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废弃物堆积山的转变：

罗马泰斯塔修山的公众集聚和材料迁移

Midden Mutations:

Civic Aggregation and Material Migration at Monte Testaccio

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摘要 ……

泰斯塔修山是一个存留至今的古代堆填场，由近2 500万个陶质双耳瓶的碎片堆积而成。在地中海地区，这些双耳瓶曾被用于将橄榄油由伊伯利亚省装运至罗马帝国的中心。泰斯塔修山是罗马城的野性遗迹，一部有关材料、传说、利益和事件的，不那么赏心悦目的历史。几个世纪以来的各种活动、利益和使用者的变迁已经改变了这个垃圾空间的文化特征，而该场地独特的物质条件则助推了各种新奇的使用和功能安排。

作为历史性的先例，泰斯塔修山提供了可供现代人参考的两种将垃圾空间融入城市文明的模式。第一种模式为“聚集”——通过使城市功能和居民向已关闭的都市废弃物堆填场聚集，从而提升该遗迹的文化价值；第二种模式则是“分离”——堆填场是材料和能源的宝库，从长远来看，对它们进行开发能够推动本地和远郊的工业生态和城市进程。泰斯塔修山这一历史遗迹所展现出的持久活力，强有力地向我们证明：垃圾景观可以转化为公众参与的推动者和城市发展的催化剂。

关键词 ……

泰斯塔修山；堆填场再利用；堆填场先例；垃圾景观

Abstract ……

Monte Testaccio is an extant ancient landfill comprised of the fragments of nearly 25 million clay amphorae which conveyed olive oil across the Mediterranean Sea from the provinces of Hispania to the heart of the Roman Empire. Monte Testaccio is Rome's feral monument, an ungainly aggregation of material, mythology, interests and events. Over centuries the intersection of diverse activities, interests and constituencies has transformed the cultural identity of this waste space, and the peculiar material condition of the site has sponsored curious uses and programs.

As a historical precedent, Monte Testaccio offers two models for the contemporary aspiration to transform waste spaces into civic terrain. The first model involves the aggregation of many uses and constituencies on a closed metropolitan landfill in order to increase its cultural value. The second model that Monte Testaccio provides is one of dispersal — landfills can be troves of valuable material and potential energy that can be mined to prompt local and distant industrial ecologies and urban processes over time. The vitality and longevity of this archaeological site make Monte Testaccio a potent example of what a waste landscape can become: an agent of civic engagement and an urban catalyst.

Key words ……

Monte Testaccio; Landfill Reclamation; Landfill Precedent; Waste Landscape

泰斯塔修山是一座废弃物堆积丘地，位于圣山密布的罗马城。向西流入台伯河的水侵蚀火山沉积高原，从而形成了古罗马城著名的“七座山丘”^①。而泰斯塔修山，作为城内的“第八座山丘”，形成于一场人为的造山运动——发生在台伯河漫滩的垃圾堆填。它由近2 500万个陶质双耳瓶的碎片堆积而成。在地中海地区，这些双耳瓶曾被用于将橄榄油由伊伯利亚省装运至罗马帝国的中心^[1]。最新的碎片形成于公元三世纪，当时的泰斯塔修山是世界上规模最大和工程设计最先进的堆填场之一。而在此后的几百年中，发生于此

的各种活动以及使用者的变迁，使这一历史性的垃圾空间的文化特征不断改变（图1）。

作为现代堆填场再利用的先例，泰斯塔修山引起了我的兴趣。由于景观设计这一学科立志于解决各类基础设施难题，在全球范围内，市政固体废物处理设施已成为其设计对象，被施以如堆填场资源采集、能源生产和城市再开发等干预措施。最近的项目都力求将堆填场的不同区域与多种功能进行整合。位于纽约市斯塔滕岛的清泉垃圾填埋场就是最著名的例子，它是该市自1888年以来最大的公园，成为了

一个湿地鸟类和马术爱好者共享、公共艺术和沼气收集井并存的空间。但是这类再利用需要借鉴历史先例，而泰斯塔修山则对于当代理论和实践而言都堪称典范——它是一次利用城市进程实施地形改造的跨文化实践，满足了当代人将垃圾空间融入城市文明的期望。这一研究项目使我将目光投向垃圾的“驯化”这一议题——一种食物生产和城市废流交织共生的“新陈代谢”景观。随后的一系列设计和文字研究包含了相关话题，诸如通过设立水禽狩猎场对受污染的河道淤泥进行整治，或是通过水产养殖活动对废水进行净化。

2010年，我以建筑学访问学者的身份在罗马美国学院度过了三个月，研究泰斯塔修山的起源，探寻其现实意义并重绘其历史面貌。描绘泰斯塔修山是一件具有挑战性的工作。通过进行数字化及模拟法的叠图研究、说明性图表的绘制以及城市形态变化的追踪，我尽力将这个堆填场描绘成一个处于持续物质交换和文化再造过程中的动态景观，而不是一个静态的考古遗址。对我来说，绘制泰斯塔修山的过程就如同这个不断积累的堆填场本身是一个收集材料、感知和信息的场所。人工造山过程，以及那塑造了该场地特性的能量和事件的无形之手，都通过亦真亦幻的形式得以呈现。真实和抽象之间的留白，为观者提供了想象的空间，使他们能够通过这些描述和推测建立新的理解。这种作者和观众之间的“多价交换”显示出该描绘手法富含的工具理性：它是一个协作性的工具，帮助人们在发掘历史、传统和神话的同时，构建出新的可能性。

