

Design Research-in-the-Moment: Eliciting Evolutive Traces During the Covid-19 Crisis

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ABSTRACT

This paper presents a chronological account of design's response to the Covid-19 crisis as it unfolded globally. From January to May 2020, we documented over 500 design interventions that have been created by individuals, networks, amateurs, professionals, and public and private organizations and institutions. This international response witnessed the rapid design and development of products, networks and systems such as facemasks, hospitals, infographics, respirators, sanitizers, and virtual communities all created in an effort to save us. In response to the Covid-19 virus the problems that the world faced were highly complex, interdependent, and could not be addressed by conventional means. As such, this paper presents over 500 design-led responses that illustrate comprehensively that when pressed we can find new ways of designing. In short, this work outlines what we might think of as a new model for designing. This new model does not describe a new condition to come after what we currently call design. Rather, what we witness here is the revival of the practice of design – from handmaiden of Capital to one of Care – which is expressed in a new critical attitude for looking at the design world, probing its practice, its theoretical position and its product.

Keywords: Care, Covid-19, Design, Dilemmas, Preparedness, Research-in-the-Moment

INTRODUCTION

In a book we, the authors, have just published, *A Design History of the Covid-19 Crisis* (Rodgers et al., 2020), we have catalogued the designed interventions to the Covid-19 crisis and we prove definitively that design does care (Rodgers et al., 2017; Rodgers et al., 2019). We have documented this event as it evolved every day from the 1st of January 2020 to 31st May 2020 inclusive. We look at all of this care and caring from the point of view of design and, by the sheer volume of design interventions we have documented, illustrate that design is good in a crisis.

What the Covid-19 pandemic has illustrated is that for the first time in modern history capital was totally irrelevant. Money could not save your life. Only design could. Rapidly designed masks, shelters, hospitals, instructional posters, infographics, dashboards, respirators, sanitizers, virtual and local communities emerged to save us. From January 2020, design became king. The Covid-19 global pandemic presented an ontological reality; design is more than margins or profit. In fact, design became extremely valuable when it stopped concentrating on those things and started to care about peoples' lives. This brief

episode in history is repositioning the status of design and reconfiguring its signifier from consumption to care.

In a recent interview for Design Emergency - a project that explores design's role and impact on the COVID-19 crisis and its aftermath - Alice Rawsthorn interviewed Dries Verbruggen, co-founder of Creatives tegen Corona (Creatives against Corona), "...a collaborative network in Antwerp, started in response to the urgent need for personal protective equipment by Belgian health and social care workers in the Covid-19 crisis..." (Rawsthorn, 2020). Creatives tegen Corona used volunteers and created a not-for-profit company to deal with the situation by creating garments with donations, collaborated with a multiplicity of experts, and made their designs open access. No money. No profit. No margins. Only caring for others. This is an example of how design excels and illustrates what design can be. If the inter-period between world wars repositioned economics from the margins to centre-stage, this crisis, which is not an economic crisis, but a design crisis, could reposition design from the margins to centre-stage.

However, this should not come as a surprise. Design's turn from the overtly commercial to a wider social agenda is not new. Design has long despised its profitmaking and wasteful nature articulated by key figures such as Victor Papanek (Papanek, 1971), Ken Garland (Garland et al., 1964) and, more recently, by Anthony Dunne and Fiona Raby (Dunne, 2005) who argue for design that makes us think instead of making us buy. In his critical paper, On Design and Disillusion, Silvio Lorusso highlights the recent rise in labels like "social design", "critical design", and "speculative design" and how each of these iterations contributes to a spectacle of design super-heroes versus societal problems - packaged in events like the Dutch What Design Can Do, a platform created to "...demonstrate the power of design; to show that it can do more than make things pretty. To call on designers to stand up, take responsibility and consider the beneficial contribution that designers can make to society." (Lorusso, 2019: 110).

Whilst there is mileage in Lorusso's argument that design loves a challenge such as the "refugee challenge" or the "climate change challenge" where design positions itself as "...the ultimate problem-solving discipline, superior to governments or NGOs..." where "...global tragedies become design opportunities", there can be no doubt that the 500+ design interventions documented in our book, are legitimately aiming to make things better for people.

Our book catalogues the 500+ design interventions and we consider the book to be one more of the 500+ projects we have assembled. It is a design response to the Coronavirus pandemic because we could see the need to collect all this material and assemble it as a durable record for all time because "...we need to learn to live in a world that is interconnected not only ethereally or ideally, through communication technologies, but also materially, via direct embodied contact. In short, we must learn to live in a reality that may, at any moment, go viral." (Marder, 2020).

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1. DESIGN RESEARCH AND RESEARCHING DESIGN

In this context, Bruce Archer went some way in 1978 to proposing design as a third culture of thinking (Archer, 1978). This approach was deepened by Nigel Cross in his seminal paper *Designerly Ways of Knowing*. Building on Archer's work at the Royal College of Art, he describes this third culture as: "...the collected experience of the material culture, and the

collected body of experience, skill and understanding embodied in the arts of planning, inventing, making and doing.” (Cross, 1982: 221). This is exactly what we have done in the book and we discuss here.

While leaderships were floundering, design (together with volunteers and the general public) was at the forefront of stepping in and sorting out many of the most significant problems during the Covid-19 crisis. Very obviously, planning, preparedness, readiness, and appropriateness, which are fundamental characteristics of design, were found wanting when many countries’ carefully-constructed and trialled global pandemic plans were put into action. As Lydia H. Liu asks: “...how do we end up in a state of unpreparedness in the midst of advanced preparedness?” (Liu, 2020) One answer presented endlessly by a critical media was that the Capital Project’s search for maximum profit appeared to have undermined many countries’ public health system’s crisis capacity. The voids in pandemic plans enabled a space for potential interventions and, since there was nothing in place, design stepped up and stepped up very visibly. Our book maps this response to build preparedness and to build a case for just how important to governance design and care are. From the massive number of cases assembled in our book, governments should have no choice but to recognize design’s capabilities and integrate designers into an expanding concept of lasting care.

