

多元化实践： 如何合理绘制地图

PLURAL PRACTICES: IDEAS FOR DRAWING RESPONSIBLY

1 “制图场地”项目：景观设计学与地图制图学的思想交融

2012年，“制图场地”项目启动，并通过在哈佛大学设计研究生院举办的名为“制图场地：表达想象中的景观”的展览（展期为2012年10月29日至2013年1月1日）和2016年由普林斯顿建筑出版社出版的同名书籍予以呈现和发表。

在设计文化中，“构图”和数据可视化概念正日渐兴起，抽象派艺术作品的地位与传播也开始占据更重要的地位。鉴于此，“制图场地”项目期望重新畅想制图实践在更加接近场地表达效果与掌控场地本身特征上的主观潜能。项目所提出的各项举措使景观设计学科迎来了期待已久的调和状态——对设计场地的刻画实现了地质学与地理学、区域尺度和国土尺度的融合。

项目选取了设计历史悠久的瑞士、东京、巴塞罗那和洛杉矶等特定区域作为研究对象，同时这些场地需尽可能毗邻不同的大洋、分属不同的大洲、归于不同的地理环境，以在尺度、地形和类型方面进行对比。所有的地图和规划都必须保证图面完整（例如，需标明不同线型和通用制图符号的含义）和尺度准确，且多以大尺度绘制来激发想象。项目选取1:25 000的图纸作为最大范围，其他图纸的比例多为1:10 000或更大（图1，2）。所有的制图方案均与设计方案成对呈现，以展现二者的相似性，加强它们的联系。

“制图场地”项目不仅聚焦于当代设计实践，更畅想了现实材料与数字技术、数据信息与经验知识相互交织的未来图景。项目展示了借鉴自其他不同学科的一系列地图表达基础技术，以及用以描绘地下、瞬时、水域及陆地等不同情境的工具包。这些表达工具既可用于



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摘要

本文基于绘图技术、尺度以及对图像的观察、解读与想象等，对地图制图和景观设计话题进行了探讨。通过细致观察和严谨思考，可以开发更为合理的绘图工具包，使地图解读和空间营造更丰富。这就要求设计师对其所获取到的信息保持质疑，并进一步提升其准确性、扩展其涵盖范围。制图工作正面临更为复杂的挑战，与之相适应的表达媒介和方法也需要更加多元与稳健。文章探讨了以展览和书籍形式呈现的“制图场地”项目，项目期望重新畅想制图实践在更加接近场地表达效果与掌控场地本身特征上的主观潜能，在推动景观设计学与地图制图学两大学科交融的同时，试图将二者应用于更为基础的实践中，并呈现和畅想更加多元化的设计领域。此外，通过介绍哈佛大学设计研究生院的观察与表达训练课程，文章指出，观察是所有工作的根本，而对于设计而言，最终的表达必须超越对现实世界的记录与理解，畅想更加公平、更具适应性的未来。

关键词

景观设计学；地图制图学；表达；可视化；多元

ABSTRACT

The article discusses the topics of cartography and landscape architecture, with a few ideas about technique, scale, observation, translation, and imagination. The charge is to look closely, think critically, and develop sensibly a drawing toolkit that allows for an expansion of possible readings and spatial outcomes. It asks designers to question the information before them, and to respond with precision and range. The challenges are increasingly complex, and thus, media and methods must be plural and robust. The replies herein build on the Cartographic Grounds project, an exhibit and book that again reimagines the projective potential of cartographic practices that afford greater proximity to the manifestation and manipulation of the ground itself, and promotes the intersection between the disciplines of Landscape Architecture and Cartography towards a grounded practice of representing and imagining multiple terrains for design. The introduction of the observation and representation training in Harvard Graduate School of Design further suggests that observation is fundamental, and for design, representation must extend beyond documenting and understanding the world that exists, towards imagining a more equitable and adaptive future.

KEYWORDS

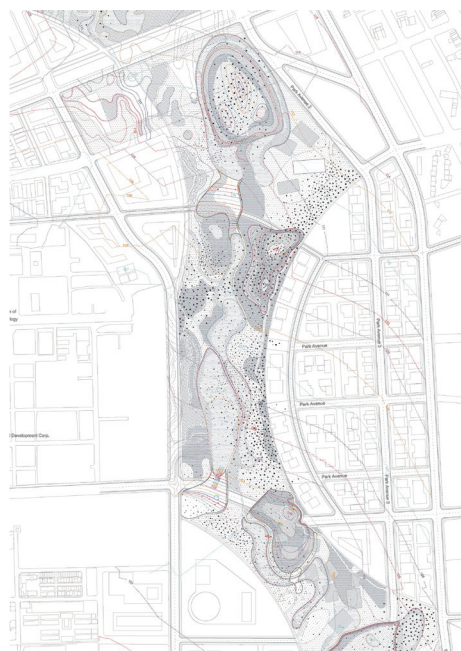
Landscape Architecture; Cartography; Representation; Visualization; Plurality

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1. 2012年，莫斯巴赫景观设计事务所的获胜作品——台中相移公园平面图（原图以1:25 000比例绘制）。层叠的地形突出了其“岩石圈”设计中所应用的地层学知识。在与菲利普·拉姆建筑事务所和刘培森建筑事务所的合作下，项目以微气候营造引领设计，将台中市中心原有的军事用地改造为一处公共空间。
2. 2012年，由LCLA建筑事务所设计师路易斯·卡列哈斯和梅丽莎·纳兰霍设计的基辅战术群岛平面图。设计师将不同的建筑方案应用于动态的水陆交界处，使其变得更加错综复杂。剖面线与图样填充之间的鲜明对比体现了陆地与水域、植被郁闭区与开阔地带之间的差异。不同海拔处的植被经过渲染，呈现出植被的密度。在这一景观中，设计师在临近海域运用了一系列程序化单元来构建微型岛屿。

1. In the Phase Shifts Park 1:25,000 scale competition drawing from 2012, Mosbach Paysagistes represent their winning design as a series of layers, highlighting the Stratigraphy present in their designed lithosphere. The project converted a former military site in downtown Taichung to a public amenity — done with Philippe Rahm Architects and Ricky Liu & Associates Architects + Planners, focuses on microclimate as the way to organize design.
2. In Tactical Archipelago, Kiev from 2012, designers Luis Callejas and Melissa Naranjo of LCLA Office use the aggregation of architectural interventions to populate the land-water interface, adding intricacy to a dynamic edge. The hatching versus solid fill offers contrast between land and water, between vegetated and open ground. Plantings are rendered in elevation, as a field of implied density. Within this landscape, a system of programmatic units is deployed to form micro-islands within a relational sea.



