The Future is Here @ Strathclyde

University of Strathclyde Glasgow

Student Architectural and Urban Responses to the Covid-19 Condition

Contributions by Master students (2019 -2020)

Augustijn van Gaalen, Dominik Jakub Franczek, Jessica Gaudi Cowan, Louise Ashleigh Mencnarowski, Ryan Alexander Reid, Samantha Auld, Scott Whorlow, Asra Shakor, Laura Popa, Ralitsa Slavcheva, Shinjini Basu, Viktoriya Vaskova, Viraj Khandalkar

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Head of Department of Architecture

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Preface

This document represents a unique moment in time. This time last year we had never heard of Covid-19; now it is something that we will never forget. The past twelve months have changed our lives and our world irrevocably and although there is now some light at the end of the tunnel, there is a long way to go and many challenges ahead.

The loss of life and other health impacts are profound and far-reaching, and the impacts and aftershocks will be felt for many years to come. This has been a pandemic of the built environment - the vast majority of transmission has occurred in the buildings and spaces we inhabit, and has been affected by how these are designed and used. As a consequence, how we live, work and particularly how we learn has been transformed. It is vital that we in turn reflect and learn from this, and the work contained here is a clear demonstration of how this can be achieved.

The document is also a demonstration of resilience and adaptability. I have no doubt, for all of us, this period has been difficult, but like all adversity it can bring out the best in us. This document is a demonstration of an ability of our students to adapt to the circumstances, to identify and address the challenges and questions and to imagine a better world.

This pandemic has also been the distant thunder to what may be the much larger storm of climate change. But in the same way that thunder alerts us, perhaps this will be a driver to greater preparedness, and demonstrates an ability and commitment for Architecture @ Strathclyde to rise to the challenge.

Professor Tim Sharpe
Head of Department of Architecture
University of Strathclyde

1 Introduction

Ashraf M. Salama and Ombretta Romice

On 20th January 2020, epidemiologists at the Chinese Centre for Disease Control and Prevention published an article stating that the first cluster of patients with 'pneumonia of an unknown cause' had been identified on 21st December 2019 in Wuhan (BFPG, 2020), a city with a population of more than 11 million. Following this, announcements were made -- that thousands of cases were identified in China and substantial numbers of cases were broadcasted in many countries around the world. On 30th January WHO's Director-General declared the coronavirus outbreak a public health emergency of international concern (WHO, 2020). Given that thousands of cases have been reported reaching all corners of the world in one month, this declaration was coupled with a number of recommendations related to early detection of infection, isolating and treating infected cases, contact tracing and social distancing measures that correspond to the level of risk in each country, with a key objective to interrupt or delay and hopefully limit the virus spread.

Within the United Kingdom, Public Health England announced it was moving the risk level to the British public from 'very low' to 'low' on 22nd January. This was also when first two patients in the UK tested positive for coronavirus after two Chinese nationals from the same family staying at a hotel in York fell ill. A plane clearing Britons from Wuhan and evacuees went into a 14-day quarantine at a specialist hospital in Merseyside (BFPG, 2020). After confirming the first transmission of disease within the UK, the government decided not to follow Italy and China where the highest figures of infection and death were recorded; the lockdown approach that imposes restrictions on liberty and movement was not favoured by the government. Instead, throughout February 2020 the government advised a range of voluntary restrictions such as 'social distancing' and, if any symptoms are exhibited, self-isolation and quarantine. On the 5th March, infected cases were reported in all areas of the UK: 105 in England, six in Scotland, three in Wales, and one in Northern Ireland (BBC, 2020).

By the third week of March, the Prime Minister announced a further set of measures as part of a nationwide lockdown (Beadsworth, 2020). This was due to the continuous increase in infected and death cases, which reached, according to Public Health England, a total of 14,543 cases and 759 deaths on 27th March (PHE, 2020). By November the number of infections exceeded 50,000 cases. The virus is highly virulent and, at the time of writing this article, various governments confirm that a vaccine or treatment is being developed and will be available for mass in 2021. But until then, and for another few months at least, the key measure of the global public health campaign in response to the pandemic is social distancing, which,

in essence, is avoiding face contact and encouraging physical distancing.

After more than 7 months of various levels of restrictions on movement, social interaction, and publication gatherings, as well as limitations of transportation use, mobility, and workplace, we find ourselves encountering a second wave of virus spread which requires more articulate guidance and measures. In this respect, the pandemic has generated a condition in which all academic disciplines can contribute. In particular, architecture and urbanism as academic disciplines and professions can support current and future endeavours through various efforts. To name a few these include:

a) developing new insights into the impact of a pandemic on cities and urban environments now and in the future;

b) developing new understandings relevant to the characteristics of urban spaces which ensue from these insights;

c) conducting research to comprehend the socio-spatial implications of Covid-19 measures and guidelines introduced by governments and authorities to fight the spread of the disease;

d) identifying new conceptions related to emerging lifestyles which stem from the new spatial environments that integrate working and living patterns;

e) ultimately developing design responses towards creating healthy environments that successfully accommodate the infected populations while addressing the associated social and psychological ramifications.

This report builds an argument on the key role architecture and urbanism should play in responding to the pandemic condition at both academic and professional levels, now and in the future. The introductory section sets the stage for contextualising the discussion on the primary underpinnings of the pandemic and virus spread and highlights the needs for responsive approaches. A selection of 7 detailed and 13 short student contributions through their master theses is presented systematically while offering glimpses of premises, approaches, and key findings they have reached. Two concluding sections are offered to introduce key implications of students work while calling for a trans-disciplinary research and action and offering an outline of the range of possibilities and future areas in built environment research.

2

Contextualisation: Analytical Overview of Principal Underpinnings

Ombretta Romice and Ashraf M. Salama

In establishing the context for discussing the pandemic and its consequences, we develop a narrative that capitalises on the current published media articles and peer reviewed journal papers. The narrative is developed with a view to capture key characteristics of the pandemic condition and how these can be operationalised to identify consequences that enable the development of a research agenda.

Not a leveller, but crucially impactful and enduringly consequential

In the first few weeks of the pandemic, some said this virus would be a great human leveller, as it apparently affected everyone indiscriminately. But this predicament very soon revealed to be a deeply incorrect assessment: the virus has been shown to be a significant discriminant under many aspects a) in how it affected disproportionately certain groups and how severe its health impact would be on them; b) in the immediate and medium term experience of lockdown; c) and in the immediate and long term economic and social consequences on those affected. All three aspects are being shown to be in a relationship with socio-demographic-environmental and economic factors. Largely, the quality of life-related consequences this pandemic is bringing on all of us are a sign of something much broader and more complex than a health pandemic only, as difficult and tragic in itself this might be.

From an infection point of view, the key problem is that coronavirus 2 (SARS-CoV-2) is interacting, especially for specific populations, with a range on non-communicable diseases (NCDs) such as diabetes, cancer, coronary-diseases, which have already shown to share a correlation with patterns of inequality in our society and cities (Horton, 2020). This has triggered a number of studies on the correlation between many factors already associated with NCDs such as pollution, obesity, smoking, alcohol consumption and Covid-19 deaths. Many of these factors are environmental.

From a management point of view, the lockdown and containment experiences have also varied, showing how the wealthiest groups have generally fared better the sudden restrictions, practically, economically and emotionally. To give only a few examples, a large study of smartphone location data analysed for The New York Times by the company Cuebiq, which tracks about 15 million cell phone users nationwide daily across 25 metropolitan areas (Jennifer Valentino-DeVries, 2020) showed how during the first lockdown in the US, right from the start the wealthy have entered lockdown earlier, maintained it longer reducing their movements more significantly especially during weekdays than poorer groups. The capacity to work from home, and to access basic services in their immediate surroundings, was greater for the wealthi-

est than the poorest. Overall, the US saw an increase of smart working from 7 to 37%, whilst Italy, France, Germany, Spain, Sweden and the UK to around 28% (Hunt, 2020).

The disparity wealthy/poor has also had immediate effect on disposable income. A study by the IFS (Rowena Crawford, 2020) showed how during the first few weeks of lockdown in the UK, there has been a significant shift in our spending patterns, with less spending on non-essential items (i.e eating out and holidays). Because it is the poorest households that normally invest greater proportions of their income on essential items, they have seen their budget reduced by loss of work and/or furlough and spending more time at home with kids not at school, whilst the wealthiest who also had to reduce non-essential expenditure, but managed to shift to smart working, saw their available income unaffected or even grown due to a reduction of expenditure of non-essential, as leisure items and holidays.

These inequalities are happening not only within individual Countries, but globally, even in terms of research. The current discussion of the threat of Covid-19, seems in fact to be reinforcing existing inequalities. In particular, informal settlements and slums in the global south and the associated urban poverty do not seem to have enjoyed a sufficient share within current discussions and media reports (Salama, 2020-a). Only two months after focusing on global issues and the affluent global north, discussions started to address slums of Brazil, India, and South Africa. This could be attributed to the fact that these settlements are already on the margin, their communities are already underrepresented, crises are the norm and thus Covid-19 is deemed as 'just' another one. Despite the significant lack of information, there is a risk that infection rates and transmission will be significantly higher than in planned cities and urban areas. To alleviate the negative consequences of these and introduce positive interventions in informal settlements in the long term, architects and planners would need to establish new lenses through which they can comprehend health and living conditions that generate relevant intervention strategies. As many now agree, until everyone is safe, nobody is safe.