Every project in our book attempts to fill the shameful gaps left by the Capital Project when it extracted preparedness from the balance sheets of the world’s healthcare systems. In what was beginning to look like an unthinkable-world, these design projects care for people who clearly had both thinkable and previously unthinkable needs. As Joan W. Scott (2020) describes: “The pandemic has exposed yet another of the fault-lines of our moment: the difficulty of imagining ourselves beyond the current worlds in which we live.” (Scott, 2020) The ability to imagine possible futures or future possibilities or what-might-become is the historic territory of design, the designer, and the act of designing. Or at least it used to be. But as Franco ‘Bifo’ Berardi maintains we were already living through the “slow cancellation” of the future where what-might-become is morphing into what-might-not become (Berardi, 2011).

This temporal contest – present versus future – is also a mental space occupied by administrations as Mike Davis points out: “On the same day that the president was bragging of the United States’ unmatched scientific and technological superiority”, the New York Times was devoting a page to “How to Sew a Mask at Home.” (Davis, 2020) Again, Joan W. Scott broadens this temporal contest when she compares past and future: “Sometime in the twentieth century, we lost our belief in the redemptive power of history and so in the guarantee of a better future.” Again, this resonates strongly in the world of design where many seem to ignore or are ignorant of historical accounts of design[ing] and fall into the trap of reinventing the wheel. By compiling this impressive and comprehensive response to Covid-19, we partly redeem some of design’s temporal confusion – seeing no future in the past, locked in an imitative loop in the present while imagining it is designing the future. A response of this magnitude, showing what design can do, also partly redeems design’s unwillingness to take responsibility for what design does. And prior to design’s response to the Covid-19 crisis the state of design might best have been described as being trapped in a number of paradoxes – sustaining the unsustainable, disciplining the undisciplined, reconciling future visions with harsh realities, and others (Rodgers et al., 2017). In the case of the coronavirus pandemic, the context is paradoxical (combating an invisible enemy) and we have had to make many undesirable choices (e.g. lock down or die!). But dilemmas are

what design confronts constantly in practice. For instance, the contradiction of designing a tracking system to help, but which implies invading somebody's privacy.

The Covid-19 design responses acknowledge our material and energy flows and environmental impact and contests the legitimization of power – to respond is to be responsible and many governments are being criticized for their irresponsible response. As we have said, and as the 500+ interventions in the book show, design has proved that in a crisis it cares.

It is possible that all of this, both the known and the unknown, must have been chronicled in non-stop media coverage. But like the contents of our book some of this can be analysed. The website Coronavirus Readings allows users to “...browse and search a wide range of analysis and commentary relevant to COVID-19 - across text, video and audio in multiple languages”. On May 31st there were over 12,500 contributions. Half were produced in English and the rest in seven other languages. Journalism makes up 90% of the database. It already lists two books (to the best of our knowledge there are already 5 books). The topic ‘future’ makes up only 3.5% of the readings, which doesn’t seem to align with the vast amount of journalism competing to predict the effect of the pandemic as the long-awaited opportunity to think and do everything anew – what is dubbed the “new normal”. This output aligns with our research, where most of the work included was discovered by searching the specialist blogosphere coverage of the event. Their agility and connectivity provided an in-the-moment space for enquiry. In contrast to the relentless media speculation competing to project both evermore worse or forever better future scenarios, our book functions as a ‘history’ – a history of the design reaction to Covid-19.

Slavoj Žižek (2014) would classify the virus as: “...an event at its purest and minimal: something shocking that happens all of a sudden and interrupts the usual flow of things; something that appears out of nowhere, without discernible causes, and whose ontological status is unclear – an appearance without solid being as its foundation”. As a “history of...”, an assembly of what design did between 1st January and 31st May 2020, our book does what Žižek defines as to de-eventalize the event. That is, to explain it as an occurrence that fits the coordinates of our normal reality. Because this is what our book is - an ontology of design. It aims to understand what has happened. This typology will complement traditional epistemological models focusing on how we did it.

2. METHODOLOGY

Given the very peculiar coronavirus lockdown circumstances to assemble our book we simply collected everything as a type of diary entry form of data collection. We saw it as the best possible method to gather the collected experience of the material culture, body of experience, skill and understanding embodied in the arts of planning, inventing, making and doing related to the event. Also, the infinite array of digital tools enabled us to collect the interventions from our desks. In this context, photos, videos and text were collected using a variety of online apps and tools that allowed us to collect the design interventions dealing with an unexpected event. Here we are not investigating how people changed over time, but how practice, in this case design, adapted through time and circumstances to address readiness, appropriateness and preparedness.

3. DATA COLLECTION

In this book we are using what could be characterized as an elicitation perspective. It consists of capturing media as soon as the phenomenon occurs to record examples of pandemic design as soon as they were found in the digital landscape. Figure 1 (below) is an example of the information we collected from each case.

