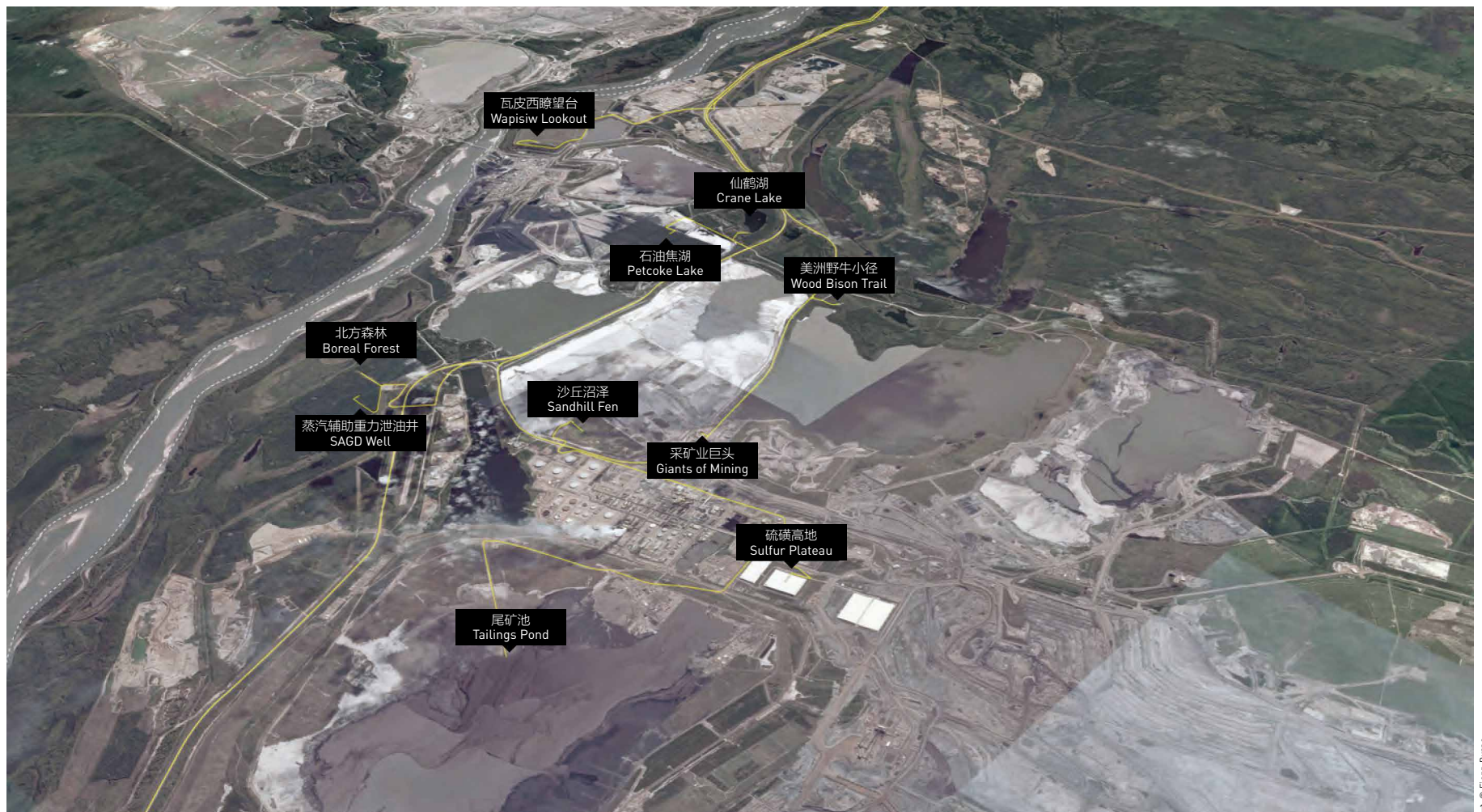


魅影生态： 美学、伦理与生态

PHANTOM ECOLOGY: AESTHETICS, ETHICS, AND ECOLOGY

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1. 设置于阿萨斯卡油砂矿表面可开采区域中的10座与工业景观相融合的休憩站。
1. Ten rest stops in the industrial landscape of the Athabasca bituminous sands surface mineable area.