> *What implications does all this have on our environments, and what does it mean for us as designers, professionals and educators?*

Our immediate context has changed

The lockdown measures – albeit imposed in different degrees worldwide – have generally constrained the normal life schedule of individuals. Whilst the sense was initially that this would be for a limited period of time, we have been in them for a longer haul, possibly long enough to alter our habits as well as our attitudes towards sociability. As a consequence, some of our everyday social interactions have become more localised, and reliant on networks found within our immediate community. This makes our ability to maintain social support networks particularly important especially during difficulties or traumatic events such as this and are a key component of both personal and community resilience (Sippel et al. 2015).

If pandemics become annual or seasonal events, the pandemic condition and its consequences will become part of the collective psyche of societies (Salama, 2020-b). This could lead to a significant change in the demands on public and private spaces through an alteration of the notions of social interaction, assembly, and simultaneity. Patrick Devine-Wright et al. (2020) call for reconsidering the relationship with place and propose a framework of three interdependent axes: emplacement-displacement, inside- outside, and fixity-flow and identify a number of implications of these dialectics: for un-making and re-making 'home'; precarity, exclusion and non-normative experiences of place; health, wellbeing and access to 'outside' rec-

reational spaces; and other various urban dynamics and socio-spatial implications.

Our sociability has changed

Our immediate environment, those close to us and what we can do nearby have acquired over the past months a special importance, making communities increasingly place-based, and dependent for daily social contacts on more space-based, close-range interactions. We are now in a second wave of infection and undergoing new restrictions perhaps of different nature, less extreme but still significant, our work patterns have changed significantly. In other words, forms of social distancing are becoming a new normal. We are quite away from pre-crisis conditions. This might end up having a radical effect on our social relationships, rewiring them within closer communities. The problem is that once again, the space of these communities differs greatly and once again, it is the poorest communities that tend to have the worst experience. As news presenter Emily Maitlin so simply but effectively put it, 'those in small flats and tower blocks will find lockdown much harder' (Emily Maitlis, 2020).

If on one hand relationships might localise, on the other are also hardening, generating isolation – the immediate feeling of a shared misadventure in which we were 'all in together' has gone, there is now a sense that the multiple disadvantages created are indeed uneven, so next to fear and a reluctance to interact, there is also a sense of unfairness and fatigue. The impact that this situation is having on mental health is dramatic for large portions of the population especially the most vulnerable, and not only amongst care providers (Julio Torales1, 2020). The availability of spaces nearby to safely engage with others, to be in the open, exercise and draw some benefit from natural environments is crucial to maintain sociability and psychological benefits (Horton, 2016) even if at a distance, but these restorative spaces are not as available to all. Again, Devine-Wright et al. (2020) call for other implications for research in this regard: a reflection on new politics of public space; the impact on methodological and ethical considerations as they relate to people-environment research.

Our socio-spatial practices have changed

The impacts of policies of containment of contagion are structural on many fronts, one of which is work patterns and its implications on cities. The increase in number of people having shifted to smart working seems set to remain in the (at least near) future, thanks to high levels of productivity (77%) and an intention to maintain this practice (86%) recorded (Hunt, 2020). This will have a significant impact on our neighbourhoods, towns, cities and infrastructure. Already in the early 2000 the internet had allowed a first shift in the pattern of the workforce, altering slightly the traditional view of the working week 2-5 to one more balanced in split between office-home 3-4 or even 4-3. Yet, this applied to a relatively small portion of the population. According to Hunt (2020), the shift is much more radical, suggesting that in the future many people might be happy commuting to the office only a couple of times a week, or for longer but more rare monthly periods.

The long-term pattern of increasing urbanisation, existing high urban density and the economic and cultural benefits of urban life suggest that we will not see a large-scale exodus from cities to rural areas. However, this work patterns shifts combined to the pandemic may trigger patterns of relocation to lower density areas within the city or its peripheries (Salama, 2020-b). City centres might partially empty once again, the short-let market might increase, and the outskirts might populate again (Horton, 2016). This structural shift requires an understanding of the relationship work-live, with a new, positive greater emphasis on both the work part and live part. In terms

of work, a creative way of rethinking our city centres when they lose a significant part of the traditional work force and related economy, leaving space for a new wave of natural gentrification of smaller creative industries, their families and services. In terms of live, a strategic way to identify and imagine the second tier cities and towns that might indeed accommodate the outflux of workforce through the provision of different workspace, in terms of shared services, and great quality local communities, (medium scale) the services they shall include and offer access to. Transport will be an issue in any case, as a reduction in jobs in city centres might necessarily reduce the demand for public transport.

Assuming that we will see a reduction in our buffer of daily action, or at least an increase of time in our more immediate surroundings, then the quality of these will need to change for all, become richer in the experiences it gives us, more integrative, more complete and fulfilling. Our homes will need to be better, more spatially generous, more versatile, more sustainable, more beautiful, more resilient, offering a better human experience inside and outside.

Epidemics vs Syndemic

With the preceding preamble in mind, the key issue for the moment is that our governments have been managing this current emergency as fundamentally an epidemiological one, and in fact the fundamental advice so far has been coming for the majority from the medical field, especially virologists and epidemiologists. Yet, the concatenation of problems indicates that the issues are broader, calling for environmental, social, and economic approaches to also be coordinated, so to treat Coronavirus not as a simple epidemic but as a syndemic (Horton, 2020).
"Approaching Covid-19 as a syndemic will invite a larger vision, one encompassing education, employment, housing, food, and environment. Viewing Covid-19 only as a pandemic excludes such a broader but necessary prospectus" (Horton, 2020).

As editor of The Lancet, Horton had already warned in 2016 of the limitation of addressing sustainable development through SDGs, which too him seemed still too vertical and disjoint, failing to support a truly integrative system of knowledge required to address sustainable development as the "symbiosis between our human lives and all of the natural and physical systems of our planet" (Horton, 2016).

Many sectors seem to be coming to a similar conclusion. Li Edelkoort (Edelkoort, 2020), the famous fashion designer, talking from her perspective, as others sees this period as terrible for the economy and society but a saving-grace for the environment, prospecting a radical shift, a reset in our ways - of moving (less global and more local), of consuming (we will shift from production for rapid consumption to production for long-term use; think of her famous remark 't-shirt costs less than a sandwich'), of creating and of working (many creative industries will go bankrupts, the world of fashion will change, but (hopefully) this will make way for new, more environmentally attentive and resilient practices, and fewer products; of living (we will search for better experiences, richer relationships, we will have deeper roots with our locations, and we will have greater choice allowed thanks to the combination of these new work patterns).

Since the '70s, we have experienced the rise of around 50 new pathologies, from animals and anthropic activities such as deforestation, industrial farming, urbanisation. 7 million people die every year from pollution; Marzo (Marzo, 2020) calls this development as if resources were infinite an 'economy of ransack', which causes social exclusion and environmental destruction. He advocates for a new economic system where production happens within the means afforded by the planer, with realistic recovery and regeneration times

because the health of the planet and people are intrinsically connected. To him, green development is yet another fad, an illusion not radical enough but perpetuating another form of social exclusion because, no matter what, it is not realistically inclusive.

Revolutionising design research and practice

That the role of the physical environment on the prevention, alleviation and management of the causes and effects of Coronavirus and similar infections that will realistically happen in the future, on the management of lockdown and on quality of life is significant.

Our role as architects and urbanists is therefore significant, one of those challenges that only happen at truly seismic moments in history. Some of the issues listed give a sense of the range of initiatives in which we can be involved, these stem from:

Analytical – we can continue to observe and examine the relationships between form, NCDs (and perhaps even Covid-19 and similar) in a way which is now spatially precise and extensive; we need to use this new knowledge to inform the development of the new, and adaptation of existing settlements in a manner that seriously tackles NCDs and poverty. We are only starting now to be in the position to do so and we need to use this new knowledge more extensively and better. We need to look at the bigger picture in each action of our profession, we need to treat our environment as a complex system, where built and natural forms, life, health, economy are connected. Space has a key role on all the others, it is not a substrate to be shaped and needs to be re-conceptualised in a much more powerful and leading way.

Strategic – we can envision and manage new development patterns to maximise existing and potential infrastructure, creating environments which are equitable and healthy across, which not only take but give back;

Creative – we can design in a way which is more socially and environmentally sustainable so that not only future restrictions might become more tolerable for everyone, but that they might no longer be needed in a longer-term future.