TITLE	COVID-19 CORONAVIRUS MAP: GLOBAL OUTBREAKDASHBOARD
AUTHOR	THE NEW YORK TIMES
PUBLISHED	2020-01-28T22:57:20.000Z
URL	https://www.nytimes.com/interactive/2020/world/coronavirus-maps.html
KEYWORDS	days, reported, outbreak, rate, global, countries, average, jan, coronavirus, map, deaths, cases, tracking
DESCRIPTION	The virus has infected more than 2,843,000 people in at least 177 countries.
COUNTRY	USA

Figure 1. Design Intervention Data Collection Example

In order to frame the intended outcome, a progressive and systematic integrative review was conducted. It was decided to use this approach to insert flexibility into the cataloguing of the event. The search criteria were articulated based on their relevance to the subject. Design blogs, and specialist websites were searched daily. These online sources articulated the views of relevant and amateur practitioners. We also included reports from news platforms to complement and expand data collection to insert a broader and more inclusive and representative perspective. The criterion for inclusion was the relevance to the practice of design.

The selection was conditioned by our searches; therefore, it was somewhat arbitrary. The cases collected in our book represent a sample data of the event. The date represented in the cases is an estimation. Online tools such as scraping data tools were used to determine the date of publication. However, as the tool in itself claims, is just an estimation. In cases where we could not determine the date, we used the day it was encountered. We were not interested in documenting what happened with exactitude; this job belongs to sociologists and anthropologist. Rather, we were interested in documenting a sample of data to extract high patterns of knowledge to build “*knowledge for future actions*” (Glanville, 2015).

Figure 2 shows an example of one of the 500+ design interventions we have assembled as part of this ongoing work¹. The 500+ design interventions were collected over a period of 152 days. In this process, as figure 3 illustrates, 63 different types of design intervention were collected from 54 countries. There are 6 main categories of design intervention (Figure 2 top left) – Actions, Graphics, Networks, Products, Shelters, and Systems; 24 sub-categories, and 8 enablers (i.e. who has supported the creation of the intervention – Independent, Private, Government, University, Citizens, Consortium, NGO, Professional Association). The example also shows further information – country of origin, type of intervention (e.g. mask, robot, mechanism, wearable, shield, test, etc.), author, definition, source of information, the main image, and the intervention title at the bottom of the figure.

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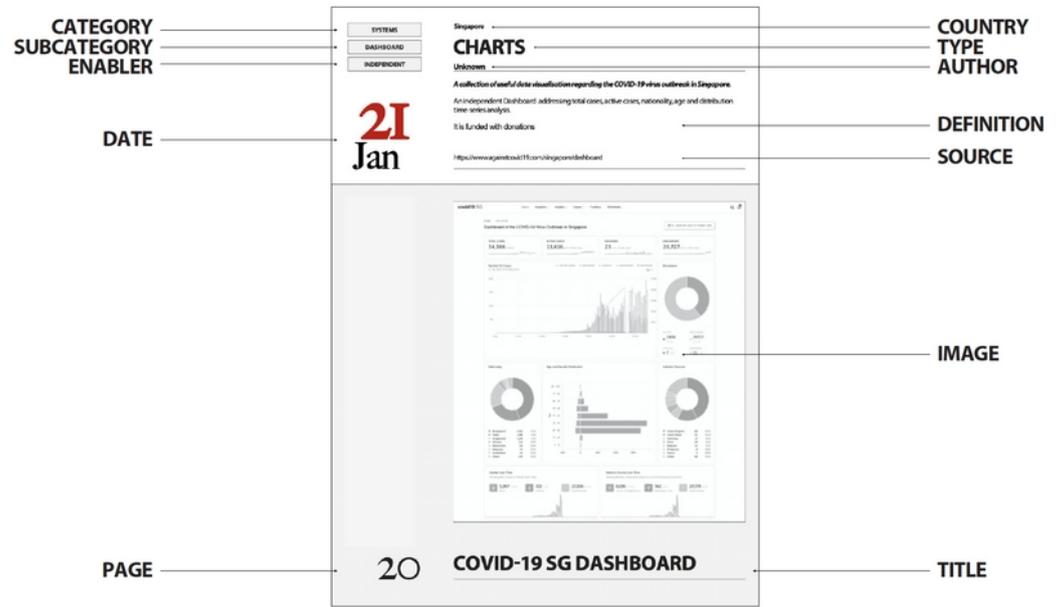


