

## 图像自适性

### Graphic Adaptation

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摘要 ……

非设计人员之间文化凝聚力的缺乏是生态城市的最大挑战之一。特别是在生态共享意识的缺乏和生态价值亟待提高的情况下, 长期以设计为驱动的可持续实践依然遥不可及。为了促进生态设计的成功, 景观设计师不仅要教育公众, 而且要使生态议题更普及、更贴近非设计专业的普罗大众。

我的创作基础在于将艺术与设计以富有想象力的形式相结合, 从而与生态议题进行对话, 以填补传统景观的可视化技术的空白。我的“艺术”图像表达方法是对传统的景观表达工具进行适应性的转化, 这些交流工具包括图表、地图、模型和透视渲染。在我最近的项目“福尔曼水彩图示”中, 这种创作方法的力量尤其显而易见。我重新呈现了理查德·T·T·福尔曼开创性的景观生态学图示。通过结合新旧媒介的感召力, 专业景观知识的可视化不仅易于理解, 而且富有启迪意义。

关键词 ……

生态学; 图像表达; 可视化; 创作过程; 实践

Abstract ...

One of the biggest challenges to the eco-city is a lack of cultural cohesion among non-designers. In particular, without a shared awareness and heightened value of ecology, long-term design-driven sustainable practice remains out of reach. To support successful eco-centric design, landscape architects must not only educate the general public, but must also make ecological issues relevant and accessible to non-designers.

The cornerstone of my creative practice is communicating ecological issues with a imaginative combination of art and design in order to fill the gap left by traditional landscape visualization techniques. My “artistic” graphic communication approach is an adaptation of many conventional landscape communication tools such as the diagram, map, model and perspective rendering. The power of this creative approach is evident in my recent project “The Forman Watercolor Diagrams”, in which I represent Richard T. T. Forman’s seminal landscape ecology diagrams. By employing an evocative combination of old and new media, the visualization of specialized landscape knowledge is not only accessible, but also inspirational.

Key words ...

Ecology; Graphic Communication; Visualization; Creative Process; Practice

在实现有意义的生态设计的道路上, 最关键的障碍之一是非设计人员之间缺乏文化的凝聚力。特别是在缺乏生态共享意识的和生态价值亟待提高的情况下, 长期以设计为驱动的可持续实践依然遥不可及。为了创作出成功的生态设计, 景观设计师必须成为教育者。设计师作为一个教育者的角色并不新鲜。然而, 我认为, 我们如何教育是值得反思的, 并且需要发展新的交流方式。

为了发挥教育服务并达到成熟的生

态实践, 我们须使生态议题在文化上更贴近普罗大众, 使它们更容易接触与理解。有许多方法来处理生态设计难以理解的问题, 而这里我们要谈的是图像交流问题。当与相似思维的专业人士交流生态设计想法时, 传统的图像交流语言对景观设计师来说并无障碍。大多数具有自我意识的设计专业人员都承认, 当与普通民众进行交流时, 使用行话、术语经常会造成沟通不畅。我们专业化的词汇对于非设计领域的人士来说像是一门外语。

为了使普罗大众能够理解, 我们经常要调整我们的措辞和相应的语言。令人惊讶的是, 作为专业人士, 我们却常常无法对图像交流做出相应的调整。事实是, 非设计师并不能完全看懂大多数传统的设计图纸。典型的图纸在表达空间关系、简化过程和重要的网络等方面是有效的。然而, 传统的设计图纸往往无法传达出情感力量。坦白说, 这些图纸不够鼓舞人心、不够令人印象深刻, 也不能激起非专业人士文化上的共鸣。作为专业人员的我们在

表达生态设计的意图时，经常只为了阐述清晰而语言刻板，反而漠视了文化细微差别下的力量。

我的创作基础在于将艺术与设计以富有想象力的形式相结合，从而与生态议题进行对话，以填补传统景观的可视化技术的空白。我的“艺术”图像表达方法是对传统的景观表达工具进行适应性的转化，这些交流工具包括图表、地图、模型和透视渲染。我经常用“图像自适性”来描述我的图像表达模式。借用生态学中的名词，可视化是“适应性的”，其有能力适应不同的环境或文化语境。通过将美感、幽默感和流行文化，以及意象进行创造性的融合，从而作为一种创作的修辞，