3

Introducing Master Students' Reactions

Ombretta Romice and Ashraf M. Salama

Right at the start of lockdown, our Year 5 embarked on their research element of the course, the Masters Thesis. This was an uncertain time for everyone; at home, often far from our 'real' home, we decided we'd use this time to learn something new, to read and think. 5 months later, around 100 students produced a remarkable collection of research pieces on a range of topics. Needless to say, many decided to address Covid-19. They have done so in a range of ways, proving once again the strength and legacy of our Department in addressing the impact of space on people; in tackling current issues that affect our society, in wanting to make a practical difference in our profession. It is exactly because of this that we decided to collate this work, as it encapsulates the awareness and interest of many future young professionals in tackling current affairs from a professional and personal angle.

We present here an edited range of ideas on several aspects of the pandemic and related restrictions. Some have to do with immediate issues, others with long term implications on living and working relationships, on the conceptualisation of space and management of human interaction, and finally on the meaning and role of our profession. We believe this initial collection, which we are sure is set to grow, is important in light of the almost certainty that this pandemic will not be the last event imposing disruption on our daily lives. Outlines of students' work is included below followed by key reflections.

The Northwest Passage to the New Old Normal
Student: Scott Whorlow
Supervisors: Branka Dimitrijevic, Jac Lister
A simple premise: having had to temporarily slow down our rhythm of interaction with the city, reduce our movements, park the car and have even grown scared of public transport, can we gain a new and perhaps precious insight in its deficiencies and hidden, more human values? Scott undertook the challenge himself, put on the shoes of a modern flaneur and set out to discover if there is a relationship between the current urban wandering, or 'psychogeography', and the poetic, spontaneous origins of the subject and furthermore if this relationship can help us plan better, healthier, more meaningful cities. An entertaining journey through the writings and experiences of Daniel Defoe's, Thomas De Quincey, the Situationists, Iain Sinclair to remind us that there are many important experiences worth taking time to consider and accounting in design.

The Greenkeepers
Student: Jessica Gaudi Cowan
Supervisor: Derek Hill
When disruption to normal patterns strikes, it is human nature to develop coping mechanisms and

search for alternative practices to maintain a degree of functionality and normality. Green spaces have in general demonstrated restorative potential, and horticultural activity in particular has combined practicality to sociability and restoration. But how to access spaces for urban horticulture in a safe and interactive way? This project has put forward an app to identify the availability and the usage (crowding detection) of a number of these spaces across the city whilst at the same time allowing for an extra layer of connection with neighbourhood users as a means to foster human relationships. Importantly, the app is linked to Glasgow City Council's Draft Food Growing Strategy 2020, showing the collaborative potential between our city and university.

Analysis of Residential Neighbourhood Typologies' Potential for Enduring Lockdown Conditions'

Student: Dominik Jakub Franczek
Supervisor: Ombretta Romice

The design of residential environments varies greatly as a whole, in terms of density, the services it offers besides residential accommodation, how these are distributed, the shape and form of streets, parking, the interface between buildings and the public realm, the amount and design of green. How did these different forms support those that suddenly found themselves confined within their neighbourhoods for the best part of days, weeks and even months? Is it possible to measure their performance, and if so, do some residential form perform better than others? What can we learn from this to use for the future design of our cities? This work proposes a rich set of spatial criteria against which to study neighbourhood performance during lockdown, suggesting that the traits that have proven to be most successful should be a staple of any development to support quality of life in any condition.

A Netnographic Assessment of Community Resilience in Three Different Glasgow Communities During the Covid-19 Pandemic

Student: Augustijn van Gaalen
Supervisor: Scott Cunningham, School of Government & Public Policy within the Faculty of Humanities & Social Sciences.

Whilst this pandemic might spur many ideas for future design, the reality is that for the most part, we need to deal with is in place and manage our life with what is at hand. Augustijn's work looks at issues of social resilience and how this has been supported by space, in three distinct areas in Glasgow, Woodlands, Wyndford, and Kelvindale. Its focus are affordances, that is the actions and activities that space allows to happen or hinder. Using an innovative investigative approach borrowed from marketing and consumer research (Netnographic) to make up for the limitations imposed by lockdown, it explores both online activity and local traces of community resilience. The study concludes that the socio-demographic characteristics of the community influence the development of community resilience whilst the built environment with its traits at all scales facilitates or undermines its development and success.

Hero's Journey: A Link to Learning in a Post Coronavirus World

Student: Ryan Alexander Reid
Supervisor: Derek Hill

The beauty of working with students is that they always find something positive in all situations. Ryan's work capitalises on his 'lull' in social and work activity and proposes a reflection of what and how we teach architecture, taking us through a journey across literature and military strategies to name a few, and suggests a revised delivery model based on reduced clusters of students, practical work, mentoring and reflection. The journey is supported by the view of different 'givers, receivers and employers' of such a training, suggesting that these stereotypical barriers

should be taken down for a more open, engaging and useful education.

A Proposal for New Design Principles: A Critical Pandemic Response
Student: Samantha Auld
Supervisor: Alessandra Feliciotti
Should we design for pandemics, or should we design for quality of life so that extreme eventualities such as a pandemic can be dealt with pragmatism without the radical upheaval of our life patterns and standards? This works suggests a way in between, proposing that detailed knowledge of the effects on Covid-19 in terms of spread and control is paramount to be able to design long-term, resilient, healthy and functional environments. In other words, keep your friends close but your enemies closer. It is only through an awareness of the meaning and implications of biosecurity that we can avoid overriding liveability; this should be part of the training of designers, next to an awareness of behavioural constructs as a fundament of design strategies, to maximise buy-in and the development of healthy habits.

'RE-SET'. Investigating the Mental Health Stigma Present in the UK's Architectural Education System, *utilising the Covid-19 shutdown of education establishments as a point of reflection, from which progress can be made*
Student: Louise Ashleigh Mencnarowski
Supervisor: Ombretta Romice
The Masters thesis, the largest research element of the course, was introduced to students almost at the same time lockdown started in the UK. Having already focussed on the mental health of students of architecture in previous work, Louise added the impact of Covid-19 to what she already discovered being a problematic situation. Building on a number of existing surveys, she developed a rich set of questions, and engaged a substantial number of students across the UK. What makes this work particularly interesting, is the detailed, hands-on perspective of a student that not only has gone through the full 5 years of study, but that throughout this period has felt the need to engage and understand her peers across their ups and downs. The work shows the grit and determination but also vulnerability of our students, and warns of how this last hurdle, which has brought sudden changes in circumstances; isolation; increased responsibilities; increased media consumption and family concerns, has compounded a problem already very challenging.

Disease and Design: Learning from Past Pandemics
Student: Viraj Khandalkar
Supervisor: Stirling Howieson
An interesting historic overview of human resilience and ingenuity through adversity, narrated and illustrated through the review of 23 major epidemics and pandemics in history, across a comprehensive geographic spread to ascertain cultural responses. The work then focuses on 4 in particular: the plague, cholera, tuberculosis and influenza and studies their impact on behavioural changes, environmental innovations and human psychology through a detailed description of exemplars of each in different contexts. Innovation and progress seem to have always stemmed from each of these major setbacks and our profession has had a key role in all cases, although they have also revealed the deepest discrepancies in society.

Architecture and Urbanism. A Post Pandemic Future of Urbanism
Student: Ralitsa Slavcheva
Supervisor: Ashraf Salama
What makes us more vulnerable to this current pandemic, density or the way we socialise? How can the design of our cities be tackled and managed to limit these dangers? Starting from a quick overview of past pandemics in history, the work focuses on public space analysed at the city scale, at street scale and in relation to shopping (the plinth). Classifying form

roughly pre- and post-World Wars, it looks at how we altered our patterns of use, and at how the increasing reliance on smart working and online retail has not eliminated the human intrinsic need for sociability it advocates finally a call for human, healthy, engaging urbanism.

People and their Urban Places in Relation to Covid-19
Student: Shinjini Basu
Supervisor: Derek Hill
Issues of car management, a greater emphasis on walking whilst keeping people in the streets to support the economy and encourage safe socialisation and independence is one of the dominating areas of work and experimentation embarked on all over the world. This work proposes a strategic combined approach of redesign of our high streets involving street frontages, pavement, 'street diet' for the management of vehicular traffic, public transport and cycling, based on a study of environment-behaviour relationships.

Architecture and Urbanism in the Post Pandemic Paradigm: Future Prophylactic Office Design due to Covid-19
Student Asra Shakor
Supervisor: Andrew Agapiou
Starting from a review of built environment and particularly architectural adaptations which followed a series of previous pandemics, the work focusses on the temporarily changed use of workspace and offices in particular. A number of recent surveys seem to suggest that the value of office space remains important especially in certain sectors; therefore, learning from interior and modular design, the thesis proposes a series of innovative approaches to the adaptation and design of flexible, adaptable, safe work spaces that could remain efficient and accessible in the eventuality of future dangers.

Productivity in offices in light of Covid-19
Student: Viktoriya Vaskova
Supervisor: Grainne McGill
The thesis focuses also on office design, but from a different perspective: a historic evolution of this typology, in the pursuit of efficiency and profitability. It identifies a number of design principles and objectives, the maintenance or compromise of which is then tested over a number of case studies which have seen alterations during the recent lockdown. This is a useful and interesting piece that reminds us how important design principles ought to be maintained even in extreme situations if we are to retain overall quality and productivity. It concludes with a practical list of recommendations.