Figure 2. Design Intervention Example

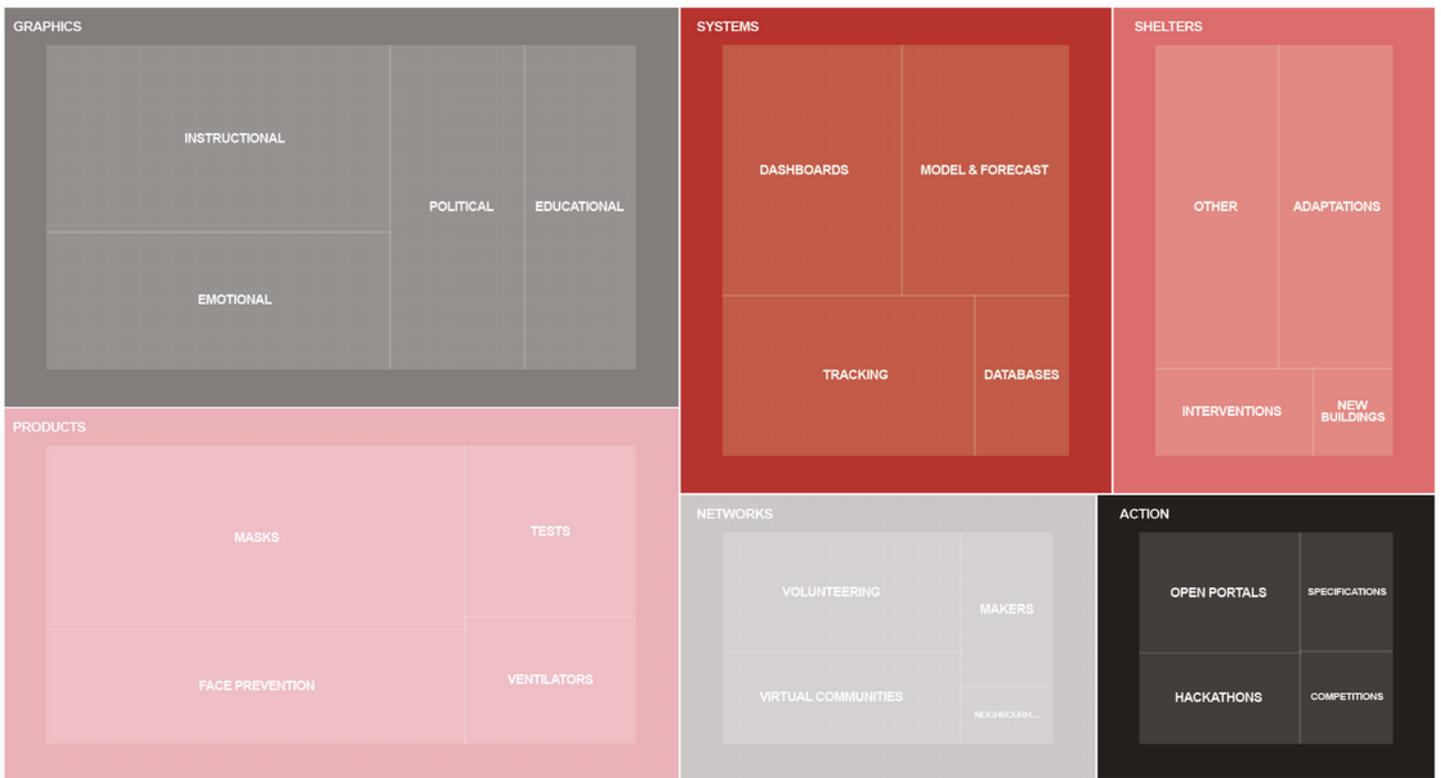


Figure 3. Design Intervention Categories and Sub-Categories Spread

Figure 3 shows the 6 main categories of design intervention and the spread of the 24 sub-categories. Here, we can see that the highest number of Graphics interventions (n=122) are *Instructional* in nature (e.g. stay home, what to do if you need help, raising awareness, how to stay safe when exercising outdoors, etc.), more *Masks* have been designed than any other type of Product (n=114), *Dashboards* are the highest number of Systems (n=95) produced, Shelters (n=71) encompass a broad range of *Adaptations* and *Other* interventions, most Networks (n=54) are *Voluntary* in nature, and most Actions (n=44) are *Open Portals* where

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predominately private organizations are calling on citizens to help better understand and track Covid-19 outbreaks.

4. DATA ANALYSIS

As design researchers we are concerned with extracting and identifying patterns of activity emerging from the collected experience of the material culture, and the collected body of experience, skill and understanding embodied in the arts of planning, inventing, making and doing in the artificial world, to infer knowledge for future actions in the context of appropriateness.

As we have stated, we documented this event as it evolved and we selected the cases in our book from the point of view of design. This temporal span encompasses; the outbreak; the lockdown and the reopening. Accounting for 500+ interventions in total. These interventions are a record of places, dates, embodiments and strategies and the chronological structure operated as a type of index system, which we have operationalized by articulating several graphic organizational frameworks enabling projects to be cross-referenced and compared. We have accepted all design interventions as valid and gave them the same role and status by representing each of them in a single page. No curation. No selection. No position. Just recording.

The classification of the interventions into categories emerged in the process of collecting. There was no preliminary hypothesis as nobody was expecting this event to happen. Furthermore, there was no reference in the field of design research in how to conduct or catalogue pandemic design. The classification of cases into categories and subcategories presented challenges. What is the ontological nature of a mobile test unit? Is it a product, a service, a tester, a system, a shelter, or an action? This kind of complexity led to a dynamic categorization of prospective initiative. The classification process was executed in the moment, therefore was influenced by contextual elements and personal interpretations and judgements. Different variables were assigned to each case as they were collected. This aspect may provide variability in the assessment. However, as stated earlier, we are not so much concerned with exactitude, but recollection to underpin emerging patterns for future actions.

Once we classified the cases and organized them into subsets, we could implement categorical analysis to underpin evolutive traces in specific categories or subcategories. Then, we colour coded the different variables in the subset to understand its evolution. This process enables preliminary understanding to generalize data patterns (Figure 4).

