**DEFINITIONS**

“‘Design for deconstruction’, or DfD, as it is often known – is a pragmatic, industry approach to the cradle to cradle idea. We would note that “deconstruction”, in this usage owes more to the construction industry than to continental philosophy. The united States' National Institute of Building sciences refers to deconstruction in their Whole Building Design Guide as… the “systematic disassembly of a building generally in the reverse order, of construction, in an economical and safe fashion for the purposes of preserving materials for their reuse”. In the DfD approach, materials and assemblage systems are selected in readiness for the end of the buildings’ life, so that they are better able to be upcycled, rather than laid waste or poorly recycled. The aspiration of design for deconstruction is to code the logic of unmaking into the building from the very earliest point of its making.

Cairns, Stephen, and Anne M. Jacobs (2014). *Buildings Must Die: A Perverse View of Architecture*. Cambridge (MA): MIT Press, *p. 225.*

“Demolition :

An engineering project to reduce a building, structure, paved surface, or utility infrastructure through manual and/or machnized means, with or without the assistance of explosive materials to piles of mixed rubble or debris. Demolition usually provides the quickest method of removing a facility and segregates the debris or rubble into various components for recycling wherever practicable.”

Diven, Richard J., and Mark Shaurette (2010). *Demolition. Practices, Technology, and Management*. West Lafayette, Indiana (USA): Purdue University Press, p. 172.

“Tipping fee:

Cost of disposal at landfill. This is also referred to as disposal cost and is typically measured in $/ton or $/cubic yard.”

Diven, Richard J., and Mark Shaurette (2010). *Demolition. Practices, Technology, and Management*. West Lafayette, Indiana (USA): Purdue University Press, p. 176.

“Definitions

For the purposes of this Directive, the following definitions shall apply:

1.

‘Waste’ means any substance or object which the holder discards or intends or is required to discard;

[...]

13.

‘Re-use’ means any operation by which products or components that are not waste are used again for the same purpose for which they were conceived;

[…]

16.

‘Preparing for re-use’ means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing;

17.

‘Recycling’ means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations;

1. The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy:

(a) prevention;

(b) preparing for re-use;

(c) recycling;

(d) other recovery, e.g. energy recovery; and

(e) disposal.”

DIRECTIVE 2008/98/EC Of the European Parliament and of the Council of 19 November 2008, article 4

**DATA**

The demolition and construction sector for England as a whole accounts for around:

* 19% of the total national footprint
* 120 Million tonnes per year of waste production
* 420 million tonnes of materials consumption or 7 tonnes per person
* 30% of all road freight on UK roads
* Approximately one fifth of the national carbon footprint

The industry is the single largest contributor to the UK's national waste stream. Nearly a third of this currently ends up in landfill.

“Generic Business Plan for a New UK Building Material Reuse Centre (BMRC).” BioRegional, April 2008, p. 17.

**BEFORE AND AFTER**

“… [U]ntil about 1925, wrecking contractors were willing to pay handsomely for the privilege of pulling down a building, figuring a profit on the salvageable materials they contained. Even if bricks were by then a lost cause, plumbing fixtures, pipes, steel beams, marble and granite were also sometimes salvaged, and timber was often reused on the jobsite itself as the “bridge” erected around the building to save passerby from a conk on the head. Even the plate glass ‘can frequently be sold and therefore care is taken to keep it unbroken; it is removed from the building almost immediately after the wrecker takes over the structure'. But by 1928 the economics had reversed, and harried wreckers were demanding hefty sums to clear away old buildings.”

Byles, Jeff (2005) *Rubble. Unearthing the History of Demolition.* New-York: Three Rivers Press, p. 43.

"...d'autres dimanches nous [Pierre Jeanneret and Charlotte Perriand] partions dans des zones d'entrepôts de récupération de matériaux, dans des décharges, à la recherche de formes inattendues rassemblées tout naturellement par l'ordonnance de l'accumulation ou par le hasard. C'est ainsi que nous sommes tombés sur des blocs de métaux compressés à faire pâlir César de jalousie."

Perriand, Charlotte (1998). *Une Vie de Création.* Paris: Odile Jacob, 1998, p.105.

“Before the 1990's, most demolition debris such as wood, drywall, insulation, masonry products, concrete, asphalt, and less valuable metals were taken to landfills. Construction and demolition debris is usually referred to as C & D debris and consists of any kind of waste materials that is generated in either the construction or demolition of buildings. As the public became more aware of the problem related to disposing of C & D debris in landfills that had diminishing capacity, C & D debris separation for recycling became more important. Hauling of C & D debris to landfills is often the largest single cost of a demolition project.

