

INTRODUCTION

IAN BRUNSWICK
DUBLIN, 2017

In the course of developing an exhibition at Science Gallery Dublin, we inevitably debate what belongs in the show, the qualities of particular pieces, and how each explores a particular aspect of the theme, or enhances the visitor experience. Sometimes, a piece is controversial, or unsuitable for younger visitors. And from time to time, the context is as important as the content: the right piece presented wrongly may be as bad as the wrong piece presented well.

Many of the pieces in this show provoke the visitor to consider the responsibility of the designer in creating the piece. Does responsibility lie with those who use the piece, or those who designed it? Is the designer indemnified from the uses of their design, or should they consider all possible pernicious (mis)uses of their creation? The infamous phrase “guns don’t kill people, people kill people” places the responsibility firmly on the user; however, this exhibition does ask what culpability — in terms of both science and design — lies with the ultimate originator of a design.

As creators of a public exhibition, it’s only reasonable to hold our own actions to the same standard. It is worth considering the primary and secondary effects of designing such an exhibition, and the choices made about its content. Unsurprisingly, more than previous shows, we had to discuss the legality, morality, and responsibility of exhibiting certain pieces in DESIGN AND VIOLENCE.

In particular, we debated including the glossy magazine *Dabiq*, representative of the so-called Islamic State, and an example of design used to incite hatred and violence. As a slickly-produced piece of propaganda, it certainly was designed, and its aim of radicalisation and encouraging jihad was clearly violent. But what would be the result of exhibiting it, and was it responsible to do so?

Ideally, exhibiting the magazine with the right context would ‘defuse’ it, and expose it as a piece of propaganda that is frequently inaccurate, and ultimately a tool used to manipulate people susceptible to radicalisation. On the other hand, by exhibiting it, we might be contravening the Prohibition of Incitement to Hatred Act of 1989, which covers showing “written material, words, behaviour, visual images or sounds [that] are threatening, abusive or insulting and are intended or, having regard to all the circumstances, are likely to stir up hatred”. Exhibiting it could give the magazine more exposure than it would otherwise receive circulating on the dark web, and potentially expose people susceptible to radicalisation to *Dabiq*’s hateful message. And perhaps more likely was the possibility that other visitors might conclude the magazine’s extreme positions were more widely held than they are in reality, therefore stoking anti-Muslim sentiment; in fact, the magazine represents a highly visible but small extremist group.

In the end, we had to consider whether we — as designers of public cultural experiences — were complicit in the violence inherent in the piece, or whether we could exhibit it and responsibly claim that by doing so we would be diminishing its violent potential. Ultimately, we decided not to exhibit a physical copy, but instead held a public forum discussing the difficulties of exhibiting ‘toxic’ content like this — content that is necessary to debate, but very context-sensitive.

I’m thankful to Shaykh Dr. Umar Al-Qadri and TCD Professors Roja Fazaeli and Neville Cox, plus Professor Maura Conway of DCU for their advice and for joining the debate at the intersection of culture, design, technology and extremism. More than anything, it showed that even when the legal issues are black and white, the morality and responsibility inherent in designing anything lies on a spectrum of shades of grey.

Each of the pieces featured in this edition of the publications that accompany DESIGN AND VIOLENCE evoke that phenomenon of moral spectrum, and lack the binary options of right and wrong. *Humanae* reductively objectifies people down to a Pantone colour but, in doing so, empowers each participant and de-weaponises skin colour as an agent of racism. The *Liberator* expands the issue of gun violence to include the act of file sharing — placing it somewhere on the culpability spectrum alongside gun design, manufacturing, ownership, sale and use. And *IR8 Miracle Rice* brings an important environmental angle to the show, exploring unintended and secondary consequences that counter some of the clear benefits of genetic modification.

Proving that you are acting ethically, like proving causation in scientific research, becomes more difficult as complexity increases. There may be no more complex scenario than human society, so we should be prepared for grey areas, dissent, and the muddled waters of morality at the blurred intersection of right and wrong, art and science, and design and violence.