陶土和橄榄油的迁移

我在罗马逗留期间，恰逢每年九月举行的泰斯塔修山考古发掘活动。当我第一次爬上泰斯塔修山的山顶，在距离地面街道之上35m的地方，我找到了一些被木支柱加固的3m深的露天坑，目之所及的地方遍布陶罐碎片（图2）。不远处，一队考古学家正热衷于试图用摊开在桌上的碎片重新拼出整个双耳瓶。分类排序的碎片堆叠在板条箱里，它们带有的古代标记——橄榄油生产商的名字、托运人、报关代理人、橄榄油和双耳瓶的重量、检查日期——揭示出彼时粮食生产运输过程中复杂的经济及行政机构运作方式。

在罗马帝国鼎盛时期，每年都有重达18 000吨的橄榄油与重达8 000吨的陶质双耳瓶，一起由伊伯利亚省运往罗马城^[2]。长路漫漫（图3），这些装有橄榄油的双耳瓶从伊伯利亚省的橄榄树林出发，由驳船运至下游的塞维利亚；接着，它们被转移到航运公司的海轮上^[3]。若天气晴好、一路顺利，将于大约9天后到达沿海的奥

斯蒂亚或波图斯港；在这里，它们会再次被装上驳船，在台伯河上漂流三天后，抵达罗马城市市场的港口。鼎盛时期的罗马帝国，每年都会有2 200趟航行专门用于运输橄榄油^[2]。油被倒出，储存在台伯河东岸的仓库中，双耳瓶则随后被丢弃。每年，超过28万只双耳瓶被打碎并堆积于一层层台地之上，久而久之就形成了泰斯塔修山^[2]。这段陶土和橄榄油的迁移之旅，始于巴埃蒂斯河（现名瓜达尔基维尔河）河畔，终于罗马泛滥平原的人工残丘，长达1 600km（图4）。物质材料的流动以及商品和服务的交易巩固了罗马的城镇化进程，也造就了泰斯塔修山这样的附属产物。

泰斯塔修山的公众集聚

泰斯塔修山的地文环境在其出现后的2 000年间，经历了剧烈的变动（图5）。大约在公元275年时，奥勒良城墙的竣工使得该封场的堆填场由南、西两面被纳入城市边界范围，而泰斯塔修山所在地也因此成为了都市的一部分。在5世纪末期帝国崩溃后，罗马城的规模开始收缩。泰斯塔修山周边的建筑物逐渐破败，该地区被

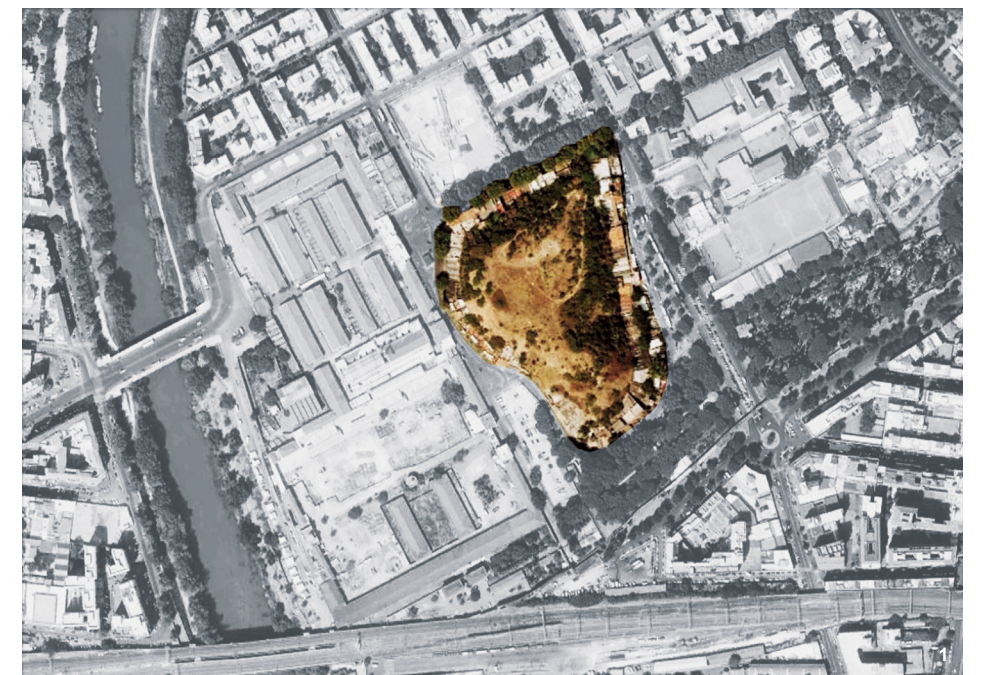
冠以“无人区”的称呼长达几个世纪之久。这些年中，泰斯塔修山虽是名义上的市区，却是事实上的郊野。直到19世纪，它才再次被城镇化。不断变化的自然和社会环境，也不断地适应或是改变人们使用这一地区的方式。

今天，高档餐馆、汽车维修店、一个小型天主教堂、住宅，和一家著名的同性恋酒吧，紧簇山脚而建。透过建筑背面的拱窗，可以看见一堵完整的碎片墙。在炎热的夏季，热风吹过被雨水浸湿的松散碎片而被冷却；轻薄的山体加强了这种蒸发冷却效应，使堆填场的温度比邻近街道低约11℃。打开室内的窗户，泰斯塔修山便成为了一个超大号空调（图6）。

