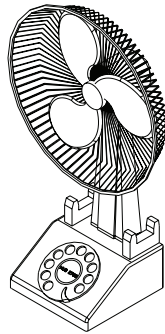


ALAMAR'S MATERIAL WAREHOUSE

research book



'Worker, build your own machinery!'
(Ernesto Che Guevara)

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Alamar's Material Warehouse

INTRODUCTION

Through research a personal fascination arose for this reuse mentality of Cubans. Cuban people perceive objects and small parts of objects in a completely different way compared to our Western perception. If something is broken in our society it is replaced by a newer one, meanwhile in Cuba almost everything is reused, repaired or even reinvented. This is seen everywhere in the streets and in the homes of Cuban peoples, where aluminium cans are been transformed into radio receivers, where bicycles are transformed to motorbikes by PET-bottles and washing machine engines, where fans are made of LP's. This mentality or perception of reusing is known as technological disobedience and was from the start of the Revolution in some way promoted by the government.

Meanwhile in Cuba this mentality of reuse was developed, in our Western world big companies invented the opposite, planned obsolescence. Objects were made with the intention to become old and thrown away so consumers would buy a newer version, all designed to make money. This was the start of throw-away society which is incredible unsustainable way of consumption. The Cuban way of perceiving everything as useful, of course it is a mentality that grew out of necessity because there weren't other commodities on the island through the embargo, is a sustainable solution in the cycle of material flows.

This reuse culture is clearly visible in Alamar where people build sheds with reused materials. Moreover the sheds are accumulated with storage of materials to practice activities such as woodworking, repairing stuff or other local craftsmanships. The idea of considering nothing as waste is the foundation of the project; Alamar's warehouse of reclaimed materials. Especially looking at the possible future scenario of Alamar when Cuba is opening up to new flows of commodities and capital, an outskirts as Alamar could profit from the idea of a circular economy. The proposal focusses on collecting disregarded materials and transforms it into useful resources. From mining waste to raw materials to the collection of disregarded materials and objects. The building functions as a machine which reclaims the disregarded, disassembles, sorts and categorise it and brings it back into secondary circuits.

Whether the dumpster diver be occupation one exercises or horizontal real estate or foolish son of the homeland or child feeding from bottle (areas thick with grass, there are unused wastelands, where pedestrians from the neighborhood throw debris from their daily lives and among weeds, the first mushroom rises for a new civility, not yet included on maps of the counterculture), whether The diver be occupation one exercises or horizontal real estate or foolish son of the homeland or child feeding from bottle (areas thick with grass, there are unused wastelands, where pedestrians from the neighborhood throw debris from their daily lives and among weeds, the first mushroom rises for a new civility, not yet included on maps of the counterculture), whether The diver be occupation one exercises, horizontal real estate, foolish son of the homeland, or child feeding from bottle: "at the appointed hour, when they call me by my name, I will not respond."

Juan Carlos Flores - The Counterpunch
(Poet from Alamar)

To beat Imperialism in the battle of replacement parts!

(Ernesto Che Guevara)

HISTORY OF REUSE SOCIETY

1960. CUBAN REVOLUTION



Cuban communist revolution

1960

2017

“ Worker build your own machinery!”

(Ernesto Che Guevara)

1962. EMBARGO USA



***“ To beat Imperialism in the battle of
replacement parts!”***

(Ernesto Che Guevara)

1976. ANIR



Cuba's inventor culture has its roots in the 70s, when a group of revolutionary-minded scientists and mechanics formed the National Association of Innovators and Rationalizers (ANIR). Building on the ethos of Che Guevara, ANIR untied hacker-minded folk with the needs of an isolated economy and the call of a socialist revolution.

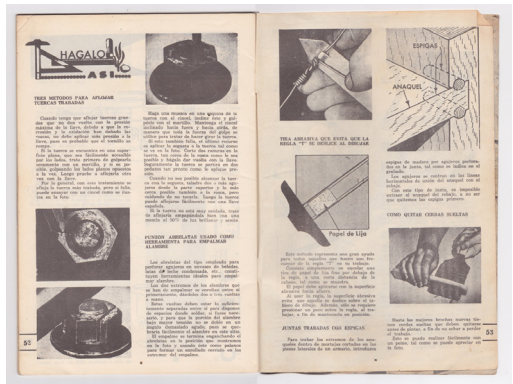
Asociación Nacional de Innovadores y Racionalizadores (ANIR) . Organization to promote and guide the creative initiative of the Cuban workers towards the search of solutions to important economic, social and defense problems of the country. It is a social, voluntary and selective organization where its members approve their own regulations, discuss and make agreements, periodically elect their leaders and agree their directives under the principles of centralism and union democracy. It develops its activity under the direction of the CTC and is governed by its statutes.

1. To maximize the creative initiative of the workers, in a way that favors the development of innovations, rationalizations or solutions based on the saving of resources of all kinds, the recovery and manufacture of equipment, machinery and spare parts and the maintenance Of existing technologies; In such a way that they allow the increase of the production, the productivity of the work, the substitution of imports and the best productive practices.

2. Organize the innovators and rationalizers with the active participation of the union in those labor groups with the conditions to do so.

3. Incessantly publicize the efforts made by innovators and rationalizers to promote the generalization of their results and to be recognized and stimulated in a timely manner by their work.

1965. JUVENTUD TECNICA



juventud tecnica magazine

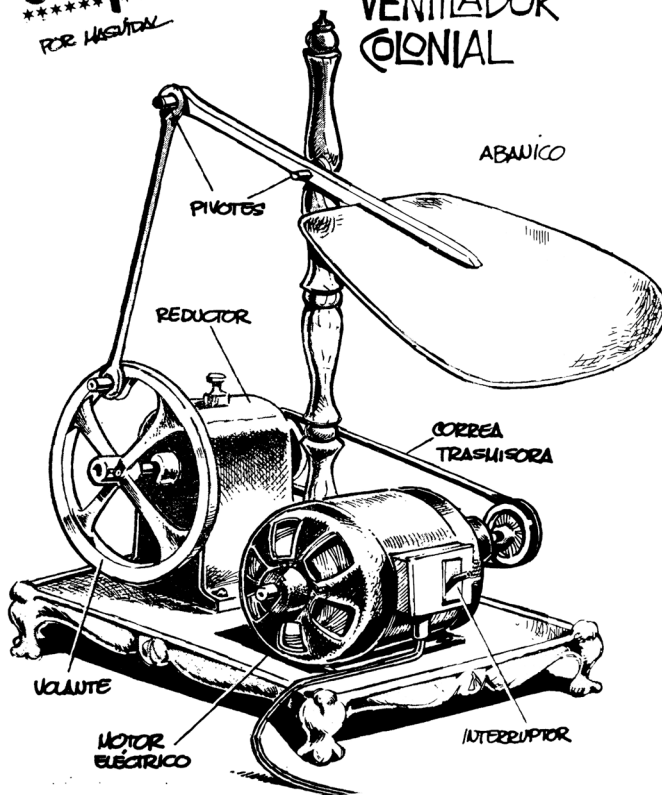
1960

2017

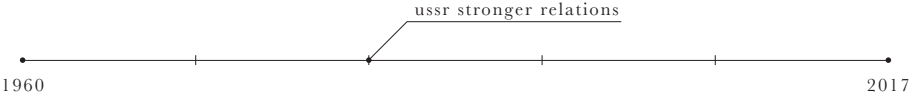
sin patentar

FOR HUSBAND

VENTILADOR COLONIAL



1980. USSR RELATIONS



This first wave of makers left a trail of invention that changed the course of interacting with technology in Cuba.

Cubans began to bring this repair-mindset home, turning their own households into laboratories. The same engineer would, during his day shift, repair the engine of a Soviet MIG15 jet fighter and, in the evening—faced with a country-wide shortage of matches—build an electric lighter out of a pen and light bulb.

The technological disobedience—which the revolution promoted as an alternative to the country’s stalled productive sector—became the most reliable resource for Cubans to navigate the inefficiencies of the state political system.

Here lies some irony: The technological disobedience—which the revolution promoted as an alternative to the country’s stalled productive sector—became the most reliable resource for Cubans to navigate the inefficiencies of the state political system. Workers who had devoted their imagination and resourcefulness to keeping the revolution on its feet were then forced to employ those attributes to endure lives short on necessities.

Cubans in this time knew just a few brands: Caribe and Kim TVs, Orbita fans, and Aurika washing machines. The communist market of the 70s prioritized production with a social end: clones of state-commissioned chairs, for example, were distributed across the island. That people thus accumulated identical goods meant that similarly ingenious repair methods popped up throughout. Standardized metal trays in schools, for example, were appropriated by the “maker class” to create a product then not officially in existence on the island: the TV antenna.

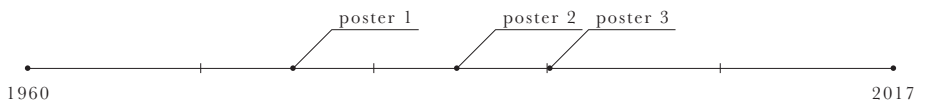
1975-1990. LITTERING PROBLEMS

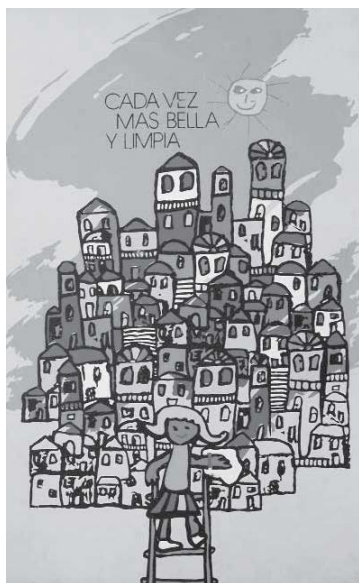


1975



1985





1990

Despite rationing and consumer frustration during the heyday of the Cuban communist system, there were clearly enough goods and money circulating that people threw some things away. While no doubt many Cubans practiced a careful stewarding of objects—goods’ rationing would have made that imperative—the practice was by no means an exact replica of the preindustrial practices in the United States. Some evidence points to, for example, a Cuban littering problem. Three posters—only a sample of similar propaganda from the 1970s and 1980s—shed light on this. One, from 1975, according to its designer, introduced Santiagueños to outdoor waste receptacles and encouraged their use so that comrades would not be obliged to clean up later (something ordinary citizens frequently “volunteered” to do during routine weekend work duties). Another poster, from 1985, urges use of waste receptacles. Finally, another poster from the communist heyday launched a city beautification campaign; again the focus was on picking up litter.

1990.SPECIAL PERIOD



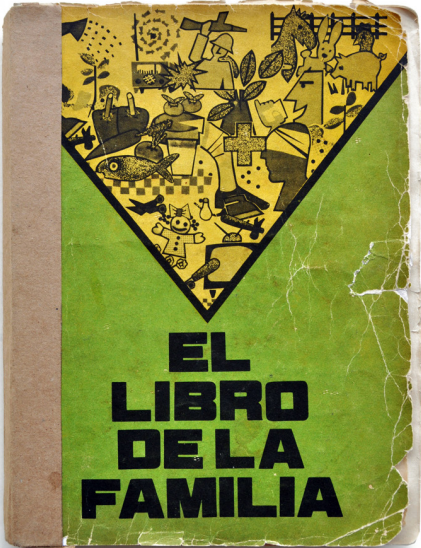
After opening, breaking, repairing, and using them so often at their convenience, the makers ultimately disregarded the signs that make occidental objects a unity, a closed identity. Cubans do not fear the emanating authority that brands like Sony, Swatch, or even NASA, command. If something is broken, it will be fixed—somehow. If it could even be conceived as usable to repair other objects, they might as well save it, either in parts or in its entirety. A new future awaits.

Throughout the 80s, Soviet subsidies created a decade of relative economic stability and, with that, a greater abundance of resources. Then, with the fall of the Berlin Wall and collapse of the Soviet Union, the Cuban government proclaimed a “Special Period” of extreme rationing and shortages. In 1993, a desperate new law finally permitted—with restrictions—businesses engaged in making and tinkering. A new era of creative enterprise was forced open.

At the start of the Special Period, instantaneous substitutes, objects, and provisional fixes let Cubans hold on until the end of the crisis. This built worker confidence in homebrewed construction, transport, clothing, or appliances. But these were just reparative solutions of a destroyed or insufficient material reality—and ultimately, just the waiting room for the strongest wave of revolutionary creativity.

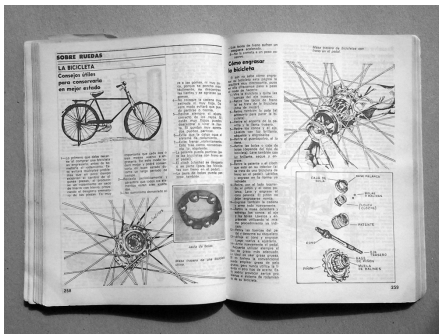
While reinventing their lives, an unconscious mentality emerged. As a surgeon becomes desensitized to wounds, Cubans became desensitized to designed objects. They stopped seeing the original purpose of the object; instead it became a sample of parts. This is the first Cuban expression of disobedience in their relationship with objects—a growing disrespect for an object’s identity and for the truth and authority it embodies.

1991. EL LIBRO DE LA FAMILIA



1993. CON NUESTROS PROPIOS ESFUERZOS





Verde Olivo, the publishing house for the Cuban Revolutionary Armed Forces, published a largely crowdsourced book shortly after the Special Period began. Titled *Con Nuestros Propios Esfuerzos* (With Our Own Efforts), the book detailed all the possible ways that household items could be manipulated and turned inside out in order to fulfill the needs of a starving population. This hefty, almost 300- page long compendium describes and illustrates in technical detail a vast array of artifacts, recipes, and survival strategies collected from all over the island by local authorities. The book straddles the pragmatic and the surreal, the genres of a self-help or do-it-yourself manual, on one hand, and a propaganda pamphlet, on the other. What is significant, however, is that the paternalistic stewardship of the communist state is limited to compiling, printing and distributing the material, whereas the actual authorship of specific solutions belongs to the ingenuity and resourcefulness of the population at large.

A manual that compiles the experiences of Cubans from the 15 provinces and 1688 municipalities during the special period, who, in addition to having applied the points the Book of the family, making new contributions according to personal experiences. The manual is divided into the different spheres of work, from agricultural cultivation, which proposes different strategies to make a more rational use of space and soil conservation, to that of food, where food can be found Invented as meatballs made from cereal and banana or “meat” made with grapefruit peel.

1990-2000. NO WASTE ON THE STREETS



“No gasoline meant no traffic. No trading partners meant no food. No movement or trade meant no trash; the city looked as it if had been picked clean”

(Lydia Chavez)

“After 1990, literally nothing new came to the island. During the Special Period Cubans threw nothing away, partly because they were consuming nothing but also because used objects provided the only material for creating new objects”

(Lydia Chavez)

2000. RETURN OF TRASH



During the Special Period, I am told, they were always empty. Now trash fills them and spills into the gutters nearby. In Cuba, object stewardship, never an unchanging practice, is undergoing, once again, an historic transformation.