场地分析，辅助获取精准结果；也可用于场地设计，辅助进行推测想象。当这些特性融于一体，便生成了一种丰富的象征性语言，来描绘现有的或构想的景观，显著实现了景观设计学与地图制图学思想的交融。

2 编码与解码

代码和语汇开发一直以来都是景观设计学关注的焦点之一，尤其在涉及制图领域的时候。“制图场地”项目的初衷是通过制图学家、理论家雅克·贝尔坦等学者的研究来加深人们对符号的理解。但随着项目的进行，大家关注的重点却转向了地图上的通用制图符号或图

1 The Cartographic Grounds Project: Cross-pollination of Ideas between Landscape Architecture and Cartography

The Cartographic Grounds project was initiated in 2012, and included the exhibition “Cartographic Grounds: Projecting the Landscape Imaginary,” at the Harvard Graduate School of Design which ran from October 29, 2012 to January 1, 2013, and a book with the same title, published in 2016 by Princeton Architectural Press.

In light of the ascendance of “mapping” and data visualization in design culture, and the privileging of abstract forces and flows, the project reimagined the projective potential of cartographic practices that afford greater proximity to the manifestation and manipulation of the ground itself. The approaches presented offered Landscape Architecture a long-overdue reconciliation of the depiction of the ground as a site of design with the geological and geographic, the regional and the territorial.

The project focused on particular geographies — Switzerland, Tokyo, Barcelona, and Los Angeles — with rich design histories but included as many seas, continents, and planets as possible, for a comparison across scale, geography, and type. All the maps and plans had graphic integrity as exemplified by their line types and conventional signs; they had scalar precision and were drawn at a large scale to engage imagination. The selected drawings used the scale of 1:25,000 as an outside parameter, with more examples closer to 1:10,000 and beyond (Fig. 1, 2). Cartographic examples were paired with design examples to show parallels and force greater connections.

The project provided contemporary design practice with clues to the imaginative intersection of the material and the digital, the data-driven and the experiential. It demonstrated a series of foundational techniques used in the representation taken from various disciplinary sources, offering an instrumental array for describing various conditions: subsurface, aqueous, and terrestrial. These representational tools were analytical and projective, precise yet speculative. Taken together, they formed a rich symbolic language capable of describing existing and imagined landscapes, promoting a fruitful cross-pollination of ideas between Landscape Architecture and Cartography.

2 Coding and Decoding

Developing codes and language have long been an interest of the discipline of Landscape Architecture, especially as it relates to mapping. For the Cartographic Grounds project, we were looking to cartographer and theorist Jacques Bertin and others to enhance our understanding of signs. As the project progressed, the focus,

例。这一焦点不仅贯穿了整个项目，更帮助设计师扩展了他们的绘图工具箱。

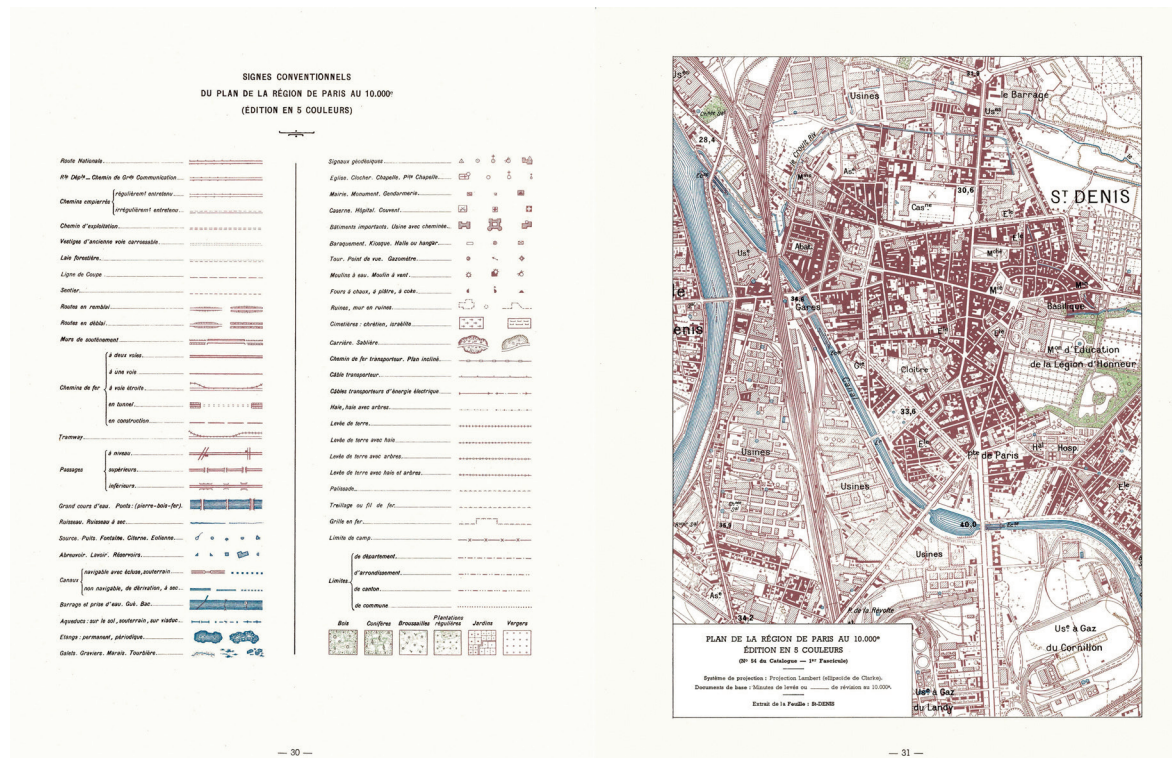
在项目的同期展览和书籍中，我们均试图呈现更多的通用制图符号——不是仅仅将它们置于图的一角，而是作为绘图过程中的基本组成部分来予以强调。除贝尔坦的研究外，法国国家地理研究所收藏的一本精美的法国地图集（1949年）也给了我们极大启发。在这本手册中，图例占据了左侧全页，右侧全页则为地图节选（图3）。通过这一呈现方式，我们发现，地图组件本身与其地理空间分布同等重要。据此，笔者认为，可以从图例中窥见对于绘图过程至关重要的各项要素。

正如每个传奇（legend）都是一个故事，每张地图上的图例（legend）也都讲述着这张地图背后的故事。图例帮助我们从一个视觉和文字角度解读地图上的信息。于制图者而言，图例记载了选择所需呈现元素及转译并记录主题的过程。于读者而言，图例罗列着不同符号、色彩和纹理背后所传达的丰富含义。究其本质，图例记录了地图上的所有要素（即告诉人们图纸上包含什么）——正如食谱的配料清单会透露食物的大致类型和味道，图例也能展现出地图独特的内涵与倾向。有关图例的思索也促发了人们对更多潜在绘图方式和干预措施的探索。

in fact, turned to the conventional signs — or legend — found on maps. This has become an ongoing interest in the project, and a means for designers, to expand their drawing toolkit.

In both the exhibit and the book, we tried to include as many conventional signs as possible, not relegating them to the corner but featuring them as a fundamental part of the drawing process. In addition to Bertin, we were inspired by a beautiful 1949 French catalog from the Institut Géographique National. Therein, the maps were displayed with the legend full page on the left and an excerpt of the map full scale on the right (Fig. 3). It gave equal weight to the components of the map and their deployment in geographic space. It made me think about the legend, as a synthesis of everything essential about the drawing.