IMAGE:

IR8 pictured next to its parents, *Peta*, a tall, vigorous variety from Indonesia, and the Taiwanese dwarf variety *DGWG*. 2009. Part of the image collection of the International Rice Research Institute (IRRI). Image courtesy of IRRI.



LIBERATOR

JAMES AUGUR AND JULIAN HANNA¹

First of all, we have to admit that we are jealous. This is the perfect speculative design project — extrapolating the promise of an emerging technology to present a plausible future use.

Profound societal changes increasingly happen through ‘disruptive innovators’ exploiting technological advances to change the way people act — Airbnb and Uber are classic contemporary examples of this practice. To borrow from the science of ecology: success comes through using technological advantage to overcome the (complacent) competition for a niche. Disruption sneaks in through the back door, and before we’ve noticed, whole industries (and, in turn, lifestyles) have been transformed. Such processes fundamentally change the entire human ecosystem, for better or worse.

Praemonitus, praemunitus — forewarned is forearmed. But with technological futures, as in nature, there is little in the way of forewarning aside from the spectacle of science fiction, which usually overstates the negative or dystopian aspect. This is where speculative design can play an important role: by creating and inserting into the public domain imaginaries of a potential technological future before it happens, we can learn from the resulting debate and exercise greater agency and control in choosing preferable futures.

Touted as the bleeding edge of the next technological revolution, 3D printing and the related tropes of decentralised manufacture and knowledge-sharing are commonly viewed as updated notions of the values espoused in Stewart Brand’s *Whole Earth Catalog*. Whilst the collaborative, distributed, and shared techniques of the free software movement have empowered societies and de-institutionalised individuals, the promise of the hardware side has mostly fallen short. The emancipated makers and uploaders have so far presented little evidence of transformative potential beyond the production of miniature skulls and colourful vases — hardly revolutionary.

Then the Liberator came along.



IMAGES:
Screenshots from
In The Line of Fire
(1993), Columbia
Pictures and Castle
Rock Entertainment.

The Liberator exemplifies good speculative design because of the broad and powerful debate that surrounded its unveiling, which transcended much of the critique commonly directed towards this approach². This success was not down to one factor but to several combined elements:

OBJECT / The choice of the gun is perfect as it fully exploits the DIY non-legislated nature of the technology. It is both functionally and politically provocative, a fact proven by the US State Department’s reaction (enforcing the Arms Export Control Act of 1976). The Pirate Bay refused to remove the 3D files, instead issuing this statement on 10th May, 2013:

We believe that the world needs less guns, not more of them. We believe however that these prints will stay on the internets regardless of blocks and censorship, since that’s how the internets works. If there’s a lunatic out there who wants to print guns to kill people, he or she will do it. With or without TPB. Better to have these prints out in the open internets (TPB) and up for peer review (the comment threads), than semi-hidden in the darker parts of the internet.

FUNCTION / As a technique, 3D printing is currently limited by its material constraints, hence the focus on (non-functional) models and gimmicks. For that reason, producing a (conceivably) functional product was a breakthrough. It brings to mind the functional plastic gun John Malkovich’s assassin character constructs in the film *In the Line of Fire* (1993), a familiar point of reference that enhances plausibility. The power of the concept also allows those who have no intention of making and owning a functional firearm (including most Europeans) to overlook the basic problem of where the bullets come from, or if it even works³.

IMAGE / The design is gun-like enough to carry the symbol, allowing for easy dissemination in a world obsessed with image. Malkovich’s gun, while it might have functioned perfectly as a gun, would nonetheless have been too abstract an object to carry its symbolic message without the narrative context.

OPINION / The Liberator may be seen to symbolise both the climate of violent political extremism on the rise in the United States, Europe, and elsewhere in recent years, and (conversely) resistance to authoritarianism through the promotion of radical freedom of expression and the decentralisation of power. This intellectual paradox forces personal contemplation and public debate — as champions of open technology who deplore firearms, we are faced with a powerful dilemma.





IMAGES:

The **Liberator** is a 3D-printed gun made of sixteen plastic pieces, and requiring only the addition of a nail to enable it to fire a single bullet. The computer code for the gun was designed and released online by libertarian (and at the time, law student) Cody Wilson and his company Defense Distributed as a provocation around public access to weapons. It is an example of a 'physible' object, one that can be distributed as code and fabricated by computer-controlled machinery.