Cuba eventually clawed its way out of economic desperation by opening several sectors to foreign investment and visitors. It now sells health care on the cheap to “medical tourists.” Its new hotels are crammed with European and Canadian snowbirds and college students on seemingly endless spring breaks. It has partnered with foreign firms and just about any government other than the United States in joint ventures to update many industries with state-of-the-art manufacturing facilities. And it welcomes—taxing heavily—remittances from Cuban exiles and their descendants all over the world. These developments have given some Cubans both unheard-of prosperity as well as access to all kinds of goods that other Cubans cannot even dream of. That’s how, for example, the teenage kids of families profiting from tourism come by their Playstations, portable DVD players, iPods, and so on. While all Cubans persist in “re-making, re-making and re-making” as Ruben told me, nonetheless remaking certain goods might well be beyond the artisanal skills that Cubans can develop on their own. The PlayStation that I watched being dissembled did not come back to life, despite the confidence of both boys in their repairing prowess. And the trash baskets that line the shopping streets where my friend tossed his plastic soda bottle? During the Special Period, I am told, they were always empty. Now trash fills them and spills into the gutters nearby. In Cuba, object stewardship, never an unchanging practice, is undergoing, once again, an historic transformation.

2007. REVOLICO

The screenshot shows a web browser window with the URL <https://www.revolico.com/autos/carros/aston-martin-1948-alarma-sistema-de-audiomecanica-de-lada-y-puer-17315038.h...>. The page content includes the 'revolico' logo, a breadcrumb trail 'Inicio >> Autos >> Carros >> Aston Martin 1948, Alarma, sistema de audio, mecanica de lada y puertas electrica', and a 'Marcar anuncio como:' menu with options: 'prohibido / ofensivo', 'repetido / spam', 'mal clasificado', and 'estafa / engaño'.

Aston Martin 1948, Alarma, sistema de audio, mecanica de lada y puertas electrica

Precio: 13,000 cuc
Fecha: Martes, 17 de Enero del 2017, 09:46 AM

Marca :Aston Martin de 1948 con mecánica de Lada, caja 5ta, alarma, buen sistema de música e interior, luces Led dentro y fuera, ventanas eléctricas, baterías, gomas y muchas de las piezas son nuevas.
Usted tendrá una joyita sobre ruedas y listo para sus paseos en el Litoral Habanero.
Contactar a Willan al tel# 52946296 y como Zóo opción dejar mensaje al 76823333.Miami con Giraldo Castillo 305-8787314

Email: u86hu17315038@n.revolico.net
Nombre: Willan
Teléfono: 52946296 y 7 6823333 y Miami 305-8787314 Giraldo

[quién soy](#) | [¿quién es esto?](#) | [¿quién es somos?](#) | [retocóide](#) | [ayuda](#) | [fba](#) | [contactar.revolico](#)

1960

revolico

2017



This website is a deposit of descriptions and anagrams, an extensive breakdown of artifacts, especially hybrid cars: *“I am selling Fiat 125, 1974. With Original engine in perfect condition; SEAT speed box 5ta; NISSAN V-12 carburetor; TOYOTA YARI front seats; New LADA slate, yet running; SONY CD player with 4 speakers and PEUGEOT cloche all new ... “* .

The vernacular terminologies and conventions used by users of Revolico are indicative of a social movement and a consolidated resistance language. During a presentation of Chinese household appliances, arrived in Cuba to replace the fans, kitchens and refrigerators that the people had created to resist the dictatorship, Fidel Castro himself recognized these Cuban artifacts as enemies, naming them “devouring monsters of energy.”

In addition to www.revolico.com and Castro’s speeches, there are other spaces that have echoed technological disobediences . I speak of the official press, the documents and the legal declarations that the State decrees, in their desperation to control the torrent of individual initiatives. The first finding was Article 215 of Law No. 60 of the Traffic and Traffic Code : *“The construction of vehicles and, therefore, their registration in the Registry, by the assembly of new and used parts and pieces, Whatever may be the title of acquisition thereof . “*

2017. REPAIR, REUSE REINVENT CULTURE



The reparation, refunctionalization, and reinvention show leaps of imagination in opposition to the concepts of innovation favored by the logic of Western mass production. And each leap allowed for some small adjustment to the poverty that most of the disobedient inventors lived under.

Technological disobedience in Cuba is not just about the transgression of authority of industrial design and the way of life it projects onto its users. This practice also detours the overarching restrictions of the Cuban system. Houses all over contain rebellious inventions: lunch trays receiving television signals; chopped-up salsa LPs blowing cool air; deodorant cans turning lights on and off; and electrical components now reviving non-reusable batteries.

But technological disobedience doesn't respect boundaries. It wiggles its way in to the social, political, and economic—realms that inspire subversion in their own rights. It keeps life flowing for those who participate.

It interrupts the endless flow of Western goods and the constant push of communism on the island. And it keeps inspiring hands to create things that will make life just a little better for their owners.

(Ernesto Oroza)

LOS TITOS
CAMPEONES
#1



P.M.M.
LOS TITOS
GAB
LOS TITOS

2013
Chevrolet
Nissan



LOS TITOS

Montaje de pistones Paso a Paso

Este cartel de instrucciones ilustra el proceso de montaje de pistones en un motor. Incluye secciones para: Preparación, lubricación y limpieza de las piezas; Pistón de acero; Pistón de aluminio; Montaje de pistones y vaina; Pistón de aluminio y vaina; Montaje de la vaina; y Montaje del pistón. Cada sección contiene fotografías y diagramas que muestran los pasos correctos para ensamblar las partes.

Montaje de los segmentos Paso a Paso

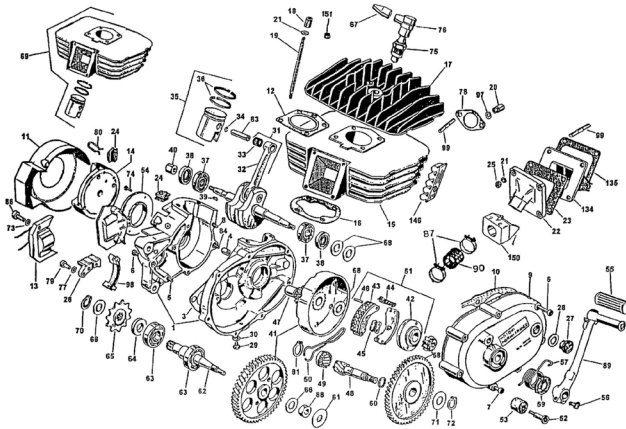
Este cartel de instrucciones ilustra el proceso de montaje de los segmentos de pistón. Incluye secciones para: Preparación y lubricación; Montaje del segmento; Montaje del segmento en la vaina; y Montaje del segmento en el cilindro. Cada sección contiene fotografías y diagramas que muestran los pasos correctos para ensamblar las partes.



*Cuba is the land of inventors, all Cubans are inventors and mechanics.
If not, you better not have a car.*

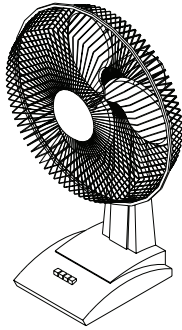
TECHNOLOGICAL DISOBEDIENCE

CUBAN INGENUITY

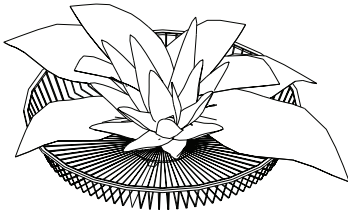


Cuba is the land of inventos, all Cubans are inventors and mechanics. If not, you better not have a car.

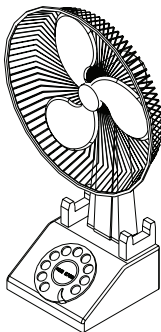
Within the process of repair, repurposing, and reinvention, three key concepts speak to an elevated degree of subversion. Firstly, reconsidering the industrial object from an artisan's perspective. Secondly, denying the traditional lifecycle of a Western object. And lastly, substituting traditional roles with alternative functions that meet demand.



repair



repurpose



reinvent

Specifically consider the case of repair. This practice is the most widespread, expressed in the family scale and in the State. Since many of the household appliances in Cuba came from massive and standardized production, repair solutions were standardized by creating a huge spare parts system. Repair can be defined as the process by which we return partially or totally the characteristics - technical, structural, use, operation or appearance - to an object that has completely or partially lost them.

The *refuncionalización* is the process by which we took advantage of the qualities - matter, form, function - of a discarded, to make it act again in context or another new object. This definition includes the parts of the object and the functions that these parts fulfill in it; Therefore encompasses operations such as metamorphosis and re-contextualization. They are the objects associated to the feeding, between the systems of domestic objects, that more gestures of refunctionalization receive;

Of the three mentioned practices, the *reinvention* is containing more acts of contempt of industrial culture and context. It can be understood as the process by which we create a new object using parts and systems of discarded objects. The reinvented objects resemble the original inventions, for the austerity and impudence with which their parts are used and articulated. The reinventions show transparent, sincere and proportional objects, in terms of material and symbolic investment, with the need that provoked them. They also preserve the set of manual, conceptual and economic gestures that the operator-creator adds to them.

VENDEDOR CALLEJERO

street salesman





EL ACUMULADOR

the collector



To accumulate is to foresee our anticipated needs and to respond in advance. Accumulation is not storage, but the collection of ideas of use, of constructive solutions, of technical systems and archetypes that flourish during a crisis.



By accumulating, we create a mental map of what is stockpiled, an echo of the potential of each object or saved fragment. Accumulation proposes a new rhythm of grass-roots production practices, and this new tempo gives it the character of a parallel productive phenomenon.

To repair or reuse is to reexamine the object and its industrial culture from an artisanal perspective. Accumulating broken artifacts is handwork that pushes “the industrial” to the realm of the popular crafts. These actions remove the distinctions between TVs, stones and seeds.

Accumulation is not a passive act—it is creative. It sparks this parallel production in precarious contexts. By accumulating objects or their parts, and because we trust their potential, we push these objects and parts into a new category: object as raw material.

By accumulating an object or its parts, the time of disposal is deferred, as we bypass the life cycle assigned by the designer, the industry or the market. Any object can be reused, even in a different context than that for which it was designed. When using a branch to reach a piece of fruit, or a book to buttress a piece of furniture, the rhetorical values of the employed object are unimportant. When you need to prop a door open with a stone, only its weight is important.

LOS COLCHONEROS

the mattress fixer



“When I was little, I watched my uncles work on mattresses, and they learned the trade from their fathers and uncles,” he told me. “My family has been doing this since at least the 1920s.”

They're called los colchoneros, the mattress men, and there's one in every Havana neighborhood. When your bedding begins to sag, or a coil punctures the worn cotton cover, you bring your mattress to him. He lays it on a wooden table or cart like a patient, often on the sidewalks or narrow alleys of the sprawling Cuban capital, and brings it back to life.



You could buy a new mattress, but the average monthly income in Cuba is \$20; the cheapest new mattresses cost \$150 or more. So you will most likely do what near everyone else does and hire the local colchonero to fix your old mattress, which may be a patched-up, discolored, vintage thing, possibly an American model manufactured during the presidency of Dwight Eisenhower. There's a fair chance the same mattress was once worked on by your colchonero's father or uncle, many years ago. Or maybe your same local guy first repaired the bed in 1965 and he's still working. Many colchoneros are old, with steady hands and eyes still sharp enough to work with wires and pliers.

EL TALLER

instrument repair shop



“As a repair tech, his greatest asset is that he’s completely fearless, he takes on a task for the first time as if he’d been doing it for 20 years, and generally, it works out. The taller is a very special place to me and a reminder that the only tool that’s absolutely necessary in this work is between your ears.”

At the taller, a fenced front yard is lined with palm trees and tropical bushes in green and red. A cello hangs outside the front door. Inside, on the walls of a cluttered workroom, crude metal tools and parts—rods, bolts, metal cutters, trombone slides—hang alongside the carcasses of trumpets, saxophones and tubas.



The workshop is stacked with instruments from 64 different art schools across the island. Nearly all come from China, Chiqui says, and their condition is “mala, mala, mala”—bad, bad, bad. The technicians here repair them on behalf of the schools, which provide them for free to music students of all ages.

Chiqui’s workshop proves to be a trove of inventos. He mounts a trumpet onto a vise and cleans its bell with a burnishing tool made from a helicopter blade. (He scrounged the blade from a friend who works at a helicopter repair facility.) The vise is mounted on yet another invento — a steel plate bolted onto an arm that’s been welded to a pillar. It took a couple of hours to build the contraption, Chiqui tells me, but a week to find all the parts. He also made a special clamp to hold tubular parts (bells, slide tubes) for soldering, based on a photo he saw in a magazine. That’s vintage Chiqui, says Andy Frobis, the owner of a wind repair shop in Manhattan, who has made six trips to Cuba for Horns to Havana.

LOS RECICLADORES

the clothing recyclers



“We didn’t go to school for this, but we learned from experience. We are all creative; we are all designers. So we share ideas. Does this work? Does that work? We figure it out together and that’s how we create.”

Ana Luisa Alfaro Diaz, manages a small clothing factory and salesroom on the second story of a commercial building on La Palma's main street. And she may have inherited her father's no-nonsense creativity. Beginning in the 1990s, during the years of the "special period," new clothing became too expensive for most people to buy. So when the government began importing recycled clothing from Panama and other counties, Ana's shop took on a new specialty: creating new designs that could be made from old clothes.



EL ZAPATERO

the shoemaker



Every day, several customers are complaining about the rapid deterioration of the shoes they buy in foreign currency stores. Sometimes I have to make capital repairs that range from: putting a new soles, nailing a heel or recoser with thread waxed any seam.

Shoe repair services are appreciated by many people I know. The lack of good quality shoes and the impossibility of an acceptable range require average Cubans to get their footwear mended time again and time again.

This is where there comes into play the key role of the shoemaker, who often performs veritable acts of magic that allow our continued walking along the deteriorated streets of Havana.

A few years ago there were three places near my house where they would glue, sew, reconstruct and secure shoes – one of them government-run.



EL MAESTRO MECANICO

the mechanic



*I had the idea to open one (capacitor) up and see
what's happening inside.*

Bebo, Osvaldo tells me, is like a mad scientist who can make or fix almost anything. When I ask him how he learned his trade, he walks into his rickety workshop and returns with a 1950s hardcover Ingersoll Rand catalogue that contains detailed descriptions of the workings of compressors, pneumatic tools, pumps, and much more. (Although this edition is in English, which he cannot read, he says he also has a Spanish version.)



Bebo has had the book since 1958, when he attended a mechanic's school while working at a large estate, Finca Sagua, owned by two Americans. His father worked there too, the first black in the area to work as an administrator at a finca, he says. He learned about motors and electricity and various kinds of equipment until his studies were interrupted by the tumult of the revolution. Bebo spent the next five decades as a jack-of-all-trades, doing welding, plumbing, electrical work, and construction.