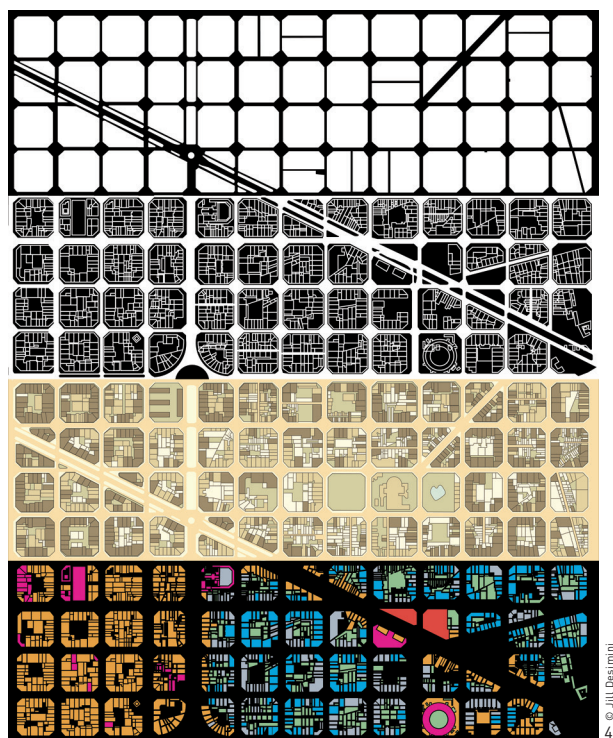
The legend is a story; the legend on a drawing tells the story of the drawing. It is the visual and written explanation needed to decode the information being represented. For the maker, it is a listing of the choices made about what to include on the map and how to translate and document this subject matter. For the user, it is a listing of the meaning behind the symbols, colors, and textures. In essence, the legend tallies the ingredients — it tells what is included in the drawing — and in the same way that scanning the ingredient list of a recipe divulges the general type and taste of the food, scanning the legend of a map reveals its content and bias. To explore the potential of this idea is to explore the range of possible drawings and interventions.



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3. 由法国国家地理研究所出版的地图集节选
3. Excerpts from a catalogue of published maps by the Institut Géographique National

4. 在2014年的“图底技术”项目中，笔者通过对琼·布斯克茨的《巴塞罗那老城区规划（2000）》、大都会建筑事务所的《哈伊马角市布局规划（2007）》和《柏林市总体规划（1903）》进行调整和比较，探索了巴塞罗那图底关系的不同组织方法。绘图首先以鲜明的黑白二色呈现，而后增加了图面的层次性和复杂性，以通过运用传统绘图手法来改变对城市的解读。
5. 在2014年的“土地分类技术”项目中，笔者对代表不同土地用途的各个系统进行了对比：首先以字母命名这些系统，其次运用不同颜色进行表达，最终以Google地球或Google地图卫星常用的摄影测量视图来予以呈现。我们通常不会对航拍图提出任何异议，但实际上，航拍图是由分类后的多个时间段和多个视角的视图拼接而成的。



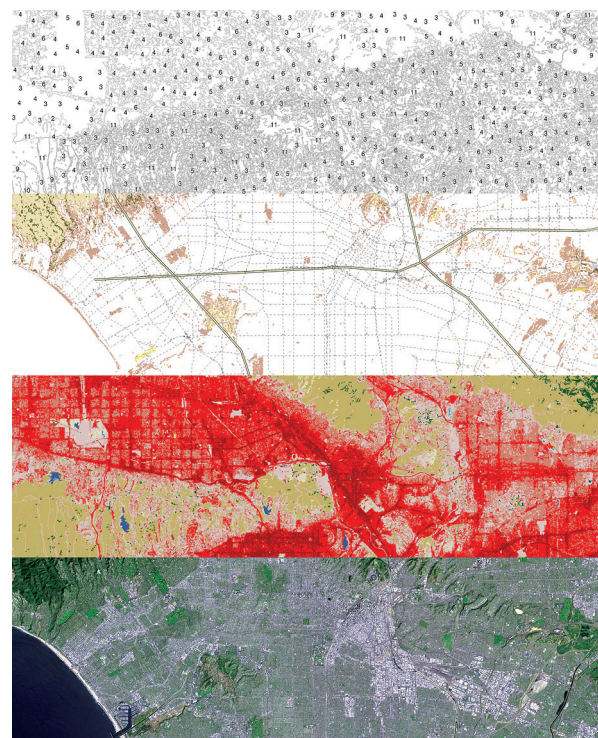
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4. In Figure-Ground Techniques from 2014, we explore different means of codifying the figure-ground of Barcelona, adapting and comparing methods from: Joan Busquets, Old Town Barcelona from 2000; OMA's Ras Al Khaimah Structure Plans from 2007; and the Ubersichtsplan von Berlin from 1903. The drawings starts with a black and white binary distinction and adds layers and complexity, thereby changing the reading of the city through the drawing conventions employed.
5. In Land Classification Techniques from 2014, we compare systems for representing land use, beginning with an alphanumeric designation, followed by color assignments, and ending with a photogrammetric view typical of Google Earth or Google Maps satellite. We often take aerial images for granted as an unbiased representation. But in fact, aerials are classified and stitched, representing multiple time periods and points of view.

3 多元的叙事手法

随着景观设计学涉猎范围的不断扩大，如何既通俗又精准地解读愈发宏大和复杂的问题，成为了学科的一大挑战。与此同时，地图制图学也面临着同样的挑战——随着景观设计实践逐步脱离比例图与平面图，地图这一最基本的表达模式也拥有了更为广阔的舞台。已有的绘图技术考虑到了建造性设计与创造性设计的双重需求。“制图场地”项目期望突破绘图最基本的示意功能，解锁更加多元的图解方式。但在这一过程中，我们又重新注意到单色线条的重要性——线条的长短、指向和粗细可以描绘变换的地形。这无疑是对我们的适时提醒——当身处数据与资源的洪流之中，我们极易将问题看得过于简单或过于复杂，然而如何通过最简单的方式来实现最恰当的表达才是重点。由此，确定表现元素及其组合方式也成为了实现项目目标的一种途径。

多元的叙述手法和针对技术的实验研究都至关重要。每一种表达形式都像是一种论证，既包含论点，也包含一系列用以支撑论点的材料（图4，5）。表达形式的好坏取决于背后的思想与拟定的空间。