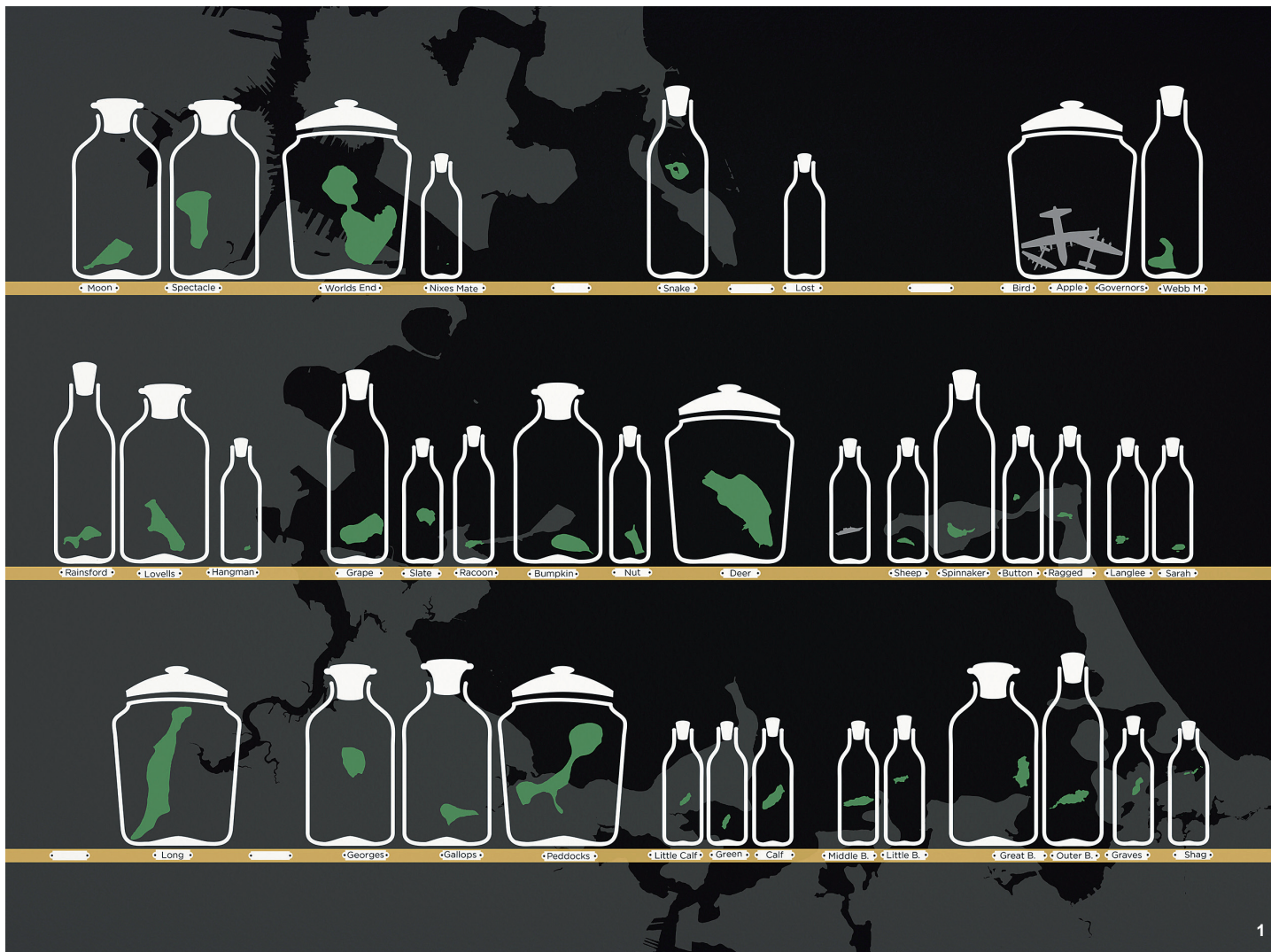
并有意地通过注重情感上的表达来创作设计图。

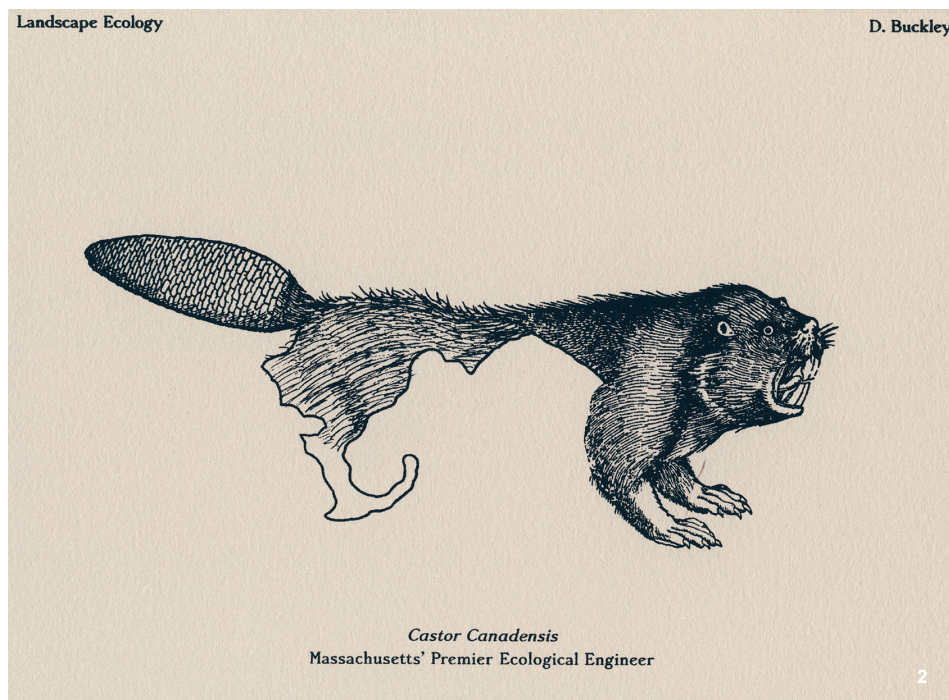
我以艺术设计相结合的实验方法与景观相关议题进行对话，是在哈佛大学设计学院攻读景观设计学硕士学位时开始的。在学业结束之际，我如往常一样，创作了一幅极具表现力的图像作为我的汇报幻灯片的第一页和最后一页。这幅图像被有意设计成是对这次设计项目主题的挑衅。例如，在我与埃里克·沃夫特曼合作的波士顿植物湾项目中，我对GIS生成的图像进行了重新绘制，创作了一幅有关波士顿海港岛屿景观的图像：我将鲜被世人所见的水下冰丘地貌汇集在一起，提供了34种截然不同的岛屿生态学案例（图1）。抽象

的制图将这些岛屿置于独特的人文体验和更大的生物地理系统的要素之中，同时也奠定了我设计方案的基础。

毕业之后，我继续进行这些图像性的实验，并创作了一系列“NTS地图”。我真正对传统的景观设计图解交流进行适应性改变就是从这一系列“不按比例”的地图开始。最初，我创作的NTS地图是艺术、设计与科学的结合体。随着时间的推移，NTS地图发展成为一个客观数据和情感主体相结合的“人造生物体”。在许多方面，这些地图所表现的是似是而非的观点进而产生了有趣的结果。NTS地图系列不受到传统制图规则的约束，这种自由大大增强了图像表达的创造力和灵活性。

1. 34种截然不同的岛屿生态学案例  
1. 34 distinct island-ecology case studies





作为一个艺术家和建成环境设计师，我一直对地图的可读性有极大的兴趣。部分原因是因为地图，作为一种具有较高冲击性的表达工具，其与大多数人都具有文化相关性和意义价值。我发现在介绍复杂的生态和景观议题时，地图对使用者而言是一种非常通俗易懂的工具，例如海狸在塑造马萨诸塞州本地景观时的作用（图2），或者景观、物质文化和区域认同之间的本地反馈环路（图3）。通过将选择的制图规定与富有文化信息的图片结合在一起，这种经由图案以及图形处理的表达通过慎重地与文化挂钩，能够引发人们的情感共鸣。

我并没有一味追求图像给人们带来的情感冲击，而放弃实证研究和空间数据。我逐渐学会了利用情感的影响来强调数据的重要性。例如，在最近一个关注美国及其自然资源矛盾关系的研究项目中，我舍去用流行的叙述角度——早期美国西部边疆经验所特有的夸大浪漫与暴力形象，而是从区域景观生态学的角度将之定义为“荒野西部”。为了说明美国本土的物种灭绝、资源短缺、长期景观扰动以及关键

生态系统破坏等问题，这一展览中研究型的作品包括地图、设计图以及美术印刷品。尽管图像表达方法融入了流行文化，并充满了对传统景观设计表达的创意变革，但图中的信息仍得到了有效的传达，且空间数据也是准确的。我仅仅只是利用强有力的意象来梳理生态议题，以加深非设计师读者的印象。两个受欢迎的案例包括野牛灭绝地图（图4）以及生态灾难地图（图5）。