空间之形式、材料与体验因文化而生，同时也创造文化。尽管“设计”是一个试图主动调控干预对象与世界的联系的过程，但被改造的对象反作用于文化所产生的影响却通常难以预估。

阿萨斯卡油砂矿

阿萨斯卡油砂矿区位于加拿大亚阿尔伯达省北部，是太空可见的人造景观之一，目前其建造规模几乎可以媲美任何其他人文景观项目。尽管这一项目巨大的土方工程量很容易让人误以为是地域级别的城市开发项目，但其实际目的却只有一个——石油开采。阿萨斯卡河上游地区是目前已经探明的加拿大最大的石油矿藏地，也是全球已知的第二或第三大石油矿藏地。矿区中20%的地下油砂区域（面积约500km²）距地表厚度适宜露天开采。自1967年以来，众多企业一直在场地中进行开采和沙石加工，由此提取出的沥青呈半固态，需进一步提炼才能成为石油。

然而，在这样一个石油储备十分丰富的地区，景观设计师鲜少参与到开采、生产、

废物堆积和废物回收等场地设计——特别是地形塑造——的过程中。同时，能够反映人类在这一地区中的感受经历及对物质空间进行塑造的小尺度景观设计项目也寥寥无几。

显而易见的缺失

为厘清上述情况产生的原因，我们不妨探寻如下问题。首先，那些所谓的能够在景观中实现效率最大化与空间阻力最小化的经济因素是否被过度强调，以至于任何不满足工程最优化的方案都可能被视作是不合理的？其次，这一工业生产过程是否从未将空间之配置、形式和体验等因素纳入考量？换言之，是政治环境将设计拒之门外，还是设计师自身无意涉足对这一场地的改造？或许答案蕴含在对于我们所生活时代的两种解读之中：其一，从经济需求出发，当今社会并未意识到在追求最低成本之外，对工业景观过程进行设计的效益；其二，从审美需求出发，当今社会认为工业景观设计并无美学价值。

工业景观设计的缺失无论应归咎于上述哪种原因，有志于改变阿萨斯卡油砂矿区现状的设计师都应担负起两大主要职责。

摘要

阿萨斯卡油砂矿区位于加拿大亚阿尔伯达省北部，是太空可见的人造景观之一，目前其施工规模几乎可以媲美任何其他人文景观项目。尽管这一项目巨大的土方工程量很容易让人误以为是区域性城市开发项目，但其实际目的却只有一个——石油开采。

然而，在这样一个石油储备十分丰富的地区，景观设计师鲜少参与到开采、生产、废物堆积和废物回收等场地设计——特别是地形塑造——的过程中。同时，能够反映人类在这一地区中的感受经历及对物质空间进行塑造的小尺度景观设计项目也寥寥无几。因此，尽管该项目所构想的在现有阿萨斯卡油砂矿工业景观中设计10座休憩站的方案可能最终难以落地，但其核心在于呼吁人们意识到这些代表着加拿大当代景观的工业景观的存在。

关键词

油砂；开采；基础设施；工业景观；修复

ABSTRACT

Visible from space, the Athabasca bituminous sands region of Northern Alberta, Canada, is currently being engineered at a scale equal to or greater than any other human landscape projects. This massive earth moving operation which at first glance could be confused for a regional urban development, has but one single objective: oil.

Yet we do not see landscape architects engaged in the design and specifically the topographic shaping of these sites of extraction, production, waste, and reclamation. Nor are there many examples of landscape architects contributing smaller scale interventions that acknowledge the human occupation of these sites, their experience and material realities. Thus, ten rest stops are proposed to set in the working industrial landscape of the Athabasca bituminous sands, though they might not be built, to emphasize the importance of remembering that these landscapes already exist, showcasing the contemporary Canadian landscape.

KEY WORDS

Oil Sands; Extraction; Infrastructure; Industrial Landscape; Restoration

译 陆小璇 刘姝

TRANSLATED BY Xiaoxuan LU Shu LIU

其一，探析该矿区的空间与物质组织形式之间的关系及其对当地文化的潜在影响。我们必须证明，不论有无设计的干预，这一地区的空间形式、材料和体验均影响着人们对加拿大的印象。即使只是通过新闻媒体报道，这一地区仍在加拿大乃至全世界人民共有的集体认知中占有一席之地。为了探究这种影响，我们首先需要思考如何让人们接受那些有助于实现最低成本、最少耗时、最高效率以及最大利润的空间与物质组织形式——它们可能与人们的传统审美观念相冲突，或具有不规则的形状，或完全人造，不仅毫无生机，甚至略显丑陋；此外，还需思考这些审美观念和经济决策如何影响社会习俗。

其二，展示如何通过设计手法重组空间，更加有的放矢地影响文化发展、塑造未来社会。在这一过程中，如何清晰地描绘期望中的未来亦至关重要。1969年，伊恩·麦克哈格出版了意义重大的生态规划著作《设计结合自然》。在这本书中，麦克哈格定义了一种简单却始终存在的二元状态：“谈及