17世纪起，泰斯塔修山与葡萄酒结缘。在对堆填场民用改造的创造性尝试中，市政当局批准在山坡上进行洞穴挖掘，以创建公共酒窖^[4]。由此，庆祝葡萄丰收的奥托博瑞特节也被设立。17~19世纪间的每一个秋天，人们都会在这个拥有酒窖、草地和桑树的地方饮酒、诵诗和跳萨尔塔列洛舞。泰斯塔修山成为了一个“乡村”休闲胜地。

文艺复兴时期，泰斯塔修山变成了

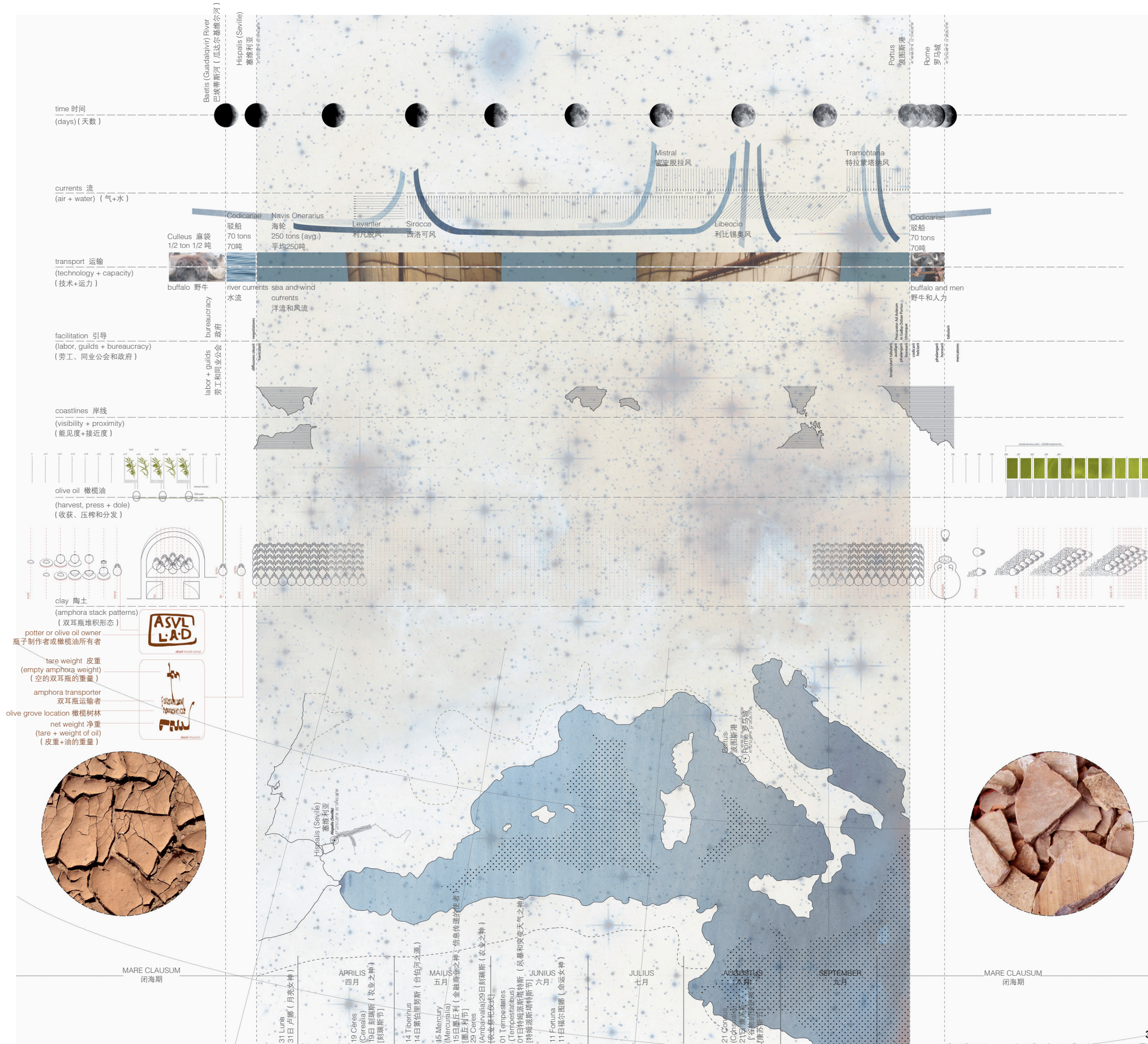
1. 泰斯塔修山和台伯河 © 2011 Digital Globe, GeoEye
1. Monte Testaccio and the Tiber River © 2011 Digital Globe, GeoEye



一个“采陶场”。诸多信息表明，陶瓶碎片被用作道路的基层铺设^[5]。碎片也被出口，用于建造圣彼得大教堂的拱形天花板；该项目造成的巨大开采量导致泰斯塔修山的高度降低了若干英尺^[6]。

泰斯塔修赛游会是13~16世纪罗马大斋期前长达一周的狂欢节的一部分。成千上万的人涌向泰斯塔修山，把它当做眺望远方节日庆典的看台。每年大斋期的典礼都会上演《耶稣受难记》，演出起于屠牛广场，一路伴随游行的队伍，最后终于泰斯塔修山顶。泰斯塔修山之所以被选作活动场地，是由于它与位于耶路撒冷的各他山有相似之处，后者被认为是耶稣受难地^[7]。

17世纪，教皇的邦巴尔迪耶里卫兵在做射击练习时，从圣保禄门向泰斯塔修山发射炮弹。考古学家兰奇安尼绘制了《罗马城市图》，在其中的一张上，将泰斯塔修山东南方的一块草皮断层标示为“邦巴尔迪耶里射击造成的缺口”^[8]。该堆填场经历过至少三次的实战，第二次世界大战



