum of Modern Art (MoMA),
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Scala, Florence

the urban environment, the culmination of the first stage of the project was an international symposium on 8 and 9 January 1972. Held at MoMA and presented in conjunction with the Institute for Architecture and Urban Studies (IAUS), the event brought together speakers from a range of fields to present and discuss their written responses to the 'Working Paper' Ambasz had circulated in the previous year. Around twenty scholars submitted essays for the symposium, including sociologists such as Alain Touraine, Suzanne Keller, Jean Baudrillard, and Henri Lefebvre; critic Umberto Eco; poet Octavio Paz; astrophysicist and engineer Erich Janstch; jurist Ronald Dworkin; political theorist and diplomat Jivan Tabibian; economist Rexford Guy Tugwell; mathematical psychologist Anatol Rappaport; and painter and designer Gyorgy Kepes.³²

Lefebvre was critical of the project. He was concerned that a Universitas-type institution could simply generate a different kind of concentrated power structure rather than overcome the limitations of existing institutional frameworks. Nonetheless, Lefebvre's work remained an important reference point for Ambasz's definition of 'environment' after the symposium.

Ambasz appeared more specifically interested in Lefebvre's response to the events of 1968, *The Explosion: Marxism and the French Revolution* (1969). Quotes from this text featured in the Design Programme for the commissioned environments included in 'Italy: The New Domestic Landscape' to introduce key terms such as 'contestation' and 'self-determination'.³³ Lefebvre's influence was also visible in Ambasz's references to 'the everyday' as a set of dynamic conditions ('artefacts and ceremonies') operating within the urban environment.³⁴

Despite his use of this terminology, Ambasz's position as advanced in 'The Universitas Project' and 'Italy: The New Domestic Landscape' through to 'The Taxi Project' can hardly be understood as a Marxist approach to architecture and design. Ambasz's uptake of Marxist architectural and urban theory was uneven, as he often freely appropriated these terms and references without necessarily attending to their accepted use. Notably, his idiosyncratic use of the terms 'superstructure' and 'base' in the essays that formed part of the 'Black Book' for 'The Universitas Project' Symposium was significantly confusing for Lefebvre.³⁵ Despite this, Ambasz thought that Lefebvre's theory allowed for the possibility of an architecture equipped with a kind of self-awareness about the broader sociopolitical and economic conditions of the urban environment.

Ambasz's awareness of Lefebvre's work specifically helped him articulate the need to question traditional architectural practice and address the limitations of the architectural object as its expected outcome. As Łukasz Stanek has observed, architects who studied *The Explosion* understood that 'society cannot be changed by means of architecture'.³⁶

Ambasz's definition of environmental design (and architecture within it) carried with it a level of engagement between social and scientific disciplines that would call for the formalisation of a design process and its outcomes. This process was often set against the configuration of architecture's project under modernism. Ambasz often referred to modern architects' and designers' preoccupation with determining the terms of 'one generation's long journey from an imperfect today to a harmonious tomorrow'.³⁷ His own process of commissioning and developing prototypes for both 'The Taxi Project' and 'Italy: The New Domestic Landscape' exhibitions represented a conscious avoidance of presenting a single solution for an idealised tomorrow. Ambasz instead favoured a number of solutions with the potential to adapt to accommodate multiple values and meanings. In the Commentary Gallery of 'Italy: The New Domestic Landscape', the final point of visitors' interaction with the exhibition, Ambasz's script highlighted the ways in which his concept of environment was not necessarily the negation of the object, but the process of revealing the conditions of its production and consumption.