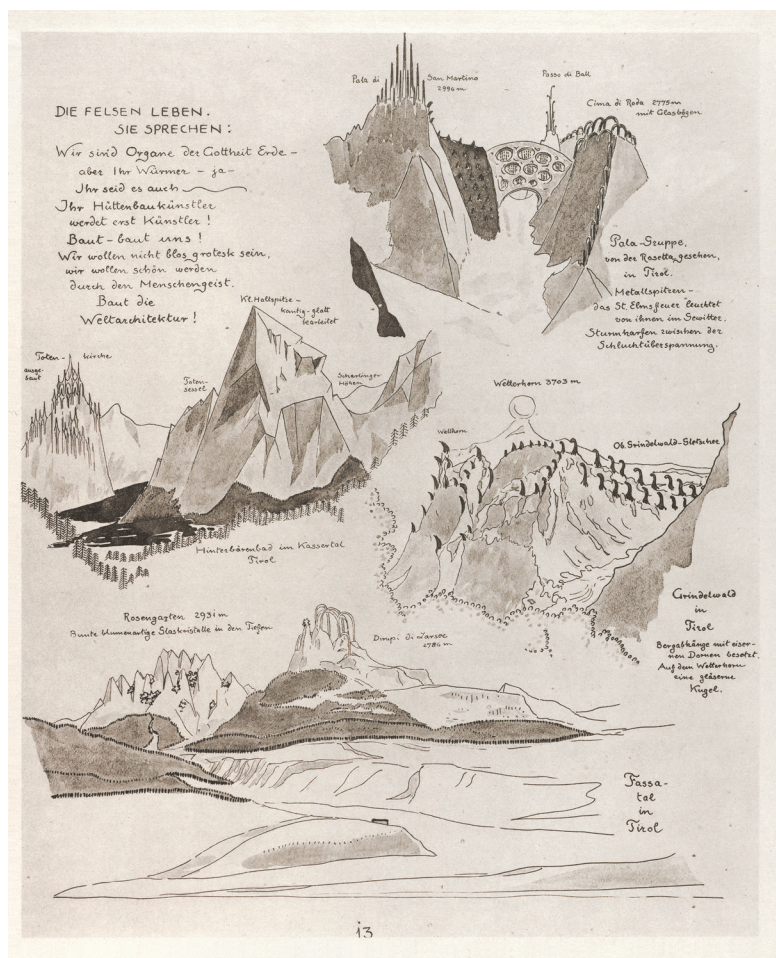


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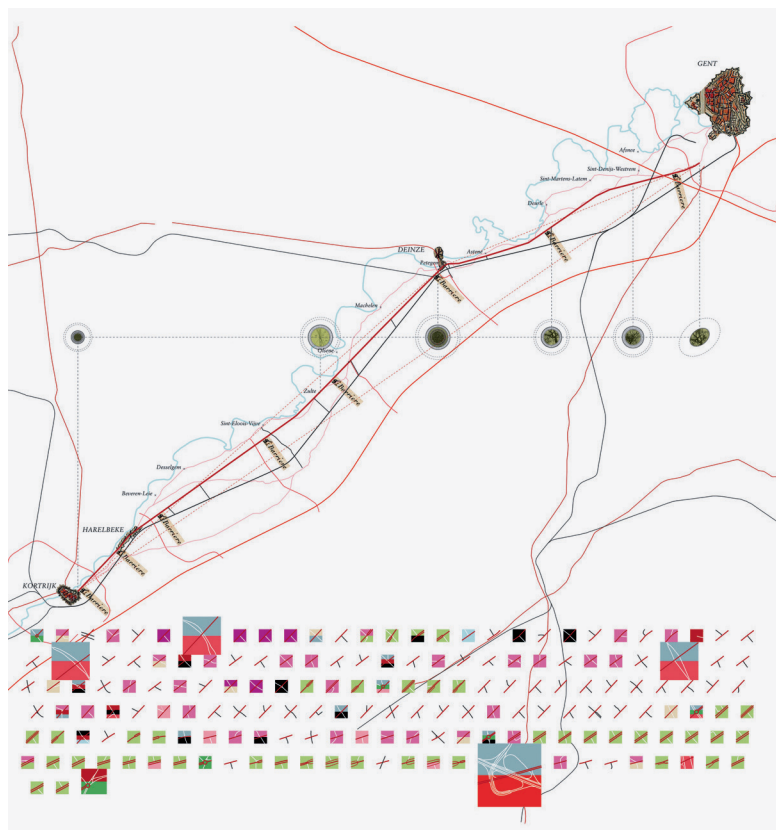
3 Plurality of Narratives

As Landscape Architecture increases its purview to address greater and more complex territories, maintaining legibility and precision becomes a challenge. This is a challenge shared with mapmaking — and as landscape practice seemed to be moving away from scaled and planar drawings, there was an opportunity to expand the potential agency of this fundamental type of representation. The techniques explored allow both for constructive and imaginative projections. The goal was to expand the literal techniques of drawing to allow for more plural interpretations. Oddly, in so doing, we were also reminded of the power of the monochromatic line — with changing lengths, orientations, and thicknesses — to describe varied terrain. As we face more data and resource, we tend to under-edit and over-complicate, so it was a timely reminder to aim for maximum impact with minimal means. Defining the representational palette becomes a means of setting the ambition for a project.

I would emphasize the plurality of narratives and the experimentation of technique. A representation is like any argument: it has a thesis and a set of materials to support the assertion (Fig. 4, 5). The representation is only as good as the idea behind it, and the space ahead of it. Rather than rules,