He shows us into his workroom, a chaos of tools, scrap parts, broken fans and electrical supplies spilling off shelves and dangling from walls. The center of the room holds a remarkable contraption—a motorcycle he built from a bicycle by adding a motor, a gas tank, a clutch, and a series of belts that drive the rear wheel. He built it 15 or 20 years ago, he says, and in those days it could really fly. Today, he says, it's not running because it needs a magneto from a Russian vehicle that he's been hunting for months.

REPARADOR DE BICICLETAS

the bicycle repair man



Some are made of bicycles from the 50's (before the revolution), but of course, the painting can resist, but everything else is new, you have to get pieces that are not there and invent others. They are innovators. The main difficulty for Cubans is the tires, which can cost more than twenty-five dollars, and are of poor quality, only serve the Chinese models and MTB.



They are survivors of a two-wheeled revolution that lived on the island in the 1990s and drowned in just two decades. At that time, as a result of the fall of the socialist bloc in the world, Cuba tried to carry the lack of fuel that it faced. The Castro government then received a batch of one million Flying Pigeon models that cost the state about 70 euros per unit and were sold to citizens for a fraction of that price. Numerous factories began to emerge on the island and reached an annual production rate of 100,000 units by 1995.

This was how, in a country where, before that time, the possession of a bike was almost a symptom of luxury, the need to fight against fueling led to the creation of a solid bicycle culture. The times of the cycle paths, the cyclobuses, the cyclotaxis, the bicycle chains, the warehouses, the mechanics, some arrangers of street wheels called poncheros and the massive parking lots for the drivers of the two wheels arrived. By the end of the decade, it was estimated that seven hundred thousand habaneros used it and about two million of their compatriots had taken the same concept of movement. A lifestyle that, suddenly, was suddenly truncated.

REPARADOR DE VEHÍCULOS

the car mechanic



In a week, you can finish a full car if you have all the materials. If not, it can take a full month, or more. It's beautiful that they hand you a jalopy and someone tells you, 'That's not my car,'.

Rodríguez and three of his childhood friends come up with creative fixes for the decades-old cars that travel the streets of Havana. The mechanics use whatever parts they can find to keep the cars running.

Rodríguez proudly shows off the new steering mechanism for a 1947 Nash he pieced together with metal, and Toyota and Mitsubishi parts. A 1956 Ford Fairlane gets a new Toyota engine. Rodríguez cut a 1954 Jeep in half, extended it nearly 18 inches, added Soviet-era Volga steering, and plans to get it running with a used 1994 Jetta engine — an engine already attached to a Hyundai transmission.

This Frankenstein approach to auto repairs is how Rodríguez earns a living. He started five years ago as a self-taught mechanic, relying on hard work and his imagination to keep these cars running.



REPARACION DE ENCENDEDOR

the lighter fixer



In another country they throw it away when they run out of gas, here we drill it through the bottom, fill it up and then seal with a pin, the phosphorescence becomes eternal.

Serafin Ortiz, a 63-year-old postman, makes a living by repairing and recharging disposable lighters, a widespread practice on the island.

“In another country they throw it out when they run out of gas, here we drill it through the bottom, fill it up and then seal with a pin,” says Ortiz, stressing that with that “technique the phosphorescence becomes eternal.”



His work as a “repairer-filler of phosphores” is one of 200 “self-employed” trades authorized by the Raul Castro government as part of the economic reforms that have opened a timid space for private initiative.

In Cuba there are also repairers of mattresses, umbrellas and kitchens, scissors and knife grinders, and handmade makers of brooms, brushes and utensils of aluminum and plastic (called “merolicos”) and cleaning products (“alchemists”).

The “repairers” expect the beginning of the process of normalization of relations between Cuba and the United States, after half a century of enmity, to improve their daily lives, through a wider and cheaper supply of parts, equipment and raw materials for Their work.

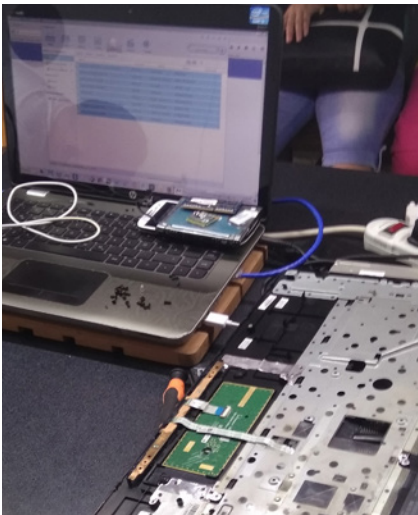
TALLER DE ELECTRONICA

electronic workshop



I spend more than ten months gathering to buy my phone, after four months of use began to fail the touch. It's a Chinese smartphone brand BLU, luckily I went to a repair shop and the deal cost me 10 CUC. It is not the same to pay that sum as to buy a new one. It would take months to get together again to be able to have another phone.

Alan Hernandez, a young owner of a mobile repair shop who has learned the trade as most empirically and “nodding off,” explains that he and his colleagues “have specialized in replacing or repairing any part of any Device regardless of the make or model. It does not matter whether it’s the Korean giant Samsung or the most feared by Cuban mechanics: the iPhone and its closed operating system; We always try to give solutions, here throwing it away is not an option. “

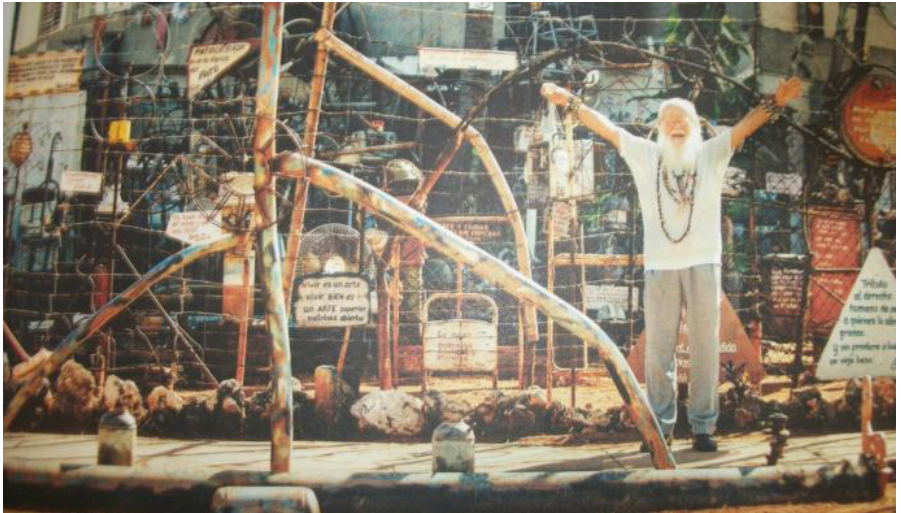


“I started my business from the year 2009, when they approved the work on their own, at that time only installing applications on mobile phones and doing small software and pirating jobs to install applications on iPhone and iPod, which were few at the time. Little by little I was learning, and studying on Internet every new phone model that was going out until I got into the world of electronics and hardware and already here today in my workshop we do any job of replacing plates, cameras, ports Charge, even change of bands in some models of mobile phones, “added Alan.

In Cuba technology is difficult to acquire. Most of the devices that enter the country are imported and marketed in the black market. A low-end mobile phone and Chinese manufacturing as the BLUs, very abundant in the Island, can cost about 120 dollars, which means about six months of full salary for the average Cuban.

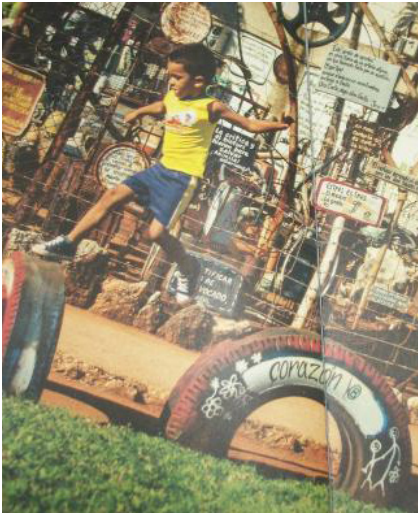
MUNDO DE GALLO

the scrap artist



I have been given dental prostheses, family souvenirs, I am not looking for anything, it is with what I find or suggest people. Everything has a space and place, my museum is the exchange of life.

Hector Pascual Gallo Portieles (known as Gallo) was born in 1924 in Campo Florido, Cuba. He settled in the Alamar neighborhood of Havana, near the sea, in an area where tourists rarely venture. This neighborhood is known for its 1970s-era blocks of buildings that had been constructed with Russian aid: it was intended that they would house 50,000 people and offer them all the comforts of the modern era. Today, however, some 120,000 people live here, under rather difficult material conditions in deteriorated buildings, with essential infrastructures either unfinished or not maintained. The Cubans call this area “Siberia.”



Little by little, Gallo gathered recycled materials, deteriorated machines and appliances (televisions, calculators, and more); he stored them, he sorted them, and he began to create a garden of sculptures and installation that he named the Garden of Affections, to pay homage to love and optimism. He has populated this garden, adjacent to his apartment, with all kinds of installations that, in the minds of some viewers, reference toms. Gallo has enhanced them with a multitude of personal aphorisms; examples include: “Here, everything that is done is according to what was expected, everything that is said is according to what is felt. One breathes liberty/breathe it in and breathe out its reverse – 2015” and “Long live equality that stands out differently.” One also finds many self-portrait sculptures that have often been reduced to a simple round form or are represented with a beard and teeth, enhanced with a pair of glasses.







The Cuban home became a laboratory for inventions and survival.

CUBAN INGENUITY

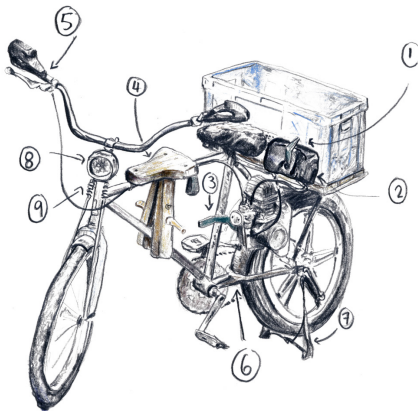
RIKIMBILI

bicycle + washing machine engine + pet bottle



Take a Chinese bicycle, attach a stolen chain-saw motor, a plastic bottle for fuel tank, a bent pipe from a bed frame for the exhaust and what have you got?

A riquimbili, Cuba's home-made motorbike that's noisy but effective. Easily identified a block away by its ear-piercing din, the riquimbili (pronounced rick-in-billy) is an ingenious improvisation to cope with a chronic public transport shortage Cuba has faced since the collapse of Soviet communism in the early 1990s plunged the island into dire economic straits.



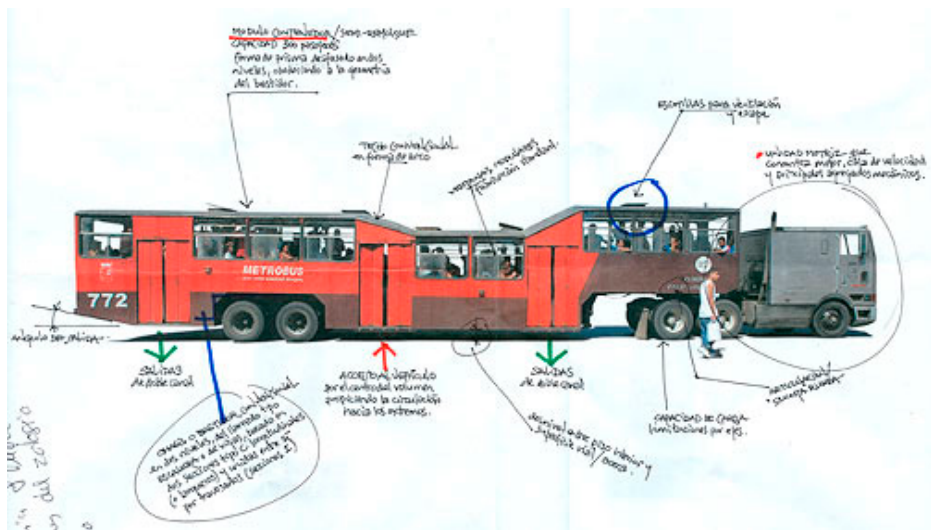
Enter the riquimbili, cobbled together from scrap-yard parts of old motorbikes mounted on a light bicycle frame, usually powered by a 50 cc to 125 cc two-stroke engine obtained on the black market.

Anything from water pumps and electricity generators to portable fumigator motors will do. Power boosters from old Soviet military tanks are preferred for reliability and strength.

The transmission, controlled with a makeshift clutch, is frequently just a simple roller rubbing against the wheel, or a belt system, though prized riquimbilis use motorbike chains. Their fuel efficiency is unbeatable. Most do 120 miles per gallon (50 km per litre) of petrol.

EL CAMELLO

bus + truck + truck





Anyone who has lived in Havana and used the transport public knows what a camel, now also known as 'El Camello' was left because the previous machines had a shape very similar to that of this animal.

Since then in the capital of Cuba, the Cubans are transported on camels, as if it were the Sahara desert. But we are sure that we were daily moving in them, that it is easier to catch a camel in Egypt than in Havana.



It is quite a process to depend on the camel in Cuba to reach the places, be it home, work or party. The first is a mental and psychological preparation to face the odyssey and survive. You have to know that if you want to be seated you have to go to the first stop and with an hour of available time.

The popular camels, a variant of urban transportation that emerged in the worst moments of the 1990s economic crisis in Cuba, seem destined to disappear from the center of the country's capital for joy Of the population and benefit of the environment.



Heavy and capable of transporting up to 300 people, this hybrid between truck and bus that looks like camel humps, was the saving solution for a city of more than two million inhabitants, but never managed to alleviate the crisis and became In one of the emblematic symbols of the officially called "special period in times of peace".

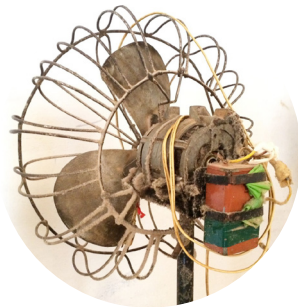
ORBITA FAN

improvised fan





After opening, breaking, repairing, and using them so often at their convenience, the makers ultimately disregarded the signs that make occidental objects a unity, a closed identity. Cubans do not fear the emanating authority that brands like Sony, Swatch, or even NASA, command. If something is broken, it will be fixed—somehow. If it could even be conceived as usable to repair other objects, they might as well save it, either in parts or in its entirety. A new future awaits.



An emblematic object of this building is the “fan-phone”. An improvised repairman remembered, when his fan’s base broke, that he had kept somewhere a broken phone from Communist Germany. He recalled it because the Orbit fan base somewhat resembled the prismatic pyramidal shape of the phone; the inspired creator was interested not in associations or meanings but in the formal analogy based on size and structure. The repaired, rebuilt, and repurposed fan was, at the same time, an outline of the cunning abilities of the individual, a diagram of the accumulation in his house, and an image of his disobedience.