The concept of environment that places the object in its socio-cultural context, redefines the user as actor of the aesthetic event. Man is no longer just a spectator. He is the leading character who can give meaning and order to his surroundings. So, without claiming to solve everything, design can move man towards an authentic realisation of himself.³⁸



Figure 7.
SPS taxi prototype demonstrating wheelchair ramp [‘The Digitale (1) Taxi Project: Realistic Solutions for Today’ MoMA Exh. # 1137, 16 June–7 September 1976], dated: c. 1970s. Chromogenic colour print, 7 15/16 × 9 15/16 in. (20.2 × 25.3 cm), copyright holder and rights status unknown, Department of Public Information Records, II.B.1186, The Museum of Modern Art Archives, New York, object number: ARCH.9009, New York, Museum of Modern Art (MoMA), © 2019, digital image, The Museum of Modern Art, New York/Scala, Florence

Likewise, Ambasz used his essay in the catalogue for ‘The Taxi Project’ to discuss the formalisation of the taxi’s role in urban transportation, rather than the design features and developments desirable within the taxi vehicle itself. In this way, the taxi operated as a design proposition operating at the scale of the urban environment. It became a system that offered the possibility of shaping the direction of development in the city where the building as object could not. Nevertheless, Ambasz was careful to distinguish this view of the taxi as environmental design from an urban design approach to public infrastructure (Fig. 7). The proposal would see the appropriation of existing transportation networks, rather than the design and construction of new ones.

The most seductive feature of any plan to assign to taxicabs a formal role in urban transit resides in the fact that such improvements can be brought about by a comparatively small investment. The impact of such changes would be visible in a short time, and have positive effects throughout the city structure. It would not involve heavy investments in equipment and material, or urban expropriations for motorways and rights of way, with all the concomitant aspects of social disruption common to highway construction in urban areas. An improved and expanded range of taxi services would, moreover, provide a wider set of transit choices. It is clearly the most immediate and economical move which can be taken to improve public transportation in our cities and suburbs.³⁹

Taxi as prototypical model

The 'Design Programme' and the 'prototype' formed two key aspects of the environmental design process outlined by Ambasz in his 1969 article in *Perspecta*. This text also formed the basis for parts of 'The Universitas Project' Black Book.⁴⁰ In the article, Ambasz described the Design Programme as a 'special type of model'. Consistent with his rejection of architecture as a disciplinary term, he referred to the 'architect', and used a building as his hypothetical project to illustrate the structure of his design process. As he characteristically noted, '[t]he function of a Design Programme is to translate all the statements of desired conditions listed in our consultants' models into statements which have direct relevance to the physical aspects of our building's design'. He went on to suggest that the Design Programme should also 'classify all the processes which are wanted to occur in the building' and 'establish standards of operational performance'.⁴¹

Bearing this in mind, it is worth considering Ambasz's subsequent use of design programmes when commissioning content for exhibitions at the Museum. The 'Design Specifications Manual' prepared for 'The Taxi Project' and the Design Programme generated for the environments of 'Italy: The New Domestic Landscape' synthesised the design processes for both projects. Ambasz's preparation and distribution of such documents that framed the process of generating work specifically for each exhibition extended his role beyond that of a curator to that of an architect/designer, and placed his work within the environmental design process.

According to Ambasz, the development of the Design Programme both produces and relies on a series of models. Making a distinction between 'proportional' and 'structural' models, he suggested that, if the proportional model was represented by traditional architectural drawings and scale models, the structural model instead communicated 'the structure of relationships of the processes involved in a problem'.⁴² Like the broader category of environmental design, the concept of the structural model set up a level of disciplinary inclusiveness whereby systems of relationships could be communicated by a range of consultants through a variety of potential and emerging media. As such, in 'The Formulation of a Design Discourse', Ambasz established the kind of expanded disciplinary field that would feature in the structure of 'The Universitas Project'. The model was situated at the intersection of the work of mathematician Joel Cohen, philosopher Charles Sanders Peirce, and the analytic philosophy of Max Black, among others.⁴³

Rather than locating it within this range of structural and proportional models, Ambasz assigned particular importance to the prototype as an initial possible outcome of design synthesis. He argued that 'we have to deal with the design as prototype', and that the interpretation of this prototype 'will render light on the aesthetic values of the designer as well as the values of the culture that has formed the designer and to which the designer contributes by giving form'.⁴⁴ Within Ambasz's environmental design process, the prototype as a design outcome continues to resist the notion of a final or fixed

form. As suggested by the complex diagrams that featured in Ambasz's article, interpretations generated by prototypes are continually fed back into the structural and proportional models that informed them (Fig. 8). While the prototype is not a type of model, Ambasz thought it cannot be clearly situated within the realm of the real either. This would require associated changes in the conditions 'of real structures (zoning laws, traffic ordinances, social systems, geopolitical boundaries, technological procedures, etc.) in order to get them to accommodate the new structure'.⁴⁵