与普通大众进行知识上的交流并不局限于说明性的图纸。现在，我正在探索将景观的知识可视化、基于场地的小型装置，其将成为我作为“Trifecta出版集团”年度驻村艺术家作品的一部分。作为一种研究，我要求自己使用低影响的、轻触的景观装置来表达林地生态的概念。例如，如何表达一棵枯立木的生态价值？一个人可以很有把握地应用经典的“食物链”图表来传达枯木的资源价值；相反，我创作了“小吃摊”装置来突出树木作为昆虫和鸟类的食物来源在生态上的重要性。怀着对美国夏季小吃摊打趣式的致敬，我利用了一个简单、具有幽默感的三维表达将生

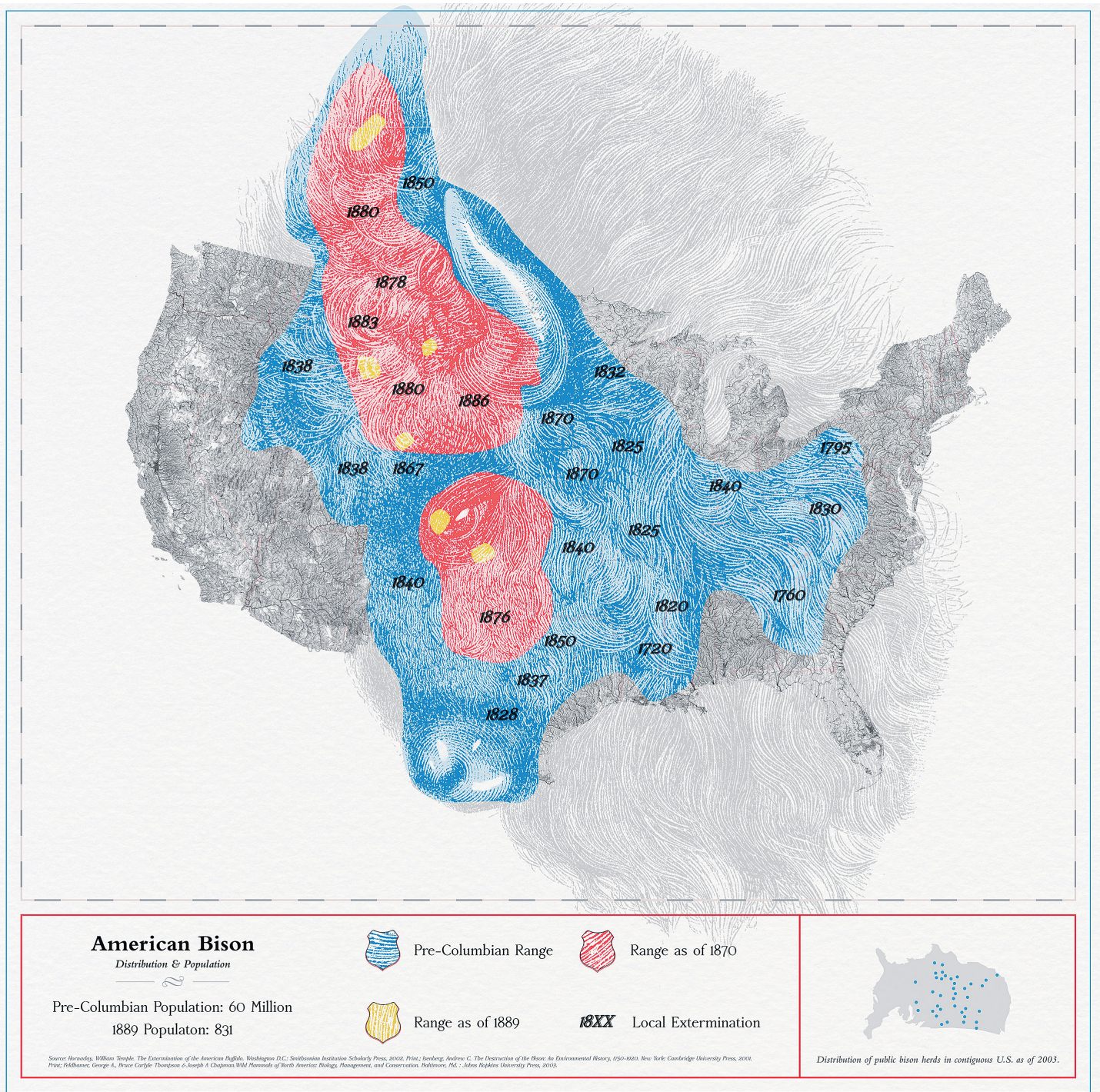
态概念具体化（图6）。

这种创造性方式的力量并不局限于那些富于文化信息的图片和具象的俏皮话。在我最近的方案“福尔曼水彩图表”中，我利用对于墨水、水彩画以及数字化布局的综合理解，重新诠释了理查德·福尔曼的简笔黑白景观生态学图表。通过具有感召力的新旧媒介的结合，我的可视化表达力求简洁、美观、引人入胜。这一目标是将专业化的景观知识以易于理解的方式呈现出来，从而激发更多感兴趣的人开始了解景观生态学。

同许多我这一辈的景观设计师一样，理查德·福尔曼是我在景观生态学上的启蒙老师。在哈佛大学期间，我十分幸运地从福尔曼教授。在修习他的景观生态学这门课程前，我对这一学科一无所知。由于缺乏基础，我很欣赏福尔曼的教学方法：他会在授课过程中先介绍一些生态学的概念，然后带领全班同学进行场地考察

2. 马萨诸塞州的头号“生态工程师”
3. 将选择的制图规定与富有文化信息的图片结合起来
4. 野牛灭绝地图
2. Massachusetts' Premier Ecological Engineer
3. Combine select mapping conventions with culturally loaded images
4. The Bison Extermination Map