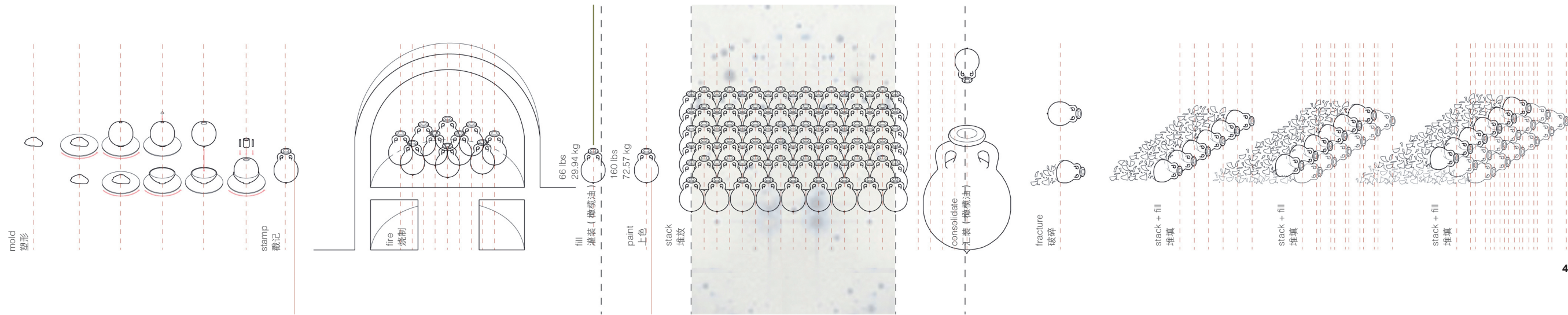
时期，高射炮装置的残骸仍遗留在峰顶，坐落于一个巨大的钢铁十字架旁的陶瓶碎片之间。

泰斯塔修山曾经作为承载公共基础设施、宗教仪式、商业企业、军事行动和世俗庆典的场所。每一次的用途改变，都再次证明了其文化特征的可塑性及其在独特的城市条件形成过程中的作用（图7）。