Although it is difficult to be certain about Ambasz's original intention, in his design process the prototype appears caught between the hypothetical and the real. The prototype's physical presence as a design approaches the condition of the real. But it is not embedded firmly within the broader structures that determine its 'physical concretisation'. As such, it remains somewhat hypothetical. It is perhaps no coincidence that Ambasz referred to the commissioned content from both 'The Taxi Project' and 'Italy: The New Domestic Landscape' as 'prototypes'. The format of both exhibitions facilitated not only a kind of flexibility in each design response, but also the presence of multiple prototypes exhibited at once.⁴⁶ The prototypes exhibited in Ambasz's 'Taxi Project' addressed this tension between the real and the hypothetical more directly.

Returning to the use of the term 'realistic' in the longer title of 'The Taxi Project', the prototypes on display certainly had the appearance of 'real' structures. But they maintained their hypothetical status through their location within the Museum, and because they were still to undergo rigorous testing by the TLC and the UMTA. In addition, as Ambasz noted in the exhibition catalogue, the ultimate aim of 'The Taxi Project' was not to redesign the taxi vehicle, but to generate discussion around a broader 'plan to assign to taxicabs a formal role in urban transit'.⁴⁷ The ambiguity registered by many reviewers in terms of the ability to view the taxi prototypes as 'real' was in this sense a product of the complex object-environment relationships Ambasz was attempting to communicate through an environmental design process. By executing this kind of work in the context of The Museum of Modern Art, it is possible that Ambasz was not so much concerned with overcoming the distorting effects of the Museum. He was rather amplifying these conditions to demonstrate the suspension of the prototype between the hypothetical and the real.

Taxi as architecture

'The Taxi Project' marked an important end point for Ambasz's attempts to engage with forms of architectural production through the interdisciplinary category of environmental design from within the Museum. The taxi functioned as a way of talking about the city and its development in relation to the accessibility of its infrastructural systems. By framing 'the taxi problem' as an environmental design problem, and positioning himself within the environmental design process as he saw it, Ambasz was engaged directly with the mode of interdisciplinary architectural production he had described in his earlier work in the context of the Museum. Through this work, he explored reconfigured terms