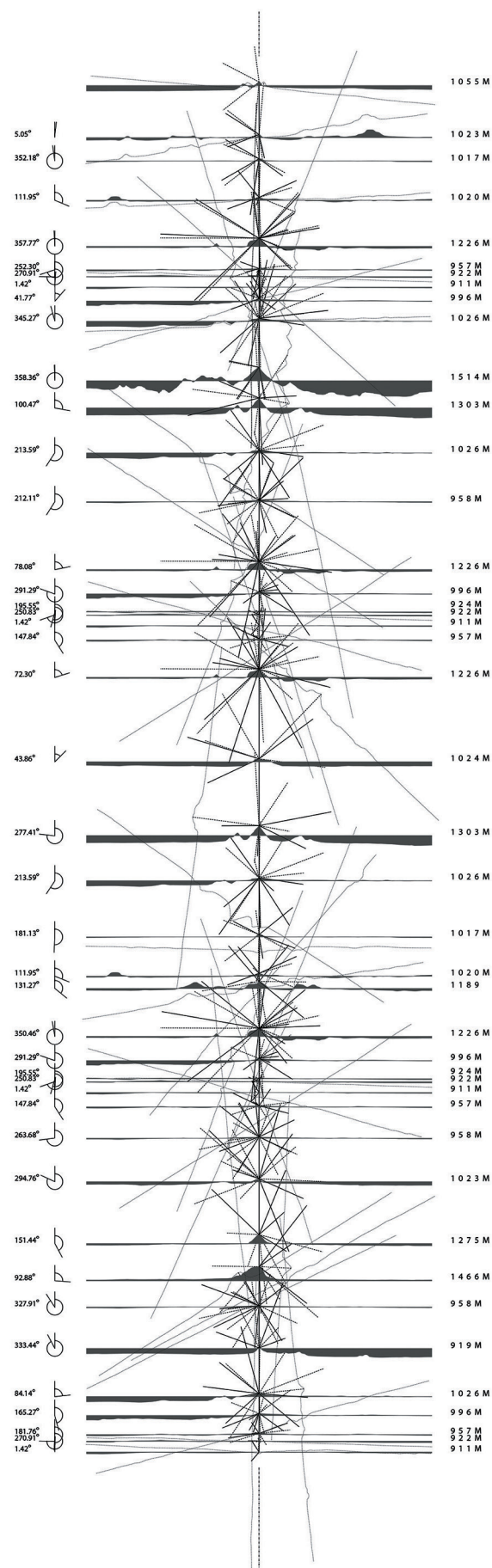


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6. 在第一次世界大战的背景下，布鲁诺·陶特设想了一种乌托邦式建筑，这一愿景主要呈现于由5部分宣言组成的《高山建筑》一书中（来源：参考文献[1]）。书中包含一系列带注解的插图，主张用晶体结构增强高山建筑的稳固性。插图色彩丰富、阴影清晰，能够让人回想起过去的高山全景，但经过人类干预后的景观又更丰富。
7. 比克·卡图尔和布鲁诺·德·穆德尔于2011年所著《基础设施：公路和铁路图集》中的“切分为线条片段的N43国道”项目，呈现了随着时间的流逝，道路是如何被切分的（来源：参考文献[2]）。通过对道路图形进行提取、隔离和编码，作者分析了不同时刻下应当如何定义道路和景观之间的相互作用。该图集提出了一种象形文字般的基础架构语言，由串连为直线的路段图形构成了复合的道路结构。
6. In response to World War I, Bruno Taut envisioned a utopia, largely articulated through his five-part manifesto *Alpine Architektur* [Source: Ref. [1]]. The vision unfolds in a series of annotated illustrations, arguing for the enhancement of alpine architecture with crystalline structures. The illustrations are rich, shaded articulations reminiscent of past alpine panoramas but augmented by human invention.
7. Bieke Cattoor and Bruno De Meulder's N43 National Road Breaks into Segments of a Line, from their 2011 volume *Figures Infrastructures: An Atlas of Roads and Railways*, illustrates how the road has been fragmented over time [Source: Ref. [2]]. Roadway figures are extracted, isolated, and coded to analyze how different moments define the interactions between the road and the landscape. The series presents a hieroglyphic-like language of infrastructure. The figures, connected by straight road segments, form the composite roadway structure.



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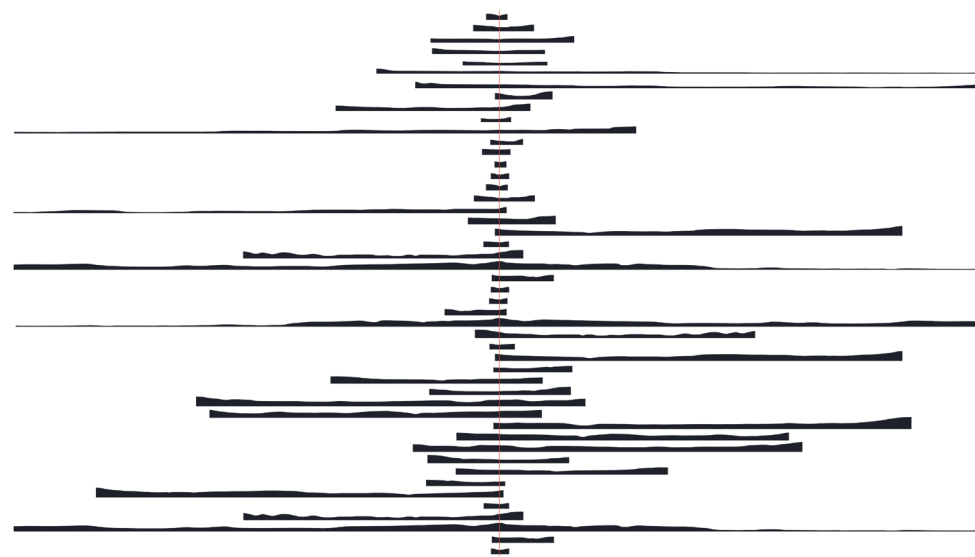
8. 阿奴拉德哈·马图尔和迪利普·达·库尼亚在其《德干高原：班加罗尔市地形的营造》一书中绘制的基线图参考了威廉·兰布顿在班加罗尔基线周边应用的三角测量法（来源：参考文献[3]）。作为关键引导的矢量基线确定了图面的中心。图中将三角线形转化为直线线形，描述了线条的运行路线、测量过程，以及在地标与地标间移动的轨迹。
9. 2007-2008年间，沃格特景观设计事务所从步行者视角绘制的“哈德斯本住宅区：步道形态”截面图。中央的红线指代路径，截面长度代表视域范围。线条的长短表示视线可及的远近。因此，从较低视角处绘制的截面较短，较高视角处绘制的截面较长。截面的高低变化体现了地势的起伏。
8. Anuradha Mathur and Dilip da Cunha's Baseline Plottings from their book *Deccan Traverses: The Making of Bangalore's Terrain* traces William Lambton's triangulation around the Bangalore Baseline [Source: Ref. [3]]. The baseline — a critical navigational vector — defines the center of the drawing. The drawing straightens the triangles, describing the lines of journey, the process of measurement, and the trajectory of bouncing from landmark to landmark.
9. Vogt Landscape Architect's Hadspen House Estate: Shape of a Walk sections from 2007 to 2008 focus on the walkers perspective. The central red line represents the route while the section length is determined by viewshef. Distance seen is distance drawn. Thus, the section from a low point is short while the section taken from a high point is long. Topography is reflected, as the sections wax and wane along the undulating route.

每一种表达都并非基于固有规范而产生，相反，尺度和设计手法的差异、经验和可应用度差异，以及理解和体验的偏差都会影响表达。在研究制图的过程中，我们试图找到更多约定俗成的规则，但最终却发现自由表达才能最有效地促进地图制图学实现更广泛的应用。

另外，有趣的是，设计师经常忽略这样一个事实：地图的阅读者同时也是可以主观描述和展开畅想的观察者。例如，英国作家阿尔佛莱德·温赖特曾花费大量时间徜徉于莱克兰瀑布的美景中，或远足，或写生，将这片他深深迷恋的景色绘制成册。如今这一系列的旅游指南已经深受全球读者的喜爱。德国建筑师布鲁诺·陶特的乌托邦式高山建筑设计图则表达了战争语境下对美好人居环境的向往（图6）。所有在“制图场地”项目中呈现的案例都鼓励人们去观察、去想象，去记录、去畅想。我们要怀抱雄心，探寻更多观察世界的方式，并通过设计改善居住环境。可以说，绘图体系产生于绘图者对事物的观察。例如，通过学者比克·卡图尔和布鲁诺·德·缪德尔的道路研究可以发现，对景观的解码和效果图的生成与解构过程，均清晰地展现了交通基础设施与土地之间的关系（图7）。在这些地图中，道路不再只是存在于数据库中的简单线条，而是一系列时而相互关联、时而相互干扰、时而又彼此孤立的空信息。很多案例——包括阿奴拉德哈·马图尔和迪利普·达·库尼亚的印度德干高原研究（图8）和沃格特景观设计事务所为哈德斯本住宅区设计的步道（图9）等——都表明，能够观察到的空间特征本身即可被抽象为符号和标志。在后一个案例中，地形条件和视域范围决定了剖面的长度，因而步道被抽象为一种基本

there is accountability for scale and projection, for experience and accessibility, for understanding and exposing bias. In looking to cartography, we expected to find more conventions but, in the end, what we found was a freedom of expression ready to be critically tapped for wider uses.