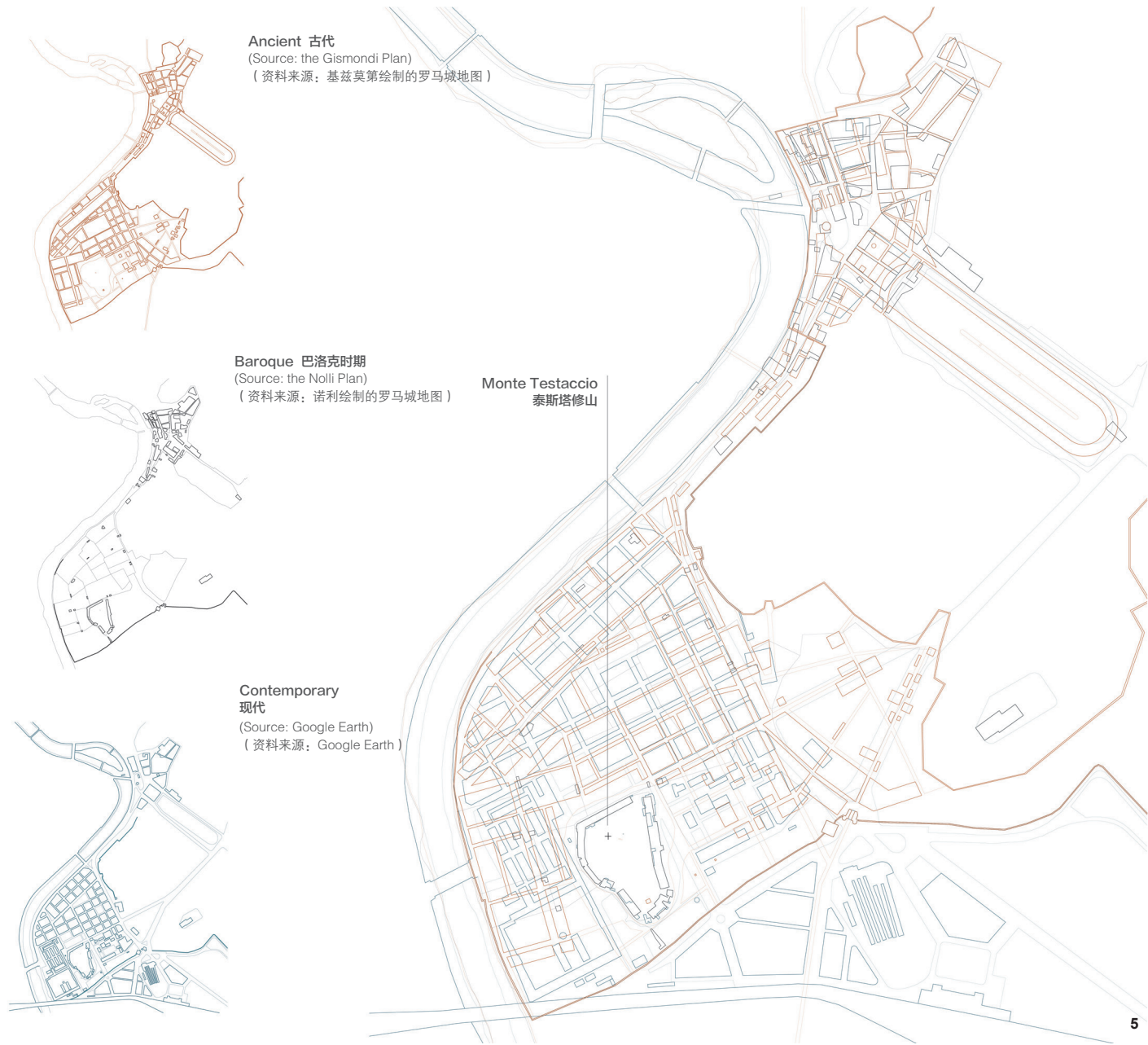
堆填场再利用的前景：两种模式

泰斯塔修山提供了两种再利用的模式，展现出当代堆填场在创造弹性公共空间的潜在价值。第一种模式为“聚集”——通过使城市功能和居民向已关闭的都市废弃物堆填场聚集，从而提升该遗迹的文化价值。泰斯塔修山为堆填场封场后的各种用途提供了示范；通过这个例子，我期望当代设计师能逐渐形成一种共识：对于堆填场的改造应结合多种活动、利益兴趣和使用对象。由James Corner Field Operations事务所设计的纽约清泉公园历经30年的改造，正由堆填场变成一个可容纳体育活动、生态教育、野生动物保护区以及911纪念碑的“生活景观”。位于特拉维夫的希拉山堆填场，由彼特·拉茨设计改造为一座城市公园后再次对外开放，综合了包括垃圾回收、公共休闲和人工水景在内的多种功能。而在旧金山湾，由乔治·哈格里夫斯、迈克尔·奥本海默和彼得·理查兹共同设计的拜斯比公园，交织

- 露天坑内部的双耳瓶碎片墙，形成于几世纪前复杂却层次分明的堆填过程。堆填场内的碎片可大致分为4类：弯形把手、细圆瓶口、多边形碎片和尖状瓶底。© Michael Ezban
- 本说明性图表沿逆向按时间顺序来索引风和水流、海运和河运贸易技术、政府检查站和劳工同业协会、双耳瓶堆积轨迹等信息；由此呈现出导致罗马城“第八座山丘”形成的物质运输和水上物流。© Michael Ezban
- Open pits reveal internal walls of amphora shards constructed through intricate and orderly amphorae disposal processes conducted centuries ago. Although the landfill consists of hundreds of millions of fragments, the shards can be categorized them into four main types: curved handles, tight radius lips, polygonal plates and pointed base tips. © Michael Ezban
- A notational diagram in which wind and water currents, maritime and fluvial trade technologies, bureaucratic checkpoints and labor guilds, and amphora stacking patterns are indexed against time to examine material transport and waste-stream logistics that resulted in the creation of the "eighth" hill of Rome. © Michael Ezban



4. 陶土的迁移：它们由巴埃蒂斯河畔，被运至台伯河漫滩，迁移距离长达约1 600km；它们被烧制成双耳瓶、整齐密集装入船体、拆碎并被填入阶地，形成泰斯塔修山。© Michael Ezban
5. 罗马城变迁的叠图研究：泰斯塔修山在2 000年的历史中地文环境剧烈变动，并在城市和郊野地区两种状态间不断转化。© Michael Ezban
6. 建于山体一侧的Flavio al Velavevodetto餐厅将堆填场充当空调和酒窖。© Michael Ezban
4. Tracing the arrangement of clay during its 1000-mile journey from the banks of the Baetis River to the floodplain of the Tiber River, including shaping and firing into amphora, tessellated stacking in ship hulls, and precisely dismantling and shaping into the terraces of Monte Testaccio. © Michael Ezban
5. A palimpsest of Rome depicting the fluctuating physiographic context of Monte Testaccio. In its 2,000 years history, the landfill has alternated between urban and rural conditions. © Michael Ezban
6. The landfill double functions as an air conditioner and wine cellar at Flavio al Velavevodetto, a restaurant built into the side of the landfill. © Michael Ezban



的步道和大地艺术呼应了交通基础设施与湾地自然保护区交汇的状况。

然而很多时候，这些项目未能解决一个关键问题：堆填场的物质构成和特性——不均匀沉降、黏土覆盖层和活跃的分解作用——到底提供了怎样的独特机会？当罗马市政府向公众开放山体开凿以建立酒窖时，分散的陶土碎片的冷却特性催生了一种新型公共食品基础设施。当时的人们不会想到，这种新式应用成就了两个世纪后的葡萄丰收节，并奠定了19~20世纪该地区餐馆和酒吧发展的格局。

泰斯塔修山提供的第二种模式涉及物质的“分离”。正如前面谈到的，这座古代堆填场重要的公共角色之一，是作为道路和建筑等项目的材料开采场。现代垃圾堆填场与大多数后工业场地不同：它们不应当被简单地理解为污秽之地，而应当被视为材料和能源的宝库，从长远来看，对它们进行开发能够推动本地和远郊的工业生态和城市进程。

比如，在比利时的胡塔伦-赫尔赫特伦，一座已封场的16万吨级堆填场自2014年起将开展一项长达20年的改造计划，包括垃圾-能源转化以及对场内45%的废弃材料的回收利用。有趣的是，堆填场被慢慢转变为公园的过程，伴随着该地区原生物种栖息地的阶段性修复^[9]。再比如，全球金属价格在近期的急剧上升（这部分归