TRAY ANTENNAS

radio receivers





Tray antennas were one of the most recurring objects. One of the reasons was that there were not many pieces of metal on the island in those years and this tray was a generic metallic element that you could find in any school cafeteria or laborer. It is impossible to determine who was the first, possibly the idea precedes the Special Period but it was during this time that it germinated profusely. In cities like Camagüey you could see some for each block and always with solutions of connection and resistance to the wind very diverse.



In the same line there is a radio signal antenna or decoder that was very famous in the 90's. They called it "channel 4" and almost always the decoder circuit was hidden inside a small toy that had space for a small printed circuit of 6cm By 6cm approximately. This antenna or decoder could steal a radio signal that was only directed to tourist spaces of the government. The final object was a toy car from which a wire was being attached to the antenna of a receiving radio or television set. For those who did not know the object could go unnoticed, both in homes and in the places where it was sold.



60% CAR



Cubans learned to make do. When something breaks, they patch it up. When something doesn't work, they fix it. And when something is altogether lost, they invent it. They grill meat on metal chairs. They seal the bottoms of cars, transforming them into boats. From the suffering of 30 years of isolation has sprung a generation of amateur engineers, inventors and welders.

CAR INGENUITY



HOUSEHOLD LAMPS



HOUSEHOLD APPLIANCES



CHAIRS



CHAIRS



STREETS





TOOLS

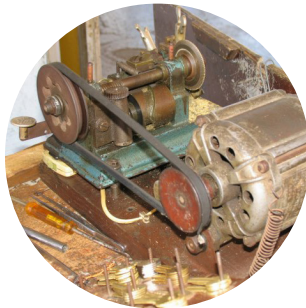




MACHINERY



MACHINERY







Armaments, universal debt, and planned obsolescence - those are the three pillars of Western prosperity. If war, waste, and moneylenders were abolished, you'd collapse. And while you people are overconsuming the rest of the world sinks more and more deeply into chronic disaster.

(Aldous Huxley)

TECHNOLOGICAL OBSOLOCENE

PLANNED OBSOLESCENCE

“ Our whole economy is based on

Planned Obsolescence...

We make good products, we induce people to buy them, and then next year we deliberately introduce something that will make those products old fashioned, out of date, obsolete.

*We do this for the soundest
reason... to Make Money! ”*

– Brooks Stevens,
Industrial Designer. 1958



*Brought to you by the
Post-Landfill Action Network*

Planned Obsolescence; the absurd practice of designing products with a limited lifespan in order to maximize profits. Based on the notion that infinite economic growth can be balanced by the finite resources of this planet.

Planned obsolescence or built-in obsolescence is a policy of planning or designing a product with a limited useful life, so it will become obsolete, that is, unfashionable, or no longer functional after a certain period of time. Planned obsolescence has potential benefits for a producer because to obtain continuing use of the product the consumer is under pressure to purchase again, whether from the same manufacturer (a replacement part or newer model), or from a competitor which might also rely on planned obsolescence.

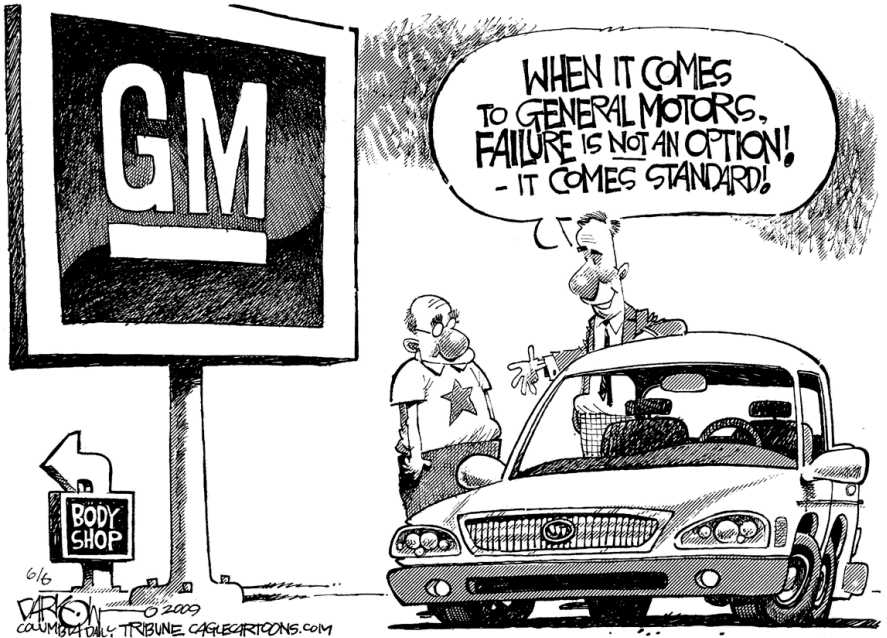
“Corporations, and their multi-million dollar marketing departments, have long-since figured out how to exploit the “consumer’s” anxieties in order to get us to buy more stuff. And while they reap in their billions of profits and millions in bonuses, the rest of us lose. We lose because the majority of us are in debt and can’t afford anything but the cheapest and least durable products available.

We lose because our particle board furniture and our disposable “smart” phones are literally designed to fail, along with our cars, our clothes, our electronics, and just about everything else. We lose because this never-ending stream of disposable products forces us to keep buying more stuff, emptying our pockets in order to support the most ethically corrupt corporations in the world.

We lose because these products are sourced from finite resources and extracted from the earth through heavily destructive, chemically-intensive processes that scar the land, pollute the rivers, and pump greenhouse gases into the atmosphere.

We lose because the immense amount of waste that our “take, make, and dispose” society creates, forces us to landfill or incinerate – leaving a toxic burden on the poorest communities of every region. We lose because they poison our free sources of drinking water in order to sell us their “clean” water in disposable bottles.

PLANNED OBSOLESCENCE



Our modern fashion industry is in fact responsible for an alarming over-consumption of clothes, shoes and accessories, which also leads to huge amounts of fashion items being incinerated or dumped into landfills every year. In Sweden, the population consumed almost 132 000 tons of clothing and home textiles in one year (in 2008), of which an estimated 70 000 ton were thrown into the household bin and subsequently incinerated (source). In the UK, incineration of garments is not legalized (other than as household waste); instead, around 350 000 tons of unwanted clothes are sent to landfill every year. Meanwhile, the industry continues to manufacture new products. Thus, as we speak, large flows of raw oil are extracted to produce polyester clothes, huge amounts of water are diverted (from rivers, lakes and below ground) to irrigate cotton land, and substantial amounts of water, dyeing agents and potentially harmful chemicals are used to wash, dye, and treat fabrics and yarns, as part of the supply chain. The global fashion industry of today is clearly not sustainable.

The expression “planned obsolescence” was first used in the mid-1920s by critics who questioned the new business proposal of Alfred P. Sloan, then head of General Motors. In order to increase sales, Sloan proposed that the company should change car model design annually to encourage car owners to buy a new car every year (source). In the 1930s, Bernard London wrote the pamphlet “Ending the depression through planned obsolescence” in which he advised the U.S. government to legalize planned obsolescence for consumer articles at large scale, in order to stimulate manufacturing, consumption, employment, and national economic growth. London’s advice had a great impact on the American industry.

Since the 1950s, the strategy of planned obsolescence has played a fundamental role in our modern society, also for the apparel industry. In particular, fast fashion chains and large retailers act upon this strategy to encourage customers to shop frequently, so as to spur revenues. By changing fashion styles often and rather drastically, consumers are encouraged to buy new items although their existing wardrobe may work perfectly. In other words, what is “high trend” today will soon be yesterday’s news. For example, this season’s rounded shoes will be replaced by pointed toes next year, long wide skirts will be outdated by short and tight skirts, and slim dark jeans will be surpassed by light blue and flared. Consumers acting upon such trend variations (by updating to the latest trends) will indirectly contribute to a society built on planned obsolescence.





CIRCULAR ECONOMY



Space is needed for community repair workshops and the collection of spare parts. The most forward-thinking councils will provide repair and reuse initiatives with a physical presence in recycling centres so they can divert functioning or economically repairable electronics from waste. At the very least, pink skips for electronics recycling should have information posted about local opportunities for electronics reuse. There is no zero sum. A consumer who repairs is guaranteed to recycle at end-of-life.

Until now, the focus of the circular economy has been primarily on designing products for easier disassembling and recycling – the “outer circle” – which implies creating a closed loop of materials. In the case of electronics this means recovering metals in our gadgets, something only feasible at scale and something from which big companies can profit.

The “inner circle” of repair and reuse, seems to have been fairly mute in public discussions on the circular economy but the inner circle is where we can transform our reality. Let’s imagine the rebirth of urban, local economies of maintenance and repair where libraries, community centres, markets, churches, galleries and pubs are used to combat a throw-away culture and fix electronics. The inner circle is people centred, it is for citizens, small companies and community initiatives to reinvent.

Besides preventing waste, the most important outcome is the mentality shift that opening a device and attempting to fix it can bring. Our restarters don’t just provide a free fix for participants, they demystify electronics and help people feel more confident about troubleshooting and repairing on their own.

Reuse and repair initiatives, however, will not simply flourish in isolation and face serious challenges in scaling up. All of our work has happened on a total shoestring, with no public funding and next to no fundraising. This is where we need the help of policymakers, forward-thinking designers, companies and citizens:

<https://www.theguardian.com/sustainable-business/circular-economy-recycling-repair-reuse>





WE HOLD THESE TRUTHS TO BE SELF-EVIDENT

SELF-REPAIR MANIFESTO:

REPAIR IS BETTER THAN RECYCLING.
MAKING OUR THINGS LAST LONGER IS BOTH MORE EFFICIENT AND MORE COST-EFFECTIVE THAN MINING THEM FOR RAW MATERIALS.

REPAIR SAVES THE PLANET.
EARTH HAS LIMITED RESOURCES AND WE CAN'T RUN A LINEAR MANUFACTURING PROCESS FOREVER. THE BEST WAY TO BE EFFICIENT IS TO REUSE WHAT WE ALREADY HAVE!

REPAIR SAVES YOU MONEY.
FIXING THINGS IS OFTEN FREE, AND USUALLY CHEAPER THAN REPLACING THEM. DOING THE REPAIR YOURSELF SAVES SERIOUS DOUGH.

REPAIR TEACHES ENGINEERING.
THE BEST WAY TO FIND OUT HOW SOMETHING WORKS IS TO TAKE IT APART!

IF YOU CAN'T FIX IT, YOU DON'T OWN IT.
REPAIR CONNECTS PEOPLE AND DEVICES, CREATING BONDS THAT TRANSCEND CONSUMPTION. SELF-REPAIR IS SUSTAINABLE.



REPAIR CONNECTS YOU WITH YOUR THINGS ◊ REPAIR EMPOWERS AND EMBOLDENS INDIVIDUALS
REPAIR TRANSFORMS CONSUMERS INTO CONTRIBUTORS ◊ REPAIR INSPIRES PRIDE IN OWNERSHIP
REPAIR INFLECTS SOUL AND MAKES THINGS UNIQUE ◊ REPAIR IS INDEPENDENCE
REPAIR REQUIRES CREATIVITY ◊ REPAIR IS GREEN ◊ REPAIR IS JOYFUL
REPAIR IS NECESSARY FOR UNDERSTANDING OUR THINGS ◊ REPAIR SAVES MONEY AND RESOURCES

WE HAVE THE RIGHT:

TO OPEN AND REPAIR OUR THINGS WITHOUT VOIDING THE WARRANTY
TO DEVICES THAT CAN BE OPENED ◊ TO ERROR CODES AND WIRING DIAGRAMS
TO TROUBLESHOOTING INSTRUCTIONS AND FLOWCHARTS
TO REPAIR DOCUMENTATION FOR EVERYTHING ◊ TO CHOOSE OUR OWN REPAIR TECHNICIAN
TO REMOVE 'DO NOT REMOVE' STICKERS ◊ TO REPAIR THINGS IN THE PRIVACY OF OUR OWN HOMES
TO REPLACE ANY AND ALL CONSUMABLES OURSELVES
TO HARDWARE THAT DOESN'T REQUIRE PROPRIETARY TOOLS TO REPAIR
TO AVAILABLE, REASONABLY PRICED SERVICE PARTS

INSPIRED BY MASTER JELLOPP'S MINKER'S BALL OF RIGHTS AND PLATFORM 210'S REPAIR MANIFESTO

UPCYCLING



One such initiative comes from Reform Studio, which has developed a rather ingenious solution to our plastic bag epidemic, in which the bags become the feedstock for a traditional, yet disappearing, industry in Egypt - handweaving.

“It all started with a plastic bag. We believe that design can solve stubborn problems and thus we started from a major issue in Egypt: waste. One experiment after another, and after many design proposals, we came up with our first product ‘Plastex’. Plastex is a new eco-friendly material made by weaving discarded plastic bags.”





Basurama is a spanish art collective focused on developing innovative uses of waste to highlight the importance of recycling resources in our consumerist society. on the other hand, city yeast is a design studio based in taipei devoted to creating experimental design action as a way to activate the city and its citizens. together, they have created 'swings park', a brightly-colored temporary playground completely built out of waste material.



UPCYCLING





'The City of Leonia refashions itself everyday: every morning the people wake between fresh sheets, wash with just-unwrapped cakes of soap, wear brand-new clothing, take from the latest model refrigerator still unopened tins, listening to the last-minute jingles from the most up-to-date radio.

..... So you begin to wonder if Leonia's true passion is really, as they say, the enjoyment of new and different things, and not, instead, the joy of expelling, discarding, cleansing itself of a recurrent impurity. The fact is that street cleaners are welcomed angels, and their task of removing the residue of yesterday's existence is surrounded by a respectful silence, like a ritual that inspires devotion, perhaps only because once things have been cast off nobody wants to have to think about them further.

..... Nobody wonders where, each day, they carry their load of refuse. Outside the city, surely; but each year the city expands, and the streets cleaners have to fall farther back. The bulk of the outflow increases and the piles rises higher, become stratified, extend over a wider perimeter. '

(INVISIBLE CITIES 114-116)

*Cuba is the land of inventors, all Cubans are inventors and mechanics.
If not, you better not have a car.*

TRASH AND CUBA

EL BUZO

Trash Scavenger



Although the least, there are always those who throw away their abundance and others lack. I am a craftsman, I make sandals, I am looking for soles, buckles, pieces of leather footwear. For every pair of old and broken shoes thrown away could be something usefull for another shoe. I find it useful, that's how I make my living. Sometimes valuable objects such as clothing, cutlery, ornaments and even money by mistake have ended up in the trash



etymology : el buzo

basurero : spanish word for landfill

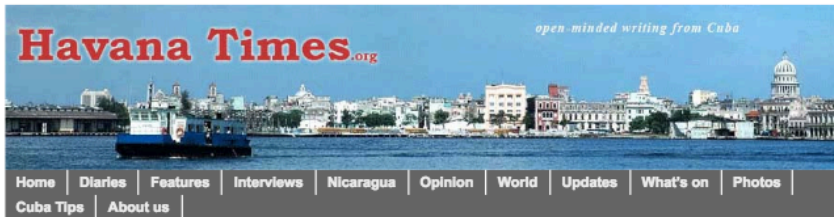
buzo : spanish word for diver

In Cuba there exists no consumer society or heavy industrial activity. The quantity of debris should not be frightening but the treatment of waste is troubling because it pollutes the country and promises to future generations. There exist no appropriate policy for dealing with the debris.