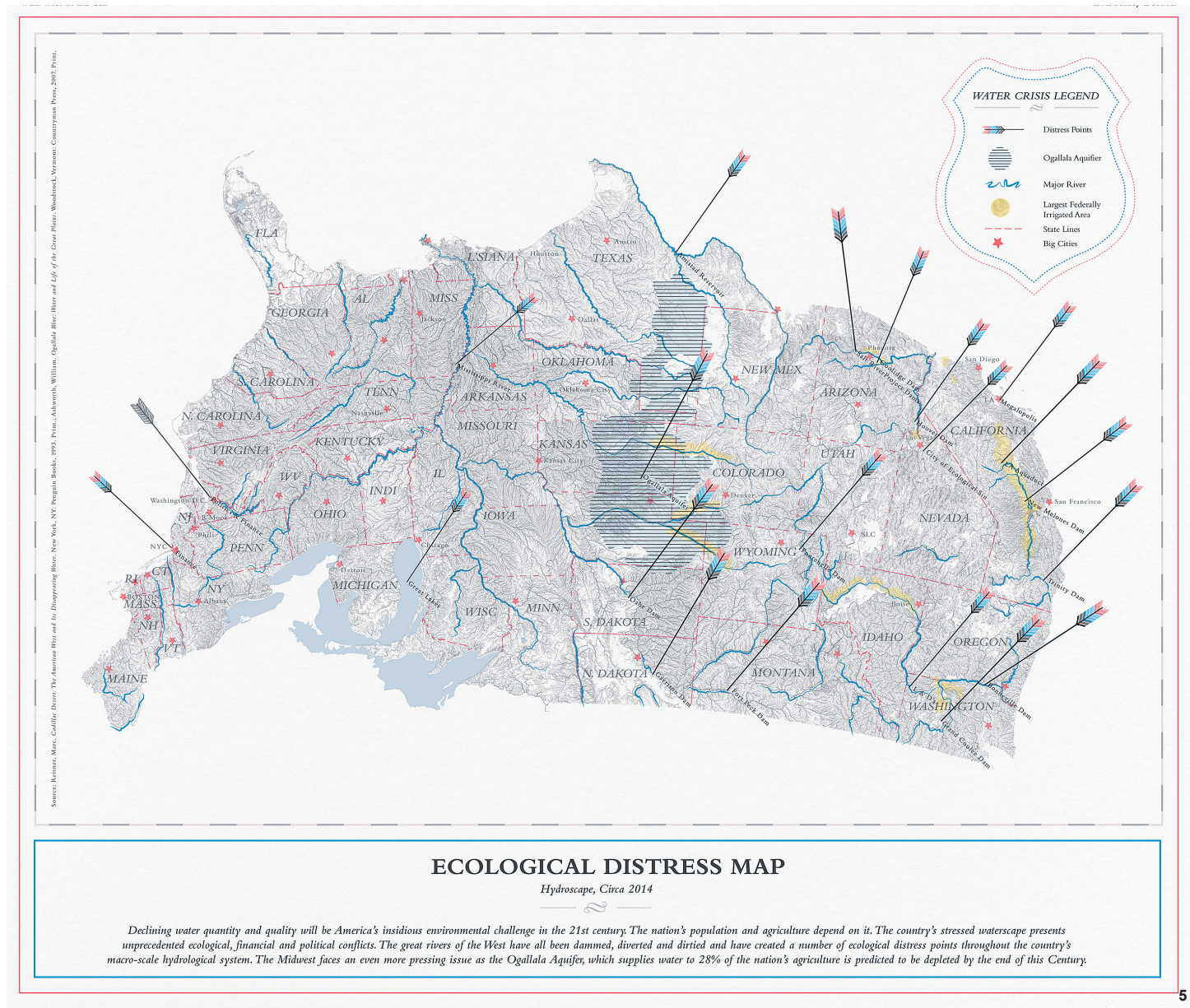
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来对景观中的概念加以说明。他的所有授课由各个不同特定的主题组成，并通过一系列用投影仪呈现出来的图表加以演示。福尔曼的图表是非常抽象的，但它们对于我对信息的理解而言却十分重要：因为这些图表是在引导我们了解主题。这些图表也是我了解大多数课程阅读的基础，如果

没有这些图表的辅助，这些课程内容是非常繁杂且难以理解的。为了理解这一学科复杂思想和空间特性，文字说明是绝对必要的。同样，这些文字材料只有通过图表才能让人易于理解。福尔曼十分清楚这些图表的教育力量：他会在课堂测验中要求我们要能透过简要描述的生态学原则，

凭借记忆手绘图表。福尔曼不仅加强了我们对课程内容的理解，也一直在教育我们要利用具有教育意义的图解来教育他人。

2013年冬天，我获得了Trifecta出版集团冬季入驻艺术家的机会。我的创作焦点是通过突出表现林地生态学，来探讨可视



化景观议题的更多可能性。在准备期间，我重新回顾了福尔曼的课程内容。回顾从我的课堂笔记开始。我的这一笔记本实际上更像是一个草图本：每一页匆忙的笔记中间都至少会有一个图表。我也重新回顾了课程阅读的内容，包括福尔曼的《土地镶嵌体——景观与区域的生态学》（由剑桥大学出版社1995年出版）。当翻阅这本书时，我再一次被书中的图表所吸引。也正是这些图表，让我停下来并钻研书中的文字。

我总是对福尔曼的图表又爱又恨。特别是对于出现在《土地镶嵌体》一书中的，出自艾米·巴特利特·怀特之手的图表。尽管我很欣赏这些黑白图表的简洁性，但对我而言，仍过于专业。书中内容关注的是生命系统的动态过程，而这些图表看上去却不那么鲜活。如何通过重新创作这些图表，使其受到对景观生态学完全陌生的人的欢迎，是我给自己立下的挑战。我思考如何转化图像设计方式，以使更广泛的人群——从我的小外甥到我的父

母这一辈人，甚至其他对于这个主题完全不熟悉的人——参与其中。

通过轻微的编辑和利用水彩与墨水对肌理的创作，我试图在这些抽象的生态概念上添加一些人文主义的色彩。我选择水彩作为媒介，因为我认为它是一个具有广泛吸引力的经典的媒介。我不想使这些图表过于复杂，因此我选定了一个只有绿色和黑色这两种颜色的调色板。对于一些图表来说，我其实是在原图的基础之上重新创作了一个水彩颜色的版本（图7）。对

于其他的图表，我进行了大量的编辑（图8）。这些编辑的部分，有的是为了清晰度（图9），有的是为了图形更炫（图10），有的是为了幽默感（图11），有的是单纯为了美观（图12）。从本质上讲，我是在为这些图表赋予人文色彩。

我将这些水彩画图表通过多种社交媒体进行在线共享，以检验它们的可读性。这些图表受到了以前的同学和专业设计师的高度认可。大部分的设计师对福尔曼的研究有一定的认识而且似乎很欣赏关于我对其图表研究的新鲜尝试。更令我感到惊喜的是那些在设计 and 生态学领域之外的人们的反映。人们不仅喜欢并对这些图表赞不绝口，而且还想要知道在这些图表背后的涵义。此外，该项目网页上点击率最高的是福尔曼已发表著作的链接。在我看来，这个图像交流实验是成功的，因为它使普通公众参与到其中，并且激发他们去了解更多景观生态学的内容。