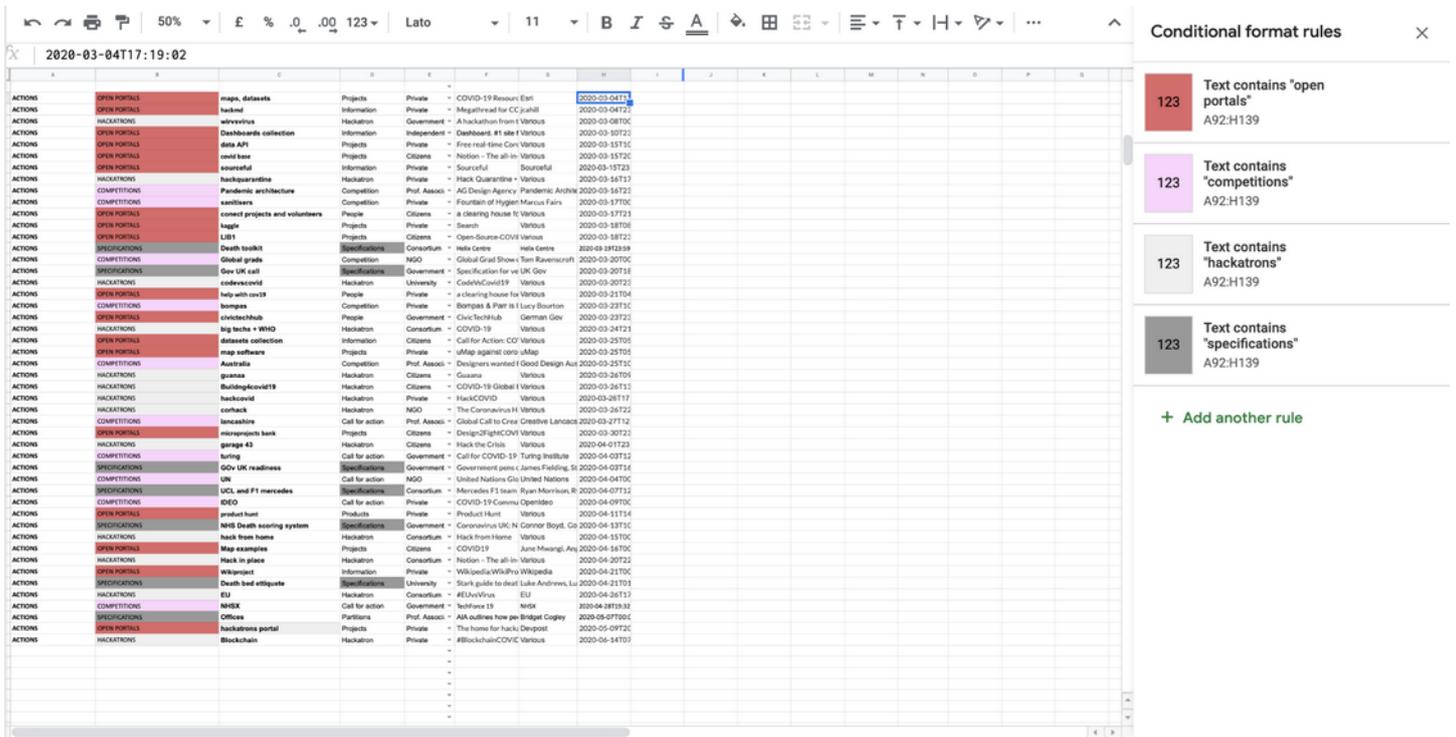


Figure 4. Classification of Design Interventions in Categories and Subcategories

The example represented above illustrates how we operated the actions category. We colour coded the four subcategories and we could then trace dominant subcategories in longitudinal trajectories. We could observe how portals dominated the first part of the event, and hackathons the upper middle part of the spectrum. Specifications emerged in the latest part of the longitudinal spectrum. Competitions are more or less evenly distributed, and are placed in the lower middle part, by dominant displacement.

From this point we were able to organize graphic material in a chronological way to further analyse its evolution. By using chronology to frame the assembly of this book we uncovered evolutive traces; for instance, posters were first instructional, then emotional, and then they became political. In terms of Personal Protective Equipment (PPE), we observed transparent masks becoming simplified over time (Figure 5). The first models were complex and 3D printed. The latest models are a sheet of plastic with 2 holes and a band, thereby removing the need for 3D printers, and enhancing production and sustainability in the process. Furthermore, we have discovered how at the beginning of this crisis, due to a shortage of products, it was a combination of professionals, individuals, groups and communities that stepped forward to fill the gaps left by errant public policy, planning and preparedness. We witnessed that once the systems of production adapted and started to produce/import those goods, the civil production of initiatives/goods decreased in cycles in different countries. This process presents a design-led alternative to pure statistical and mathematical models.

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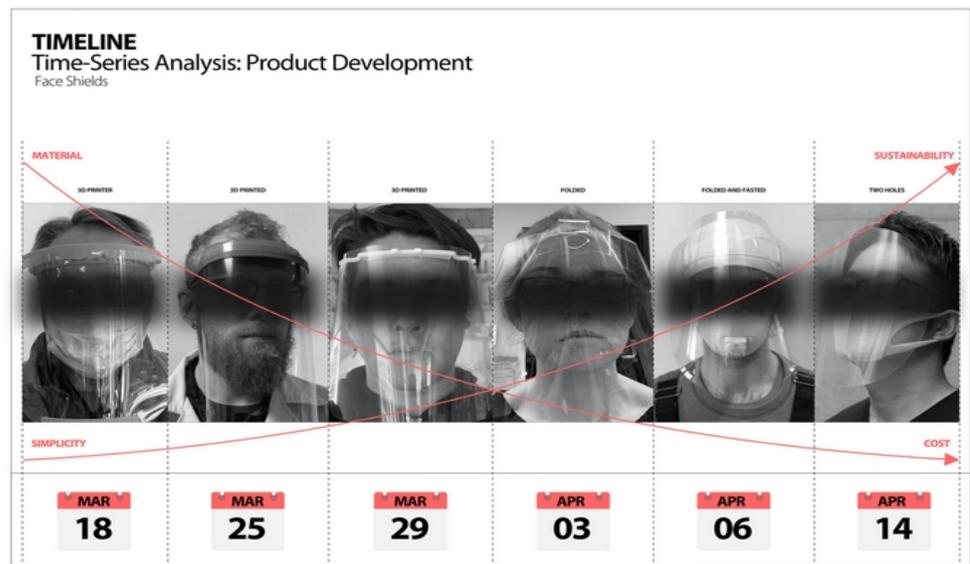


Figure 5. Evolutive traces in Personal Protective Equipment (PPE)

5. DISCUSSION

5.1. Structuring Research

The contents of our book cover the outbreak, lockdown, and the beginning of re-openings. In between, the book functions as a history of pandemic crisis design interventions. As such it is a ‘research-in-the-moment project’ where we illustrate our thoughts and insights in tables, charts and diagrams. We have accepted all design interventions as valid and gave them the same role and status by presenting each of them on a single page. No curation. No selection. No position. The task of critical analysis must follow – perhaps by us, certainly by others. At this stage of the Coronavirus pandemic, where this book is an integral project of response/protest, any attempt to designate or distinguish or select projects will promote a notion of a “good design” and by default demote the rest. This is a typical approach applied by the museum sector concerned with the classification of types. Already some of the projects collected here are finding their way into the time capsules of museums via projects like Pandemic Objects at the V&A, London. In contrast to these archival practices, the rapid spread of the pandemic around the globe mirrors the fluid global information flows. Only when the viral chronicling ends will critical analysis of design’s response to the coronavirus be applicable. Only then will we be able “...to think about these social ills, and so, about what might constitute a cure for them that the pandemic has so glaringly exposed.” (Scott, 2020).