对景观与城市的损伤，不论是出于本能，还是源于职业训练，工程师都是个中好手，他们手握大部分设计项目，却丝毫不为自己所造成的损伤感到愧疚。而后则需要景观设计师用手中的药来抚平这些创伤。”^[1]麦克哈格这种二元化的思维方式——损伤对应修复、建造对应改造——对后世产生了深远的影响，且在工业景观的治理、再生和修复项目中尤为显著，因为这类项目通常基于止损型修复观念而展开。通常而言，设计旨在消除过去所造成的破坏。在这一前提下，设计师不得不承认其所选择的项目陷入了棘手的过程中——由过去较好的状态发展至满目疮痍的现状，继而需要在未来恢复至原先较好状态^[2]。那么，过去与现在应当如何界定才能衡量发展的进程？当大自然本身漠视人类所做出的判定时，发展进程的优劣又该如何辨别？如果我们总是恋于回望过去，又将如何畅想崭新的未来？

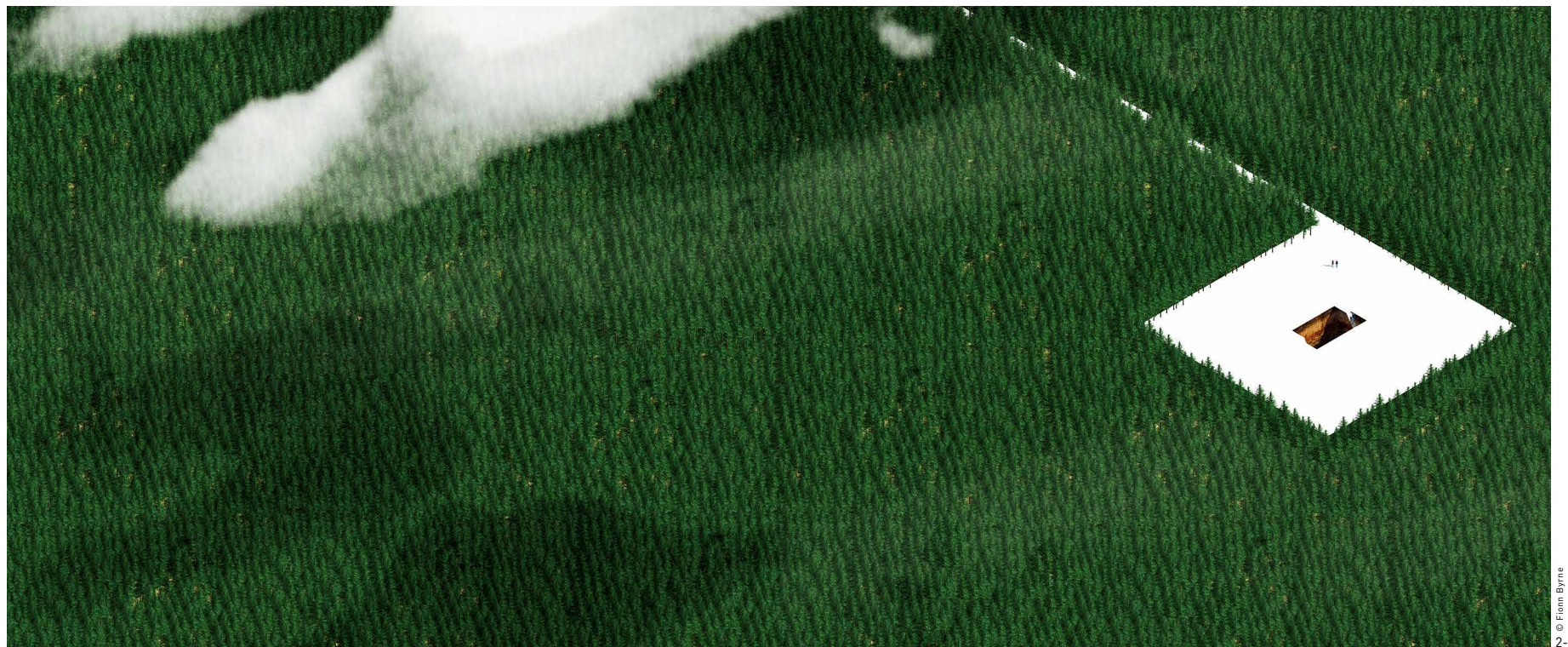