The Liberator encouraged contemplation and debate on the subjects of 3D printing and home manufacture before they had (quite) entered the realm of everyday reality. Many other projects have explored this technology, including the recent *3D Additivist Cookbook*⁴, but almost all fail to suggest a tangible outcome that lives up to the dream, which means that the subject remains confined to discussion within particular interest groups. The dream, in this case, is admittedly a dark one, but regardless of your politics, its urgency is difficult to ignore.

What is liberty without informed discussion? Who holds the reins of power in the age of additive manufacturing and open knowledge? Where does ethical responsibility lie in the nexus of knowledge, manufacturing, distribution, legislation, and personal agency? Is there any point in trying to police innovation and the free circulation of ideas? How has the role and responsibility of designers, as opposed to manufacturers, changed in the 21st century? Whatever else it might promise or prophesy, the Liberator succeeds in asking fundamental questions and provoking important debate.



- 1 crapfutures.tumblr.com
- 2 designandviolence.moma.org/republic-of-salivation-michael-burton-and-michiko-nitta/
- 3 theregister.co.uk/2013/05/10/oh_no_its_the_plastic_3d_gun/
- 4 additivism.org/cookbook

MIRACLE RICE

BRUCE NUSSBAUM

From the curators: In the mid-20th century, as a rapidly growing population led to increased concerns about global famine, scientists of many nationalities united to redesign agricultural practices and increase crop productivity. These efforts, which came to be known as the Green Revolution, were concentrated particularly in countries with developing infrastructures in Asia and Latin America. The development of novel, mechanised agricultural technologies was combined with research on new varieties of wheat that were high-yield and disease resistant (including work done by American scientist Norman Borlaug, who won a Nobel prize for his work). The result was a massive boom in crop productivity in these areas from the late 1960s onward. Like wheat and other crops, rice was genetically modified to increase its yield — but only when grown with an excess of nitrogen fertilizers, pesticides, and intensive irrigation. This rice, dubbed IR8, was first produced in 1966 by the International Rice Research Institute (IRRI) at the University of the Philippines' Los Banos site. While IR8 and other Green Revolution developments greatly increased global food production, it has not been without significant impact on ecosystems and economic structures. The full effects of the Green Revolution are elusive, complex, and yet to be realized. A second iteration of the Green Revolution is currently underway in China, and Green Revolution ideas are now being introduced in Africa.

It haunts me still. I was 21 years old when I participated in a design research project that ultimately saved millions of people from starvation — but it did so by sacrificing the good of many along the way, and I've often wondered about the project's true cost.

I was in the Peace Corps in the Philippines in the late 1960s, when the International Rice Research Institute (IRRI), an NGO established by the Ford and Rockefeller foundations, was designing new varieties of rice. One such cultivar, dubbed IR8, or "Miracle Rice," basically tripled rice yields, and, together with versions of "Miracle Wheat" and other grains, significantly diminished the number of famines worldwide (the natural, climate-induced kind that happened with depressing regularity for nearly as long as humans have populated the earth). The design of the new rice was a massive breakthrough that we now take for granted.



IMAGE:

During a visit to IRRI on 26th October 1966, U.S. President Lyndon B. Johnson (kneeling, right) contemplates IR8. At the centre, Robert F. Chandler, IRRI's first director general, explains to Philippine President Ferdinand E. Marcos the significance of IR8's semidwarf trait. On the left are IRRI's first two rice breeders — Peter Jennings, who selected the parents and made the IR8 cross (standing), and Hank Beachell, who identified and selected the segregating line, IR8-288-3, which ultimately reached farmers' fields as IR8. Part of the image collection of the International Rice Research Institute (IRRI).

