There are questions lying strewn about in the Agbogbloshie dump and in other such places on earth I have visited in the last ten years. They are the places where our old techno-trash waste has been tossed up by the hidden eddy currents of today's consumerism and commerce and have found a strange resting place – in the rice fields of Guiyu, China; behind the electronics markets of Lagos, Nigeria, lining like new walls, the back alleys of Karachi, Delhi, and Hanoi. What is this? And why on Earth?

In these global waysides that we might only know as "away", as in "we threw it -- away", the questions beg answers from each of us, sitting comfortably (as I do now) from behind LCD screens, tapping our keyboards and touch-pads. They cry out ghoulishly from these bone yards where these fallen icons of our proud Information Age lie as rotting fruit, the progeny of centuries of technological advancement, the offspring of Newton, Einstein and Samuel Morse. *Indeed, what have we wrought?* 

Machines that could, just months before, process a billion instructions per second, send a message clear around the world with the stroke of a key, or hold a library of books in a palm-sized drive, have found their end as metal and plastic skeletons, in the world's most sorrowfully poor communities to be subjected to hammer and fire, emitting deadly smoke and fume. Shouldn't there be a law?

#### What is this?

The Agbogbloshie dump situated on the outskirts of Ghana's capitol, Accra, is but one of the increasingly common inglorious final resting places for our society's proudest products. It is a wetland turned wasteland, and is littered with the remains of these cast-off machines as it is littered too with cast-off humanity.

It is a slum and workplace populated by thousands of disenfranchised men and boys, many of them orphans, living in scavenged wood and metal shacks along the Odaw River. A river that is so polluted it scares even those that live on its banks, as it flows quietly and dark as oil past the fresh food market on Abose-Okai Road, on into the Korle Lagoon, which in turns flows into the nearby Atlantic Ocean.

It is here that the relics of the Information Age, with their miraculous microscopic circuits, transistors, capacitors and semi-conductors, are bludgeoned and torched with Stone Age technology. For the residents in this squalor and filth make their living, first by hauling and then by smashing, gutting and burning the televisions and computers in a most un-green form of "recycling" to recover metals — copper, steel and aluminium.

This material made its arrival on African shores just some days earlier as cargo inside 40-foot intermodal corrugated containers — the shifting bricks of globalized trade turned techno-trash

haulers. Around 400 of these, each containing about 600 computers or monitors arrive each month at the Port of Tema, Ghana, from the UK, USA, Canada and countless other rich and developed countries. They may find a quick stay on the floors and shelves of hundreds of second-hand markets throughout Accra. But those that do not sell — about half, even if they work perfectly — are then picked up by small boys pushing heavy carts and hauled several miles to the outskirts of town, to be thrown away — to Agbogbloshie's scavengers.

## What hath we wrought?

The production and consumption of information technology has grown astronomically in the last three decades. In the United States, computer use increased from one per one thousand in 1975 to roughly one per person in 2010. Mobile phones have proliferated even more rapidly, and are now more common than toothbrushes.

Sales are likewise booming for computer games, printers, personal digital assistants (PDAs), electronic toys, MP3 players, digital cameras, GPS devices, camcorders and tablet readers as well. Combined with these stunning sales rates is a similarly unprecedented high rate of obsolescence. Whereas consumer products of the past: refrigerators, toasters, old television sets and radios might function and satisfy us for decades, today's electronic gadgetry is seen as obsolete within two to three years.

These two factors — hyper-consumption and hyper-obsolescence — conspire to make the electronics industry very wealthy. They satisfy our ego desires, our need for speed, our competitive edge, perhaps, but they also create mountains of a new type of waste all around the world: *e-waste*.

The United Nations Environment Program (UNEP) estimates that we now produce 50 million metric tonnes of e-waste per year globally. Put another way, that is over 1 billion pounds. Of that amount, 6,500 metric tonnes are estimated to be arriving each month at the Port of Tema in Ghana, where much then finds its way to Agbogbloshie.

Even if this new species of techno-trash were just regular old "trash", it would be a serious nuisance and major drain of natural resources. But it's much worse than that. In reality, electronic waste is hazardous waste. Therein lies the truly "permanent error", with an everlasting impact.