基于此，我们必须摆脱这种被过分强调的“修复”——尤其是聚焦于将未来场地还

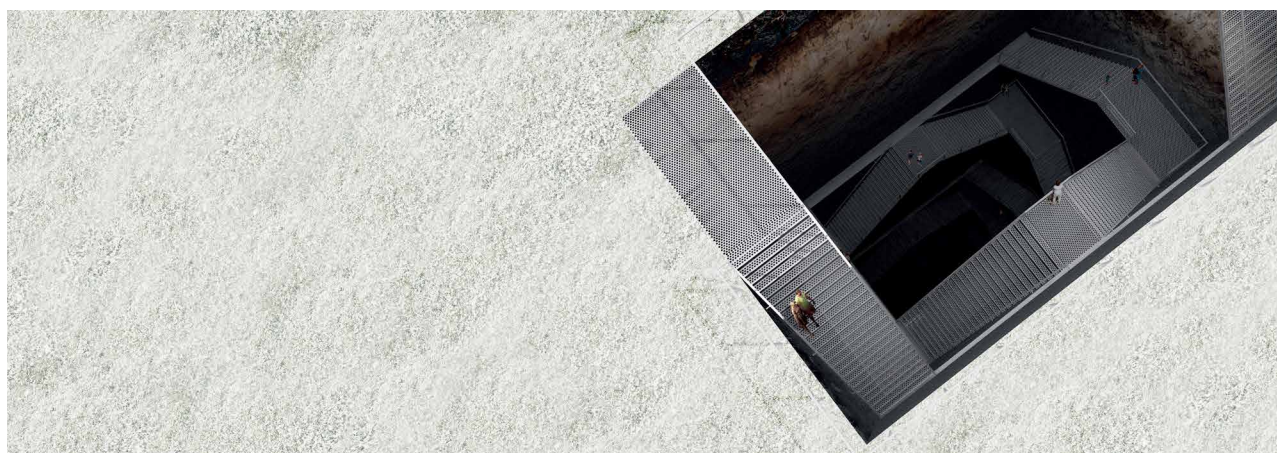
原至过去状态的“修复”——这显然是一种徒劳的尝试。如此“修复”而来的场地，也将只是供人们集体缅怀的景观魅影。续用麦克哈格的比喻，这就如同医生在为幻肢涂抹止痛药——是一种虚幻的生态而已。这些场地的转变早已不可逆转，所谓的能够抹平景观创伤的神奇之药亦不存在。

从修补到调和

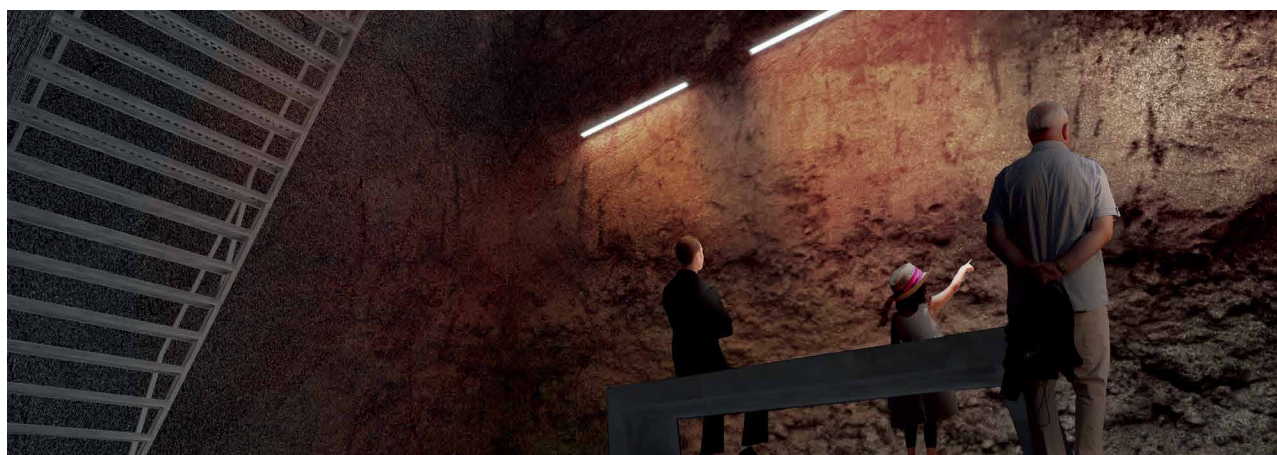
在一个存在众多环境问题的场地中，一味地通过改造来抹除原有景观的做法并不可行，我们应当在设计中融入更多的思考及调和手法。通过这种方式，景观设计将起到调和过去、现在与未来的作用，并使人们充分意识到自身也是毁坏加拿大北部森林和加速全球变暖的帮凶。