The 500+ design projects we have collected have been formatted chronologically into a range of highly informative tables, charts, timelines and images including the following:

- Chronological development, frequencies of interventions and type
- Categorical analysis, type and impact
- Relational developments among categories, embodiments and enablers
- Relationships among typologies, phases (outbreak, lockdown and reopening) and time
- Geographical developments and typologies
- Weighted hierarchical analysis of interventions and places

- Flow developments
- Product/ service/ system/ environment typologies evolution
- Development rationale and dynamics
- Aims/ needs/ worries/ concerns/ challenges

As Fred Block acknowledges: “this is not the last pandemic we will face” (Block, 2020), so in the likely event of a second wave, and/or other pandemic or emergency events, these insights lead a case to build preparedness for such circumstances. This framework identifies key categories/ needs/ worries/concerns and challenges. It also highlights the important roles that design, designing, and designers might play.

Before the projects catalogued in our book, design was certainly paradoxical (Rodgers et al., 2017) and this is the context from which design designed its way through the Covid-19 crisis. Despite this successful exit by design from a list of binding paradoxes, new dilemmas are now emerging. As a result of all the design projects assembled here, design must now make some challenging choices. Will it go back to being the handmaiden of Capital or abandon Capital to build on what it has achieved? For example, care and community, while aiming for even bigger targets such as inequality and the climate emergency, etc. That is, a new human condition? And the paradoxes inevitably also become dilemmas - after the crisis, which way will design go? If design chooses the hard route - the unknown knowns (Rodgers and Bremner, 2019; Zizek, 2006) - then what do the projects in this book indicate about how to design?

In the midst of the quarantine in Italy, Franco ‘Bifo’ Berardi wrote: “Use value, long expelled from the field of economics, is back, and the useful is now king.” The 500+ design projects in our book add up to a history of the Covid-19 crisis and we expect much of what is illustrated will disappear - so more than likely, as a document, this book will be extremely useful forever.

6. RESULTS

6.1. Framework

In design research we trade some degree of accuracy in order to access areas that are yet-to-be or not-fully-formed. Therefore, our output is probabilistic, and research is always preliminary in its nature (Rodgers and Bremner, 2018) (Galdon and Hall, 2019). Moreover, in exchange we provide guiding knowledge for prospective developments – as Glanville proposed, “*knowledge for*” future action and possibilities rather than “*knowledge of*” past actions and events (Glanville, 2005). Design research is directional and transformational at its core. In this context, we are more concerned with how things “*ought to be*” (Simon, 1996, pp.111-167) instead of how things actually are. Consequently, output is based on potentialities, not certainties. In the same way, history is not about facts, but rather about approximations which are updated as new information emerges. In this context, as the life of the intervention is placed into the future, the time required to assess the impact of the design is extended during its lifetime. Validation is always *a posteriori*, and the proposed output becomes the main element to be assessed. In this context transferability becomes crucial (Figure 6).