人们常认为景观生态学仅在区域尺度上发挥作用，但它在局地尺度也发挥影响。在成功的生态设计上也同理。人们常认为被广泛认可就算是一种成功，但广泛认可可是建立在个体认可的基础之上的。在实践中，我们的集体价值观同个人价值观一同塑造着我们的建成环境。除了我们已建成的作品，生态意识对于环境的改变是一个强有力的机制。长期的可持续实践依赖于不断提升非设计师的生态意识。为此，地球上不断出现的生态挑战需要新的教育模型和交流方法。

我相信引人入胜的图像表达在促进非设计人员之间的文化凝聚力方面是十分必要的。基于我自己的经验和实验，深刻地明白了一个道理：为了给人留下印象，图像表达必须通俗易懂、内容充实且引人入胜。使我们的图像交流引人注目并融合流行文化是至关重要的，我们的图像对话必须要强化设计服务的对象——人的因素。在这方面存在许多方法，而我最成功的一点是将幽默感、美感以及潜在的流行文化的敏感性融合为一体。

我同意保罗·弗莱雷（已故巴西教

育家和哲学家）的观点，他认为教育是社会中最富于变化的价值生产系统。也可以说，作为景观设计师，教育是对我们的集体设计努力而言最为深远的投资。具有生态意识的公众能够更好地支持长期设计驱动下的可持续实践。而且，具有生态意识的公众能够形成自己的主张，并且更容易在他们的建成环境的转变中承担一种积极的角色，并携手共创可持续环境设计的美好未来。LAF

注释

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5. 生态灾难地图
6. 基于场地的小型装置
5. Ecological Distress Map
6. Small site-specific installations



One of the most critical obstacles to meaningful ecological design is a lack of cultural cohesion among non-designers. In particular, without a shared ecological awareness and heightened value of ecology, long-term design-driven sustainable practice remains out of reach. That being said, in order to produce successful eco-centric design, landscape architects must be educators. The designer's role as an educator is certainly nothing new. However, I would argue that how we educate is worthy of critical review and consequently demands the development of new communication approaches.

In service of education and ultimately the adoption of sound ecological practice, we must make ecological issues culturally relevant and accessible to the general population. There are a number of ways to address the inaccessibility of ecological-based design, but let us address the issue of graphic communication. Our traditional graphic communication language serves landscape architects well when communicating ecological-design ideas with like-minded allied professionals. Still, most self-aware design professionals admit that we often fall into a jargon trap when communicating with the general public. Our specialized vocabulary sounds like a foreign language to

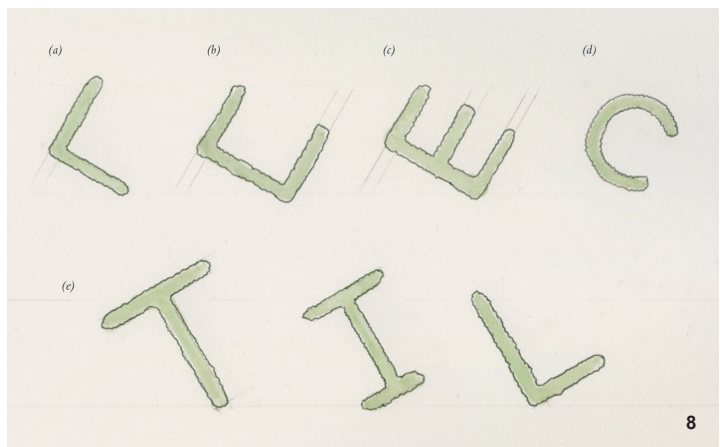
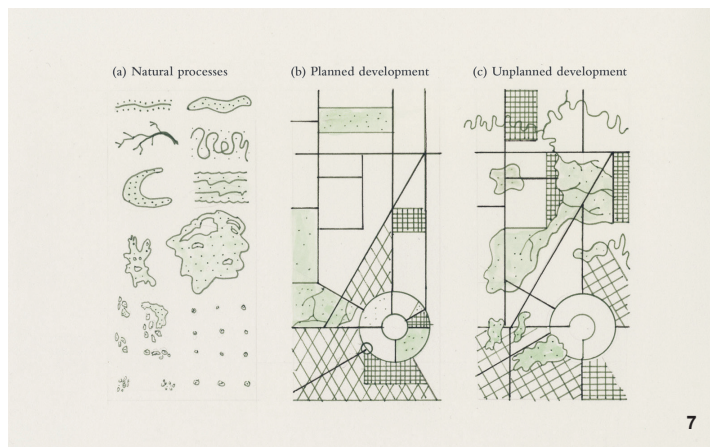
those outside the design field.

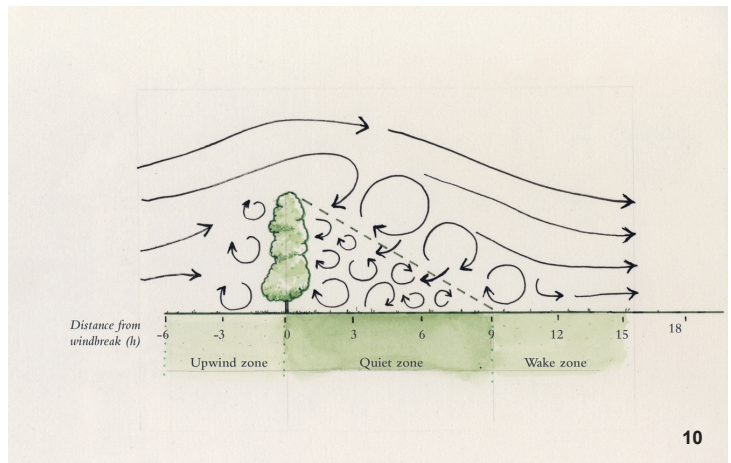
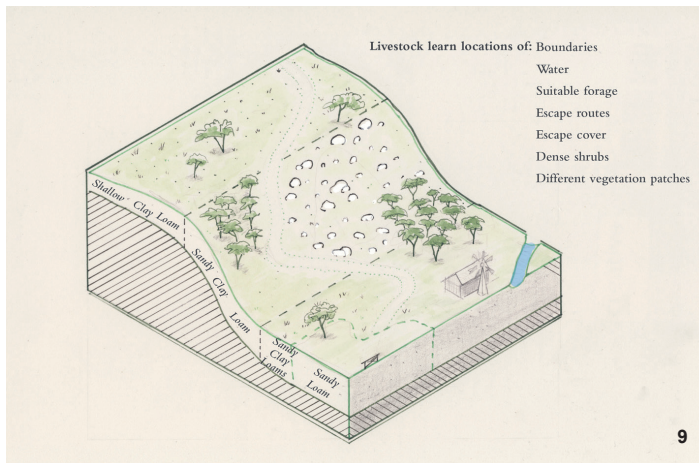
So, we often adjust our rhetoric to the audience and adapt our language accordingly. Surprisingly, as a profession we often fail to adjust our graphic communication accordingly. The fact is most conventional design drawings fall flat on an audience of non-designers. Our typical drawings do a fine job communicating spatial relationships, simplified processes and important networks. Still, more often than not, conventional drawings fail to deliver emotional power. Frankly, they are not inspirational. They are not remarkable. They are not culturally relevant. To our detriment, as a profession we often eschew the power of cultural nuance in favor of a sterile clarity when communicating ecological design intents.