景观设计在文化生产过程中的作用不容小觑。比如，我们可以探寻经过设计的工业景观之形态、表现及感知与个体之间的联系，通过设计具有人文精神的休憩及冥想空





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间，来审视并批判一味追求效益及线性过程的经济至上的价值观。再比如，考虑到生态环境并非被动遵循人之设计意志——唯有条件适宜，动植物才可能在场地中繁衍生息——生态科学能够强化这一极具自主性的场地塑造力量。不论是否经过精心设计，客观世界中的物质形态与物质实体均深深影响着文化与社会的惯性，或延续，或对抗，或改变。

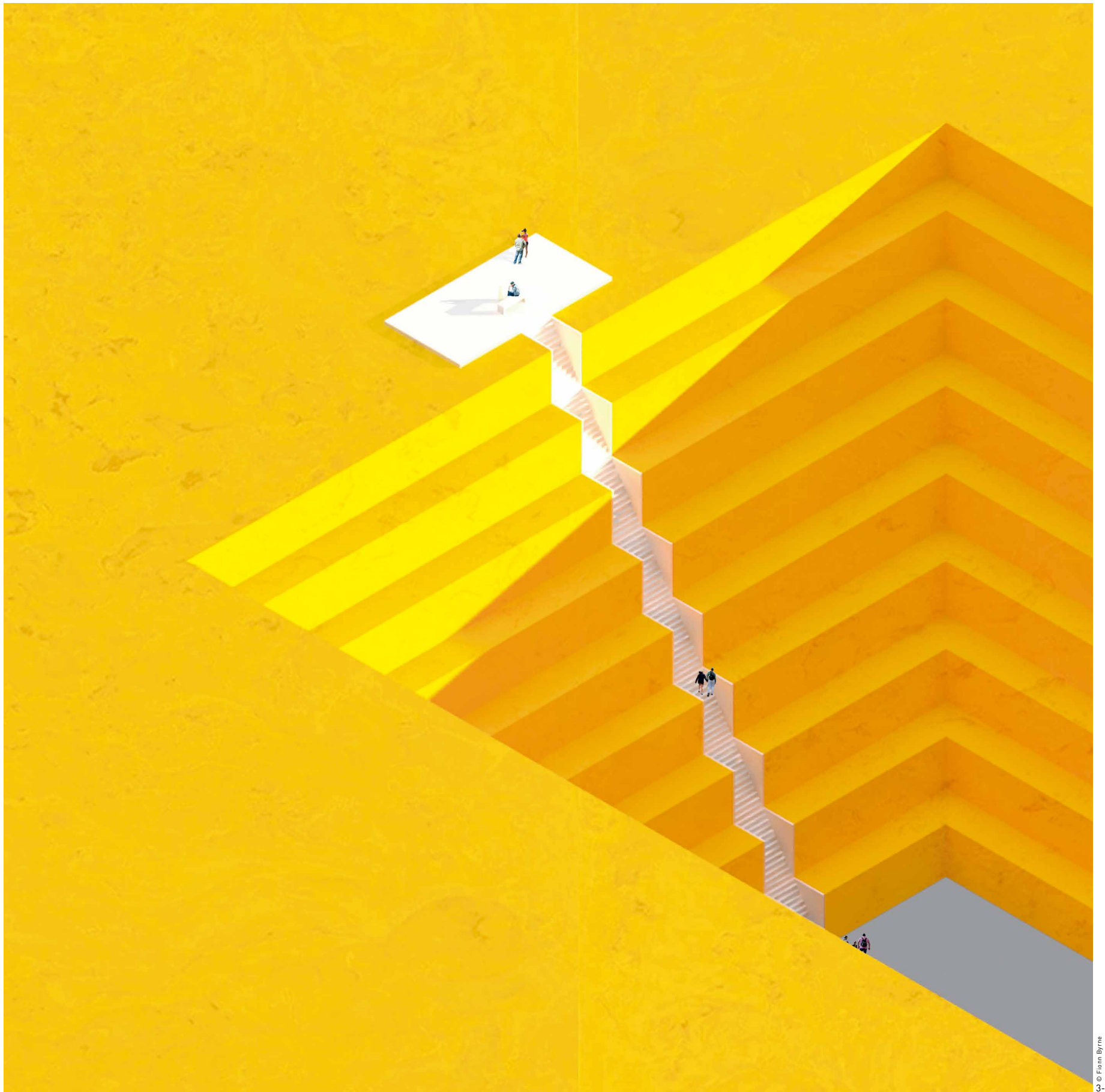
休憩站设计

基于上述考虑，“魅影生态”项目建议在现有阿萨巴斯卡油砂矿工业景观场地中设计10座休憩站。在特定的时刻，休憩站可串连为一条游览路线，供游客观赏核心区

域的沥青提炼过程。休憩站专为游客和当地居民设计，在当地现有观光路线的基础上，增设油砂矿区特有的体验景点。尽管与之类似的多数设计最终都难以落地，但更重要的是我们应当记住，这些景观始终存在，它们代表了加拿大的当代景观。在众多项目中，通过场地精心排布的物质环境、形式与生态特色，景观设计扮演着引导人们体验场地核心内在的角色。从这层意义上说，景观设计又如同为场地提供了画框或展墙，以供大地艺术家——油砂工程师们自由创作。借用英国诗人亚历山大·蒲柏的名言：“所有的园艺设计都如同在大地上作画，而景观正如悬挂于墙壁上的风景画，可供人们欣赏”^[3]，“魅影生态”项目即为这幅“风景画”的创作提供了切入点。LAF

- 2-1. 由废弃的蒸汽辅助重力泄（SAGD）油井改造而成的休憩站。
- 2-2. 通往废弃SAGD油井的螺旋状阶梯
- 2-3. SAGD油井休憩站位于地下约400m处。

- 2-1. Repurposing a decommissioned steam-assisted gravity drainage (SAGD) well pad.
- 2-2. A spiraling descent into the former SAGD well
- 2-3. The rest stop located in the SAGD well is 1,300 feet deep.



The form, material, and experience of space are both produced by and produce culture. While design may seek to actively control the engagement of an object with the world, the effect of an engineered object on culture is often unintentional.

Athabasca Bituminous Sand

