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Editor in Chief:
RAFFAELLO COSSU

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Detritus – Multidisciplinary Journal for Waste Resources and Residues – is aimed at extending the “waste” concept by opening up the field to other waste-related disciplines (e.g. earth science, applied microbiology, environmental science, architecture, art, law, etc.) welcoming strategic, review and opinion papers.

Detritus is an official journal of IWWG (International Waste Working Group), a non-profit organisation established in 2002 to serve as a forum for the scientific and professional community and to respond to a need for the international promotion and dissemination of new developments in the waste management industry.

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Editorial

THE POWER OF THE WRECK

THE NATURE OF WASTE (S. Antoniadis)

The second French edition of Marc-Antoine Laugier's (1713-1769) successful *Essai sur l'architecture* (Laugier, 1755) displays a rather well-known allegorical engraving by Charles-Dominique-Joseph Eisen (1720-1778). Besides giving a more visible explanation of his known theoretical approach (nature is the origin of everything, in a nut shell), the illustration, featuring Architecture as goddess seated on the ruins of a destroyed building showing a primitive hut to the genius of reason (a cupid), talks about landscape, nature and waste: three extraordinarily up-to-date items production-related debates still focus on. The picture is made up of closely-standing uncut trees supporting slightly-tamed branches that provide a roof among their partially-preserved boughs as model for possibly obsolescence-proof building. Bypassing anthropomorphic, unreal and allegorically-charged suggestions, the illustration features an ambiguously anthropomorphic landscape where nature blends with fragments resulting from the collapse of an arrogant (because irrespective of an "according to nature" praxis) building. Venturing a bold shortcut, we might subscribe to Laugier's tenet "nature generating artifice" as still enjoying large approval. It is a successful interpretative paradigm followed throughout the centuries, in various branches and various scales, in keeping with present-day results and applications both in techno-ecological fields, in the production of architecture and in land management.

Remaining faithful to the three-faced approach landscape-nature-waste, it is interesting to lay stress on the position allotted to each item – not indulging in arbitrary self-satisfying speculation, but accounting for the factual reality in which we nowadays work –, let's apply a few mutations: are we really certain that the rational relation of causality is to be univocally meant the way Laugier and other thinkers intended? What is more, are there preconditions nowadays to suggest their equation may be turned inside out into the "waste generating nature" formula?

The urban setting we live in is no longer the former, and above all we must admit that the presence of those remains merely occupying the bottom right corner of the French engraving has become much more cumbersome nowadays. Whereas in the abbot's mind that pile of ruins belonging to a decayed building was to have a merely symbolical meaning, our eyes and our awareness turn it into a real everyday experience. In the illustration the ruins are placed almost nicely at one side of a meadow, in our reality litter is massively present even in the inner space of our Earth. The increasing degree of obsolescence of (even

architectural) products, the larger and larger amounts of abandoned areas and buildings and the recent resort to laying out untidy clusters of buildings dotting the country reveal the scattered (Rasmussen S.E., 1974) nature of our contemporary landscape.

Therefore, it is worth taking a different look at the artificial objects, potentially much more capable of supporting ecosystems, or even generating new ones, than we are led to believe. It's proved with simple – yet extraordinary – evidence when dealing with sea wreckage. Sometimes immense chunks of wreck on the bottom of the sea are at first seen as seriously impairing natural environment, yet later they prove to be the vital triggers of lush oases evincing a high degree of biodiversity. It would be wrong to interpret such evolution as the reappropriation of nature, as its winning back what was stolen. Biofouling operates in much more fascinating ways: not only does it restore, it upgrades. Man-made artefacts behave as effective trigger devices enacting more favourable conditions for "new natures" to develop.

In the wake of the above reflections, the choice has been to intentionally sink artificial objects with the aim to increase the biotic potentialities of certain areas. It is surprising to examine the range of objects used purposely in the various geographic-cultural areas in order to set up artificial reefs (Fabi et al., 2011): a sort of catalogue of unacknowledged objects, generally regarded as polluting garbage of our artificial world, from end-of-life New York subway train carriages, to hollow reinforced- concrete blocks, to the cumbersome tyres of lorries.

On the Earth's surface the same practice might be resorted to, involving even more discarded materials: segments of viaducts, portions of water-carrying infrastructures, frames of unfinished buildings, left-behind building-yard and temporary cranes is all wreckage impacting on man and landscape awaiting public opinion deliverance.

Laugier's allegorical illustration is to be re-interpreted, and the goddess' forefinger pointing at that artificial heap of materials deserves first of all to be seen in a new light; in this way the bases of real innovation can be laid, taking into account the huge and complex amount of artificial objects belonging to contemporary landscape.