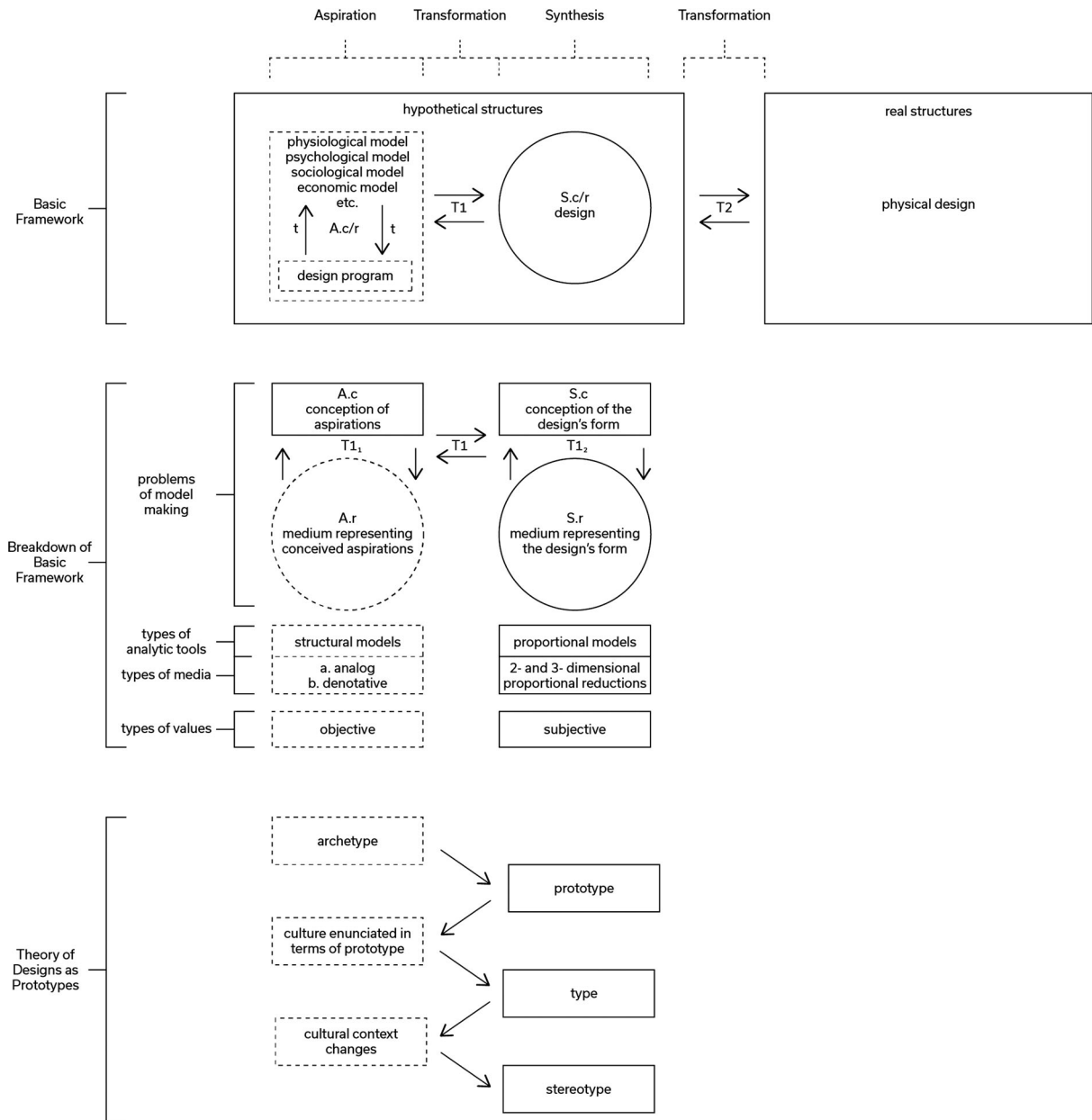


Figure 8.
Environmental design process
framework, by Emilio Ambasz,
1969, redrawn by Alexandra
Brown, courtesy of Emilio Ambasz

for architectural agency that related more clearly to the synthesising and testing of problems within the urban environment, rather than to the physical design of an architectural object *per se*.

Notwithstanding this view of 'The Taxi Project' as a crucial moment within Ambasz's larger project to situate architectural design and the designed object more broadly within the category of environmental design, the exhibition

was not favourably received by a number of critics and the taxi industry itself. The difficulty Ambasz experienced in communicating the broader aims of the exhibition while maintaining the support of sponsors and major contributors may go some way towards explaining this. The prototypes displayed in 'The Taxi Project' disappeared after the exhibition closed in September 1976, and no significant changes to the industry that would foster its ability to provide a para-transit system were forthcoming. Yet, to dismiss 'The Taxi Project' as simply a futuristic or fanciful trade show, or even just as a series of failed prototypes, would be shortsighted. Embedded in the conceptual framework and processes that drove the development of the exhibition were a series of questions about architectural design and its capacity to contribute to the postmodern city through a more holistic notion of environmental design. These questions sat at the centre of a number of Ambasz's projects at the Museum, situating 'The Taxi Project' as the last in a series of environmental design explorations that stretched back to the late 1960s. Finally, this exhibition cannot be easily separated from Ambasz's practice as an architect and designer. 'The Taxi Project' (and 'Italy: The New Domestic Landscape' before it) enabled Ambasz to go beyond his role as an exhibition director or curator; he assumed an active role in the design process.