As the environmental problems such as leaching of heavy metals and chemicals into groundwater became more apparent, governmental agencies created regulations that required significant improvements to the operation of landfills and the closing of substandard landfills. As a result, the cost of landfill disposal has greatly increased over the last thirty years. The increased cost of disposal, and in some cases the requirement for mandatory recycling, affects the way a demolition contractor demolishes buildings and sorts the materials. For a well-managed demolition project, the sorting of materials produced in the demolition process has become a very important sub-task of the overall demolition process.”

Diven, Richard J., and Mark Shaurette (2010). *Demolition. Practices, Technology, and Management*. West Lafayette, Indiana (USA): Purdue University Press, p. 127.

“By the mid 1990s, the waste hierarchy, with the agenda set by industry lobbyists in Brussels, was flattened so that the three activities – reuse, recycling and waste to energy – were considered to be of equal environmental value. Reuse had never been widely accepted by mainstream construction, but the small acceptance it had was quickly dropped out of its environmental thinking. Within mainstream construction, reuse of reclaimed materials seldom occurred unless the client stipulated that reuse would occur often in the face of intransigence by their design and construction team.”

Essex, Jonathan, and Thornton Kay (2009). “Pushing Reuse. Towards a Low-Carbon Construction Industry.” London: BioRegional, p. 8.

“So where are we now? Well, in terms of reclamation the world has gone backwards. Salvage used to be fairly easy and popular. The quantity of reclaimed building material reused in new modern sustainable and eco-friendly buildings is now miniscule. While demolition has increased, reuse has decreased. Indeed, a five star rated green building is allowed to have no reclaimed building material at all which will be my tenet for my small part of this conference. I am currently proposing that architecture must change so that in future new construction material should be allowed, with serious qualification, into an otherwise reuse world. Architects are destroying the planet, and are responsible for more global warming than any other vocation.”

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Kay, Thornton (2016, August 24), Radical technology oldies and me, gathering in Bristol next week [blog post]. Retrieved from: <http://www.salvonews.com/story/radical-technology-oldies-and-me-gathering-in-bristol-next-week-x96515x9.html>

**ARCHITECTURE AND OBSOLESCENCE**

“In conventional design, the designer conceives the elements and systems of a building, and then specifies the materials and components needed to achieve the desired building performance and quality. Generally there already exists an established market for suitable materials and components and they can be easily purchased.

When designing building to incorporate reclaimed products and materials, no equivalent established market exists. It becomes virtually essential for the project team to identify the source of suitable materials and products before detailed design can commence, and before specification and tendering is undertaken.”

Addis, William (2006) *Building with Reclaimed Components and Materials: A Design Handbook for Reuse and Recycling*. London ; Sterling, VA: Earthscan, p. xvii.

“Ending is better than mending, ending is better than mending.”

Huxley, Aldous (1932) *Brave New World*. London: Chatto & Windus, p. 38.

“In *Wasting Away* [from 1990], [Kevin Lynch] offers a sustained account of how society created waste, manages waste, and variously lives poorly or well with it. His ambition in this wide ranging and thought-provoking account is to offer a brief for living with waste well. …[T]his volume offers a set of rules for living alongside the 'tragic and marvelous' process of wasting.”

Cairns, Stephen, and Anne M. Jacobs (2014). *Buildings Must Die: A Perverse View of Architecture*. Cambridge (MA): MIT Press, p. 44.

“Opportunity is missed by most people because it is dressed in overalls and looks like work.”

Thomas A. Edison

“All architecture is but waste in transit.”

Peter Guthrie, as quoted in: Till, Jeremy (2009). *Architecture Depends.* Cambridge (MA): MIT Press,p. 67.

“There isn't any such thing as a building. A building properly conceived is several layers of longevity of built components.”

Frank Duffy, as quoted in:Cairns, Stephen, and Anne M. Jacobs (2014). *Buildings Must Die: A Perverse View of Architecture*. Cambridge (MA): MIT Press, *p. 124.*

“Architecture must be a heart breaking art... Paint a picture, write a book, and you possess your creation forever, even if it is no good. But design a building and you have it for twenty years and then the wrecker takes charge of the situation.”

“Wrecker's reminiscences” New Yorker, 1931, as quoted in: Cairns, Stephen, and Anne M. Jacobs (2014). *Buildings Must Die: A Perverse View of Architecture*. Cambridge (MA): MIT Press, *p. 193.*