Housing and Covid-19 in Glasgow and in the UK
Student: Laura Popa
Supervisor: Alessandra Feliciotti
Assuming that society might be moving towards a flexible work-from-home approach for non-essential businesses, there is an urgent need to focus on housing and neighbourhood design quality. These will become of upmost importance not just in regard to the residents' home time, but also for their work productivity and efficiency. Spaces within the homes need to be rethought so that provisions for potential workspaces clearly separated from the rest of the house are included in a flexible and adaptable manner, rather than just as a luxury space for a select few. At the same time, the neighbourhood and immediate locality need to be reconceptualised to provide for both social and environmental sustainability.

The preceding outlines demonstrate that students' theses represent important responses on various issues of concerns that relate to education, design, and cities and include:

> The impact on students, their mental health, their learning process and the pedagogical implica-

tions on higher education.

Implications for design, answering questions such as: how to manage the spread of the virus whilst at the same time maintaining as normal as possible lifestyles? How to achieve quality of life through the design of our ordinary spaces so that we can maintain health, sociability and enjoyment even under the most difficult circumstances?

Implication for a broader discussion on cities, their role in the management of inequalities and contribution to larger issues such as environmental and social resilience, and climate change.

The breadth and approach across the theses vary. Some theses provide an overview on how prior pandemics were tackled and what changes, permanent or temporal, they have introduced. This sense of historicity is a useful ground but also as a warning to us all, as many aspects regarding the relationships between people and their environment show a degree of recurrency, and that this pandemic is everything but a novelty. The fact that medicine and technology have advanced will surely speed up our ability with this instance, but a focus on locality, on a wholistic model of human interaction with the planet, and human resilience in the face of adversity still required today shares much traits with the more historical ones.

Notably, some of the work presented is personal, shedding light on the journey our students have taken. This will be of use and reassurance to many others that have perhaps shared similar fears and frustrations and to overcome similar hurdles. Some is objective and quantitative, providing useful parameters against which to assess current environments and to use as practical criteria for the design of future ones.

Largely, the perspectives generated and articulated by the students are mature and considerate, not a simple knee-jerk reaction to a situation of emergency. They consider the relationship, opportunity and need to tie in the understanding of the current emergency to major, broader and inevitable challenges such as climate change and health.

There is much food for thought and awareness in the work we present here as a summary. But it has been an inspiration and an honour to collate it, edit it, contextualise it, and draw further implications from it. Having supported these future professionals through the development this document was a great pleasure.

4 Reflective Conceptualisation and Innovative Tools for a Responsive Urbanity

Two thesis projects have been identified for inclusion in this section. Both are exclusive to Glasgow and Scotland but are applicable to other similar contexts. The first thesis, by Scott Whorlow, who develops an argument based on the psychogeography literature and the notion of urban wanderer. The second thesis is by Jessica Gaudi Cowan who develops an app to facilitate people navigation and use of the public space and ultimately supporting their wellbeing. While the Whorlow's thesis is based on in depth literature analysis and personal walks to generate reflective observations, Cowan's work goes a step further and links her work to the efforts of Glasgow City Council to manage the locale. The two theses offer reflective conceptualisation and aim to reenvisage public realm by effectively responding to the pandemic condition.

The Northwest Passage to the New Old Normal

Student: Scott Whorlow
Supervisors: Branka Dimitrijevic, Jac Lister

Context

In the midst of the Coronavirus pandemic, and the subsequent restrictions imposed upon much of the world's population, this thesis sets out to embark on an exploration of the world we came from, the world as it is and the world of the not-so-distant future, all through the fundamental parameters of urban wandering and the Covid-19 outbreak.

Questions / Key Issues

Raising a number of important questions in the context of the pandemic, the main research objectives were to investigate whether there is a substantial relationship between the future of urban wandering, or frequently referred to as 'psychogeography', and the poetic, spontaneous, drifting origins of the subject, all achieved through the lens of the current Coronavirus pandemic. The overarching objective is to investigate any possible insights the current global pandemic has to offer on the development of cities in the near future, as well as examining the possibility for the current situation to spawn a new chapter in the overall subject of psychogeography. The main issues surrounded the humble act of walking within our urban landscapes, stemming from the chaotic ventures recorded within Daniel Defoe's (1660-1731) A Journal of the Plague Year (1722), to the extensive personal ramblings of Thomas De Quincey (1785-1859), all the way to the socio-political driven explorations and ideologies of the Situationists (1957-1972) and, more recently, Iain Sinclair (1943-Present) and his peers.

Further key issues resulting from the extensive literary research and observations included the modern urban planning moves undertaken in recent years, such The

as the huge increase in vehicular infrastructure, urban sprawl and an obsession with low-density suburbia.

study investigates these developments, which many planners have become infatuated with at the expense of our mental, physical and social well-being, and how the current pandemic has afforded the observations of such.

Approach to investigation

In order to explore the aforementioned research objectives, specific methodology was outlined which would guide the research and act as a framework through which the project would achieve its objectives.

Much of the research stemmed from extensive reading into the vast and varied subject of urban wandering, or psychogeography. Looking at and analysing all tributaries of the subject of both past and future in order to establish key themes and evidence which would help support the objectives stated. Furthermore, an exploration of personal thoughts on the Coronavirus and subsequent restrictions' impact on the state of urban wandering and urban development, or as the student often refers to it as; body space and architecture. This research into the current situation and its impact was achieved by way of analysing and comparing online published literature.

Finally, prior to the full lockdown restrictions imposed on the nation, and throughout when safe and possible to do so, the work is supported undertaking personal first-hand observations on the landscape of both physical and psychological surroundings in the city of Glasgow. These observations, which were the result of repeated walking expeditions, offered some new, personal insights on the current situation and the impacts it was having on the city and its people.

Analysis

Throughout the duration of this study many important points were established surrounding the key objectives and themes. Most notably was the opportunity the Coronavirus created for us to look to the future and

ponder what is to become of urban wandering and our cities as a whole. From this key similarity were found in relation to the origins of urban wandering and the subjects future.

There is an unquestionable parallel to be drawn between the poetic drifts undertaken by the Parisian 'flâneurs' and the escapism sought after by the Coronavirus wanderer. The virus has clearly forecasted the future of the subject, a return to its poetic origins, a re-birth of the flâneur which will once again become prominent in our future cities. The virus has showcased what is likely to come, this moment in time becomes a prototype for a city in which social distancing is required, people have more free time, cities of the pedestrian as we seek a decline in the use of motor vehicles and global emissions.

Findings

Coronavirus has forced a reconsideration of the development of cities, in that it both highlighted the devastating current urban planning moves while simultaneously showcasing what the city of the future may be like, in terms of more recreational time, less cars and better walkability. While inflicting this realisation upon us, the virus has also shone light on the possibilities of the future city, most notably in the act of wandering. A greener, healthier city in terms of people and the environment can be found in one which creates a greater onus on catering for the needs of the pedestrian as opposed to the all-conquering motor vehicle. This can be highlighted in the importance of parks and gardens where so many found escapism throughout this pandemic and subsequent lockdown.

The preceding key points are believed to have an impact on the architecture and urban planning practices of the future. This unique moment in time has created a situation in which we must evolve, adapt, understand the wrong doings which have been made visible and take advantage of the successful spaces.

The thesis calls for return to the poetic routes of not just urban wandering but how we create cities, architecture and space. We must begin to develop the city for the enjoyment of the people within, to extend its longevity through a new world we are about to enter. We must provide city dwellers with natural spaces, spaces of variety and chance which provoke a happier and more interesting lives. Open spaces, green spaces, spaces in which we can seek escapism. The city must once again revolve around the people within and their lives, a greater focus must be on the enjoyment of the architecture and space, rather than it simply being envelopes in which we produce and spaces round which we navigate.

The Greenkeepers

Student: Jessica Gaudi Cowan
Supervisor: Derek Hill

Context

This thesis is contextualised within a framework that encompasses therapeutic horticulture, social prescribing and public urban green space. It is conceived as a study to design actionable techniques to realise the public policy goals outlined in documents such as the Glasgow Food Growing Strategy. With a key aim to develop an app that provides a map-based interface full of information, interactivity and importantly, simplified access to essential local authority services and community strengthening tools to incentivise use. It also took a step away from being an aimless form of social media link other neighbourhood apps into being a tasked and deliberate tool to develop connections between neighbours over tasks, e-democracy and interaction with the space they share. This decentralised approach became essential during the lockdown and to achieve social distancing measures. As the app design developed it became apparent that there were many functions based on location-based data that could be useful in response to the Covid 19 global pandemic.