Visible from space, the Athabasca bituminous sands region of Northern Alberta, Canada, is currently being engineered at a scale equal to or greater than any other human landscape projects. This massive earth moving operation which at first glance could be confused for a regional urban development project, has but one single objective: oil. Here, in the headwaters of the Athabasca River, is found Canada's largest petroleum reserve and the second or third largest known global petroleum deposit. Spread over an approximate 500 square kilometers or 20% of the total bituminous sands region, below ground reserves are found close enough to the surface to be open pit mined. Since 1967, corporate operators have been moving earth out of the way and processing sand and rock to extract bitumen, a semisolid form of petroleum that must be upgraded to become oil.

Yet we see almost no landscape architects engaged in the design and specifically the topographic shaping of these sites of extraction, production, waste, and reclamation. Nor are there many examples of landscape architects contributing smaller scale interventions which acknowledge the human occupation of these sites, their experience and material realities.

Visibly Absent

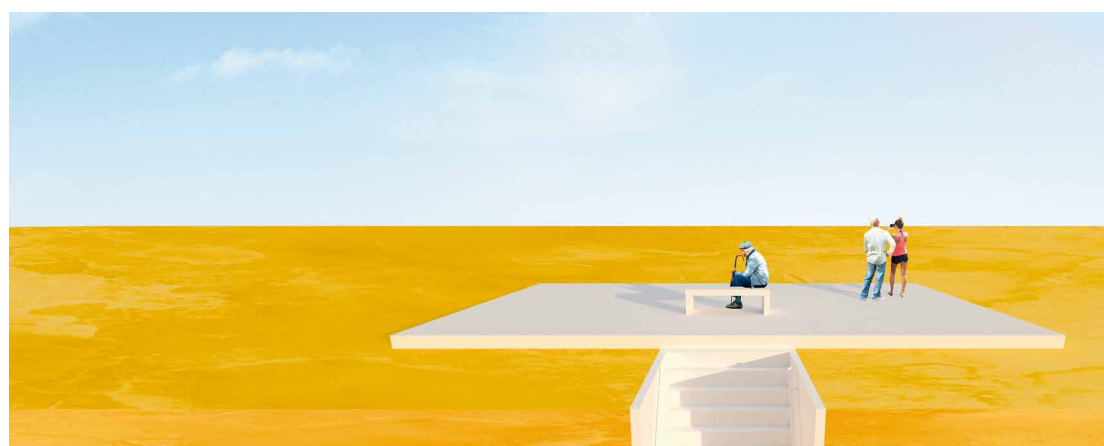
To understand why this is the case we should ask first that if the economic forces expressing themselves as maximum efficiency and minimum spatial resistance in the landscape are so highly tuned that



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- 3-1. 废弃硫磺高地休憩站需通过一条长长的阶梯才可到达。
- 3-2. 硫磺块之间的区域弥漫着恶臭气味。
- 3-3. 令人望而却步的阶梯
- 3-4. 休憩站位于硫磺高地的顶端