At that time I was teaching third-grade science in Caloocan City, outside of Manila, and I traveled south to the institute's headquarters in Los Baños, where Miracle Rice was being tested. The scientists from Ford and Rockefeller, with support from the United States Agency for International Development (USAID) and large chemical companies, were in the last stages of analyzing the newly designed rice plant. I assisted with a study comparing the efficacy of using water buffalo versus small Japanese tractors to cultivate rice fields with the new seed. Water buffalo had long been used in Asia to plow and level land, puddle rice fields, and cultivate field crops, all while providing no-cost fertilizer. Japanese planting tractors, on the other hand, had been recently introduced to help farmers save on labor time, since mechanised tillage requires fewer field laborers for the same output. I still remember how wonderful the warm, deep mud felt on my legs as I moved across the paddy, and how scared I was of the venomous paddy snakes that were known for biting between the toes. I was happy to participate in the final testing.

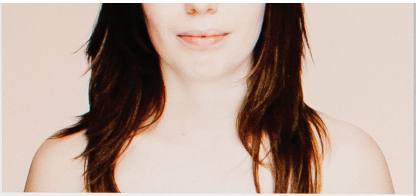
In the end the Japanese tractors proved more efficient; but, as with Miracle Rice, their use had unforeseen outcomes. Soon it would become clear that, in designing new rice seeds, the scientists had also designed new growing requirements. Miracle Rice needs much more water, fertilizer, insecticide, and, in part because of its increased reliance on tractors, more fuel to grow than do other rice varieties. The Green Revolution, as this new method of high-yield agriculture came to be called, could triple production, but these new growing requirements also meant higher costs — financially, but also socially and environmentally.

In the months before Los Baños, I had begun going up into the mountains of Pampanga and Tarlac in the region of central Luzon. At that time, the country's handful of oligarchic families, who effectively dominated the political system and ran the country, presided over enormous feudal landholdings in the region. There were still many small peasant farms, however, and people were eager to own their own land. When the government began to roll out Miracle Rice, these small farmers could not compete against the oligarchs who had access to both the financing and water needed to sustain the new crop. Promises of special loan programs enabling small farmers to buy pesticides, fertilizer, and fuel for the new tractors never materialized on any significant scale. Water buffalo, one of the only sources of capital wealth, depreciated in value. Small farmers were squeezed and, in the end, lost their land to the oligarchs. The design of Miracle Rice was for these peasants a disaster.

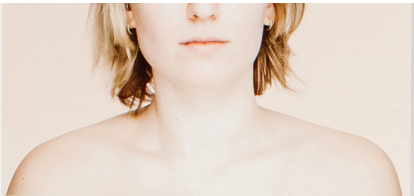
Historically, Luzon had been a center of rebellion in the country, with peasants rising up against the country's dominant families to reclaim the land that was taken from them. The Hukbalahap insurgency in the 1950s, for instance, which nearly brought the Philippines government to collapse, was centered in this region. With the introduction of Miracle Rice, central Luzon exploded once again. The first article I ever wrote as a journalist was for the Far Eastern Economic Review and was titled "How The Green Revolution Turned Red."

It would be many years before I would again become involved in the field of design (I now consult, write, and teach on subjects in design, innovation, and creativity). Yet the violence that resulted from the invention of this new food crop has always tempered my view of the optimism that is so much a part of design culture. The profession proclaims good intentions; and we must be fully aware of what harm good intentions may sometimes bring.

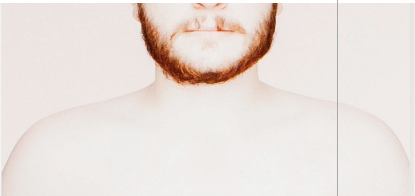
For this ongoing project, the artist is building a photographic archive of portraits classified by the specific colour of the participant's skin according to the ubiquitous PANTONE® colour chart used by designers. Volunteers are not previously selected, and there is no other classification relating to nationality, gender, age, race, social class or religion. The version in Dublin included Irish-based participants who were documented by Angelica during the exhibition in the gallery.