The cornerstone of my creative practice is communicating ecological issues with a imaginative combination of art and design in order to fill the gap left by traditional landscape architecture visualization techniques. My "artistic" graphic communication approach is an adaptation of many conventional landscape architecture communication tools such as the parti diagram, spatial map, 3D model and scenic perspective rendering. I often describe my graphic communication style as a "graphic

adaptation". To borrow a term from ecology, the visualization is "adaptive" in that it has the capacity to adjust to changing environments or cultural circumstances. I intentionally make an effort to create drawings with an emotional edge by employing a creative mix of beauty, humor and pop-culture references and imagery as creative tropes.

My exploration of communicating landscape related issues with an experimental combination of art and design began while pursuing a master degree of Landscape Architecture at Harvard University Graduate School of Design. By the end of my studies, I made it a practice to create one powerful image as the first and final slide of my powerpoint presentations for my studio work. The image was intentionally designed to be a provocation related to the design thesis of the project. For example, for my Boston Botany Bay studio with Eelco Hoffman I reconfigured my GIS-derived mapping work to make a statement image about the Boston Harbor Islands landscape; a rare collection of submerged drumlin landforms offering 34 distinct island-ecology case studies (Fig. 1). The abstract mapping positioned the islands as both unique human experiences and elements of a larger biogeographic system and set up the foundation for my design proposal.





After graduation, I continued these graphic experiments and developed an ongoing series of work entitled “NTS Maps”. This series of “not-to-scale” maps is where I really began pushing my adaptation of traditional landscape architecture graphic communication. I initially created my NTS Maps as hybrid of art, design and science. In time the NTS maps developed into a cyborg of objective data and emotional subjectivity. In many ways these maps represented the co-existence of paradoxical views and this produced interesting results. The NTS map series were not constrained by the rules of cartography convention and this freedom effectively promoted creativity and ingenuity in the graphic communication.

The map’s accessibility has always been of great interest to me as both an artist and a designer of the built environment. In part because maps, a high-impact communication tool is culturally relevant and meaningful to a broad cross section of people. I found maps to be a user-friendly device for introducing complex ecological and landscape issues, such as the beavers role in shaping my local landscape of Massachusetts (Fig. 2) or the vernacular feedback loop between landscape, material culture and regional identity (Fig. 3).

By combining select mapping conventions with culturally loaded images, patterns and graphic treatments these representations packed an emotional punch with a deliberate cultural hook.

I do not forsake well-documented research and spatial data in favor of emotional impact. In time I learned to employ emotional impact to underscore the significance of the data. For example, in a recent research project focused on America’s conflicted relationship with its natural resources, I set aside the popular narrative of inflated romance and violence associated with young America’s western frontier experience for a narrative that instead positioned the “Wild West” in terms of regional landscape ecology. The exhibition’s research-based work included maps, drawings, and fine art prints to illustrate species extinction, resource scarcity, chronic landscape disturbances, and the destruction of critical ecological systems within the contiguous United States. Although the graphic communication approach is laden with pop culture references and creative twists on traditional landscape architecture drawings, the message is no less informed and the spatial data no less accurate. I merely teased out the ecological issues with powerful

imagery to make a stronger impression on an audience of non-designers. Two popular examples include the Bison Extermination Map (Fig. 4) and Ecological Distress Map (Fig. 5).

Communicating knowledge to the general population is not limited to illustrative drawings. I am currently exploring small site-specific installations to visualize landscape knowledge as part of my year-long artist residency with Trifecta Editions. As a research study, I have charged myself to use low-impact, light-touch landscape installations to communicate woodland ecology concepts. For example, how can one communicate the ecological value of a standing dead tree? One could certainly employ the classic “food network” diagram to communicate the resource value of the snag. Instead, I created the Snack Stand installation to highlight the ecological significance of the tree as a food

7. 3种开发模式产生的空间形式。
8. 牧场中不同的风障形式。
9. 影响牲畜移动和习性的关键空间变量
10. 风障改变空气的流动
7. Spatial patterns produced by three groups of processes.
8. Distinctive windbreak patterns around pastures.
9. Key spatial variables affecting movement and usage by livestock
10. Zones with altered airflow caused by a windbreak

source for both insects and birds alike. With a campy nod to the American summer snack shack, I embody the ecological concept with a simple, humorous three-dimensional representation (Fig. 6).

The power of this creative approach is not limited to culturally loaded imagery and representational witticism. In my recent project “Forman Watercolor Diagrams,” I reinterpret Richard Forman’s simple black and white landscape ecology diagrams with an understated mix of ink, water color paint, and digital type layout. By employing an evocative combination of old and new media, my visualization approach strived for a simple, beautiful, engaging representation. The goal was to present this specialized landscape knowledge in a more accessible fashion in order to inspire the initiated to learn more about landscape ecology.