During the triumph of the revolution some people started scattering through garbage dumps and landfills to find products for re-using or to sell. Those people were called a 'buzo', which means dumpster diver. When the Soviet Union collapsed more Cuban people out of necessity became buzos. They play an important role in the collection of recyclable waste, as it is a praiseworthy job as well as ecological as social. It does not seem to matter much if they do it licensed or unlicensed.

However, in the current situation there is a negative attitude towards a buzo. The negative attitude is also caused by the government, who fined, reprimanded publicly, and imprisoned on charges of endangering health and spreading epidemics. Recently the government has started a campaign against the buzos, probably because the selling or recycled materials is a profitable international business.

CUBA'S TRASH PROBLEM



Erasmo Calzadilla: I find it difficult to introduce myself in public. I've tried many times but it doesn't flow. I'm more less how I appear in my posts, add some unrepresentable qualities and stir; that should do for a first approach. If you want to dig a little deeper, ask me for an appointment and wait for a reply.

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HT 2017 Cuba Photo Contest



Cuba: Till the Shit Do Us Part

February 16, 2015 |  Print |

"The GDP will grow by more than 4 % this year." – Raul Castro

Erasmo Calzadilla

HAVANA TIMES — Garbage collection efforts have entered a higher phase of decline in the Cuban capital. The issue has been touched on numberless times in Havana Times. I want to address it once again to show how the situation has worsened over the past few months and to propose a solution to the problem.



In Alamar, the neighborhood at the outskirts of Havana where I live, the garbage truck used to come by every three or four days, and that was already too little. Nowadays, it comes less than once a week and it's a genuine disaster. This complicated situation is worsened by the dilapidated state of the garbage containers.

The garbage bins passed through three stages of deterioration.

First they lost their wheels. People with no "social discipline" steal these for their carts or to sell them in the spare-parts market.

Then they lost their lids, which were far too fragile for the daily mistreatment they are subjected to.

Finally, the containers themselves gave way, of old age and exhaustion, I suppose.

Now, the locals leave the garbage on the ground, to the contentment of rats and the merriment of flies. Regular garbage trucks can't lift the garbage off the ground this way and they have to come get it with a bulldozer and a dump truck.

The spectacle is grotesque, foul-smelling and unhealthy, but, even with the shit up to their necks, the locals don't move a thumb.

If Cuba's political leaders publicly admitted that the crisis is NOT temporary, the community would surely wake up from its coma and look for the solutions within reach. But no, this is precisely the time when our leaders have decided to dream of expansion, development, prosperous socialism, investments, free trade zones and privatization.

When a horrible epidemic breaks out, we will finally understand they have lied to us again and again, but by then it will be too late. We will pay for this moment of peaceful alienation before the storm with the lives of our loved ones.

What the average Joe or Jane thinks is behind the garbage problem, and how they think it can be solved, can be divided into three major groups. We have:

1. Those who believe Cubans have become accustomed to living in filth thanks to the revolution.
2. Those who blame the corrupt bureaucrats and politicians who embezzle fuel and laugh in the face of a community that is completely idiotic (in the Greek sense of the word).
3. Those who think everything is caused by the US embargo and things of that nature.

All three groups are partially right, but all ignore one crucial factor. From my point of view, the tragedy of Havana's domestic garbage problem is today closely related to the world economic crisis and the irreversible decline in fossil fuel supplies.

The situation could improve slightly with the lifting of the embargo, but such an improvement would not last long. Overcoming the garbage problem would be easy with the right mental attitude, but, as it happens, the right mental attitude is sometimes the hardest thing to achieve.

In towns in Cuba's interior, domestic garbage is taken to small, local dumpsites using horse or ox-drawn carts. During the Special Period, peripheral neighborhoods in the capital resorted to these methods.

CUBA'S GARBAGE COLLECTION



Cuba can have a shortage of oil, but that doesn't justify the garbage piles that exist and the scale to which they exist, as local solutions can be found with other already experimented variations, such as horse-drawn cart collections, as well as reeducating and sensibilizing the population in this subject. People don't feel any legal restrictions, or moral ones it seems judging by this behavior, and sometimes, they give the responsibility of getting rid of this waste to their small children.



In a Cuban television program, garbage collection authorities in Havana reported that they have the capacity to pick up garbage every 72 hours, but viewers called in and insisted that, in their place of residence, garbage is sometimes picked up as irregularly as every 15 days.

Garbage collection services receive the largest State budget after public health and education. Despite this, it is one of the most inefficient sectors in the country. One of the reasons for this is the degree of corruption that systematically undermines it.

Corruption is one of the reasons why collecting solid waste in the Cuban capital has been a problem that hasn't been resolved for many years, but government media doesn't seem to understand this and continues to blame the population. "Popular Indiscipline" is what they call it.

The lack of resources is real; but so is stealing fuel and using garbage trucks for other tasks. On the other hand, many of the country's new private businesses pay garbage collectors to give priority to cleaning their areas.

Cities in provinces are a sight to behold, as you don't find garbage spread out everywhere, although neighborhoods such as Vedado and Miramar in the capital, don't suffer from garbage heaps, like other more heavily populated neighborhoods do, where the majority concentrate in lower social status neighborhoods and where many of the city's migrants live, increasing the amount of waste created.

GARBAGE MAINTENANCE





The tanks are mostly made out of an inflexible plastic, which can easily be broken; Garbage pick-up trucks, compatible with these, have mechanical faults because of use and they hit the Containers against the street damaging them. Wheels and even the containers themselves are stolen, ending up being transformed into domestic objects on the unofficial market.

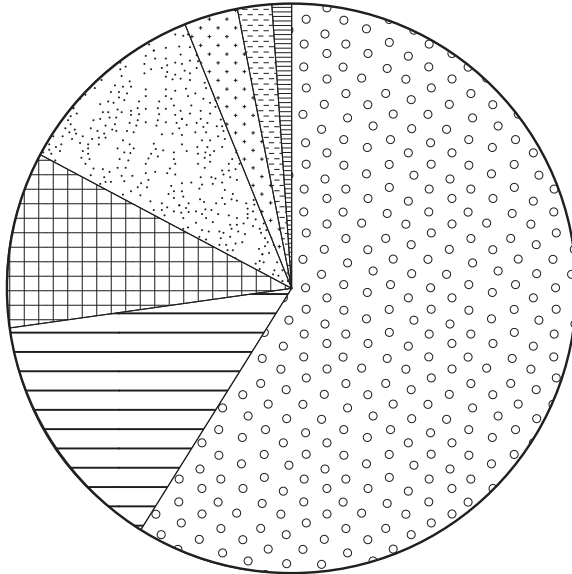
Residents' poor behavior who slam down the lids, when they can be bothered to close them. That the fuel that's left over at the end of the working day is taken by the truck's driver, to sell it off; That they still abide by a "white book" drawn up in the 1970s and '80s, which instructs that they should collect waste within a 1 meter perimeter around the Tank, but when they get somewhere and there is more than a meter's worth of waste surrounding the container then they think, what's the point of doing it? and so they decide to go on and leave it as it is;










That garbage workers falsely report on loads of waste deposited, which increases their salary, and this has become normal behavior.

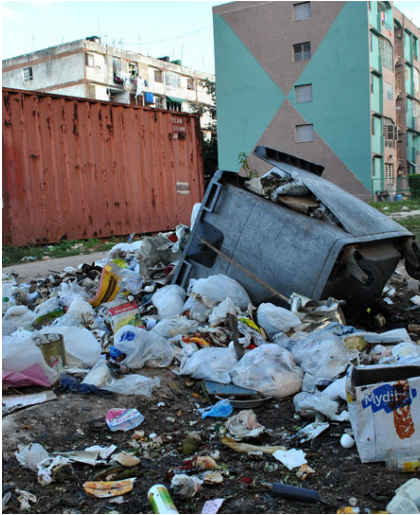
That mentally disabled people used to work in this profession and now these positions have been filled by people with a greater intellectual capacity to that which the job demands- I guess it means that "astute" * people also work there now. From what I understand, these workers are immune from punishment and so can constantly violate the ethics of their job without evident consequences for them but there are definitely evident consequences for the population.

TYPES OF CUBAN GARBAGE



	Household waste	59%
	Commercial waste	14%
	Demolition waste	10%
	Bulky waste	11%
	Other markets	3%
	Market wastes	2%
	Hotel and restaurant	1%

**Household waste
contributes to
almost 60% of
Havanas Municipal
Solid Waste**



MSW consists of three groups:

- Domestic waste
- Commercial waste
- Bulky waste and other wastes

Domestic : household generated by people who live in Havana

Commercial waste : waste generated through businesses and economic activities. (Hotels, restaurants, markets, and other commerce -> hotels and restaurants major, markets almost all is agricultural products)

Bulky waste : mainly construction waste and yard from cutting trees and branches. Construction waste includes building waste, concrete blocks and excavated soil. Street sweeping waste is generated throughout the city. Other bulky objects represent only a small amount of waste.

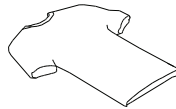
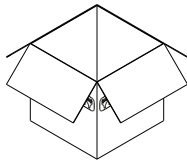
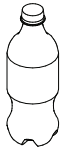
DOMESTIC WASTE
0,7 KG/PERSON/DAY

RESTAURANT WASTE
31 KG/RESTAURANT/DAY

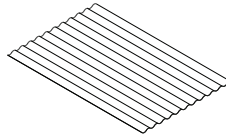
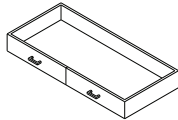
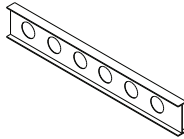
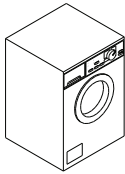
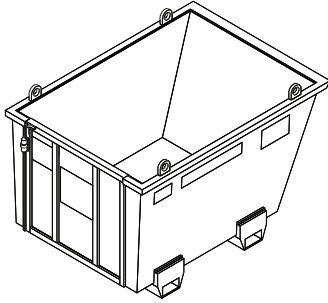
MARKET WASTE
60 ton a day in Havana

OFFICE WASTE
0,3 KG/EMPLOYEE/DAY

TYPES OF GARBAGE



Household and Commercial waste



Construction and Bulky waste

COMPOSITION OF GARBAGE



Cuban waste

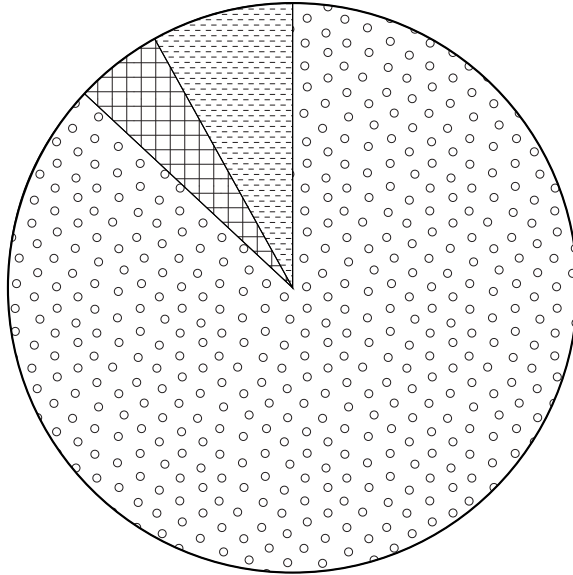


Other	3,2 %
Metals	9 %
Glass	4,4 %
Textiles incl. rubber and leather	9,5 %
Wood	6,2 %
Plastic	13 %
Paper	26,6 %
Yard	13,3 %
Organic	14,9 %



USA waste

DESTINATION OF GARBAGE



Composted

8%



Recycled

5%



Landfilled

87%

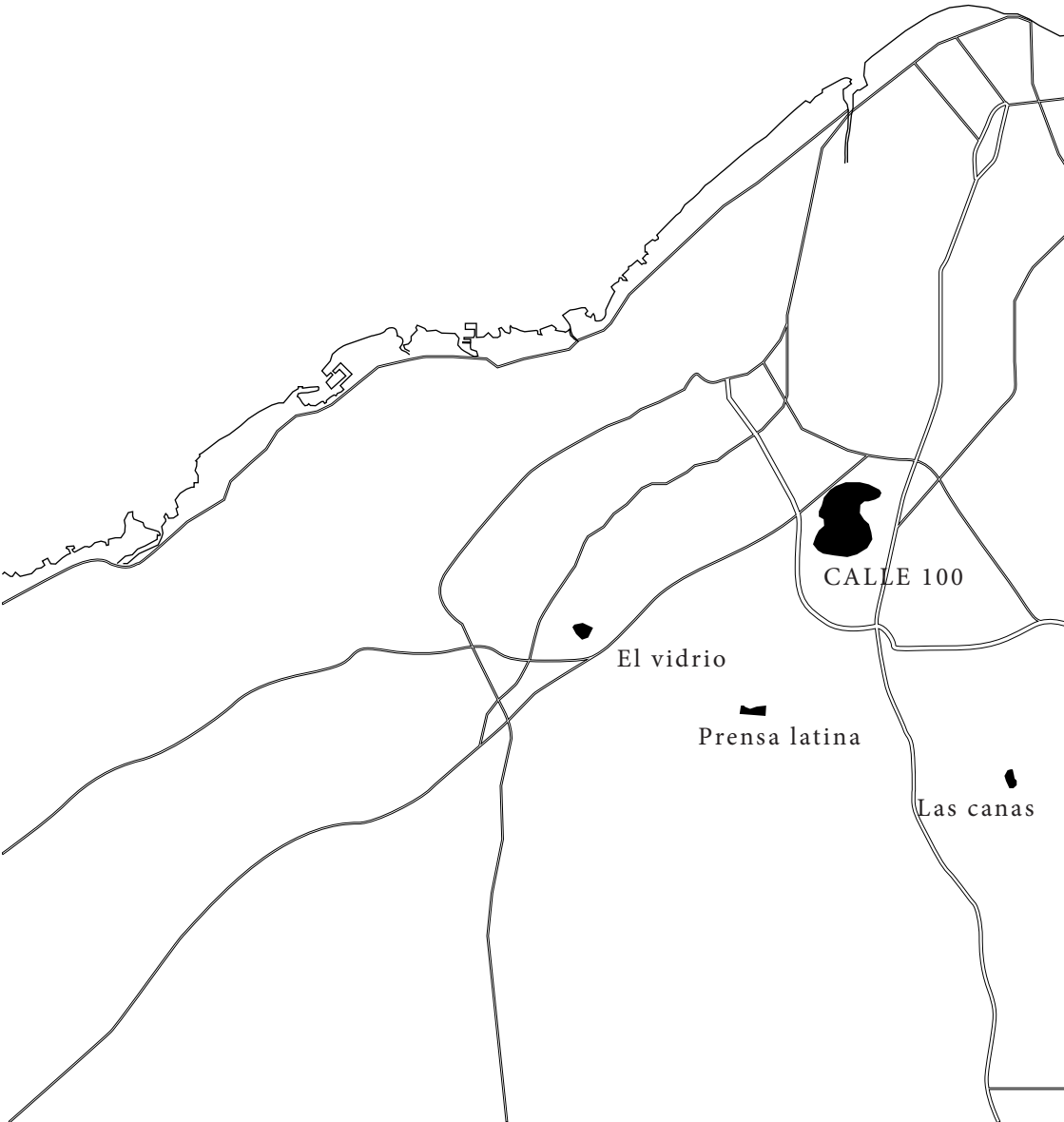
Some waste may be illegally dumped into the Atlantic Ocean