Questions / Key Issues

The study responds to the Covid 19 by highlighting throughout the design process of the conclusive app ways in which such a tool could be utilised to improve safety and enable social distancing. Functions such as enhancing the safety of those at risk through real-time location-based data to identify safe densities of street occupation, enabling delocalised e-democracy instantly and location-based alerts. It also provides a place where neighbours can look after each other from a distance and develop resilience in these challenging times. The work is also heavily contextualised by the pandemic condition and is inspired in part by the student own self-care ritual of gardening and the experiences and observations they made while under lockdown. An ethnographic study was also conducted taking account of the experiences of the student on the allotment during the pandemic. Gardening and localism took on new meaning for many during the lockdown as becoming confined force neighbours to look at their immediate environment more intently.

Approach to investigation

The app's objectives were aligned closely with the goals set in Glasgow City Council's Draft Food Growing Strategy 2020 document which sowed the seeds for location-based information gathering. The policy document identifies its intent to create a data base of map-based data on land ownership, restrictions and opportunities to help enable community usage of public space for growing locally. The dissertation takes this idea further and expands it into an interface design within which to access this information and make it work harder in order to get the greatest functionality. Legibility, navigation and simplicity were leading principals in the design of the interface. The design also furthers the activity of the information, a map with input only from the provider presents a passive strategy whereas the interactivity of including real-time user information allows it to be active and responsive, relevant and importantly more useful as a tool.

Analysis

A key point generated during the primary research for this thesis is the demand for such a tool and evidence of initial step being taken towards something like this by Glasgow City Council. It is listed as a primary goal on the Draft Glasgow Food Growing Strategy 2020. This demonstrates relevance, demand and justification for the route of study as it has been identified in a recent policy document. It is also justified by primary information gathered from relevant GCC profession-

als in the field to further increase its feasibility and applicability.

The research found fundamentally that therapeutic horticultural activity was available and facilitated through various sources within and outside of the local authority however it was the communication of its availability that needed to be increased. This is what prompted the shift away from the original hypothesis of identifying activity to creating a communication tool to better connect the citizen with their local authority. This then opened up questions of other aspects such a tool could be used for and the opportunity for further complimentary functions which would use similar information.

Findings

This work responds indirectly to the Covid 19 pandemic and is inextricably contextualised by the condition of lockdown. The extended app functionality was where Covid 19 responsive design activity came in. The research wire-framed a location-based system of street occupation density indication to help assess the safety of those classed as “at risk” in order to route plan accordingly in real time. Another function envisaged was a location based alert system, used to send a message to people within a certain vicinity or area of the city, such as overpopulated public area warnings or to explain road blockages or other location sensitive public service information.

Essentially, the app interface allowed people to access real-time relevant information about the public space around them safely socially distanced. It allowed individuals to still organise activity and use public space and enact change on their local environment without having to share immediate space unnecessarily. It classified and visually illustrated the processes of applying to use public space for one’s own means, to find a community garden, host a small-scale open-air music event in the park or simply contactless-ly notify the council of urgent repairs to public amenity. The use of public outdoor space is more important than ever now in a world where we are cautious of the safety of enclosed indoor spaces and touch point hygiene. Being able to organise and safety manage the responsible use of space to better serve the changing needs of the public in absentia of standard physical gatherings and public meetings while still maintaining, or even increasing, spatial democracy is more relevant than ever before.

5 Neighbourhood Preparedness in Managing Lockdowns and Supporting Community

The next two pieces were developed with tentative links to a recent research application to UKRI by the Department of Architecture on the study of the role of neighbourhood resilience from an environmental and community point of view during lockdown. One study addresses the context of Glasgow, while the second is set in Warsaw. At the time of writing the Masters, Jakub was a student of the Department of Architecture in the Faculty of Engineering, whilst Augustjin was a student of the School of Government & Public Policy within the Faculty of Humanities & Social Sciences.

Both theses have investigated the role of the form and design of our neighbourhoods during the periods of lockdown to ascertain if and how they supported the performance of basic daily activities in safety and if they have maintained sufficient degrees of social interaction.

The strength of both lies in their method of analysis and in the initial association between physical forms of the neighbourhoods and respectively community resilience and quality of life as expressed in the performance of activities. It will be important, moving on, to test these initial findings on a wider range of case studies and on a more comprehensive range of neighbourhood space typologies. If similar results were confirmed, as we expect, we could safely assume that a degree of environmental probabilism could be employed to predict and thus propose interventions, both in terms of social networking support and physical upgrade. Finally, combining these findings to our recent developments in the automated study on Urban Morphometrics, (Fleischmann et al., 2020) at a larger scale would allow to conduct a rapid assessment of the state of current neighbourhood and their preparedness in dealing with future crises.

Analysis of Residential Neighbourhood Typologies' Potential for Enduring Lockdown Conditions'

Student: Dominik Jakub Franczek
Supervisor: Ombretta Romice

Context

The study is on the management of the first lockdown period. At the time of writing (June-Aug 2020), the student had experienced the lockdown both in Glasgow and back in Warsaw, Poland. His focus are cities, where because of density, the management of necessary activities in conditions of safety was more complex than in other environments. The work is predicated on the understanding that whilst the environment might not play a part on preventing new diseases from happening and spreading, at least its correct design, organisation and management could alleviate some of the negative effects of potential restrictions. The

assumption is unfortunately that similar circumstances will happen again in the future and that therefore urban form must be resilient in allowing us to maintain a degree of functionality and quality of life under different circumstances.

Questions / Key Issues
The issue investigated is simple: during lockdown, most people's range and type of activities were limited and restricted, the majority of us was confined to our residential environments. The question therefore was: which types of residential environments proved most successful in supporting us during this period, by providing safe and practical access to basic services, a degree of safe human interaction and contact with nature?

Approach to investigation
The work joins a rich and organised literature review on the relationships between human needs and activities in relation to space, with a large quantitative analysis of urban forms, carried out through the detailed study of physical characters of different urban residential typologies. The literature review spans across the areas of psychology, environmental psychology, medicine as well as architecture and urbanism. At first it describes the range of immediate impacts of lockdown, for different groups, including changing work, learning, socialisation and recreation patterns. The literature review is extensive and rich, including both time-limited positive and negative aspects – it deals with children, adults and the elderly. It then moves on to review human needs, as defined by Maslow and Max-Neef, to understand how the lockdown has limited them and how it would be possible to still maintain them satisfied in 'other than normal' circumstances.

Needs are organised in three time-scales, short, medium and long-term; then, a range of activities is identified, such as access to a range of shops and services, the possibility to see/interact with others, access to open spaces in safety for physical activity as useful to fulfil such needs. Research is also provided to explain the negative effects that restrictions to the benefits of these activities will have on our physical and mental health.

There is a recognition that coping mechanisms such as collective manifestations of solidarity are useful in mitigating the negative effects of lockdowns, but also that these are very time limited in effectiveness. Therefore, their potential in the overall alleviation of the negative effects of periods of restriction is only considered as an aside, not one of the fundamental approaches to be employed.

Literature on the impact of physical form on many aspects of our quality of life is rich and diverse; it is generally difficult to master. This work is quite effective in doing so as it targets it starting from those needs that during lockdown, had to be satisfied within residential environments. He pairs needs to satisfiers, which are the conditions needed for them to be met. He then looks at the physical environment to establish which of its properties will play a role in enabling such conditions. Short, medium and long-term scales are also taken into account.

Analysis
Assessment criteria were developed for the evaluation of typical neighbourhood typologies. Once that was established, selection of specific examples and their evaluation process begun. Initially, the intention was to adopt a rigorous basis for the selection of built typologies, using Momepy (Fleischmann, 2019), a tool developed by one of our PhD students for the automatic measurement and classification of urban form. Due to time restrictions, we bypassed this step and rather based the selection of typologies on traditional historic parameters and personal knowledge of the city. With use of digital maps and reconnaissance, 5 typologies, traditional historic tenemental; garden

Urban property	Historic tenements	Garden city houses	Radiant city prefabricated blocks of flats	Transitional period gated estates	New urbanism contemporary estates
Services in walking distance	3.6	2.1	4.4	2.7	4.4
Walkability	2.8	3.3	3.1	1.8	3.6
Quality of public space	2.9	3.4	3.6	2.7	3.7
Access to nature	2.2	5.0	4.1	3.0	2.9
Social visibility and connectivity	3.2	3.0	3.1	2.3	4.2
Average	2.9	3.4	3.7	2.5	3.8

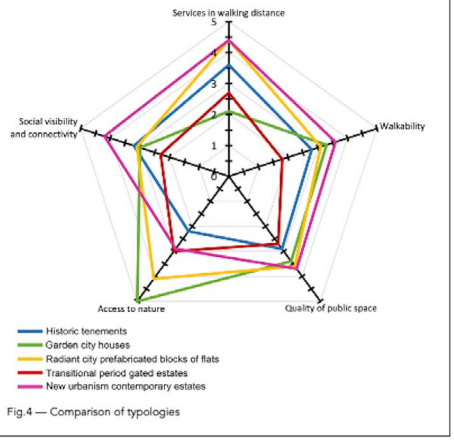


Fig.4 — Comparison of typologies

city; modernist estates; gated communities; neighbourhoods built according to place-making principles) and 3 cases per typology were selected for analysis within the metropolitan area of Warsaw.