Like many landscape architects of my generation, Richard Forman was my introduction to landscape ecology. I was fortunate to study under Professor Forman while at Harvard University. Before enrolling in Forman’s landscape ecology class I knew next to nothing on the subject. Lacking the fundamentals, I appreciated Forman’s educational approach; he would introduce

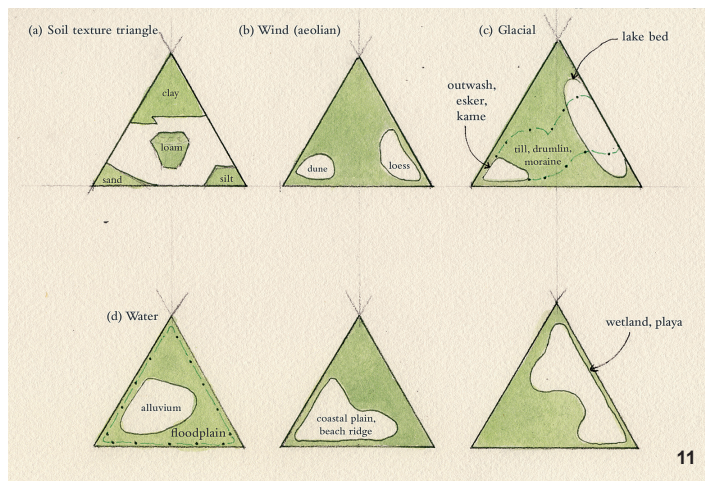
ecological concepts in his lectures and then lead the class on fieldtrips to demonstrate the concepts in the landscape. All of Forman’s classroom lectures were broken down into discrete topics that were introduced by a series of diagrams presented on an overhead projector. Forman’s diagrams were very abstract but absolutely critical in my understanding of the information; for the diagrams were the introduction to the subject matter. The diagrams were also my entry into much of the course reading, which was very dense and difficult to comprehend without the aid of accompanying diagrams. To understand the complex ideas and spatial nature of the subject, the text was absolutely necessary. Still, it was the diagrams that made the material accessible. Forman was well aware of the educational power of these diagrams; he would quiz the class by asking us to draw the diagrams from memory with a brief description of the ecological principle at hand. Not only was Forman reinforcing the material, but he was also teaching us to teach others with instructional graphic communication.

In the winter of 2013 I was awarded the Trifecta Editions Hibernaculum artist residency. My creative focus for the residency

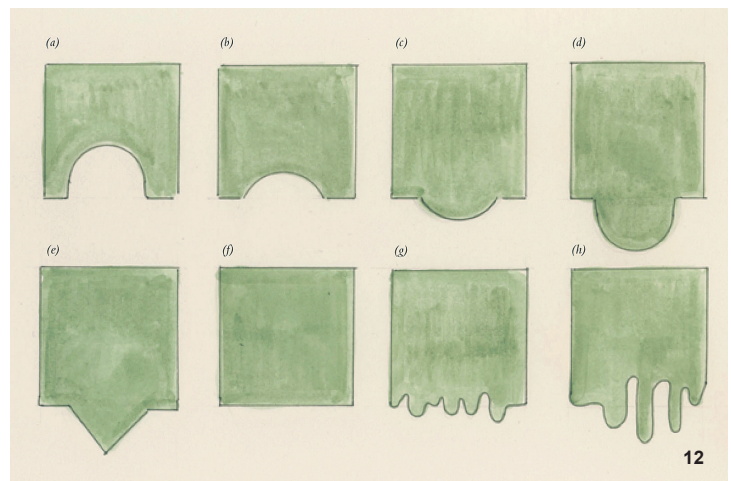
was to investigate alternative approaches to visualizing landscape issues with an emphasis on woodland ecology. In preparation for the residency, I revisited my Forman coursework. I began with my class notebook. The notebook was actually more of a sketchbook; there was always at least one diagram per page amongst all the hurried notes. I also revisited the course readings, including Forman’s *Land Mosaics: The Ecology Of Landscapes and Regions* (1995, Cambridge University Press). As I flipped through the book, once again I found myself drawn to the diagrams. Again, it was the diagrams that made me stop and delve into the text.

I have always had a love-hate relationship with Forman’s diagrams. Especially those diagrams found in Forman’s *Land Mosaics* drawn by Amy Bartlett Wright. Although I appreciated the simplicity of these black and white diagrams, they always felt too technical to me. The diagrams seemed too cold