- 3-1. The rest stop on the Sulfur Plateau. There is an ascent to the top of blocked waste sulfur.
- 3-2. The odorous procession between sulfur blocks.
- 3-3. The daunting steep climb
- 3-4. The rest stop on the summit of the Sulfur Plateau



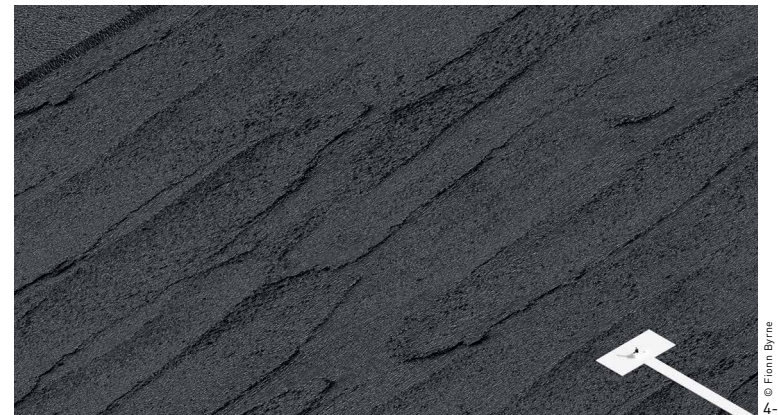
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4-1

they are unable to deviate at all from an engineered optimum. Or alternatively, if a need to consider the spatial configuration, form, and experience of this industrial process is just not being addressed. In other words, is this a political environment resistant to design or are designers just not interested in engaging with this site? We make one of two conclusions: either we live in a society that does not find benefit in the design of industrial landscape processes over minimum cost solutions (economic imperative) or we live in a society that considers there to be no value in the design of these same processes (aesthetic imperative).

In both cases any designers willing to change the present situation will have two primary responsibilities. First, begin to document the link between the current

organization of space and materials in the Athabasca bituminous sands region and the unintentional effects on culture. It must be demonstrated that designed or not, the forms, materials, and experience of this region affect the Canadian imagination. Even if only seen in the news media, this site has a place in the shared collective consciousness of Canadians and people all over the world. We should start by asking how does this aesthetic of irregular shape, plasticity, death, and ugliness relate to objectives of minimum cost, minimum time, maximum efficiency, and maximum profit — and how do both these aesthetics and economic decisions affect our social mores?

Second, it is necessary to demonstrate how design can reorganize space to more intentionally impact culture and shape our future society. Importantly, this also requires



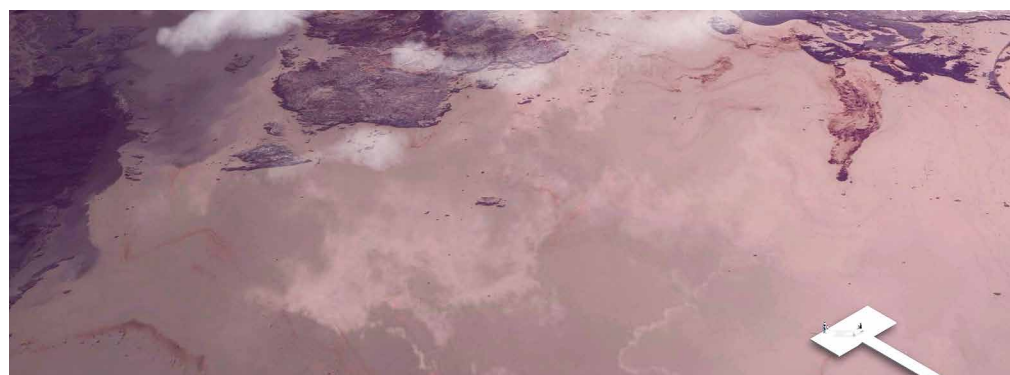
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4-2

- 4-1. 该休憩站位于一块洼地中，其四周被轻质石油焦所环绕。
- 4-2. 面积达230hm²的有毒尾矿池仅有一小部分被石油焦覆盖。
- 5-1. 位于密尔德勒湖尾矿池中的休憩站，这里是一处面积巨大的有毒尾矿池。
- 5-2. 休憩站漂浮于半固态的尾矿池上，漫步其中可感受到湖面的死寂之美。
- 6. 位于瓦皮西瞭望台尾矿池中的人造海滩休憩站，其下方覆盖着有毒废弃物。

- 4-1. Pausing on a depression surrounded by light absorbing petroleum coke (petcoke).
- 4-2. Only a small area of the 230-hectare toxic tailing lake is capped under the petcoke.
- 5-1. A rest stop in the Mildred Lake Settling Basin, an enormous toxic tailings pond.
- 5-2. Slowly walking on the rest stop floating over the beautiful and deadly semisolid lake.
- 6. An artificial beach resting above capped toxic wastes at the Wapisiw Lookout.