The equipment has the capacity to seriously harm human health and the environment from toxic ingredients that are persistent and in the case of toxic metals — immortal. A normal sized CRT (cathode ray tube) contains around seven pounds of the toxic metal lead and the inside of the tube is coated with a toxic phosphor powder often containing cadmium compounds and toxic rare earth metals. The circuit boards contain lead-tin solders, which are also toxic. The plastics are impregnated with brominated flame-retardants which are persistent chemicals of increasing concern, accumulating and persisting in our own. Other toxic elements or chemicals found inside electronic equipment includes mercury, beryllium, chromium, barium, selenium and polychlorinated biphenyls (PCBs). And thus the mountain ranges of e-waste arising on every continent represent an unforeseen toxic chemical crisis.

Electronics manufacturers know that the only way they can maintain such staggering profits while addressing these troublesome waste mountains is to be seen as actively promoting recycling. Instead of seeking to produce longer-lived, upgradable products, the pattern that is promoted is to buy, recycle, buy and recycle in rapid succession.

Governments are slowly learning that e-waste is too toxic for most landfills, so they call for "extended producer responsibility" — meaning that manufacturers must become financially and legally responsible for managing their products when they are no longer used. Therefore, all over the developed world, the idea of "divert from landfill to recycling" has become policy — and increasingly, the law.

But until recently, the manufacturers and governments cared little about what form that recycling would take or where it would happen.

### Why on Earth?

Why is it that all that e-waste can migrate halfway around the world to be smashed and burned by children struggling to survive? The story of the international trade in toxic electronic waste is no different than the history of pollution since the beginning of time. It is driven by what economists call "cost externalization", a fancy term for finding somebody else to pay for a problem you created yourself.

In this case, the problem is toxic e-waste, which in rich countries is expensive to process properly to avoid causing extensive environmental harm. Done properly, e-waste recyclers pay the higher costs of treating leaded glass, mercury lamps or toxic phosphors to minimize exposures to the environment and workers. When costs are internalized in this way, the costs often outweigh the material value of the metals. Thus the recycling business should become a service industry.

However, to maximize profits, many fraudulent businesses posing as recyclers will simply "externalize" the costs via the routes of free and unfair global trade. They simply ship the e-waste to poor countries. Developing nations lack national infrastructure, environmental laws, enforcement and regulatory frameworks, emergency medical systems, tort laws, downstream toxic residual management, occupational health expertise and training and many other social safety nets that developed countries take for granted and use to internalize costs. In developing countries, these expensive safety nets are not employed and moreover nobody ever presents a bill to the waste generator or shipper for the pollution and damage caused.

In this way, pure profits can be made from the recovered commodities such as gold, copper, steel, aluminium, plastics as is done in China, India or Pakistan, because nobody is paying the cost of the damage – except the workers and communities that "pay" the with their damaged health and environment. Or alternatively, profits can be made by refurbishing and then selling used equipment in the second-hand marketplace, while the un-repairable imports are simply dumped and burned in waysides around the city as is the case now in Nigeria and Ghana. Exporters and importers profit handsomely while the environment and the health of communities is savaged.

Sadly, such global dumping is the global norm, not the exception. In the US, it is estimated that about 80% of the old computers, TVs and other electronic equipment given over to "recyclers" are

then simply exported. In Europe, the European Commission claims that 54% of the electronic waste stream is unaccounted for and likely goes to substandard treatment or export.

In this way, the high-tech "effluent of the affluent" is flooding the globe. And still, far too many consumers are unaware and fooled into becoming part of the problem.

School systems and local governments turn a blind eye and often hand their e-waste to exporters—because it is cheaper.

Environmental journalist Mike Anane in Accra, has been gathering the asset tags from Agbogbloshie where one can find thousands of respected institutional names: The School District of Philadelphia, The Dutch Environmental Protection Department (VROM), the National Trust, the US Bureau of Diplomatic Security, Diplomatic Telecommunications Service, the US Army, State of Connecticut Department of Mental Health, the Saint Vincent de Paul Residence of the Bronx, New York, US Forest Service, Barclay's Bank, Prince George's County Corrections Department, Wandsworth Bureau Council, Rockville School Division, UK Ministry of Defence, the US Environmental Protection Agency.

Whenever I see such tags, I recall the words of a Los Angeles government official who, when asked by the *Los Angeles Times* where their old computers went, replied, "I don't know where they go. They go away." I had just found her agency's asset tags on old computers in the infamous e-waste dumping ground of Guiyu, China.