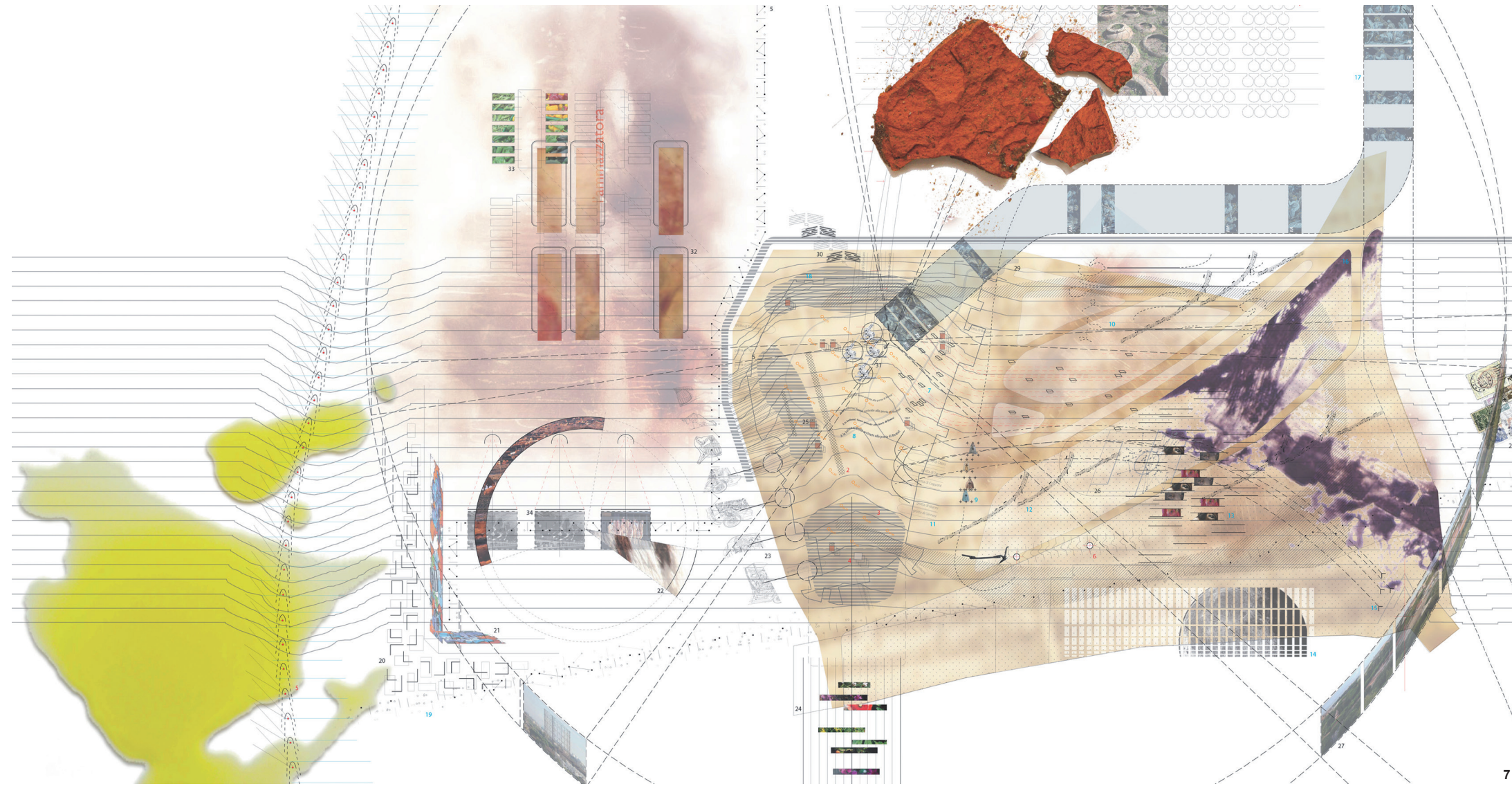
功于中国当前的建设热潮），为堆填场的资源采集提供了新机遇。举例来说，从堆填场回收废弃铝比从铝土矿中开采能耗更低，而废弃铝的数量甚至引发了美铝公司的兴趣^[10]。这种再利用模式意味着，景观设计师在堆填场项目中的角色，应是一个通过将公共和私人利益、自然生态系统和国际市场紧密结合起来，以成为材料处理和流通过程的指挥者。

泰斯塔修山是罗马城的野性遗迹，一部材料、传说、利益和事件的，不那么赏心悦目的历史（图8）。从食物的消耗、垃圾的产生再到对堆填场的重新利用，千年之中，一个具有多重价值的地景出现并持续塑造着罗马城的城市活动。随着现代政府和公民越来越多地希望堆填场的改造

能为大众所用，集合能源生产、社会节点、纪念场所等多种功能，我们能够通过对泰斯塔修山这一历史先例展开研究而获益。环顾世界，你很难再找到这样一个促生了如此多样化的事件活动、攸关利益和使用对象，且多个世纪持续变化的堆填场。泰斯塔修山的长寿和活力，为我们展现了堆填场发展的理想前景：成为公众参与的推动者和城市生长的催化剂。LAF

注释
本研究及报告最初发表于《场所》杂志2012年春季刊。
校者注
① “罗马七座山丘”位于台伯河东侧，其形成了罗马城的核心地带，亦是罗马建城之初重要的宗教与政治中心。





Monte Testaccio is a mountain of detritus in a city of storied hills. The seven hills of ancient Rome were formed by the subtractive process of water flowing west to the Tiber River and eroding a plateau of volcanic deposits. The eighth hill, Monte Testaccio, emerged

from a process of anthropogenic orogenesis — the accumulation of trash in the Tiber floodplain; it is a midden constructed entirely from the fragments of nearly 25 million clay amphorae, which conveyed olive oil across the Mediterranean Sea from the provinces of Hispania to the heart of the Roman Empire^[1]. The most recent fragments are dated to the third century A.D., when Monte Testaccio was among the largest and most highly engineered waste sites in the world; in the centuries since then, the intersection of diverse activities and constituencies has transformed the cultural

identity of this historic waste space (Fig. 1).