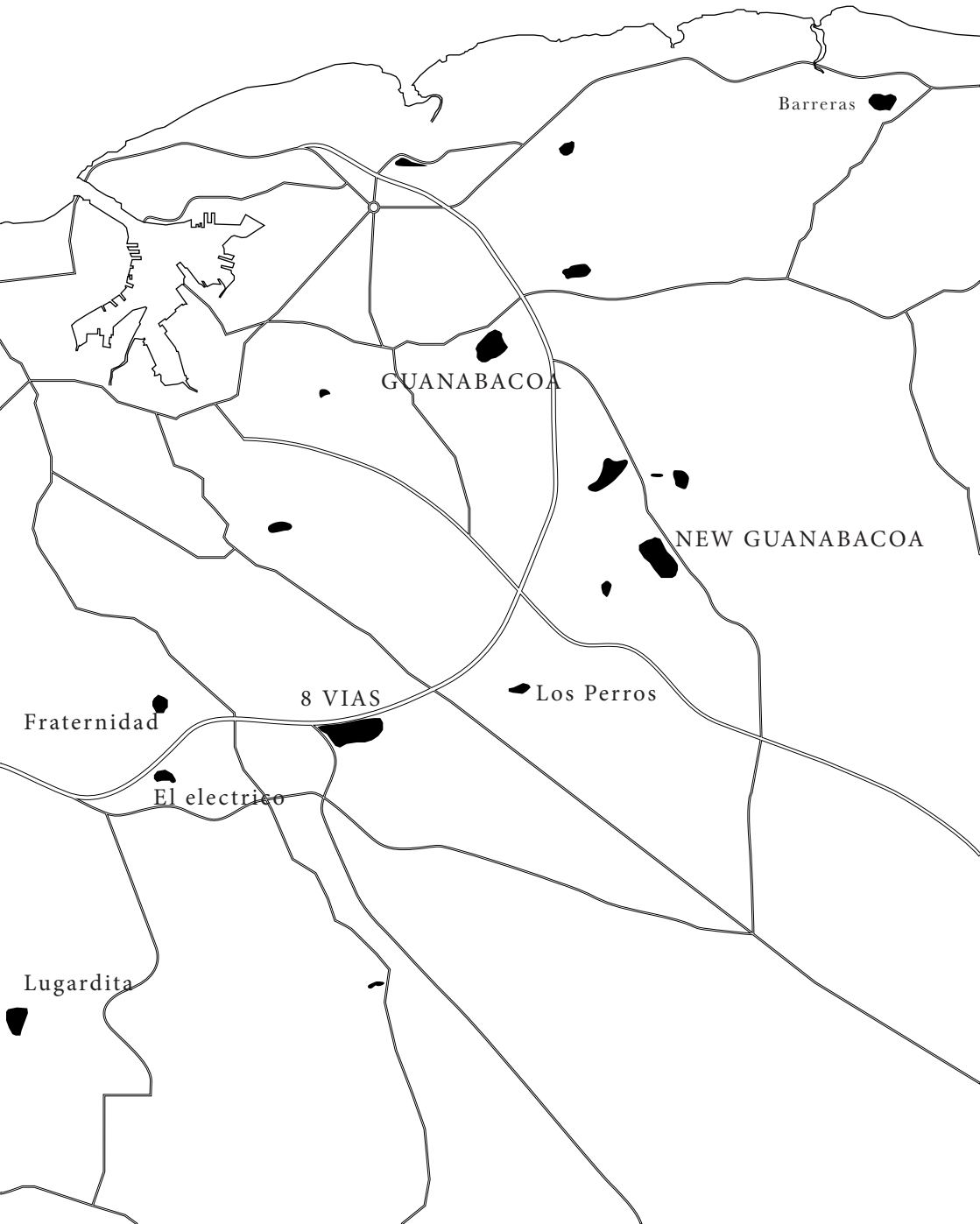






PERIPHERY LANDFILLS





Barreras

GUANABACOA

NEW GUANABACOA

8 VIAS

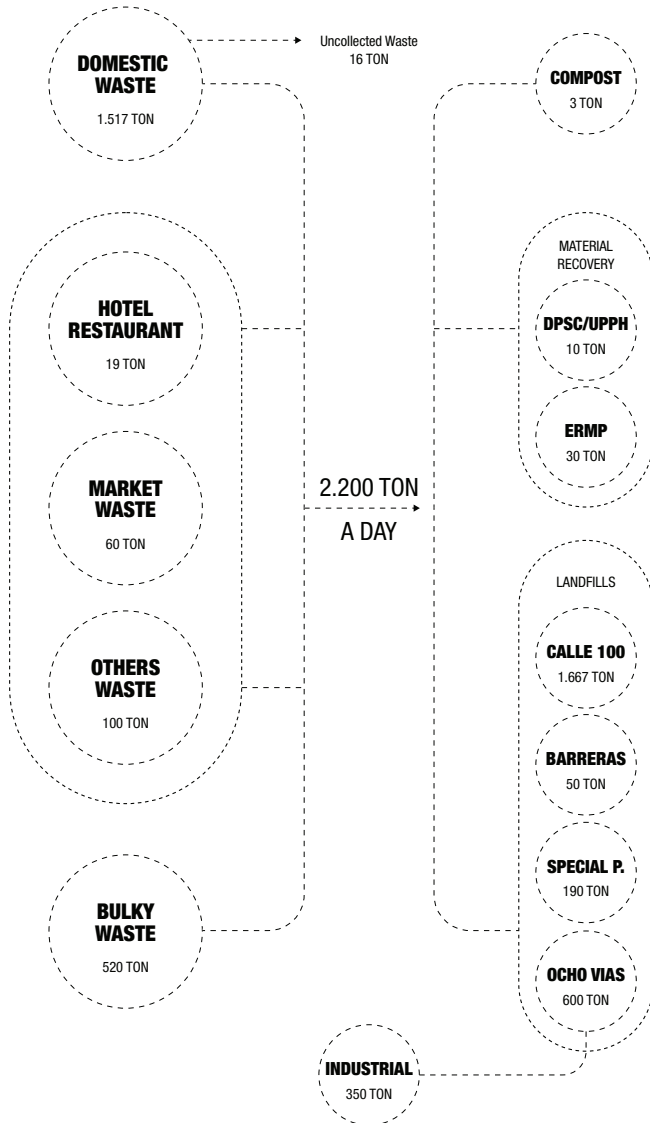
Los Perros

Fraternidad

El electrico

Lugardita

GARBAGE FLOWS





1. Collection of MSW will be done by more modern and appropriate vehicles.

2. Segregated collection will be widely practiced in the City

3. Recycling and composting will be actively conducted

4. Sanitary landfill will be in operation

5. Self-finance-based enterprises will be in operation with cost recovery

For the period until 2015:

- All special period landfills except Campo Florido will be closed to prevent environmental pollution

- The H/C collection system will be largely replaced by collecting using vehicles. H/C collection will be continued in limited areas surrounding Campo Florida landfill.

- Environment-friendly landfill operation will be commenced at selecting landfills.

- Recycling and composting will be introduced with an aim of reuse and reduction of MSW.





Jimmy Roque Martínez: I was born in Havana in 1979, and it seems that work has been my sign. Custodian, fish farmer, lens carver, welder, glass maker, optometrist, have been some of my trades. But none consumes as much of my time as caring for my family. For many years I've faced the least pretty face of this society, and I try to be happy while I transform it. I am too shy. I like silence, sleep, theater and movies. I hate injustice and arrogance, and I can hardly contain my anger when it happens in front of me.

Alamar, Havana Streets Turned into a Great Dump

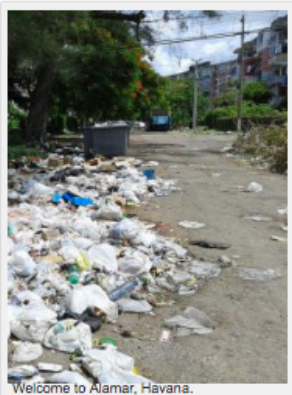
August 29, 2016 | Print |

By Jimmy Roque Martínez

HAVANA TIMES — A tour through the streets of Alamar by the environmental project *El Guardabosques*, revealed dozens of garbage pick up points that were overflowing with garbage throughout the sprawling housing projects, located on the east side of Havana.

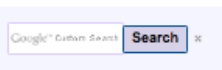
Although it's nothing new to see such sights throughout the Cuban capital, it's surprising to see how the situation in Alamar is so widespread, where over 90,000 people live.

The situation is so serious that even Cuban TV's *Canal Habana*, dedicated an entire news report on the subject, showing garbage bins overflowing with food scraps, pavements and flower beds filled with garbage, the breeding grounds for potential diseases from mosquitos and rodents.



Welcome to Alamar, Havana.

[Havana Times en Español](#)



Category Archive

The Cuban Media Is Simply a Disgrace

Alamar, Havana Streets Turned into a Great Dump

Cuba, Pensioners and Respect for the Law

Havana To Downsize Optician's System

Mexico's Interjet Airlines and Damaged Luggage

More posts in 'Jimmy Roque's Diary' »

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Martha Graham Dance Company in Cuba

Exploring Cuba (Photo Feature)

Cuba 2016 Photo Contest Finalists

Dub Love Premiere at Havana Ballet Festival

Once Again Flowers for Camilo

More posts in 'Other Galleries' »

Category Archive

Health with God, but without



Ernesto Carralero: I'm 18, I live in Havana and I firmly believe in the progress of Cuba. I do not understand progress as returning to the past, but being realistic and taking into account our characteristics, evolve into a much more inclusive country with more opportunities than we have today.

As the Garbage Piles Up in Alamar

September 25, 2014 | Print |

Ernesto Carralero

HAVANA TIMES — Every step you take in Alamar in East Havana invites you to reflect upon your surroundings. It seems that the city is becoming one big garbage dump.

Fumigation services turn up randomly, but what difference does it make?

An overflowing dumpster can be seen on every corner and more than once I've even seen a rat or two rummaging about the trash.

You might think it was just for a few days, that for some reason or another, the garbage couldn't be collected but what you see in the photos is our daily reality.

These huge heaps of waste are a hotbed for all kinds of pests, not to mention that they also severely affect our neighborhood's esthetics.

Nevertheless, the majority of Alamar's inhabitants don't seem to be too bothered by the problem or at least they don't seem to think they can do anything to fix it.

But, is this really true?

It's sad to think that so many things don't happen just because the majority don't want them to. When will we get beyond only sweeping the corner of our homes?



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[Santa Claus Doesn't Fly Cubana Prohibition at G Street, Havana Will Havana Survive?](#)

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Editor's Corner

Have a look at the finalists and winners of our eighth Cuba Photo Contest and please share the pictures with your friends.

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2017



ALAMAR STREETS

ALAMAR COAST



ALAMAR



LANDFILL



Architecture and Trash

MISSING LINK ARCHITECTURE AND WASTE

Drastic efficiency leaps, environmental impact improvements, and technological innovations all happen far from the public eye. It's nearly impossible to observe and understand what takes place in an incinerator or a recycling plant. Outsiders are rarely allowed on-site. The design of the plants, which seldom involves architects, only increases this sense of alienation. These strange edifices seem to be remnants of a not-so-distant past of exhaust fumes and industrial pollution. Their bleak, unwelcoming architecture makes no gesture to connect with the public, visually or socially; they offer no amenities beyond their core function, no opportunities for visitors or communities to engage, and only minimal integration with their built and natural surroundings.

*Harvard Design Magazine Issue 40 - The Missing Link:
Architecture and Waste Management*

No. 40 / Well, Well, Well ESSAY



Mesquite Regional Landfill under construction, El Centro, California, 2008.



BIG, Amager Resource Center, Copenhagen, Denmark, under construction. The facility utilizes flue gas cleaning, a highly efficient technology that removes all toxics, reduces sulfur emissions by 99.5 percent, and minimizes nitrogen oxide emissions by almost 90 percent of what the former 49-year-old plant produced. According to the project team, it would be like breathing normal air. Because of improved air quality, the slope of the facility has been deemed safe for public activities, and has been designed to accommodate snow (both natural and artificial) for skiing. "Green walls" and a special facade that has openings for natural light will benefit both visitors and employees. The roof will also act as a "real mountain," with green areas, hiking trails, climbing walls, and a mountain bike trail. A "viewing plateau" and café on top of the plant will also be open to the public.



Abalos Herreros, Recycling Plant for Urban Waste, Madrid, Spain, 1999. The plant is located on historically arid, degraded land used for dumping waste. It is part of a larger

The Missing Link: Architecture and Waste Management

Leire Asensio Villoria, Hanif Kara, Andreas Georgoulas

Puente Hills, California, is an unhealthy place. Home to one of the largest landfills in the United States, it was the main repository for all of Los Angeles County's waste until the landfill closed in 2013. Over a period of more than 50 years, Puente Hills Landfill had expanded to cover an area of almost 1,400 acres, accommodating compacted waste stacks as high as 500 feet.

It is hard to visualize such an eyesore, but according to Edward Humes, author of *Garbology: Our Dirty Love Affair with Trash*, the landfill could hold all the cars produced in the United States over the past 15 years while its height exceeded that of many skyscrapers. Because regulations require waste to be covered with soil as soon as it enters the landfill, these "towers" were invisible—the problem was sealed from sight.¹ Mesquite Regional Landfill, a much larger and more remote mega-landfill, now serves as the county's main waste repository. Located 200 miles southeast of Puente Hills and just over 10 miles from the US-Mexico border, it is expected to remain operational for the next 100 years.

Like many affluent societies, the United States is a land of insatiable, resource-intensive consumption, and has built these mega-landfills to accommodate the products of our vicious, and increasingly detrimental, resource-to-waste conversion cycle. In 2012, Americans generated approximately 251 million tons of waste, of which 135 million tons headed to landfills. Given the average landfill gate fee of \$48 per ton, the simple act of throwing waste into landfills amounts to nearly \$6.5 billion per year.