THE FORM OF WASTE (L. Stendardo)

The power of the wreck is not only a matter of environmental opportunity, it is actually a matter of culture according to its widest meaning, and can be successfully



FIGURE 1: The frontispiece for the *Essai sur l'architecture* (1st edition 1753) by Marc-Antoine Laugier (1713-1769). Engraving by Charles-Dominique-Joseph Eisen, 1755.



FIGURE 2: Wreck-scape, west trans-urban area of Padova. Photo by Stefanos Antoniadis, 2017.

dealt with from the point of view of architectural, urban and landscape design.

Architecture, as well as engineering artefacts, describe the route of civilization, make fundamental layers of material history, and sometimes represent peculiar events. These works are actually part of our memory and imaginary. They are a source for literature, art, cinema, but above all they do shape into form the physical space, the city and the landscape we live in. Beyond architecture (in the narrowest sense), all kind of construction (which includes ordinary buildings, infrastructure, equipment, machines...) may be considered part of this reservoir of formal and cultural resources, as long as their form is capable to overcome their obsolescence, which stands as their inescapable destiny.

A basic difference between architecture and ordinary construction, which may actually be held as a conceptual divide between what is architecture and what is not, is that the former is never obsolescent. Even when architecture is no longer able to cope with neither its original use or its eventual ones, when it gets wounded by time and neglect, when it is mutilated and dismembered, even when it is eventually transformed into ruins, it still is architecture, i.e.

a form which is capable to generate space, further form, and landscape, a fragment that is still capable to interweave relationships with the context.

While dismissed, decommissioned, or abandoned architecture is headed to turn into ruins, obsolescent ordinary construction is headed to turn into debris. Ordinary construction – and especially infrastructure and machines – is always obsolescent. When some machines or infrastructure are obsolescent, broken in pieces, they become waste, scraps that may be recycled or, at best when it is worthy, exhibited as relics in a museum. This is why an ancient Roman aqueduct, even when it ceases supplying water to town, is not held as debris and no one would think of it as a waste management problem to cope with, but everybody would recognize it as an extraordinary landmark across landscape. On the contrary, a technologically advanced contemporary oil pipeline, a highly specialised device, is not likely to play such a significant role in the future. The smarter machines or infrastructure are, and the more technologically advanced a device is, the more rapidly obsolescent they become. This is clear enough, since planned obsolescence policies, along with disposable smart devices

and machinery market, allowing no possibility to fix broken hardware, are actually flourishing, while the production of hazardous waste is over increasing, although we all eager to flaunt our environmental care worries.

Of course, we can easily see that there is a wide in-between range of artefacts. Architecture itself is getting smarter and smarter, sophisticated and high-tech, and the amount of technology that is some kind of added, though inalienable, value makes architecture potentially obsolescent. Yet while its technological endowment is bound to become debris, its formal core, since we are still talking about architecture, is going to be resilient to obsolescence. On the other side we may still recognize some formal remains in some ordinary construction wrecks, which is capable to make them survive as generators of form, space, memory, imaginary and so on, and finally acknowledge them as architecture in a broader sense.

Actually, the aptitude of a wreck to be acknowledged as architecture depends on its formal features; or rather we should say, on our skill to recognize its potential as formal and spatial material for architecture. It looks like this potential acknowledgment implies the complementarity of the human mind and the wreck, showing some relevant similarity with the concept of affordance as defined in environmental psychology by James J. Gibson (1966-1979). According to this acknowledgment the power of ruins, which is bound to the widely accepted concept of architecture, may be successfully shifted onto wrecks, so allowing not only rehabilitation and reuse of decayed built environment, through new functions, but a broader re-creation of architecture and space with strong cultural impacts.

These reflections can be implemented both in the recycling of built waste, such as infrastructural and built debris and scraps, and in a more aware attitude in architectural, urban and landscape design. An attitude that is not actually new, if we just recall that one of the most powerful images

of the project for the Bank of England (1830), designed by Sir John Soane, was represented by its author as an imagined view of the building in ruins. Although nowadays the trend of architecture and civil engineering is to make artefacts based on such concepts as fitness and smartness, while ignoring any long-term anti-obsolescence resilience, trying to image one's project as ruins should be a must for today's architects as well.

The importance of form in the dichotomy between ruins and debris should finally be taken into account both for good design practices of new buildings, and for the acknowledgment of the wide asset of existing built objects that are spread throughout today's landscape.

Any effort in this direction is a step forward in the enlargement of our architectural and imaginative dictionary, and possibly a step forward towards a world that is richer in culture, resources, health and, why not, happiness.

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FIGURE 3: The Former Cattle Market of Padova (1967), by architect Giuseppe Davanzo (1921-2007). Photo by Stefanos Antoniadis, 2012.

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