Ambasz's approach to architecture through environmental design before and during his time at MoMA requires further attention in the context of postmodern attitudes towards the politics of architectural production. Environmental design, as Ambasz understood it, implicitly acknowledged a form of ideological pessimism in relation to architecture's capacity to operate critically within the city. At the same time, it presented a mode of production that reconfigured the terms of the discipline's project to enable this critical operation. As a point of intersection between architecture, design, art, but also other cultural institutions, private industry, and government, MoMA proved a vital testing ground for these ideas. Before his association with 'green' architecture, Ambasz contended with a more complex and multifaceted concept of environment in relation to architecture and design.

Acknowledgements

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Notes and references

1. Edward C. Burks, 'Taxi-Driver Leaders and Museum Clash', *The New York Times*, 19 June 1976, p. 19.
2. Ibid.
3. See Fred Ferretti, 'Taxi Industry Split by Dispute on Future', *The New York Times*, 11 November 1974, pp. 1, 49; Lindsey Robert, 'Why the Men Who Drive the Yellows Are Seeing Red', *The New York Times*, 5 September 1971, p. 4.

4. An early policy implemented by the recently established New York City Taxi and Limousine Commission (TLC) had been to mandate the use of yellow for medallion cabs and prohibit the use of this colour on all unregulated livery vehicles.
5. Michael J. Lazar, 'Solving the Taxi Problem', *The New York Times*, 15 December 1971, p. 34.
6. A few years later, in 1979, August Wilson would also deal with the divisive element of the taxi within the first of his series of ten Pittsburgh plays. *Jitney* was set in an unlicensed cab service in the hill district of the city.
7. As Ambasz noted in the exhibition catalogue, the majority of taxis used in the United States at the time were standard six-seat sedans with little to no modification. See *The Taxi Project: Realistic Solutions for Today*, ed. by Emilio Ambasz (New York, NY: Museum of Modern Art, 1976), p. 15.
8. To be eligible to enter into the programme, the manufacturer should have the ability to meet production requirements and manufacture within the US.
9. Vivien Raynor, 'Hailing the Taxicab', *The New Leader*, 2 August 1976, p. 26.
10. Ibid.
11. Ada Louise Huxtable, 'Help is on the Way for Discouraged Taxi Riders', *The New York Times*, 20 June 1976, p. 89.
12. Ibid.
13. Robert J. Salgado, 'Taxicab Design is Everybody's Business ... or It's Nobody's', *The Evening Bulletin*, 19 November 1976, pp. 37, 39.
14. Ibid., p. 37.
15. Emilio Ambasz, 'The Formulation of a Design Discourse', *Perspecta*, 12 (1969), 57–70 (p. 57).
16. For a detailed discussion of the importance of the term 'environment' in architecture at the time, see Reinhold Martin, 'Environment, c. 1973', *Grey Room*, 14 (2004), 78–101; Reinhold Martin, *Utopia's Ghost: Architecture and Postmodernism, Again* (Minneapolis, MN: University of Minnesota Press, 2010).
17. Ambasz, 'The Formulation of a Design Discourse'.
18. Ibid., p. 57.
19. See Felicity D. Scott, 'Italian Design and the New Political Landscape', in *Analysing Ambasz*, ed. by Michael Sorkin (New York, NY: Monacelli Press, 2004), pp. 109–56; Felicity D. Scott, *Architecture or Techno-Utopia: Politics after Modernism* (Cambridge, MA: MIT Press, 2007). The examination of the environments section was also presented in the exhibition 'Environments and Counter Environments: Experimental Media in "Italy: The New Domestic Landscape," MoMA 1972' at Columbia University in April 2009. Curated by Peter Lang, Luca Molinari, and Mark Wasiuta, this exhibition has since toured throughout North America and Europe.
20. See *Italy: The New Domestic Landscape: Achievements and Problems of Italian Design*, ed. by Emilio Ambasz (New York; Florence: Museum of Modern Art; Centro Di, 1972).
21. Ibid., p. 137.
22. Letter from Emilio Ambasz to Dr Gaetano Cortesi at Italcantieri, 18 May 1970, New York, The Museum of Modern Art (MoMA) Archives, Exhibition Records, 1004.13.
23. *Italy: The New Domestic Landscape* exhibition proposal, n.d., MoMA Archives, Exhibition Records, 1004.185.
24. Memo from Emilio Ambasz to Arthur Drexler, Re: City Taxi, 4 June 1971, MoMA Archives, Exhibition Records, 1137.123.
25. International Telex from Oddone Camerana to Emilio Ambasz, 7 June 1971, MoMA Archives, Exhibition Records, 1137.123.
26. Ambasz, *The Taxi Project*.