For the evaluation itself, each case was analysed through a mix of primary data obtained through visits, and secondary data thought traditional historic research. As the work was undertaken while some restrictions were still in place, only fully open public areas could be accessed, therefore the analysis focused on public functions and the student's own assessment of urban spaces within each neighbourhood areas. To allow for direct comparison of typologies, each neighbourhood was described under the identified urban aspects, and then scored on a 5 point scale. A cumulative assessment for each typology was drawn, and eventually they were all directly compared. This allowed for drawing conclusions about comparable features and their perceived impact in supporting life during lockdown for each urban type, with specific examples shown.

What results is a rich, rigorous and useful overview of what our new restricted environments should allow us to do at times when the virus requires strict management and consequently the limitation of some personal activities. Practical, physical qualities are then paired to these activities; the student has good experience on the range of physical forms in which residential environments can be delivered and he is aware that the quality and performance of each will vary greatly. This has allowed him to build a table for assessment on the performance of a range of residential typologies. Some of the physical qualities are measured objectively, some subjectively. In the limited period of time available it was not possible to do otherwise, to conduct interviews, nor to observe how semi-private spaces and vertical circulation was used in many of the case studies, of all which would be crucial for a more complete assessment. Still, this work provides a first insight into life during lockdown.

Findings

The study offers detail and ideas in regard to the diversification and clustering of shops and services, the size and organisation of public space, the design of transactional spaces to modulate transitions private/public realm, the design of building envelopes to facilitate exposure to public realm and nature and many

more:

• First, there is a confirmed link between urban form and our ability to satisfy daily important needs. These are: services in walking distance, walkability, quality of public space, access to nature, and social visibility and connectivity. How these needs are satisfied depends, also on factors other than form, which we assumed relevant but didn't study in this instance.

• Assuming that our classification of needs and activities with short, medium- and long-term impact on physical and mental health was correct (this will need confirmed), urban form varies in how it supports such activities and therefore the satisfaction of needs. Therefore, it seems that different neighbourhood typologies have different potential for minimising those negative effects.

• Out of 5 typologies specific to the context of Warsaw, historic tenements offer good access to basic goods and a good degree of social interaction through visibility and mix on streets, but poor access to nature, while garden city houses are the exact opposite, creating the most problems for those with limited capacity to move around. Neighbourhoods characterised by residential blocks of flats built according to modernist principles offer good balance between those two aspects (each is provided with shopping precincts at a reasonable close distance for all residents), but have the issue of private and semi-private space: vertical circulation, corridors and ground floor communal spaces are enclosed, and bring together large number of people in non-ventilated environments. Furthermore, they curb the ability to move and access open space for those with mobility issues. Gated estates have limited potential in all categories, but especially when it comes to walkability and social visibility and connectivity. Relatively recently built open contemporary estates however show that areas designed according to new urbanism theories have the highest potential for supporting local residents in general. However, none of those options is perfect, as all show drawbacks.

A Netnographic Assessment of Community Resilience in Three Different Glasgow Communities During the Covid-19 Pandemic

Student: Augustijn van Gaalen
Supervisor: Prof Scott Cunningham, School of Government & Public Policy, Faculty of Humanities & Social Sciences.

Context

Covid-19 has exposed the fragility of both cities and societies, with policymakers, researchers, but also citizens forced to reassess how urban space – both private and public – is used and organised. Crucially, communities must deal with specific challenges which relate to their unique affordances , through the built environment (i.e. high-density tower blocks which increase the risk of transmission), demographics (i.e. a large elderly/vulnerable population), or a lack of amenities (i.e. little to no green space or shops).

Three distinct communities were analysed around the Maryhill district of Glasgow: Kelvindale, widely considered one of the more successful garden city suburbs in Glasgow, Wyndford, with its predominantly council owned tower block housing, and Woodlands, a diverse traditional tenement neighbourhood. Each community varies considerably in terms of its deprivation levels, ownership rates, demographics, and housing typologies – all of which contribute to the unique affordances of these urban environments.

Questions / Key Issues

The study addressed a number of key points in the form of three questions:

- What role does community resilience play in each community during the pandemic?

• How has this changed or developed as the pandemic has progressed?
• Which affordances or environmental factors prohibit or facilitate the development of community resilience?

Approach to investigation

The study sought to provide a methodological contribution by proposing a new research framework for assessing community resilience in online environments that could be extrapolated to different communities and contexts. This exploratory research employed Netnography to assess community resilience on social media platforms during the Covid-19 pandemic. Not only does this methodology foreground precisely the arena where resilience is predominantly being discussed and cultivated, but it also utilises an alternative methodology at a time when ethnographic analyses are less effective and in some cases impossible. It also provides an innovative methodology for studying community resilience, as it has previously been used mainly in marketing and consumer research.

Analysis

Community resilience was measured using established constructs from the resilience literature, providing an opportunity to test existing theories. Seven key constructs were deemed relevant to the Covid-19 context: access to nature and exercise, crisis management and leadership, community competence, connection and caring, transformative potential and adaptability, infrastructure and resources, and information and communication. Care was taken to ensure that the selected cases contained rich social media data and that there was variation between the cases regarding the demographic characteristics, SIMD rankings, and housing typologies. Data was then collected in the relevant Facebook groups that corresponded to the communities, relying predominantly on archival data, with a distinct emphasis on socially produced data and knowledge.

The Netnographic approach is therefore similar to the ethnographic approach, except that its arena of observation is limited to the online world. However, this constraint does not constitute a limitation, as digital identities can be wholly separate from other identities, reflecting that an online environment is not an exact mirror-image of the urban environment, and that it is firmly rooted in its own reality. Manual coding was then undertaken to analyse the data, paying particular attention to images, videos, and other visual artifacts.

Findings

Engagement with resilience was most noticeable and successful in both Woodlands and Wyndford, although Wyndford was constrained by top-down governance structures, poor design, high-levels of deprivation, and low funds and resources. While there was evidence of community resilience in Kelvindale, there was less need for capacity building due to the relative affluence and the higher levels of in-built resilience at both an individual and family scale. There was also significant overlap between constructs, which is not explored extensively in the literature, suggesting that a holistic approach is vital when measuring community resilience. Crucially, the research highlights two key factors that influence the development of community resilience: the built environment and the socio-demographic characteristics of the community. The latter creates the need for resilience, whereas the former either facilitates or undermines its development.

Another key finding was that engagement and posting frequency increased dramatically in all three communities during the pandemic when compared with the pre-pandemic period, especially in Wyndford and Woodlands. Active and engaged Facebook groups were often able to adapt quickly by liaising with other groups and expanding on years of capacity building. This puts deprived community groups at a distinct disadvantage, as they often do not possess the time and resources to maintain or cultivate a digital presence.

Crucially, each community approaches resilience in a unique manner, highlighting its hyper-localised and context-dependent nature. For example, in Kelvindale, one individual took it upon themselves to create facemasks and sell them to other members of the community. In Woodlands, however, a free workshop was arranged to teach residents how to do this themselves. The latter is a clear example of a more resilient approach – it disperses the skills and responsibility, rather than placing them with one individual.

Furthermore, the research highlights the influence of 'urban utopias' and the influence of utopian thinking on communities. When distilled to its core, some approaches to architecture and urban planning create the world as it should be, not as it was, or even is today. The key issue with this ideological and utopian pursuit is that it ignores the drawbacks, with often

catastrophic ramifications that can only be fully appreciated during, for example, a pandemic. While Kelvindale and Wyndford are typologically distinct, they do exhibit similar ideological traits, with social control, order, and legibility clear priorities. The tenements, however, have maintained a functionality and flexibility that allows adaptation (resilience) and promotes capacity building, which is a testament to the mixed-use urban design practices that are re-emerging in contemporary contexts.

6 Adapting Learning Architecture and Design Practices to a Post-Pandemic Context

The three thesis projects identified for inclusion in this section address the practical realities of architectural education and practice. The first by Ryan Alexander Reid is based on analytical reflections and the journey he has experienced through his education at Strathclyde. The second by Samantha Auld argues for the need for a whole new set of design principles. The third by Louise Ashleigh Mencnarowski critically examines how architectural education system needs to urgently address issues related to students' health and wellbeing.

The critical nature these studies demonstrate capacity to thinking critically and at the same time develop responsive solutions. Reid's places emphasis on the need for establishing better links between conceptual and practical skills where a more integrated model of design and site experiences can evolve. Auld's proposition that both governments and professional need to react to the pandemic condition through a package of design principles that covers a wide spectrum of scales with biosecurity and liveability as key priorities. Both projects generated important findings whose implications can be further developed into more in-depth research projects.

Different in nature, scope and approach, the work of Mencnarowski generates new knowledge on the impact of Covid-19 condition through contextualisation and examination of the impact she and her colleagues have experienced. Her work responds to a severe lack of understanding the mental wellbeing of students and the qualities and characteristics of the system of educating architects.