## There ought to be a law

Sadly, the global dumping of toxic waste is not new. The first known instances of ships delivering toxic waste to developing countries took place in the late 1980s. Then, the waste was corporate factory process waste. One of the most infamous cases involved the dumping in Koko, Nigeria, of 8,000 drums of highly toxic chemical waste from Italian companies.

It was this incident and a rash of others like it that led in 1989 to the creation of the United Nations treaty known as the Basel Convention. Born of African outrage at being used as the world's toxic trash bin, the treaty failed upon its adoption to create what the developing countries wanted: a full ban on the export of toxic wastes for any reason from developed to developing countries. But in 1995, the developing countries rallied with the newfound assistance of the European Union, and an amendment was made to ban the export of all forms of hazardous wastes for any reason.

This 1995 amendment, known simply as the Basel Ban Amendment, has yet to enter into global legal force 15 years later. However, it has been ratified by 69 countries and has been implemented by 34 of the 41 developed countries to which its export ban applies. Only the US, New Zealand, Australia, Israel, Japan, South Korea and Canada refuse to honour the Basel Ban Amendment in law or policy.

Of these countries, the United States stands alone as a country that has not even bothered to ratify the original Basel Convention, let alone the amendment. However, one of the obligations of the Convention is that no signatory countries are allowed to trade in hazardous waste with a non-signer like the United States (without a separate, specially signed agreement). This means there

are about 140 countries that are legally unable to accept hazardous wastes from the United States. Ghana being one of them.

#### There is a law

Thus it is that the most of the electronic waste that currently floods the globe, including that which washes up as deadly flotsam at Agbogbloshie, is delivered illegally. Taken collectively this e-waste trade is possibly part of one of the biggest environmental crimes perpetrated on earth.

But there has been a change in thought. Emile Lindemulder, project manager for the Interpol Crime Programme, recently announced that "Interpol is cracking down on those who defy both national and international law by illegally exporting electronic waste to developing countries." In the European Union, police efforts have been stepped up and a legal fix has been introduced in the law known as the WEEE Directive (Waste from Electronic and Electrical Equipment Directive) to close loopholes which have, to date, allowed exporters to claim the toxic junk they were exporting was not waste but working equipment for resale without testing it to assert that such claims were the truth.

Even in the US, the enforcers at EPA appear eager to do something about the flood of e-waste rolling out of US ports and the Government Accountability Office (GAO) has released two reports calling for Congressional and EPA action. But while the rest of the world has ratified the Basel Convention and most developed countries have enacted the Basel Ban, in the US, the world's most wasteful country per capita, there are just simply no laws to enforce.

Thankfully, that may soon change as two US Congressmen have recently introduced a law to ban the export of toxic electronic waste to developing countries. Meanwhile, the Basel Action Network has created a global certification program for electronic recyclers known as e-Stewards Certification that ensures they do not export or otherwise improperly dump hazardous e-waste. It encourage the public to use only independently audited and certified e-Stewards Recyclers as the only safe and responsible destinations for their discarded electronics.

African and other developing countries should take steps to protect themselves. Countries like Ghana have ratified the Basel Convention but they have failed to ratify the Basel Ban Amendment and have not put the Basel Convention obligations into their own national laws. This makes it hard to prosecute illegal imports after they arrive. As Oladele Osibanjo, chemistry professor at the University of Ibadan, and Basel Convention Regional Coordinating Centre Director in Nigeria said, "the problem with African countries is that they ratify these conventions, but they do not domesticate the laws. So, even if you sign Basel, its not in the laws."

But it is clear that the primary responsibility lies with the exporting countries and their populations to ensure that developing countries are not used as convenient trash bins for the toxic waste of the rich. All countries, including the United States, must move now with resolve and urgency to uphold the Basel Convention and ban the export of all hazardous wastes, including e-wastes, to developing countries.

In the words of Mr Osibanjo, "hazardous wastes should never go from developed to developing countries. We live in a global village with a common destiny. We must be sure that all sides are safe at the end of the day."

# Away is a place

Wherever we live, we must realize that when we sweep things out of our lives and throw them away ... they don't ever disappear, as we might like to believe. We must know that "away" is in fact a place. In a world where cost externalization is made all too easy by the pathways of globalization, "away" is likely to be somewhere where people are impoverished, disenfranchised, powerless and too desperate to be able to resist the poison for the realities of their poverty. "Away" is likely to be a place where people and environments will suffer for our carelessness, our ignorance or indifference. Away is a place called Agbogbloshie.