Often situated in remote locations next to forests, on land that could otherwise be used for recreational purposes, the roughly 2,000 operational landfills in the United States occupy more than 6,000 acres. They emit greenhouse gases that account for 2 to 5 percent of the country's total emissions, pose significant health risks, and cause long term disruptions to their surrounding environments.² Why, then, are landfills still the most prominent means of waste management in the United States?

Money, not surprisingly, lies at the heart of the problem: the most polluting method of waste management is also the cheapest. Although the total number of landfills has decreased since the early 1970s, the vast areas of available land throughout the United States enable the development of mega-landfills. These sites accept waste at very low costs and pose significant roadblocks to the transition toward alternative waste management methods.³ For many states, transporting waste to out-of-state landfills is the most financially feasible solution. Taxpayers in New York, for instance, paid \$2.2 billion to cover the state's waste management needs in 2012; \$300 million were operational costs for railroad and truck transportation for the disposal of waste in out-of-state landfills. The trucks travel 40 million miles annually, the equivalent of approximately 16,000 trips from New York City to Los Angeles. The latest Congressional Research Service report estimates that in 2005 Pennsylvania received seven million tons of waste from New York and New Jersey, while Ohio received 500,000 tons of waste from New Jersey and 132,000 tons from Connecticut, both of which are located more than 500 miles away. According to the report, from 1995 to 2005, state waste imports increased by 147 percent.

GARBAGE TYPOLOGIES



Recycling facilities

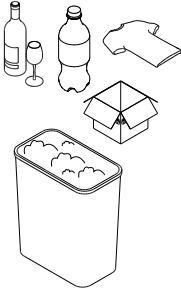
Transfer stations



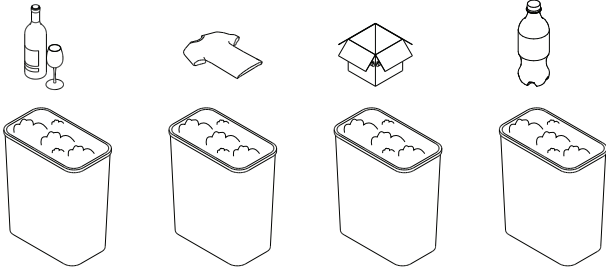
Zero Waste communities

Waste to Energy facilities

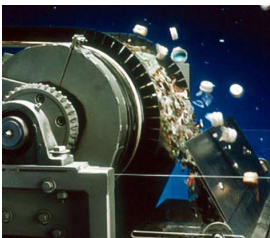
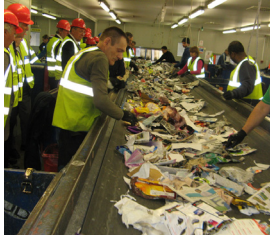
RECYCLING FACILITIES



Single stream



Multi stream





RECYCLING



MADRID

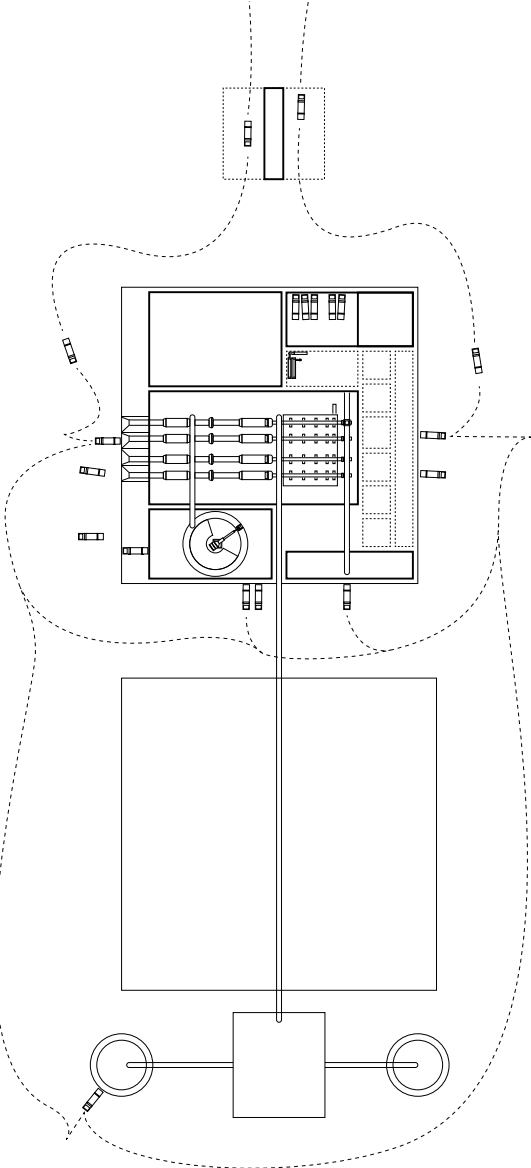
ABALOS & HERREROS : RECYCLING PLANT

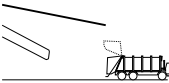
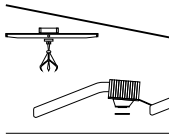
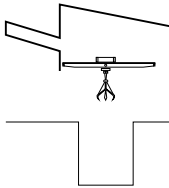
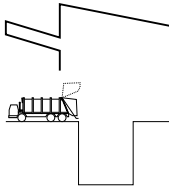
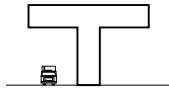




OFFICE	300MF
WEIGHING	700MF
PARKING SPACE	1400MF
BULKY WASTE	1750MF
SORTING WASTE	2400MF
NON-RECYCL	640MF
STORAGE RECYCLED MATERIALS	2900MF
PATIO	700MF
OFFICES	800MF
TOILETS	300MF
MUSEUM	300MF
OFFICE	300MF
LABORATORY	180MF
UNDEFINED	

LOGISTICS









RECYCLING CUBA

CUBAN RECYCLING FACILITY



Collect plastic



Cut and sort in pieces



Shredder



Melting machine



New products

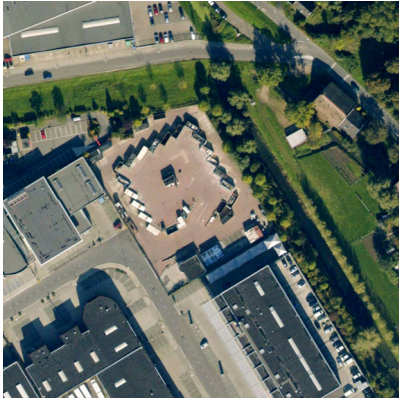


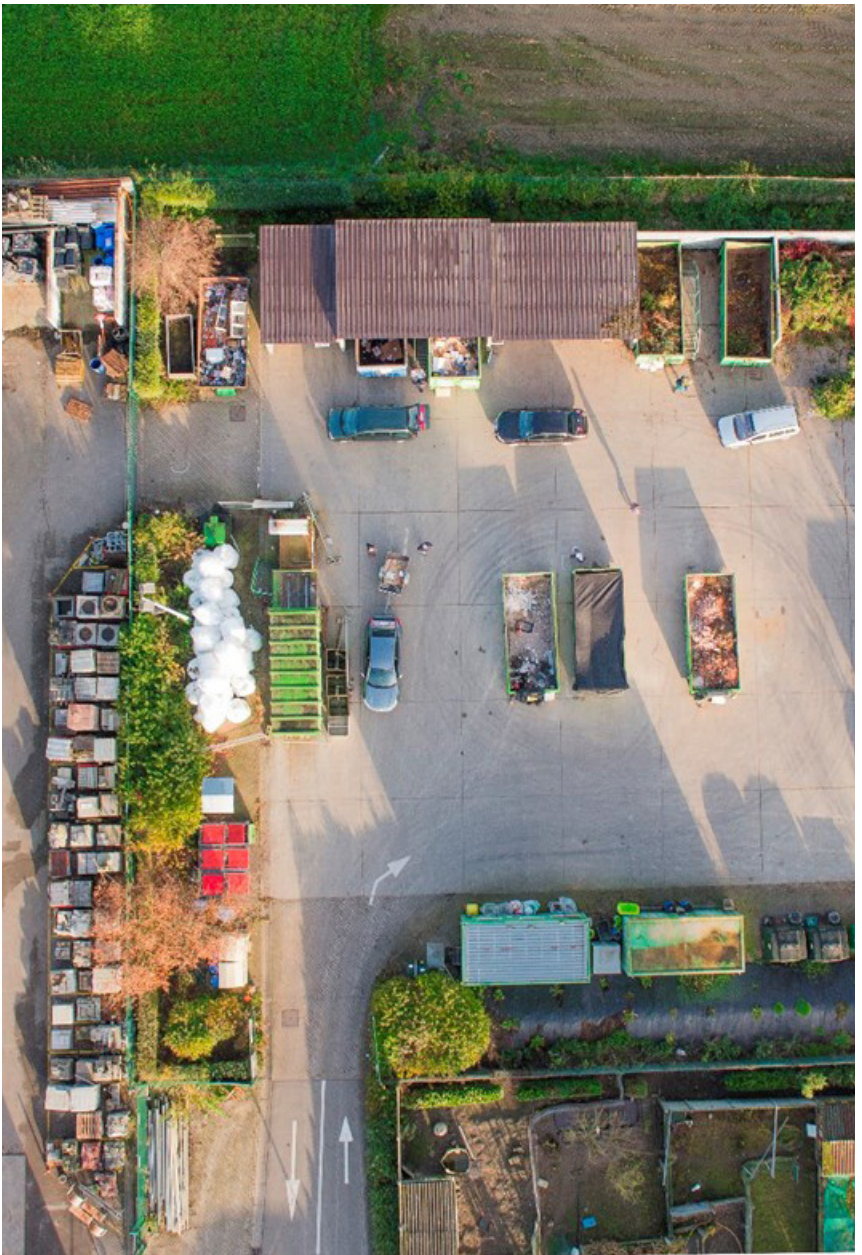
TV - MONITOREN



TRANSFER STATIONS

TRANSFER STATIONS

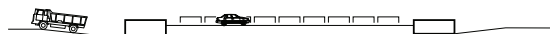
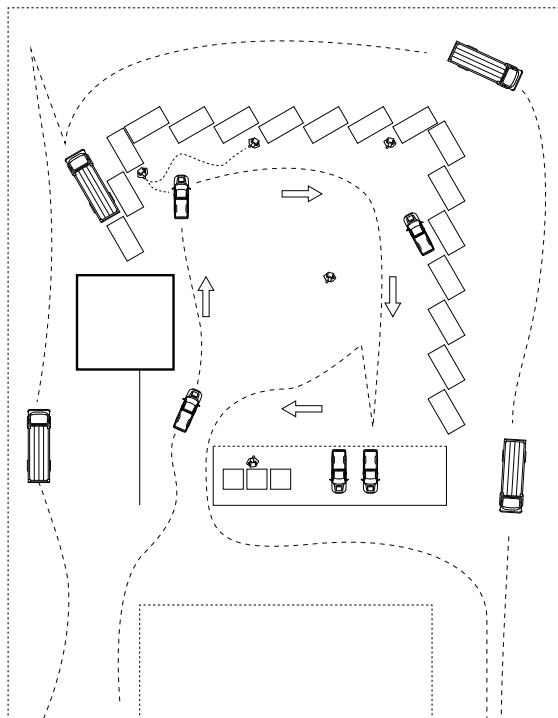




BOVENBOUW - RECYCLAGEPARKEN

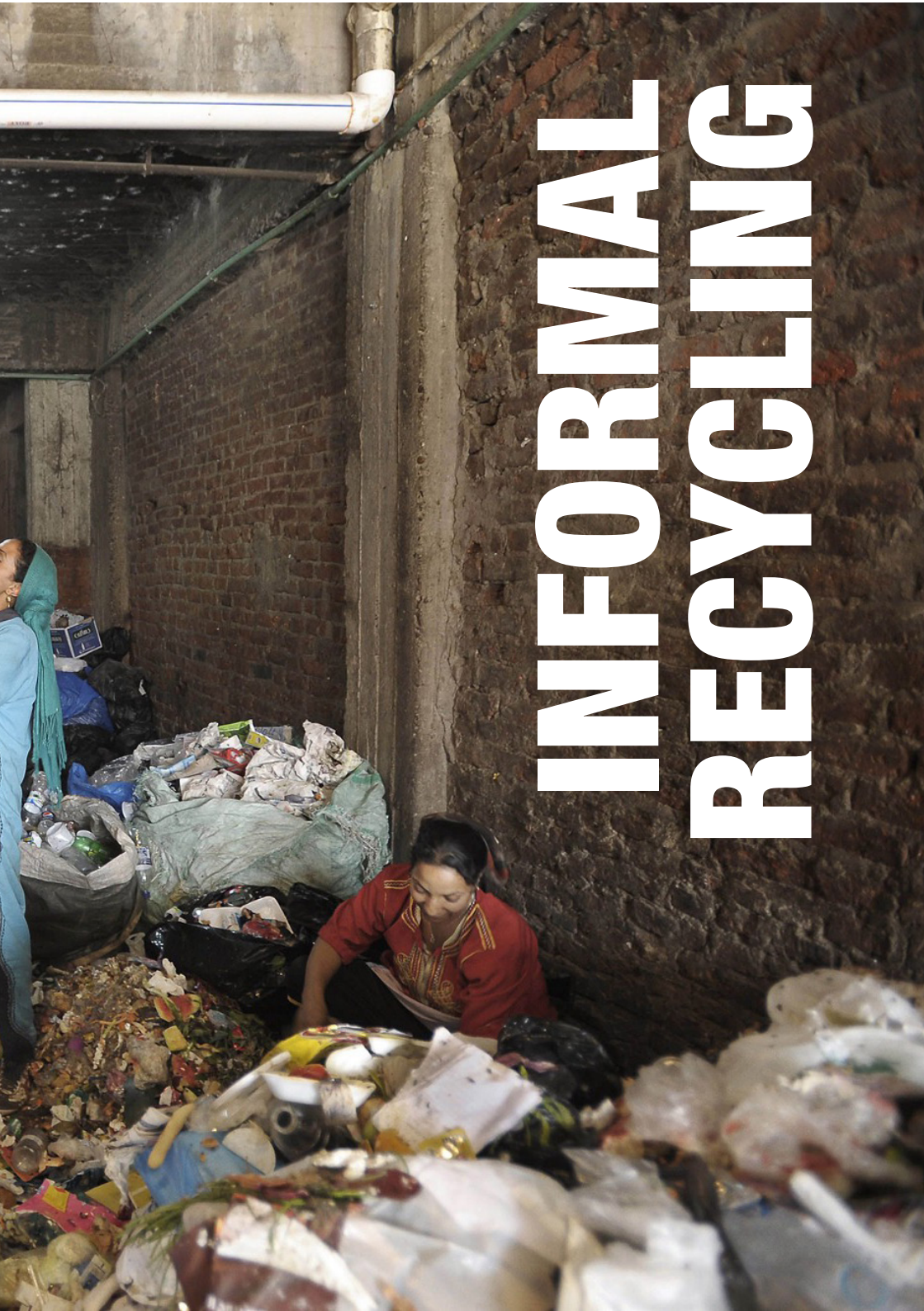


“ Het inverse model, een soort van recyclageplein, vonden we een veel attractiever beeld om als publieke ruimte te ontwikkelen. Een plein waar je contact hebt met de ander, waar je elkaar kruist. Iedereen heeft waarschijnlijk al meegemaakt dat je dingen ziet weggeworpen worden die je eigenlijk wel waardevol vindt en dus meeneemt. Het zien van andere mensen die andere dingen weggooien heeft ook een waarde en is op zich veel waardevoller dan in een soort lange file een rondje doen rond een grote vuilbak. Dat is het belang dat we hechten aan het centrale plein. “