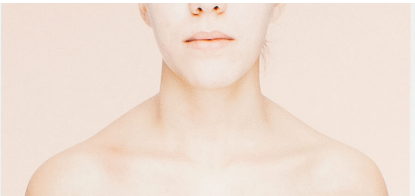
PANTONE 76-9 C



PANTONE 51-8 C



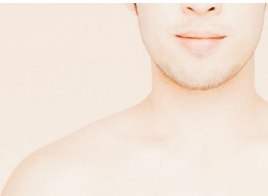
PANTONE 109-9 C



PANTONE 75-8 C



PANTONE 116-5 C



PANTONE 58



PANTONE 83-7 C



PANTONE 59-5 C



PANTONE 94-8 C



PANTONE 78-8 C



PANTONE 62



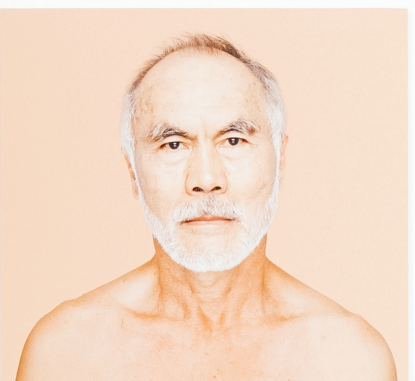
PANTONE 62-6 C



PANTONE 100-9 C



PANTONE 322-1 C



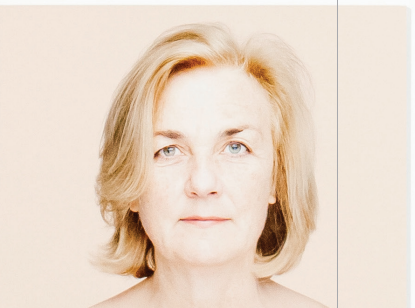
PANTONE 70-5 C



PANTONE 76-9 C



PANTONE 64



RESPONSES TO THE ARCHIVE

This section of the exhibition invited visitors to select work for display and explain their choices.

—
Illustrations by mediator Ciaran Devlin.

Would you like to help
Us With Design & Violence?

Pick a piece that interests you
from the cubes; and tell us
why it stands out to you.

We'll Showcase it for everyone to see!!

THEME:
US VS THEM



	OBJECT:	Belfast peace wall
	DATE:	9/11/16

WHY DOES THIS OBJECT STAND OUT TO YOU?

This stands out to me because it shows the segregation something like religion can cause.

Religion is the main reasons for war in the past and even today.

It would be great if we can live in a world where you aren't judged for religion, race, social backgrounds.

This wall represents hatred to me.

SELECTED BY:	Brandon Ilori
--------------	---------------

	OBJECT:	Dignitas Brochure
	DATE:	4 th January 2017

WHY DOES THIS OBJECT STAND OUT TO YOU?

"I want to be put to sleep when the pain gets too bad."

But how do I know when that time has come?

The human capacity to endure pain is quite astonishing. Maybe what is much worse is the anxiety that the pain will increase.

Palliative medicine can reduce pain a lot, but what if the problem is not that dying is painful, but that palliative medicine gives us so much time in which to do it?

SELECTED BY:	
--------------	--

	OBJECT:	IRISH FENCING SERVICE
	DATE:	14/10/16

WHY DOES THIS OBJECT STAND OUT TO YOU?

I am from Berlin and whilst I grew up there, I got a negative opinion about borders and walls.

For me, they represent depression and they stop human communication and freedom to travel.

The first human civilization were nomads and it goes against natural instinct.

The more restricted the human communication, the less you can grow as a person.

THEME:
POWER TRIP



OBJECT:	G4S SECURITY PIN.
DATE:	

WHY DOES THIS OBJECT STAND OUT TO YOU?

WITH THIS, WE SEE THAT A ~~PR~~ LOGO OF A PRIVATE SECURITY FIRM APPEARED (APPEARS?) ON THE UNIFORM OF A LEGITIMATE POLICE FORCE. COULD THIS BE THE THIN END OF WEDGE OF A PARTIAL PRIVATISATION OF THE POLICE/SECURITY APPARATUS OF THE STATE — NOT UNLIKE THE CONTRACTING OUT OF THE PRISON SERVICE IN THE USA?