Monte Testaccio has captured my imagination as a precedent for modern landfill reclamation. As the discipline of landscape architecture lays claim to diverse infrastructural challenges, municipal solid waste facilities in cities worldwide have been targeted for design interventions such as landfill mining, energy production, and urban redevelopment. Recent projects have sought to integrate multiple functions and constituencies at waste sites. Most famously, Fresh Kills Landfill on Staten Island is set

to become the largest New York City park developed since 1888, a place where wetland birds share space with horseback riders, public art and methane collection wells. But this type of reclamation needs historical models, and Monte Testaccio is a useful precedent for contemporary theory and practice — an exemplar of both the transcultural practice of manufacturing topography through urban processes and the contemporary aspiration to transform waste spaces into civic terrain. This work extends my research into the culture of waste — the metabolic landscapes where

food cultivation is entangled with urban waste streams. This line of research has included design work and writing on the intersection of contaminated dredge management with waterfowl hunting grounds, and wastewater cleansing through productive aquaculture landscapes.

I spent three months in 2010 as a visiting scholar in Architecture at the American Academy in Rome researching Monte Testaccio's origins, questioning its relevance and making drawings of its history. Drawing Monte Testaccio was challenging. Through digital and analog palimpsests, notational diagrams, and tracing of urban morphological change, I endeavored to represent the landfill not as a static archaeological site, but as a dynamic landscape undergoing processes of material exchange and cultural reinvention. For me, drawings of Monte Testaccio, like the landfill itself, are a site for accretion where materials, impressions and information collect. Representations of artificial orogenesis and the intangible flows of energy and events that have shaped this hill's identity oscillate between abstraction and veracity. In this fertile gap there is space for viewers to build new meaning through interpretation and speculation. The multivalent exchanges between author and audience reveal the rich instrumentality of drawing: it is a collaborative tool that exhumes histories, traditions, and myths while simultaneously constructing possibility.

Migration of Clay and Olive Oil

My stay in Rome coincided with an annual archaeological dig at Monte Testaccio held every September. On my first trip to the top of Monte Testaccio, 115 feet above the street, I found open pits ten feet deep and braced with wood shoring, and I saw nothing but tens of thousands of broken clay shards (Fig. 2). Nearby, a team of archeologists was

ambitiously attempting to reconstruct whole amphorae from fragments spread out on a table. Stacked crates of sorted shards with ancient markings — the names of olive oil producers, shippers, customs agents, weights of oil and amphora, and inspection dates — reveal a complex economic and bureaucratic apparatus of food production and transport.

At the height of the Empire, an impressive 18,000 metric tons of olive oil, along with 8,000 metric tons of clay amphorae, were imported annually from the province of Hispania to Rome^[2]. The journey was considerable (Fig. 3). From olive groves in the province, the oil moved downriver in barges to Hispalis, where the amphorae were transferred to seagoing vessels owned by shipping companies^[3]. Given clear sailing, the voyage to the Roman harbors of Ostia or Portus would take about nine days, then the journey by barge up the Tiber River from the coast to the Emporium of Rome took an additional three days. At the height of the Empire, olive oil alone required 2,200 trips each year^[2]. The oil was poured out of amphorae and stored in warehouses along the east bank of the Tiber, and the clay amphorae discarded out back; each year over 280,000 amphorae were smashed and deposited in a series of raised terraces that became Monte Testaccio^[2]. The 1,000-mile migration of clay and oil beginning on the banks of the Baetis (Guadalquivir) River would end with the construction of an artificial monadnock in the floodplain of Rome (Fig. 4). Monte Testaccio is the physical byproduct of the flows of materials and the exchanges of goods and services that underpin processes of urbanization in Rome.

Civic Aggregation at Monte Testaccio

The physiographic context of Monte Testaccio has fluctuated dramatically in the two millennia since it was constructed

7. 泰斯塔修山及周边概况的叠图研究：追寻导致了近2 000年的文化和地文变化的元素，包括新功能的涌现、使用人群的改变，以及社会间的交流。© Michael Ezban
7. A digital and analog palimpsest of Monte Testaccio and its adjacent context. The drawing traces the trajectories and flows of emergent functions, fluctuating constituencies, and social exchanges that have contributed to almost two millennia of cultural and physiographical flux. © Michael Ezban

(Fig. 5). The completion of the Aurelian Wall to the south and west, circa 275 A.D., incorporated the closed landfill within the city limits and definitively confirmed its urban status. After the collapse of the empire in the late 5th century, the urban fabric of Rome began to contract. Gradual destruction of the surrounding buildings left Monte Testaccio in a derelict zone — the *disabitato*, or uninhabited — for centuries. In these years Monte Testaccio, still within the city limits, was, paradoxically, both urban and rural. It was not until the late 19th century that the area was re-urbanized. The fluctuating context sponsored and negated a wide range of uses at the site.

Today, high-end restaurants, auto body shops, a small Catholic chapel, residential units and a renowned gay dance club are built directly against the base of Monte Testaccio. The arched windows at the back of some

of these establishments frame views of an unbroken wall of amphora shards. In the warm summer months, wind that penetrates the loose shards of the landfill is cooled as it passes across clay moistened by rain; the sheer size of the hill ensures enough evaporative cooling to keep the landfill temperature about 20 degrees below that of the nearby streets. With the interior windows open, Monte Testaccio serves as an outsized air conditioner (Fig. 6).