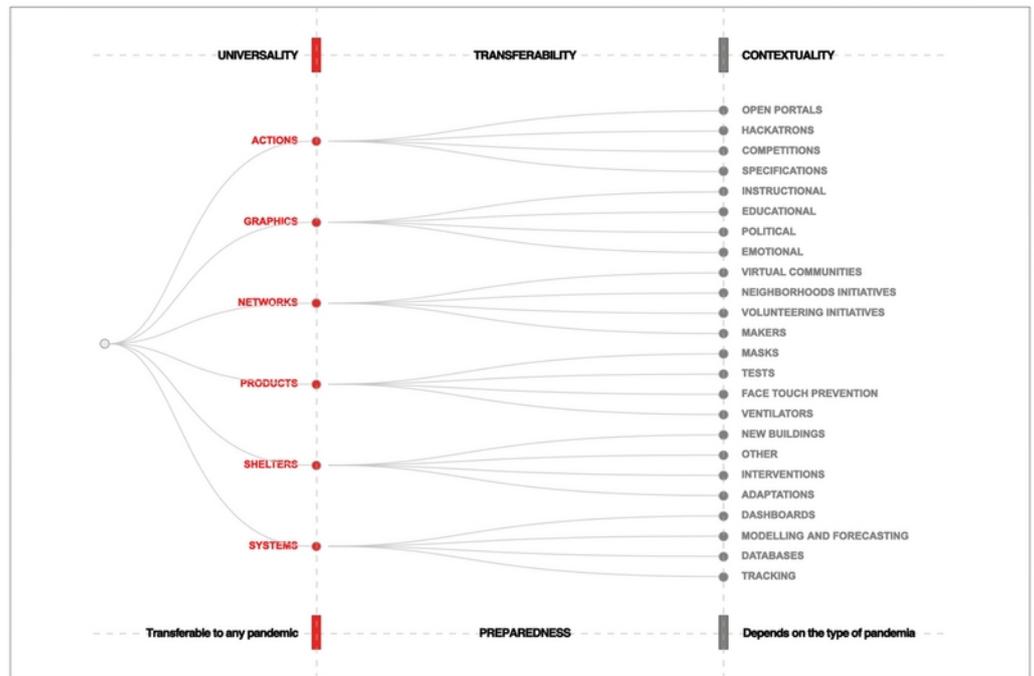


Figure 6. Transferability of Design Interventions

Transferability is defined as “*The ability to apply the results of research in one context to another similar context. Also, the extent to which a study invites readers to make connections between elements of the study and their own experiences*” (Barnes *et al.*, 2020). The framework presented in this book is potentially transferable to other pandemic events. This aspect is very relevant since the rate at which novel viruses are emerging means other pandemics and emergency events will occur. It is clear the world will need to build preparedness for such circumstances. However, in our book we illustrate the ingenuity, practicality and willingness of designers that also generated a range of dilemmas and paradoxes to consider. Therefore, this framework identifies key categories and needs, but also, worries, concerns and challenges.

In an earlier paper (Rodgers *et al.*, 2017), the authors presented a critical examination of the current state of design by highlighting a number of paradoxes that included sustaining the unsustainable, disciplining the undisciplined, and reconciling future visions with harsh realities. In this work, the 500+ design interventions we have documented since 1st January 2020 present further dilemmas and paradoxes for designers and others to resolve. Figure 7 highlights some of these dilemmas and paradoxes that have developed as a result of the design-led interventional activities of individuals, organizations, amateurs, communities, virtual networks, and many others since the start of 2020. Given the space limitations in this paper, we will highlight a few of these dilemmas and paradoxes here.

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Figure 7. Dilemmas and Paradoxes Created by the 500+ Design Interventions

In terms of practice, contemporary design sees no boundaries between so called disciplines such as product, furniture, graphics, interior, and so on. Alex Coles in his study of *The Transdisciplinary Studio* (Coles, 2012) points out: “Artists and designers are now defined not by their discipline but by the fluidity with which their practices move between the fields of architecture, art, and design.” Rather, modern forms of design practice move seamlessly between historic and outdated disciplines.

We are constantly reminded of the ease nowadays of turning our future visions into real products. Personal fabrication and home manufacturing tools such as 3D printers, laser cutters and small CNC machines give us all the ability to design and produce our own products from the comfort of our very own homes. A number of vast technological developments in computing and manufacturing combined with low production costs and rapid execution cycles mean it is relatively simple to turn ideas into finished objects ready to be distributed all over the world. The explosion of home manufactured Personal Protective Equipment (PPE) such as facemasks, gowns, eye protection and gloves whilst well intentioned throws up quality control issues. As we have expressed in an earlier paper (Rodgers *et al.*, 2017), we need to take great care with design and heed the warning from Dieter Rams - arguably one of the greatest designers of all time – “...that design is a serious profession, and for our future welfare we need to take the profession of design seriously....” (Rams *et al.*, 1991).

7. CONCLUSIONS

In response to the Covid-19 virus the problems that design faced were highly complex, interdependent, and could not be addressed by conventional means, structures and research. As such the response presented here illustrates comprehensively that when pressed we can find new ways of designing. What we witness in this work is what we might think of as a new model for designing. This new model does not describe a new condition to come after what we currently call design (who knows what that might be...). Unlike the structure developed

in this work, a new model for design is not a chronological idea. What we witness here is the revival of the practice of design – from handmaiden of Capital to one of Care – which is expressed in a new critical attitude for looking at the design world, probing its practice, its theoretical position and its product. At this stage looking at designing with care through the lens of critical theory we can only draw temporary conclusions. Time will continuously revise this history. But from what we have seen we can also foresee some critical issues that will need careful thinking, which we summarize below:

Designing with care concerns not only how we care for the world outside, but also how we care for ourselves or, rather, how we react to the way in which the world appears to care for us.

Designing with care is a new gesture for design. It might not be immediately clear to the designer what care actually is, and how the gesture is supposed to be performed. In order to start designing with care, we need a theory that explains what designing with care is. Such a theory could give us the possibility to universalize both design and care.

Designing with care, while we live in these strange and transitional times, is not necessarily transformational. Whereas transformation implies dramatic change, transition suggests a defined future state arrived at through some form of managed change. Whether change can be managed or not it will help if we (as designers) define the future state rather than leave it to Capital or politics. In that sense a central promise of care is the possibility for transition to a better future. In transition to this possible future it must be asked whether we can continue to design with care and if so, what will we design?

Designing with care in the service enterprises economy is regulated to guarantee the delivery of care is consistent and viable. But care is like conversation theory, which maintains that conversation is constituted by the listener not the speaker. In the case of care – care is determined by the receiver not the provider. In this scenario, we must transition design from engagement to trust. The idea that trust is earned or built is a marketing project. Here we must shift orthodoxies of trust and reposition the relational gesture of care as granted by the receiver.

As this work makes very clear, designing with care turns out to be extremely useful, which could lead us to think the more care we use the better things will get. But care has become an element for both profit and pleasure and how we care for the world is constantly being conditioned in the same way marketing has conditioned consumers to consume. Clearly, designing with care will call for vigilance.

Not only will designing with care call for vigilance, it will also have to take good care of itself. Despite all the energy and effort thrown at sustaining life on the one planet we share, now all we can do is constantly recalibrate downward earth's carrying capacity. Care needs to be taken with the calibrations and the calibrations tell us how much more care we need to take.

Even with the massive and compelling design response to the Covid-19 crisis, caring for design is not very visible. Caring for design is the responsible job of stewardship and only with care is the design for the future possible...after which, we will have to steward design to take care of it. Designing with care has pitfalls. We are inevitably careless and we need to be careful about our carelessness. No matter how careful we might be, all design thought and action has consequences which raises a number of dilemmas and paradoxes that underpin the positionality of what-might-not-become.