Interestingly, there is a fact that is often ignored by designers: that audience of cartographic drawings are observers as well, who narrate and imagine too. For example, with the guides to the Lakeland Fells, Alfred Wainwright spent countless hours immersed in the Fells, hiking, drawing, and translating a landscape he loved for himself and others. They have become loved guidebooks worldwide. At the same time, these guides reminded me of the drawings of the German architect Bruno Taut for a utopian alpine architecture, a provocation for a beautiful form of living to counter the wartime condition (Fig. 6). The examples found in the Cartographic Grounds project are observation and imagination, documentation and vision. Again, there is an ambition to expand the way we see the world, and in turn, how we design and live within it. The systems of drawing — for example in Bieke Cattoor and Bruno De Meulder's work on roadways where the coding of the landscape and the construction and deconstruction of the drawing renders evident a thesis about the relationship of transportation infrastructure to land (Fig. 7) — come from observation. The road is not a single line, as found in a dataset, but a set of spatial conditions that connect at times but fragment and disrupt at others. The observed spatial characteristics themselves form the signs and symbols — and this is true of many of the examples — like Anuradha Mathur and Dilip da Cunha's work in the Deccan Plateau (Fig. 8), and Vogt Landscape Architects' walk through the Hadspen Estate (Fig. 9). In this last example, topographic





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的空间关系。以上案例所呈现的观察和转译过程构成了制图和设计工作的基础。绘图的方式反映了制图者思考和行动的方式，我们希望借此表达一个简单的观点——观察景观的方法多种多样，基于景观的想象和设计方案也便千差万别。尽管已是老生常谈，但笔者还是希望强调，多元化切莫丢失。或许唯有经过细致的观察和谨慎的转译，我们才能发现场地所蕴含的多重价值与设计方向。

4 哈佛大学设计研究生院的观察与表达训练

观察是所有工作的根本。在哈佛大学设计研究生院，设计评论家埃米莉·维特斯坦、加雷斯·多尔蒂副教授和罗塞塔·S·埃尔金副教授等教师都在与设计相关的观察和田野调查方面有所造诣。他们通过实地考察过程中的研讨课、设计课和表达课，教导学生如何观察场地、收集资料、参与设计和展示成果，由此来拓展每个学生自己的设计工具箱。这一过程艰难却珍贵。

condition and viewshed inform the length of the section. The walk is abstracted to an essential relationship. These are the kinds of observations and translations that can form the basis for drawing and design. The way you draw is the way you think, and is the way you act. We wanted to make a simple point — there are many ways to think about a landscape — and thus, many ways to imagine and design alternative futures for it. I think I keep repeating myself but still, plurality cannot be lost — and perhaps, it is through close observation and careful translation that we can best find multiple meanings and ways forward.

4 Observation and Representation Training in Harvard Graduate School of Design

Observation is fundamental. At Harvard Graduate School of Design (GSD), a number of faculty are doing great work on both observation and fieldwork as it relates to design, including Design Critic Emily Wettstein, Associate Professor Gareth Doherty, and Associate Professor Rosetta S. Elkin. In seminars on fieldwork, in design studios, and in representation courses, they teach students to observe, collect, engage, and represent, as a means of developing a personal toolkit for design. It is difficult but invaluable.

Each course tackles the question of observation differently. In Wettstein's courses on representation (Fig. 10), first-year master students of Landscape Architecture are developing tools to express their own voices, and using in situ experiences to frame their

10. 在埃米莉·维特斯坦副教授的表达课上，由学生们的场地测绘方案拼接而成的图像。学生们探索了查尔斯河周边废弃区域植物和人为垃圾之间的关系。场地中杂草与废弃物的混合物经由现场观察、收集与记录，场外重新整理与再记录，最终以视频、图像和实物的形式得以再现。
11. 一位学生在爱尔兰奶牛场实地考察时基于观察绘制的图解。这项考察是加雷斯·多尔蒂副教授和尼尔·科克伍德教授开设的名为“田野调查：脱欧、边界与爱尔兰西北部的新城区”的设计课的一部分。

10. This image, compiled from a series of site mappings done in Associate Professor Emily Wettstein's representation course, explores the entanglement of plant life and human debris in an under-maintained area of the Charles River. An eclectic mix of ruderal plants and discarded objects were observed, collected, and documented on-site, arranged and re-documented off-site, and re-presented as a hybrid installation of video, image, and object arrangement.
11. A diagram translating observations made on an Irish dairy farm during the fieldwork component of Associate Professor Gareth Doherty and Professor Niall Kirkwood's studio — Field Work: Brexit, Borders, and a New-City Region for the Irish Northwest.



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面对“观察”这一问题，不同课程的处理方式各有差异。在维特斯坦开设的表达课程中（图10），景观设计专业的硕士研究生会在第一学年中尝试开发不同的工具来表达他们的设计理念，实地考察的经验一方面塑造了他们的设计视角，另一方面也为绘图、建模和动画制作提供了素材。在多尔蒂副教授的研讨课和设计课中，实地调研主要聚焦民族志研究、本土发展现状与未来机遇（图11）。设计专业与人类专业的学生一同参与课程，思想的火花在学科交叉过程中碰撞而生。而埃尔金副教授的课程则设置在哈佛大学的阿诺德树木园中，学生们向这里的科学家和工作人员学习知识，探索园中植物的奥秘（图12）。

在某种意义上，观察的过程也是收集资料、建立资料库的过程。以埃尔金副教授的研讨课为例，这门课程的开设缘于“植物盲”这一术语，即我们常常忽视身边的植物。在多数人眼中，植物只是绿化的工具，它们应当并且永远都会在那里。这种对植物的依赖和对环境的漠视是相当危险的。哈佛大学设计研究生院的学生均可参与这门课程，但主要授课对象还是来自景观设计系的学生和专攻风险和韧性研究的设计学硕士生，且课程非常强调与真实世界的接触。学生们在此观察植物的变化，并将实时观察结果与设计意图联系起来，再以动画、摄影、绘图、装置和讲座的形式表述各自的发现。这一能够启发灵感的过程十分必要。

以上课程的核心内容其实也是“制图场地”项目的关键理念之一。由于项目地图和航拍图大多来自谷歌、门户网站上的GIS图层，以及常用数据库，因此生成的地图、图纸和动画等结果都呈现出一定的同质性。我们应当批判性地看待这件事，并以准确性和适宜的尺度为前提，通过综合有形和无形的观察来重新定义这套机制。我们应当致力于实现多元化，尊重、理解和敬畏场地，并且创造更多可能性。

perspectives as well as provide material for their drawings, models, and films. In Doherty's seminars and studios, the fieldwork focuses on ethnography and local encounters and chance (Fig. 11). Design students work with anthropology students, and ideas cross-pollinate between the disciplines. Finally, in Elkin's courses, students work at Harvard's Arnold Arboretum, learning from the scientists and staff, while exploring live matter in situ (Fig. 12).