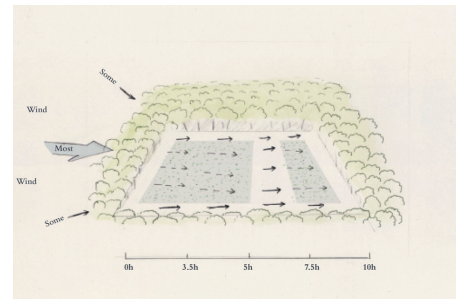
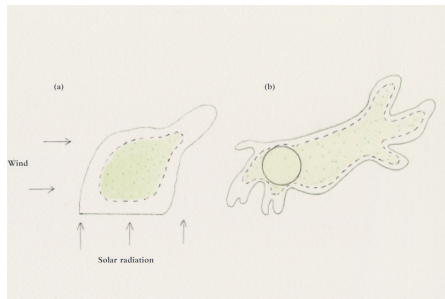
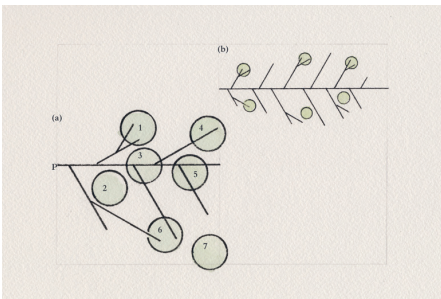
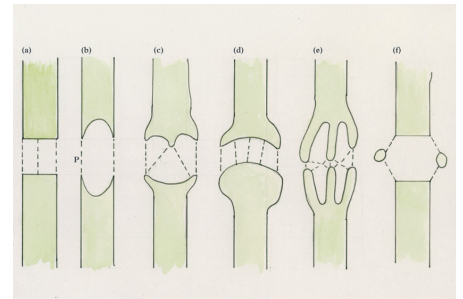
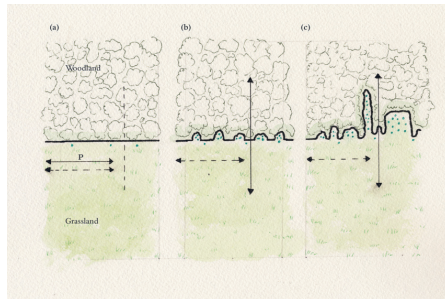
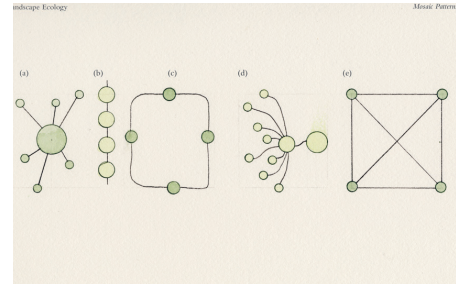
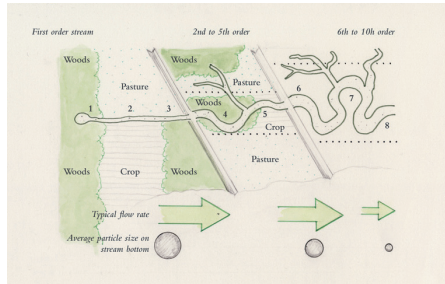
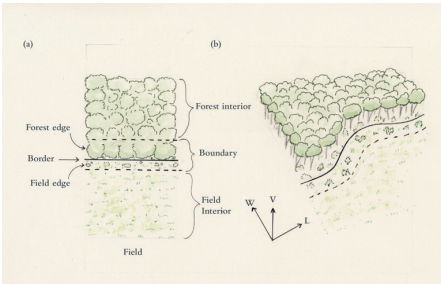
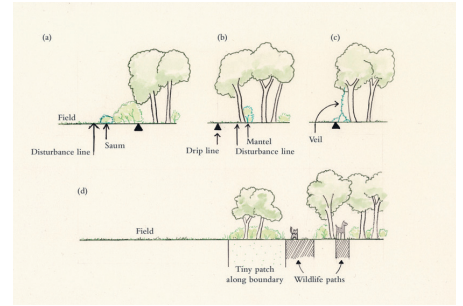
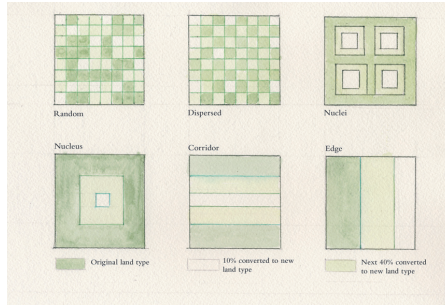
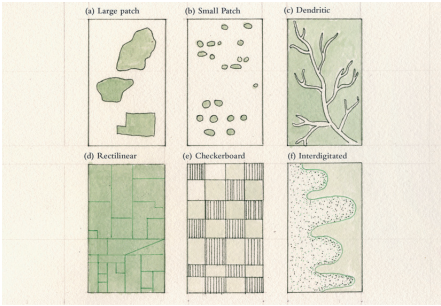
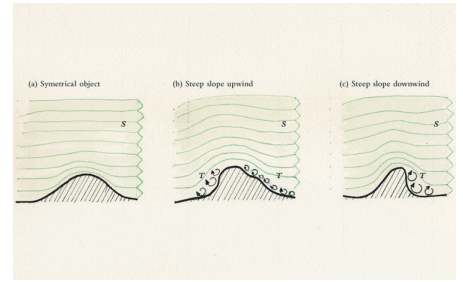
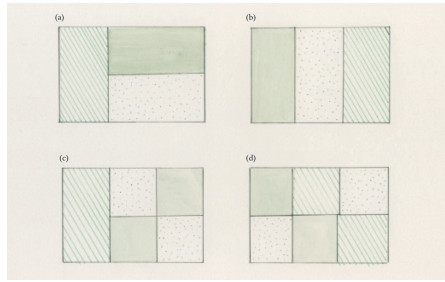
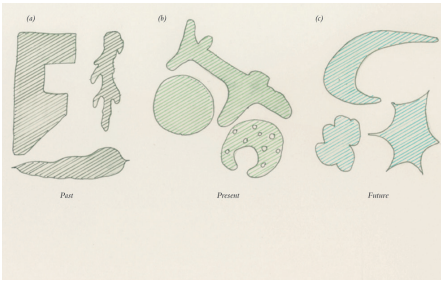
11. 由风、冰川、水沉积所形成的三种地区中不同的土质颗粒大小。
12. 8种常见的边界地表
13. 福尔曼水彩图示
11. Distinctive particle sizes in three types of region characterized by wind, glacial or water deposits.
12. Eight common boundary surfaces
13. The Forman Watercolor Diagrams



11



12



considering the context of the material which is focused on the dynamics of living systems. I challenged myself to recreate these drawings in a way that would be welcoming to someone who was wholly unfamiliar with landscape ecology. Could I alter the graphic design approach to the point where I could engage folks ranging from my young nephews to my parent's generation or any other uninitiated person for that matter.

Through slight edits and the creation of texture through watercolor and ink, I attempted to add a level of humanism to these otherwise abstract ecological concepts. I selected watercolor as a media because I felt it was a classic media that had a broad appeal. I didn't want to overcomplicate the diagrams, so I decided on a limited color pallet of greens and black. For some of the diagrams, I essentially re-created a watercolor version of the original (Fig. 7). For others, I significantly edited the diagram (Fig. 8). Some of these edits were made for clarity (Fig. 9), some were made for graphic flare (Fig. 10), some were made for humor (Fig. 11) and some were made for the simple sake of beauty (Fig. 12). I essentially tried to humanize the diagrams.

I shared these watercolor diagrams online through a variety of social media in order to gauge their accessibility. The diagrams were enthusiastically received by both former classmates and professional design colleagues. Most of these designers were aware of Forman's work and seemed to appreciate the fresh take on the work. Still, I was pleasantly surprised by the response from people in my network outside the field of design and ecology. People not only "liked" and made favorable comments on the diagrams, but they wanted to know more about the ideas behind the diagrams. Moreover, hyperlinks to Forman's publications were the most clicked on links on the project web page. In my view this graphic communication experiment was

a success because it engaged the general population and inspired them to learn more about the subject of landscape ecology.

It is said that landscape ecology plays out on a regional scale, but that it occurs locally. The same could be said of the adoption of successful eco-centric design. Success may be measured in terms of mainstream adoption, but it occurs one individual at a time. In practice, both our collective and individual values shape our built environment. In addition to our built-works, ecological awareness is a powerful mechanism for environmental change. Long-term sustainable practice depends on a heightened ecological awareness among non-designers. To that end, the planet's mounting ecological challenges demand new education models and communication methods.

I believe engaging graphic communication is essential to fostering cultural cohesion among non-designers. Based on my own experience and experiments, the lesson is clear: to make an impression, graphic communication must be accessible, informative and engaging. Making our graphic communication remarkable and relevant to popular culture in one way or another is critical. Our graphic communication must address the human element for which our design efforts are intended to serve. There are many ways to do so, but my most successful efforts typically employ a combination of humor, beauty with an undercurrent of pop culture sensibility.

I agree with Paulo Freire, the late Brazilian educator and philosopher, that education is the most transformative value-producing system in society. That being said education is the most far-reaching investment of our collective design effort as landscape architects. An informed public with a shared ecological awareness will be in a better position to support long-term design-driven

sustainable practice. Moreover, an informed public is in a position to become their own empowered advocates and are more likely to assume an active role in transforming their built environment and support the vision of sustainable environmental design. **LAF**

#### NOTE

Find more of David Buckley Borden's work at [davidbuckleyborden.com](http://davidbuckleyborden.com) or follow his work on instagram [@davidbuckleyborden](https://www.instagram.com/davidbuckleyborden)