27. Application for the National Endowment for the Humanities Public Program Grant, 1973, MoMA Archives, Exhibition Records, 1137.87.
28. Letter from Emilio Ambasz to Dr W. Raithel, Urban Mass Transportation Administration, Department of Transport, 1 November, 1973, MoMA Archives, Exhibition Records, 1137.69.
29. Memo from Emilio Ambasz to William S. Paley, Chairman of the Board of Trustees, The Museum of Modern Art, 8 January 1974, p. 3, MoMA Archives, Exhibition Records, 1137.88.
30. Ambasz, *The Taxi Project*, pp. 17–18.
31. The Museum's commitment to the display of 'useful objects' under the direction of Drexler had been firmly established a few years earlier with the opening of MoMA's first exhibition devoted entirely to product design '20th Century Design from the Museum Collection' in 1958.
32. In 2004, Felicity D. Scott wrote what is to date the only comprehensive paper on Ambasz's Black Book and 'The Universitas Project' that posits the work in relation to systems theory. This primary research also contributed to the eventual publication of the essays, session transcripts, and responses to the symposium by MoMA in 2006. See Felicity D. Scott, 'On the "Counter-Design" of Institutions: Emilio Ambasz's Universitas Symposium at MoMA', *Grey Room*, 14 (2004), 46–77; *The Universitas Project: Solutions for a Post-Technological Society*, ed. by Emilio Ambasz and others (New York, NY: The Museum of Modern Art, 2006).
33. Henri Lefebvre, *The Explosion: Marxism and the French Revolution* (New York, NY: Monthly Review Press, 1969).
34. Ambasz's reference to 'artefacts' and 'ceremonies' in the opening paragraphs of the Design Programme for the commissioned environments is later connected back to Lefebvre through this quoted passage: 'An urban society cannot be reduced to its economic base or social structures. It includes superstructures as well. It requires not only institutions [for the long journey] but also "values" and ideas [artefacts and ceremonies], ethics and aesthetics for everyday existence', Henri Lefebvre, *The Explosion*, quoted in Ambasz, *Italy: The New Domestic Landscape*, p. 143.
35. Henri Lefebvre, 'Communication', in Ambasz and others, *The Universitas Project*, pp. 165–73.
36. Łukasz Stanek, *Henri Lefebvre on Space: Architecture, Urban Research, and the Production of Theory* (Minneapolis, MN: University of Minnesota Press, 2011).
37. Ambasz, *Italy: The New Domestic Landscape*, p. 137.
38. Emilio Ambasz, 'Script for the Commentary Gallery, *Italy: The New Domestic Landscape*', p. 11, MoMA Archives, Exhibition Records, 1004.241.
39. Ambasz, 'The Role of Taxis in Urban Transportation', in *The Taxi Project*, pp. 107–08 (p. 108).
40. Ambasz, 'The Formulation of a Design Discourse'; Ambasz and others, *The Universitas Project*.
41. Ambasz, 'The Formulation of a Design Discourse', p. 60.
42. *Ibid.*, p. 58.
43. *Ibid.*
44. *Ibid.*, p. 67.
45. *Ibid.*, p. 65.
46. The major sponsor of 'The New Domestic Landscape', ENI, had the option of acquiring any of the environment prototypes from the exhibition and refine them or their components for potential mass production.
47. Ambasz, 'The Role of Taxis in Urban Transportation', p. 108.