THERE IS SOMETHING DISTURBING ABOUT THE APPEARANCE OF THE LOGO OF THE LONDON OLYMPICS AND THE SLOGAN, "I WAS PART OF IT!", SUGGESTING AN ASSOCIATION WITH THE VOLUNTEERS WHO WORKED AS GUIDES, ETC. AT THE GAMES. THE SECURITY PROVISIONS IN LONDON DURING THE GAMES COST MILLIONS, AND HERE WE HAVE A PRIVATE COMPANY EXPLOITING A SPIRIT OF GOOD WILL FOR, ESSENTIALLY, FREE ADVERTISING

SELECTED BY:

Ben L.

THEME:
IT'S ALL UNDER CONTROL



OBJECT:	Pint Glass
DATE:	15/11/16

WHY DOES THIS OBJECT STAND OUT TO YOU?

The pint glass stood out to me as it is normal object, yet it holds great importance in our lives. Whether at a football match, a birthday, Christmas or a funeral, the Pint Glass is there too.

SELECTED BY:

Sarah Burrell



OBJECT:	Fake bomb detector
DATE:	25/11/16

WHY DOES THIS OBJECT STAND OUT TO YOU?

Because thousands of people are using a completely useless object for an important task. the biggest fraud ever!!!

DRONE SHADOWS

On the wall hung a poster of shadows,
Drone noses all pointed like arrows,
Where they easily convey
Which kill, which survey
These sinister silhouetted sparrows.

— ANONYMOUS

DO NOT RESUSCITATE

Do Not Resuscitate.
It's my decision, no debate.
Don't breathe life into my lungs,
My final song has been sung.
This, I believe, is my fate.

Do not attempt to restart
My now still, unbeating heart.
Please allow my eyes to close
As I've had life's lethal dose.
In this life I've played my part

The final carving on my slate,
Let it read humble and ornate.
On this issue I won't pretend,
So let me say it once again,
Do Not Resuscitate

— ANONYMOUS

THANATRON

A woman decided to die.
She looked at her spouse in the sky,
"I have lived a long life
Now I've much pain and strife
I want you to help me to try."

— EMILY SHERIDAN

HUMANAE

I stared at the faces on the wall,
Where they hung looking proud, strong and tall.
Each had beauty within,
Which shone through their skin,
And I see we aren't different at all.

— EMILY SHERIDAN

MOSQUITO

There played a Mosquito aloud.
When pressed it would play for the crowd.
The kids would all scream,
"There is no such beam!"
Said the parents who were feeling too proud.

— EMILY SHERIDAN

PARTNERS

LEAD PARTNER



SCIENCE CIRCLE



GOVERNMENT SUPPORT



MEDIA PARTNER



PROGRAMME PARTNERS



FOUNDING PATRONS



SCIENCE GALLERY DUBLIN IS PART OF THE GLOBAL SCIENCE GALLERY NETWORK
PIONEERED BY TRINITY COLLEGE DUBLIN

#3

This is the last of three editions produced as an alternative form of catalogue for the exhibition in Dublin. The first edition focused on the process leading to the exhibition, the second incorporated responses to the show and this publication looks at the future implications of design and violence.

ACKNOWLEDGEMENTS

DESIGN AND VIOLENCE at Science Gallery Dublin has been developed by Ralph Borland, Lynn Scarff and Ian Brunswick and is based on an online curatorial experiment originally hosted by The Museum of Modern Art, New York, and led by Paola Antonelli, Senior Curator, Department of Architecture and Design, and Jamer Hunt, Associate Professor, Transdisciplinary Design, School of Design Strategies, Parsons The New School. The project has invited experts from fields as diverse as science, philosophy, literature, music, film, journalism, and politics to respond to selected design objects and spark a conversation about them. Noting the history between the two themes, the exhibition seeks to explore the relationship between design and the manifestations of violence in contemporary society. It features works from the original curatorial selection, the DESIGN AND VIOLENCE book, plus new curatorial additions to the exhibition.





SCIENCE GALLERY,
TRINITY COLLEGE DUBLIN,
PEARSE STREET, DUBLIN 2
DUBLIN.SCIENCEGALLERY.COM

MoMA

A CO-PRODUCTION BY
THE MUSEUM OF MODERN ART,
NEW YORK, AND
SCIENCE GALLERY DUBLIN