Hero's Journey: A Link to Learning in a Post Coronavirus World

Student: Ryan Alexander Reid
Supervisor: Derek Hill

Context

The thesis builds on a theme established by the students during the 5th year of the advanced architectural studies programme. On reflection of the ideas presented and reviewing the body of work undertaken, a number of themes have been evident sub-consciously throughout the whole architectural journey since 1st year. In essence, a critical piece of literature was developed, titled "The Hero with a Thousand Faces" [Campbell, 1949]. In this book it explored the author's collected research of the monomyth, which is stated to be a recurring story telling technique since early civilisation, in which an individual set out on a journey which transforms or changes them. This process, called The Hero's Journey, has found many scholars in film and English literature fields – but has been largely overlooked within architecture. In the context

of the Coivd-19, the thesis focusses on a 12-stage journey, which at the beginning of the process, the induvial is introduced to a mentor. Towards the end of the journey, following a process known as the rebirth, the individual has an apotheosis which results in an understanding that they have ultimately undertaken a journey and can pass the skills and lessons to the next individuals. In essences the apprentice becomes the master.

Questions / Key Issues

The thesis raises the question: Could the coronavirus pandemic be the driver that creates a moment of change? which has enabled the development of multiple threads of investigation to explore a multitude of influences. In attempt to identify the potential missing link in teaching students – not just in architecture but on a whole, with a huge gap in student's undertaking a profession with little to no practical experience a series of interviews were conducted. The nature of a new architectural studio that could be operated out of the various schools throughout the UK titled Studio R.A.W (Research, Architecture & Workshop) is explored. Requirements for and potential testing of such a studio including mechanisms of funding are highlighted. The implications on the future of youth education from school level onwards was underscored through various European models that may help shape the future of the students on this island, United Kingdom. These models have the capacity to integrate both practical skills and theoretical ideas/concepts.

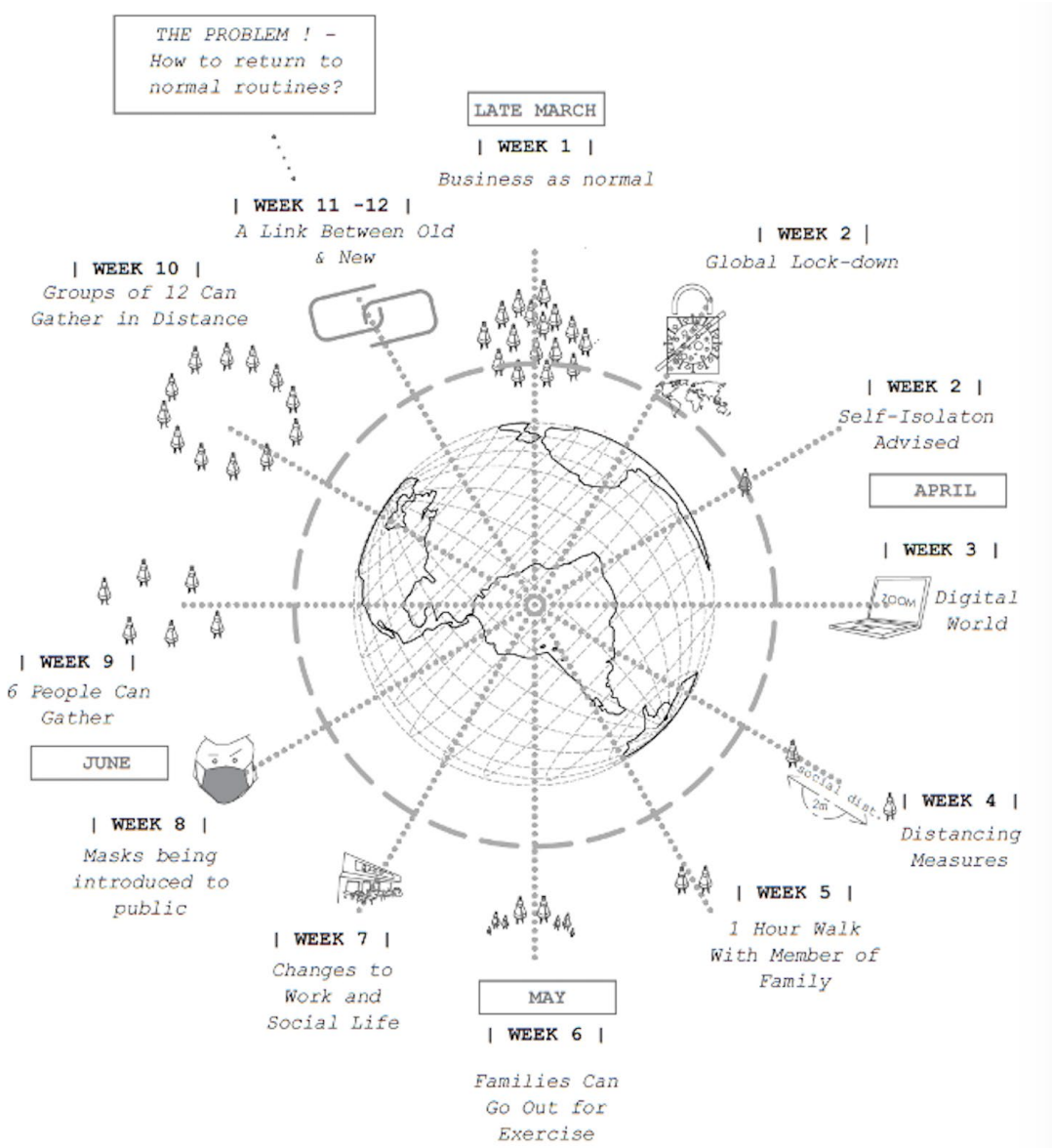
Approach to investigation

The approach undertaken for the research was essentially leave no stone unturned and look for possibilities in the most unlikely places. This was evident by the fact that one moment a literature could be focused heavily on the work of Carl Gustav Jung, the next could be a cartoon that is pretty much teaching the exact same principles. Everything is connected in an unusual manner and this was identified early in the research by the works of the famous polymath Leonardo da Vinci. The best way to strategically address the issues this thesis raises and achieve its objectives is by not focusing too much on the one point but searching far and wide. Once they manage to convince themselves with their writing and findings, it is easier to summarise. Therefore, a preferred research formula has been created that has been set up as the 1 – 3 – 1 rule in which the first chapter sets up the introduction, framework and predicted findings. The next three interrogates from all angles such as literature, case studies and primary research either a survey or interview, before presenting the findings in the final chapter.

Analysis

The thesis identified a range of key points that were tertiary to the original investigation. The primary key finding was that through interviewing four individuals – a quantity surveyor who undertook a practical background before academia, a young, starting out architect, an established architect and an architectural educator, along with essentially a personal self-interview – the research identified that there is a missing link in education. All interviews stated that there is a requirement for more practical skills to be taught to designers to allow them to become a more critical thinkers and good communicators.

The key theme of the research which emerged from reflection was relevant to the coronavirus offering the world a moment to slow down and pause. This ultimately means that the research itself presented a response to the virus, that this moment of lull could be used to prepare new frameworks and working models to be implemented once the world returns to some form of normality. This may mean that adaptation and consideration must be undertaken in terms of working groups and live exercises as it may be unpractical to return to large scale classroom experiences. This may mean tutoring of architectural education has to



This info graphic generally only applies to the U.K. - in particular Scotland as each countries lock-down strategy has varied.

be undertaken in groups of 12 externally to teaching departments, where if an induvial must isolate then they can be controlled in their units without effecting a full-scale cohort.

Findings

Generating a number of key findings, the thesis identified that typically projects within a large-scale enterprise is broken down to teams of four which is headed by one induvial that oversee enough work to provide that team. Further studies of this would have to be undertaken to provide more concrete data, however, this drew parallels to an autobiography stumbled across recently of a soldier who fought in the allied D-Day in 1944, stating that their perfect operational teams was split into platoons of 12 – 1 leader, 1 assistant, 3 heavy hitters and 7 operatives. This further emphasises the point that the most effective architectural teams either in working or education is no more than 12.

Another key finding establishes that with online and technology, humanity is more connected than ever but less connected in person. Within cities mental health is getting worse and only increasing with the virus. This could be further fields of thought that could be either layered to a Covid-19 response in which people need to get out of the cities and connect back to storytelling in the wilderness around a campfire. This could also be a model or study tested by taking 12- students out to design small pavilions along various walking routes, thus coming full circle by teaching them the processes of identifying a site, designing and building as a full package.

Relevant to professional practice a further finding argues that without innovation and observation of the current, many practices will be stuck in a dated expectation of a working model. As the Hero's Journey is essentially a narrative tool that teaches about reflection, then an area of future research that may be undertaken by the researcher is that the current working model of large-scale conglomerate working practices will soon be left behind. This may be due to the fact that even the city, the migration place for the farm worker to flock to during the big energy industrial revelation of the 1850's, has now turned full circle and saw the reversal with people fleeing back to family homes to escape isolation in a contained boundary.