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ENDNOTES

¹ The project is ongoing and can be accessed here - <https://fgedesign.wixsite.com/adesignhistoryofc19/timeline>

REFERENCES

- Archer, L. B. (1978). Time for a Revolution in Art and Design Education. *RCA Papers*, No. 6, London, UK: Royal College of Art.
- Barnes, J., Conrad, K., Demont-Heinrich, C., Graziano, M., Kowalski, D., Neufeld, J., Zamora, J., & Palmquist, M. (1994-2020). *Generalizability and Transferability*. The WAC Clearinghouse. Colorado State University. Available at <https://wac.colostate.edu/resources/writing/guides/>.
- Berardi, F.B. (2011). *After the Future*, USA: AK Press.
- Block, F. (2020). *I, Face Mask; A reconsideration of the classic essay, 'I, Pencil'*. Public Seminar. Retrieved 31/05/2020 from: <https://publicseminar.org/2020/05/i-face-mask/>
- Coles, A. (2012). *The Transdisciplinary Studio*, Berlin: Sternberg Press.
- Coronavirus Readings*, 2020, Available at https://the-politics-of-covid-19.com/search/?size=n_30_n
- Cross, N. (1982). Designerly ways of knowing, *Design Studies*, 3(4): 221-227. DOI: [doi:10.1016/0142-694X\(82\)90040-0](https://doi.org/10.1016/0142-694X(82)90040-0)
- Dunne, A. (2005). *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design*. Cambridge, MA: The MIT Press.
- Davis, M. (2020). *Mike Davis: Reopening the Economy Will Send Us to Hell*. Jacobin. Retrieved 3 May 2020 from <https://jacobinmag.com/2020/04/mike-davis-economy-coronavirus-crisis-trump>.
- Galdon, F. & Hall, A. (2019). The Ontological Nature of Design; Prospecting New Futures through Probabilistic Knowledge. In P.A. Rodgers (Ed.), *Design Research for Change* (pp. 111-126). UK: Lancaster University.
- Garland, K. (1964). *First Things First*.
- Glanville, R. (2005). Design Propositions. In M. Belderbos and J. Verbeke (Eds.), *The Unthinkable Doctorate* (pp. 115-127). Brussels: Sint Lucas.
- Lorusso, S. (2019). On Design and Disillusion. In P.A. Rodgers and Craig Bremner (Eds.), *Design School: After Boundaries and Disciplines* (pp. 108-115). Malaga, Spain: Vernon Press.
- Liu, L.H. (2020). *The Incalculable: Thoughts on the Collapse of the Biosecurity Regime*, Critical Inquiry, Retrieved 27 May 2020 from <https://critinq.wordpress.com/2020/05/26/the-incalculable-thoughts-on-the-collapse-of-the-biosecurityregime/>
- Marder, M., The Coronavirus Is Us, *New York Times*, 03.03.2020, Retrieved 4 March 2020 from <https://www.nytimes.com/2020/03/03/opinion/the-coronavirus-is-us.html>
- Papanek, V. (1971). *Design for the Real World: Human Ecology and Social Change*. New York, USA: Pantheon Books.
- Rams, D. et al. (1991). The Munich Design Charter. *Design Issues*, 8(1): 74 – 77.
- Rawsthorn, A. (2020). *Alice Rawsthorn in conversation with Dries Verbruggen*. Instagram IGTV. Retrieved 29/05/2020 from: <https://www.instagram.com/tv/CAyZSDYFmQB/>
- Rodgers, P.A., Innella, G., Bremner, C. (2017). Paradoxes in Design Thinking. *The Design Journal*, 1(20): S4444 - S4458.
- Rodgers, P.A., Innella, G., Bremner, C., Coxon, I., Cadamuro, A., Carleklev, S., Chan, K., Dilnot, C., Fathers, J., Fennell, J., Fremantle, C., French, T., Henriques, D., Lloyd Jones, P., Kettleby, R., Kettleby, S., Khan, M., Logge, K., Archer-Martin, J., Pulley, R., Shahar, D., Tewari, S., Treadaway, C., Tseklevs, E., Moradi Valadkeshyaei, H., Ventura, J., Wiltse, H., Winton, E. (2019). The Lancaster Care Charter. *Design Issues*, 35(1): 73 – 77.
- Rodgers, P.A. & Bremner, C. (2018). The Design of Nothing: A Working Philosophy. In Pieter E. Vermaas and Stéphane Vial (Eds.), *Advancements in the Philosophy of Design* (pp. 549-564). Berlin, Germany: Springer Publishers Series on Design Research Foundations.

- Rodgers, P.A., Bremner, C. (2019). A is for Anthropocene: An A–Z of Design Ecology. *LA+ Interdisciplinary Journal of Landscape Architecture*, Spring: 110 – 115.
- Rodgers, P.A., Bremner, C., Innella, G. (2019). *Does Design Care...? Head-to-Head Debates*. UK: Lancaster University.
- Rodgers, P.A., Galdon, F. and Bremner, C. (2020). *A Design History of the Covid-19 Virus*. UK: Lancaster University.
- Scott, J.W. (2020). *The Job of Critical Thinking Now*, Public Seminar, May 7, 2020, Retrieved 10 May 2020 from <https://publicseminar.org/essays/the-job-of-critical-thinkingnow/>
- Simon, H. (1996). *The Sciences of the Artificial*. Cambridge, MA: MIT Press.
- Žižek, S. (2014). *Event: A Philosophical Journey through a Concept*, Brooklyn, UDSA: Melville House.