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Re-creation: transformation/fabrication: a re-creation centre sustained through the symbiosis of waste transformation and fabrication

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//ABSTRACT

To make and to utilise. These two actions effortlessly encapsulate a fundamental quality of human beings. Ever since the dawn of industry, humans have developed a necessity to manufacture various items and systems in order to achieve a more efficient and enjoyable lifestyle. The nature of manufacturing has always been defined by the concept of input and output and over time has resulted in the unsustainable extraction of Earth's natural resources in order to produce. Additionally, the presence of consumerism has exponentially increased the rate at which society manufactures and has consequently led to by-production of discarded waste. "Today's cities are consuming three-quarters of the world's energy and causing at least three-quarters of global pollution. They are they place of production and consumption of most industrial goods. Cities have become parasites on the landscape – Huge organisms draining the world for their sustenance and energy: relentless consumers, relentless polluters" (Rogers & Gumuchdjian, 1997). The presence of solid waste is adversely affecting the environment due to the fact that a large majority of it is non-biodegradable and thus pollutes today's cities and natural ecosystems.

In the context of Newtown, Johannesburg, the issue of discarded solid waste is of growing concern. As a result of the seamless coexistence of industry, commerce and culture and its proximity to important urban zones, this historic area of Johannesburg is attracting more and more people from various social demographics. In turn, this has led to higher levels of productivity and exploitation. As seen in most third world nations, such characteristics inevitably lead to an overabundance of unmanageable waste. Even with the implementation of various recycling schemes as well as the informal waste collecting movement, the issue in Newtown and greater Johannesburg still stands due to the fact that waste management services lack the efficiency to transport collected waste to the relevant recycling and landfilling facilities. Without an efficient waste management system, various collection depots and scrap yards across the city remain under a constant state of waste overflow and this will only further tarnish the notion of waste recycling on an urban level.

Therefore by reimagining the term 'recycle' and perceiving it in the sense of transformation, one may begin to rationalise a contemporary solution to the issue of waste in our cities. Through the study of waste on a global scale and some of the advanced technologies in an age defined by fabrication and making, this research report works to conceptualise a system in which discarded waste can be 'transformed' and used for the fabrication of any conceivable object. The establishment of a framework which allows direct, onsite trading of collected waste and its consequent transformation for fabrication, would aid in addressing the issue of overflowing waste yards across the city and would in turn improve the social awareness of waste management on an urban level. The incorporation of transformed waste with digital, nano and prefabrication technologies will ultimately result in the realisation of an architecture that will offer society the opportunity to re-create. A social place where waste is the vital resource and where the maker's creativity is the limit.