In a way, observation is a means of collection and library building. For Elkin's seminar course in particular, the genesis is the idea of “plant blindness” or put otherwise the notion that we fail to see the plants around us. We reduce them to a green wash, taking them for granted and assuming that they will always be there. Given our dependence on plant life and general disregard for the environment, this seems dangerous. Again, the course, taken by students across the GSD but especially those in Landscape Architecture and in the Master of Design Studies Risk and Resilience concentration, forces close encounters with the real. Students look at the variability and connect live observation with meaning and then abstract these findings into many types of media — animation, photography, drawing, installation, and presentation. It is inspiring and necessary.

Something core to this experience is also fundamental to one of the ideas behind the Cartographic Grounds project. As we acquire maps and aerials from Google, GIS layers through online portals, and common datasets, there tends to be a homogenization of the output — the map, the drawing, and the animation. We need to be critical of this — and to regain agency — through observation both tangible and intangible — without losing precision and measure. We aim for diversity, respect, understanding, awe, and creativity.

12. 在罗塞塔·S·埃尔金副教授的课堂上，一位学生正在阿诺德树木园中向同学们介绍其所在小组制作的红杉装置。

12. A student in Associate Professor Rosetta S. Elkin's course was showing her group's redwood installation at the Arnold Arboretum to her fellow students.



这就意味着设计中所应用的方法和设计结果均不同于科学领域及其他学科的观察和实验结果。对于设计而言，最终的表达必须超越对现实世界的记录与理解，畅想更加公平、更具适应性的未来。这就要求设计领域的观察工具体备比科学观测仪器更为丰富的功能。当然，科学研究所具备的试验性、循序渐进和多方协作等优势还是值得借鉴的，若能将这些特性引入更具思辨性的设计工作中，将发挥锦上添花的功效。

最后，谈及对观察结果和设计意图的转译，笔者认为，我们不应提倡“签名式设计”。首先，设计师的本职工作就是要学会倾听，而后将自己和他人的理念转译到空间设计中。设计是一个反复迭代的过程，需要不断收集来自外部的反馈以持续优化最终方案，这同样也是设计表达的重点。设计中不存在放之四海而皆准的模型，设计之美在于空间的清晰组织和营造，而不在于堆砌令人眼花缭乱的設計手法。其次，设计领域正从强调单一创作者向注重团队协作的方向发展。例如，设于伦敦的 Assemble 集合体的成员拒绝将个人标榜为某一项目的设计师，因为他们作为集体而工作的。这是一种令人振奋又颇具意义的实践方式，标志着设计师已从“签名式设计”（由个人或单个企业独立承担设计）向注重团队协作和更广泛的公共利益迈进了重要一步。

5 新的挑战

景观设计学及其他同类学科正在应对更为宏大的领域，涵盖气候变化、社会不平等、政治经济危机等复杂而严峻的问题。若发挥得当，设计表达可以实现多元化、可靠性和高品质等政治抱负；若发挥不当，设计表达则可能沦入机械、刻板的固化形象中，甚至具有误导性。当前，场地转译正在变得更为直接，设计亦跳脱对等比例仿真模型的固执坚持，转而探讨建造形式和材料选择。在这一背景下，设计表达更需要呈现其批判姿态。虚拟现实等先进智能仿真工具和更加便捷的数据获取途径成为了设计师的宝贵财富，可以帮助他们畅想并检验空间设计方案。但与此同时，设计师也要认识到这些技术和信息可能带来的偏差与限制。当面对更为庞大的数据时，我们需要意识到细节数据的获取其实是有门槛的。进行精准测量和获取高分辨率的数据往往耗资巨大。例如，只有具备经济实力的国家才能够实现对国土（甚至是他们认为具有殖民意义的土地）进行1:25 000比例的测绘。地理空间数据的获取始终与国家实力紧密相联。可以说，地球上的每一寸土地都已经经过测绘，但测绘结果的分辨率却大相径庭，这种差异同样也表现在地图的特征性表达之中。

此外，视觉表达日渐呈现动态特征，为了保障它们在不同尺度和时间背景下都清晰可读，我们需要把握工作中所运用到的表达媒介的特性。景观设计师应当探寻能够协调单纯地理信息和其他抽象信息的途径，同时找到整合自然地形、社会、政治、环境和经济状况等各

That said, the methods and outcomes in design are distinct from those of the sciences and other disciplines that observe and experiment. For design, representation must extend beyond documenting and understanding the world that exists, towards imagining a more equitable and adaptive future. This requires tools of observation that go beyond scientific representation. What I admire about the scientific process is the ability to test, to be slow and incremental, and to collaborate. It would be great to find a way to bring these qualities more into speculative design work.

Finally, in thinking about the translation of observation and intent, the practice of “signature drawing” is not one to encourage. First, as designers, it is our job to listen to, transform, and make spatial our own ideas and those of others. The design process is iterative and requires feedback, indicating an evolving outcome. This should be reflected in the representation. There is not a one-style-fits-all model. The beauty of design is found in the clear organization and creation of space, not in the visibility of the hand of the designer. Secondly, the design fields are rightly moving away from an emphasis of single authorship towards recognition of the collaborative nature of the work. In fact, there are practices — like Assemble in London — whose members refuse to identify individually as the designer behind any given project. They work as a collective, demonstrating an exciting and vital way of practicing. It is a move away from the signature of any one person, or even one firm, towards a communal effort and a greater public good.