articulating what future we desire. In his seminal 1969 work on ecological planning *Design with Nature*, Ian McHarg defined a binary, the idea of which is as simple as it is persistent: "So the task was given to those who, by instinct and training, were especially suited to gouge and scar landscape and city without remorse — the engineers. The landscape architects were then retained to apply balm to heal the scars and wounds inflicted on the landscape."^[1] This way of thinking in binaries, of dichotomizing damage and repair, construction and reconstruction, has had a lasting impact. This is especially evident in the landscape works of remediation, reclamation, and restoration on industrial sites, which we often find to be motivated by notions of healing or recovery from loss. Design projects are commonly directed at undoing past damage. To work in this way a designer must select and accept a certain past as better, a present as worse, and a future as returned. But is this not a rather troubling trilogy?^[2] For starters, which past do we select as the bar against which to measure progress? How do we measure this progress — better and worse, when nature itself is indifferent to human valuation? How do we imagine new futures when we always start by looking back?

The conversation must move past an



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emphasis on restoration, especially when restoration is clearly a futile attempt to return the future of a site to past conditions. This is a future where we will be left with a disconnected landscape simulacrum designed to support collective social amnesia. Extending McHarg's health

metaphor we might go so far as to say this is like the physician prescribing balm for a phantom limb — a phantom ecology. These sites of extraction have been irrevocably transformed. No manner of balm can heal the scars and wounds inflicted on the landscape.



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7-1

From Remediation to Reconciliation

In a site that engenders so much environmental opposition, instead of working exclusively towards erasure in the landscape through reclamation, it seems sensible to also design for contemplation and reconciliation. In this vein landscape architecture can be employed to reconcile past, present, and future and to make individuals aware of their participation in the total devastation of the Canadian boreal forest and the acceleration of global warming.

Landscape architecture is embroiled in the production of culture. Consider, for example, how the designed form, expression and perception of materials are used to engage individual intellect, critiquing the economic paradigm of efficiency and linear progress in favor of a humanist model of leisure and contemplation. Or consider how the science of ecology has given a strong

voice to an autonomous stakeholder — the biological environment, inherently critical of human design and populating a site only if the correct conditions are met. Intentionally designed or not, the physical form and material reality of the external world either perpetuates or resists and redirects the inertia of culture and society.

7-1. 休憩站位于阿尔伯达省北部原始北方森林中云杉树冠的上方，人们可在此拍摄美景。
7-2. 人们可在森林小径中漫步，享受树荫带来的清凉之感。

7-1. Taking photographs from the tree top rest stop, just above the spruce canopy at the undisturbed boreal forest of Northern Alberta.
7-2. Enjoying the cool shaded walk through the forest floor.



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7-2

8. 位于人工沙丘沼泽中的休憩站下沉约1.5m。
 9. 改造后的美洲野牛小径中的休憩站。
 10. 仙鹤湖原先为一处尾矿池，在此修建的休憩站也可作为鸟类栖息地。
 11. 可供游客观看采矿业巨头作业的休憩站。在这里，庞大的2号斗轮取料机令人望而生畏。
8. This rest stop at Sandhill Fen sinks visitors five feet deep into the artificial fen.
 9. Upgrades to the rest stop at the Wood Bison Trail.
 10. A rest stop with bird habitats added to Crane Lake, which was a defunct tailings pond.
 11. A rest stop at the Giants of Mining, where visitors may stand in awe of No. 2 Bucketwheel Reclaimer.

Points of Rest

With the above consideration in mind, the imagery accompanying this piece is design work for ten rest stops in the working industrial landscape of the Athabasca bituminous sands. Together they establish a possible tourist circuit through unique moments in significant areas of the extractive operations. Designed for tourists and locals, the ten stops capitalize on the existing tourist route and add new experiences only possible in the bituminous sands region. While it is understood that most of these proposals will never be built, it is important to remember that these landscapes already exist. The imagery does nothing more than first showcase the contemporary Canadian landscape. In each case the landscape design serves as the armature to experience the sites through

their exceptional materials, environment, forms, and ecology. In this sense the designs provide the same function as a picture frame or a gallery wall, while it is the bituminous sands operators, the engineers who must recognize themselves as the land artists. One is reminded of Alexander Pope's proclamation that "all gardening is landscape-painting; just like a landscape hung up,"^[3] and here these proposals provide the point of entry into the painting. **LAF**

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