INFORMAL RECYCLING



KAMIKATSU- ZERO WASTE COMMUNITY



INFORMAL WASTE COMMUNITIES

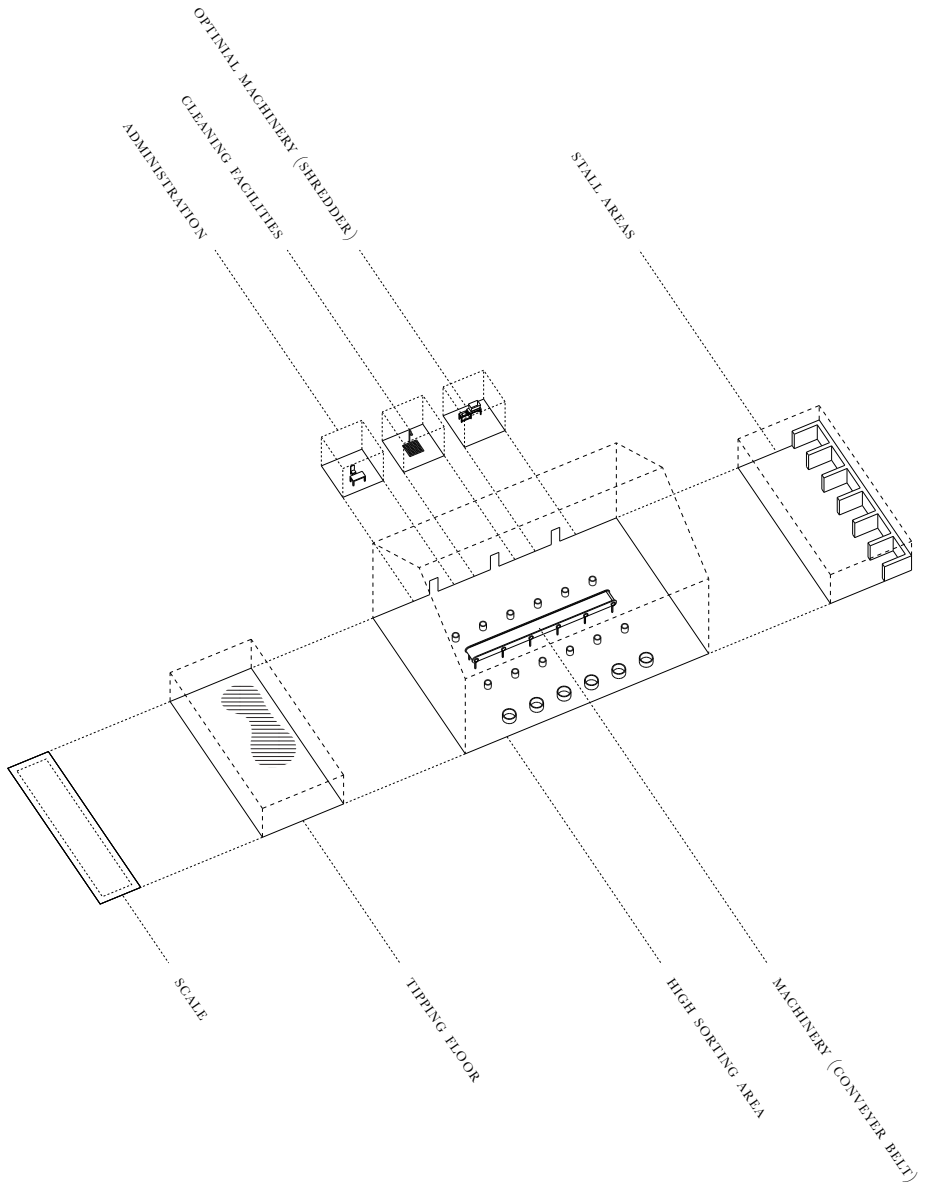


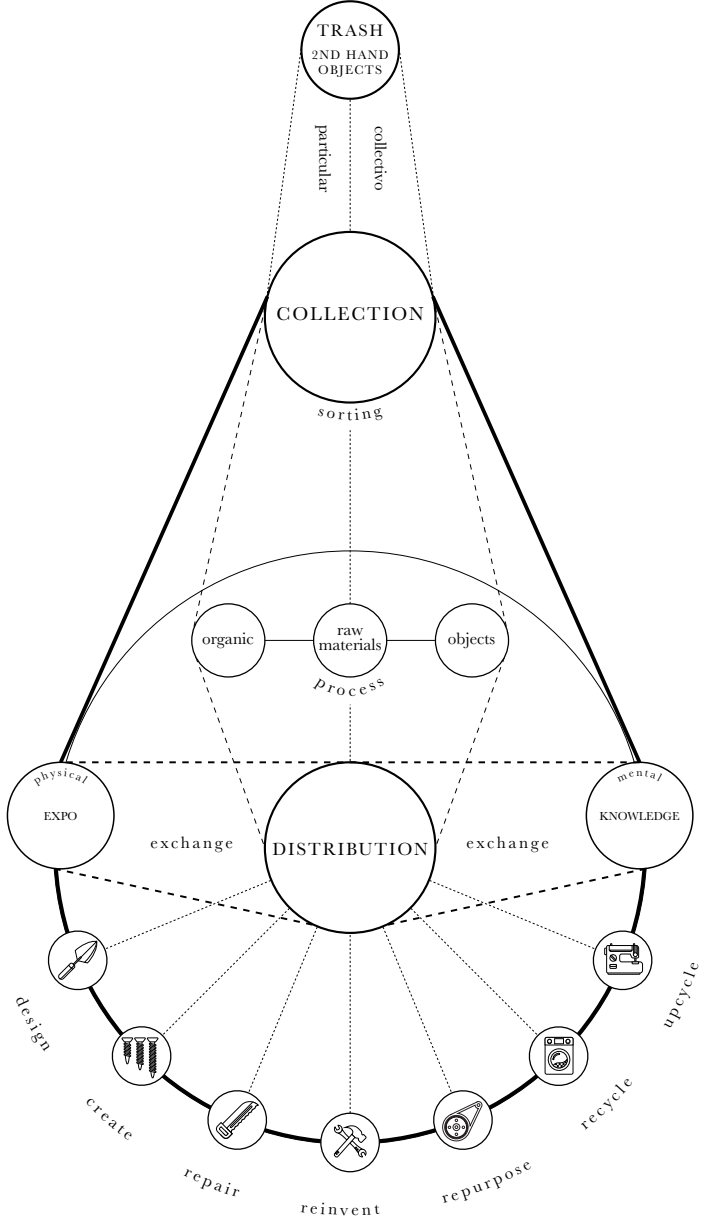
GARBAGE TYPOLOGY CONCLUSIONS

Future cities need to transform their relationship to waste in what is effectively an inversion of the current paradox. It is time that urban dwellers became far more uneasy with the systems that obscure the material scale of waste production, and far more comfortable with its matter so that we can interact with it in a way that is realistic and sustainable.

Not engaging with waste because it is conveniently hidden away, or because it is considered abject, directly inhibits the design and development of socially and environmentally sustainable and resilient cities.

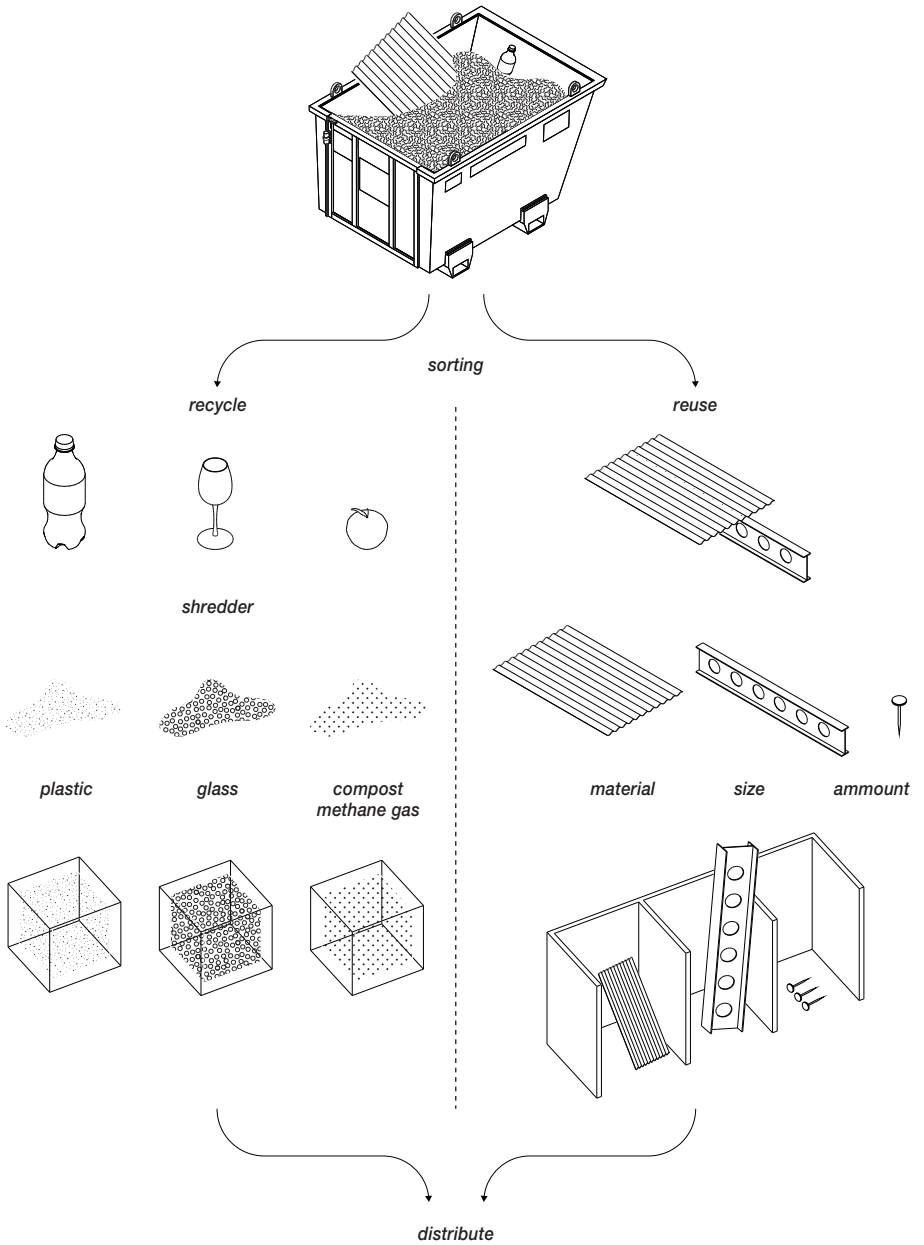
(Global Garbage: Urban Imaginaries of Waste, Excess, and Abandonment)

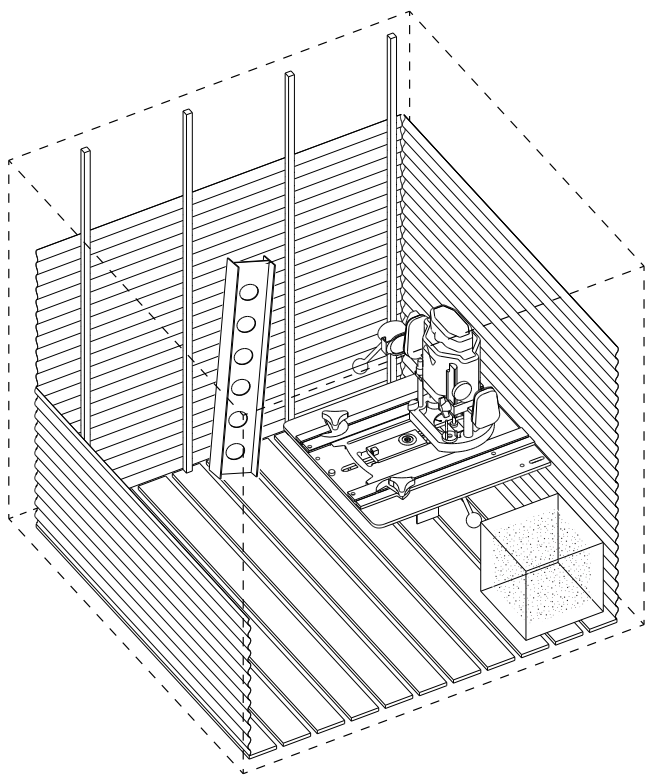
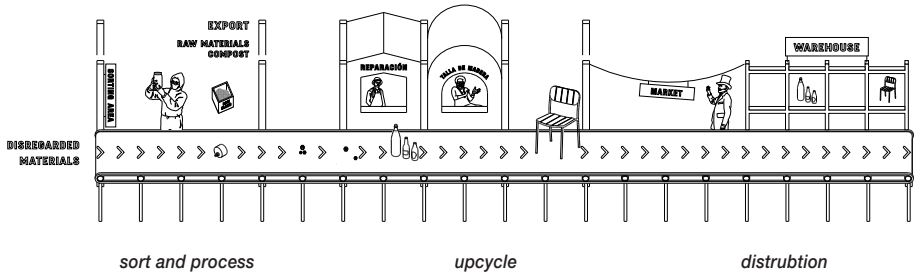




Alamar's Material Warehouse

CONCEPTUAL PROPOSAL





Workspace for reuse, repair, recycle and reinvent

Rather than positivist solutions to 'garbage crises' that continue to insist that garbage must be kept out of sight as a factually repugnant entity, **argues for accepting the the fact that trash creates issues that we must adress, and seek creative, alternative, and magical solutions** through the grounding of research and design in political, economic, and geographic specificities.

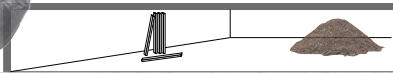
(Geographies of Trash - Ranya Ghosh and El hadi Jazairy)

E OF TRASH

OBREERØ CONSTRUYE TU MAQUINARIA

COLLECTION POINT

PARH
ALAMAR



DIY Community



REPAIR
FURNITURE

BARBER ZONA 6

HANDMADE CUPS

craftsmanship
creativity
repairing
repurposing
reinventing
refurbishing
refunctionalizing
reusing
upcycle

Technological disobedience