5 New Challenges

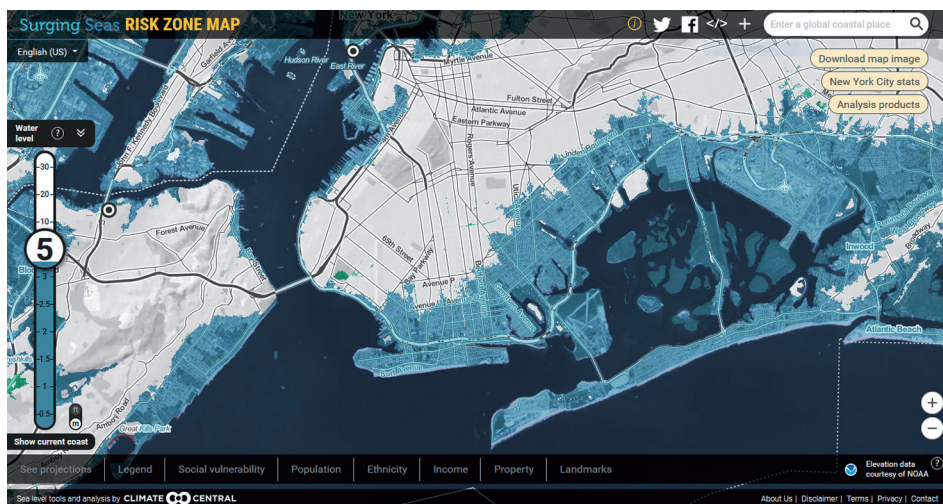
Landscape Architecture and their cognate disciplines are tackling broad territories and addressing multiple complex and sobering issues, ranging from climate change, social inequality to political and economic instability. At its best, representation shares the political ambition of diversity, authenticity, and quality. At its worst, it is machinic, formulaic, and misleading. In a world, where translation is becoming more direct, where designs are moving from 1:1 model and simulation into a built, material form, representation must adopt a critical stance. Advanced tools, such like virtual reality and other intelligent simulations, and greater access to data, are extremely valuable assets for designers to envision and test their spatial proposals. But, in doing so, designers must be aware of the biases and limitations behind the technologies and information. As we encounter more data, we should acknowledge that detail is a privilege. Accurate

13-1. “汹涌海洋”项目采用交互式动态制图过程来呈现美国纽约市的海平面上升问题。不同于常见的通过未被淹没的陆地来展现水位上升的视角，该项目将重点放在了已经或即将被淹没的土地上。

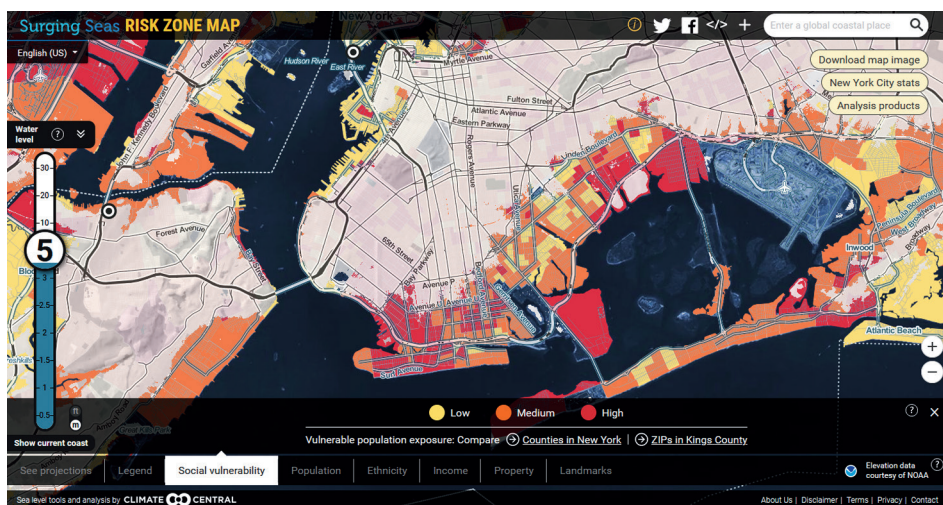
13-2. 这张来自“汹涌海洋”项目的截图显示了人口与经济等因素影响下的海平面上升问题。复杂的气候变化危机将给较为脆弱的地区带来巨大风险。

13-1. This capture from the Surging Seas interactive and dynamic mapping project shows the sea level rise in New York City. Unlike most maps of rising waters that focus on the land left over, it places the visual emphasis on the land that will be lost as the ocean rises.

13-2. This capture of the Surging Seas project indicates a combination of the sea level rise with the population and economic indicators, underlining that the climate crisis is a complex concern that places great risk on vulnerable constituencies.



© Climate Central
13-1



© Climate Central
13-2

类信息的方法。尽管人们对于世界发展的预期并不乐观，我们还是应当对各种言论保持开放的态度，既接受针对无益实践的批评，也对未来的发展潜力保持乐观。我们的职责之一便是改变限制了实践方法与范围的主流观念。可视化过程既是我们工作的基础，也为设计提供重要的论据：论据越充分，得到的结果也就越有说服力。例如，我们总是立足于未被淹没的陆地来探讨海平面上升问题，视觉冲击力往往不足，甚至可能传达出可用土地充足而不必急于采取行动的误导性信息。但与此同时，由美国气候中心组织主导、旧金山Stamen制图公司参与的“汹涌海洋”交互式项目却将重点放在了已被淹没的土地上（图13）。尽管这一反向操作非常简单，效果却十分显著。他们结合了相关的经济和环境数据，为采取行动应对海平面上升提供了有力依据。这样的可视化过程看似清晰简单，实质上却复杂且颇具颠覆性。我们需要持续关注更多类似的、涉及多种因素的项目（无论是否涉及制图），为未来设计的转型创建语境。**LAF**

surveying and high-resolution data is expensive. For example, the 1:25,000 topographical map is a product of wealthy nations, either mapping their own territories or those of colonial interest. There is, and always has been, a correlation between power and the availability of geospatial data. Now, we tend to think that everywhere is mapped, but the resolution varies tremendously and this is reflected in the character of the representation.

In addition, as visual representations become more dynamic, requiring legibility across scale and time, it is important not to lose track of the characteristics of the medium with which we work. Landscape architects must develop means to reconcile the purely geographic with the highly abstract, as well as find ways to combine different forms of information to relate the social, political, environmental, and economic conditions to the physical terrain. Further, in the face of daunting predictions about the state of our world, we must open narratives that are both critical of harmful practices and optimistic about future potential. It is one of our tasks to change dominant perceptions that limit the palette and extent of practice. Our visualizations form the context and argument for our work. The stronger case we can make the more impactful the outcome will be. For example, we often look at sea level rise from the perspective of the land that remains dry and the result is visually underwhelming, indicating, perhaps, that there is a lot of land available and less pressure to act. However, the San Francisco based cartographers Stamen Maps, with the introduction of an interactive Surging Seas project lead by Climate Central, focus instead on the watery lands submerged (Fig. 13). It is a simple inversion but has dramatic effect. They combine economic and environmental data to make a strong case for action. The visualizations are clear and edited, yet complex and subversive. We need more of these types of projects — both cartographic and not — that relate multiple factors, dynamically, to create a context for change. **LAF**

REFERENCES

- [1] Taut, B. (1919). *Alpine Architektur*. New York: Prestel Publishing.
- [2] Cattoor, B. & De Meulder, B. (2011). *Figures Infrastructures: An Atlas of Roads and Railways*. Amsterdam: SUN Architecture.
- [3] Mathur, A., & Da Cunha, D. (2006). *Deccan Traverses: The Making of Bangalore's Terrain*. Kolkata: Rupa & Co.