Beginning in the 17th century, Monte Testaccio became closely associated with wine. In an inventive transformation of landfill into civic infrastructure, the municipality allowed the excavation of caves into the hillside to create public wine cellars^[4]. The wine cellars inspired the *Ottobrate* festival, an annual celebration of the autumn grape harvest, held at Monte Testaccio between the 17th and 19th centuries. The wine cellars

and the meadow and mulberry trees made this a fitting destination in the “country” for drinking, poetry recitals and dancing the *saltarello*.

During the Renaissance, Monte Testaccio became a quarry. Multiple accounts describe clay shards used as a substrate for road construction^[5]. Shards were also exported to construct the vaulted ceilings of St. Peter’s Basilica; the volume of material quarried for that project was so enormous it lowered the hill’s height by several feet^[6].

The *Ludi di Testaccio* (Games of Testaccio) were part of a week-long pre-Lent Roman Carnival held between the 13th and 16th centuries. Thousands would gather on the landfill, using it as a grandstand to view the festivities. Ceremonies around Lent also included an annual passion play. A procession that started in the Forum Boarium culminated at the summit of Monte Testaccio, with enactments of the Passion of Christ along the way. The landfill was chosen for its resemblance to Golgotha, the mount in Jerusalem thought to be the site of the crucifixion of Jesus^[7].

In the 17th century, the Pope’s guard, the *Bombardieri*, launched cannonballs at Monte Testaccio from Porta San Paolo as target practice. One of Lanciani’s map in *Forma Urbis Romae* shows a large divot in the hill’s southeastern side, along with a note that reads “breccia del tirodeibombardieri (1600)”, which translates as “breach created by the shooting of the bombardiers”^[8]. The landfill saw actual combat at least three times; the remains of the WWII anti-aircraft gun installations remain near the crest, nestled in the shards adjacent to a massive steel cross.

Monte Testaccio has been a site of infrastructure utility, religious ritual, commercial enterprise, military operation and secular celebration. And every time it was repurposed, it reinforced the malleability

of its cultural identity and its agency in the formation of a distinctive urban condition (Fig. 7).

The Promise of Landfill Reclamation: Two Models

Monte Testaccio offers two models for reclamation that demonstrate the potential agency of contemporary landfills in the creation of resilient public spaces. The first model involves the aggregation of many uses and constituencies on a closed metropolitan landfill in order to increase its cultural value. Monte Testaccio is a precedent for an expansive range of post-closure uses; as such it could be said to anticipate a growing consensus among contemporary designers that the transformation of post-closure landfills should incorporate multiple activities, interests and constituencies over time. Fresh Kills Landfill in New York is being transformed over 30 years into a “Lifescape”, designed by James Corner Field Operations, that includes sports and education activities, wildlife refuges and a 9/11 memorial. Hirya Landfill in Tel Aviv, designed by Peter Latz, has reopened as an urban park that mixes ongoing programs for recycling with public recreation and artificial water features. Byxbee Park on the San Francisco Bay, designed by George Hargreaves, Michael Oppenheimer and Peter Richards, interweaves trails and land art installations that interpret the convergence of transportation infrastructure with the Baylands Nature Preserve.

Too often, however, these projects fail to address a critical question: what unique opportunities are afforded by the composition and properties of the landfill — by an aggregated ground of differential settlement, clay caps and active decomposition? When the municipal government of Rome opened Monte Testaccio to excavation by the public

to create wine cellars, the cooling properties of the loose clay shards contributed to the creation of a new form of public food infrastructure. Though it could not have been known at the time, this new use would enable grape harvest festivals two centuries later and establish the pattern of development of restaurants and clubs in the 19th and 20th centuries.

The second model that Monte Testaccio provides involves the process of material dispersal. As noted already, one of the crucial public roles served by the ancient landfill was as the quarry for materials used in projects such as road and building construction. Contemporary landfills differ from most post-industrial sites; they should be understood not simply as contamination sinks but more expansively as troves of valuable material and potential energy that can prompt local and distant industrial ecologies and urban processes over time.

The mining of the closed 16-million-ton landfill at Houthalen-Helchteren, Belgium, a 20-year process set to start in 2014, involves waste to energy conversions and recuperation of 45 percent of the waste material. Interestingly, the project incorporates the phased introduction of native habitat as the landfill is slowly dispersed and converted into parkland^[9]. The recent dramatic rise in the price of metals, thanks in part to the construction boom in China, opens new horizons for this kind of landfill mining. To cite just one example: the quantity of waste aluminum — which requires less energy to recycle than to mine from bauxite — has caught the attention of Alcoa^[10]. This reclamation model suggests a different role for the landscape architect that engages landfills, that of a conductor of processes and flows of materials over time, knitting together local public and private interests, natural ecosystems and international markets.

Monte Testaccio is Rome’s feral monument, an ungainly aggregation of material, mythology, interests and events (Fig. 8). From the processes of food consumption, waste production and landfill appropriation there emerged over millennia a multivalent terrain that continues to shape urban activity in Rome. As contemporary governments and citizens increasingly demand that reclaimed landfills be many things to many people — energy producers, social nodes, memorials — we would do well to study the historical precedent of Monte Testaccio. Nowhere else in the world can you find a landfill that has fostered such a heterogeneous mix of events, interests and users, and done so for so many centuries. Monte Testaccio’s longevity and vitality make it an ideal model of what a landfill can become: an agent of civic engagement and an urban catalyst. **LAF**

NOTE

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EDITORIAL NOTE

① The Seven Hills of Rome, located in the east of the Tiber River, form the heart of Rome, figuring prominently into Roman mythology, religion, and politics.

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- [8] Monte Testaccio is Rome’s feral monument, an ungainly aggregation of material, mythology, interests and events. © Michael Ezban