A concluding observation on how architecture fits into the whole built environment places emphasis on "us" vs "them" approach. By integrating students through practical sites and taking them up through the profession on a journey, it might possibly eliminate a divide within the general construction industry in which both parties have a mutual respect for each other's craft – that a builder is to make beautiful objects and the designer to conceive and communicate them. This sort of dichotomy can only occur once individuals have experienced both sides – from the lifting of a steel beam on a cold December morning, to late evenings spent dissecting books on organisation of form and order of architectural spaces and then analysing such with deep critical thinking.

A Proposal for New Design Principles: A Critical Pandemic Response

Student: Samantha Auld
Supervisor: Alessandra Feliciotti

Context

The thesis acknowledges government awareness of the risk of a pandemic from 2011 and the evident lack of preparation to tackle the expected impact. Although it is positive that designers are now aware and considering steps to combat Covid-19, their approaches are lacking uniformity, completeness and consideration for predicted future pandemics. Specific research is required to become aware of future issues expected as these predictions were not (at the time of research) broadly publicised and therefore we risk repeating

past mistakes if we do not act now. Furthermore, whilst governing leaders are preparing pandemic recovery strategies, the risk is to view the Covid-19 pandemic as a one-off incident and risk the opportunity to tackle multiple current and future problems.

Questions / Key Issues

The key issue explored by this thesis was the relationship between design and viral transmission with a focus on Covid-19 within the urban environment. The key objective was to propose a set of principles that designers could adhere to in order to ensure a set standard of biosecurity across all public spaces. The principles cover a variety of scales of spaces and whilst biosecurity is of utmost importance considering the current pandemic so too is to be considerate of the liveability of public space.

Approach to investigation

To achieve the key objective the study started from the review of publications on Covid-19 pandemic to understand the viral transmission of the virus Sars-CoV-2 that causes the disease Covid-19. Secondly, it involved a study of the temporary design adaptations applied to existing public spaces to reduce transmission, as well as strategies being applied to new designs. Cross case study analysis highlighted similarities and differences between the strategies and identified gaps where designers could develop their education of viral transmission to prepare for future crises. Thirdly, whilst the current pandemic was the topic of research it was also deemed important to look to past health crises for comparable study to understand the role that design disciplines, namely architecture and urbanism, had in response. Modernism for example was prolific in its response to tuberculosis during the early 1900's and more recently cholera, diabetes and ebola have also provoked design innovation. This investigation confirmed and validated the role of designers in health crises and emphasised the (missed) opportunity to include designers within the UK governments pandemic response team. Finally, this study was positioned it in relation to future health risks.

Analysis

The concern for public health is increasingly more important than we currently appreciate and compared to our past practices; evidence of this is provided through a review of historic and more recent examples (i.e. infrastructure, housing in relation to past epidemics; sanatoria in relation to tuberculosis; design and layouts of neighbourhoods in relation to walkability and obesity). Fundamentally, it appears that a concern for health is no longer seen as a specialism that only some in the design profession my choose to take, but rather a more fundamental one, with relations and implications on most aspects of the production of our places and spaces.

Three main areas are identified as critical in equipping designers for work in relation to creating healthy environments: physical, mental and environmental health. These are confirmed critical by the profession itself and by the World Health organisation, although no compulsory professional development is not yet in place.

The work then proceeds to describe levels of knowledge and preparedness that designers would benefit from, starting from the immediate use and design of surfaces and environments to prevent and/or contain the spread of viruses, to more general ideas on how to deal with public spaces in a shared, healthy and yet safe way. There is a recognition that the range of work is very broad, from precise small-scale intervention to the long-term strategic deployment of transport, housing, greening strategies. Issues of comfort and safety, accessibility, vibrancy, sustainability, carbon reduction, biophilic design, biosecurity (spatial sanitation, technology, materiality and hygiene), biodiversity, mental health, movement engagement are proposed

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as useful strategies and described both through literature and case study analysis.

Interestingly, this research has made a quick jump into behavioural theories as well, understanding that healthy environments will work only if embraced and bought in by their users as a way of life . These are two areas rarely brought together effectively, and this work is a useful step in the right direction with much scope for further development, not essential).

Findings
Evidence collected suggests that designers increasingly realise the importance of their role in ensuring public health. However, it also highlights that without any education of biosecurity the solutions offered are not entirely practical nor thoroughly effective, suggesting that designers should develop their knowledge of viral transmission to provide safe public spaces that are beneficial across many factors. The design concept of viral transmission mitigation will minimise risks and impact of future pandemics and adherence to this concept can be ensured by following appropriate design principles.

Still, it is crucial that an awareness of biosecurity does not override liveability. The spaces created must provide a balance of both to address broader issues of quality of life and liveability, and the management of exceptional circumstances should these arise (Fig. 6). The physical and time scale of both will differ, and the greater awareness designers will have their interrelated nature and implication, the more effective design solutions can be.

Finally, the study attempts to join and establish a relationship between design strategies for biosecurity; design strategies liveability and finally behavioural constructs, to maximise buy-in and the development of healthy habits, so that in the future 1) the effect of new pandemic might happen amidst healthier societies and 2) less restrictive management could be needed.

‘RE-SET’. Investigating the Mental Health Stigma Present in the UK’s Architectural Education System, *utilising the Covid-19 shutdown of education establishments as a point of reflection, from which progress can be made*

Student: Louise Ashleigh Mencnarowski
Supervisor: Ombretta Romice

Context
This work builds on a number of recent surveys of architecture students which place emphasis on a growing concern related to psychological health and wellbeing in the architectural Education system, adding to them an important survey of students across the UK on the impact of Covid-19. With this, Mencnarowski contextualises her work on the actual impact she and her colleagues have experienced ranging from lack of social interaction and engagement with tutors to missing the studio experience as place for debate and critical inquiry within the parameters of a well-established pedagogical system. The thesis thus argues that there is a severe lack of understanding of mental wellbeing of students and the qualities and characteristics of the system of educating architects. Hence, the closure of schools was seen as an important context for reflection when tutors and students are operating in an isolated online system of working and studying, which goes against the very nature of architectural education and what they are used to.

Questions / Key Issues
This study aims to understand the state of student mental health in the Architectural Education system in the UK and to determine how the educational system for architecture could implement changes that will support mental well-being. A number of relevant objectives are established, including assessing how pedagogical practices affect students’ mental health both positively and negatively; identifying other societal, economic and behavioural factors that may im-

pact the mental health; examining 'pre-covid' levels of mental health problems within the architectural education; investigating whether the Covid-19 lockdown affected students' mental health and examining where the disparities lie with respect to the various levels of support students receive, both before and during Covid-19.

Approach to investigation

This multi-layered set of objectives generated a robust framework for investigation which addresses the gap of identifying the extent to which various pedagogical practices influence psychological wellbeing. Embedded in the framework the student has identified a number of variables as causes of impacts on individual's mental health including demand, control, support, relationships, role, change. Addressing these variables, a number of methods are employed ranging from extensive engagement with the literary analysis to an attitude survey.

The attitude survey, which encompasses both qualitative and quantitative data, has generated important and new knowledge relevant to the impact of Covid-19 on the architectural student population. In a concerted effort to engage with a wide spectrum of participants from various schools, current UK Architecture students and recent graduates were invited through social media adverts and emailing institutions. The variety of circumstances across institutions in terms of final deadlines, expectations and support lead to a diversity of views in the responses and gaining a comprehensive understanding on various perceptions.

Notably, survey questions were designed to interrogate the critical issues of support and mental health during the final semester asking participants to compare pre and during covid-19 services and study. Additionally, open ended questions allowed for students and graduates to expand on their experiences. This has generated diverse views and responses which were utilised as demonstrate the response to the objectives while at the same time acting as a validation mechanism to support the arguments and reflective conclusions.

Analysis

Mencnarowski developed an analytical approach that engages well with the body of knowledge available on the topic which is skilfully integrated into empirical findings. It follows both hierarchical and sequential order beginning with detailed articulation of mental health and well-being issues as they relate to education and practice of architecture while establishing the psychological links and identifying the stressors on architecture students. Perceptions of the profession and students of stressors and mental health and well-being, and the manifestation of this on social media were explored within the perspective of the mainstream studio culture and the associated issues of 'othering', tutors' interests, equality and diversity, and integration with or isolation from the wider society.

The survey builds on a number of approaches adopted by various agencies including WHO Quality of Life questionnaire (WHOQOL) and Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS). It reveals that a large proportion of students self-identified with the stereotypical perfectionist tendencies of the architect. While the majority of student responses acknowledged the need for quiet surroundings in order to work effectively compared to only 30% who believe that they perform well in bustling environments.

A number of observations related the pre-Covid conditions include respondents reporting high levels of motivation and enjoyment (QoL) pre-Covid. However, substantial figures also cited negative aspects of low energy and feeling overwhelmed and when encouraged to reflect upon mental health almost half (45%) noted a slipping of their mental health during their studies.

One hundred eighty survey responses were received. Covid-19 adverse reporting soared with more than 70% of students feeling overwhelmed and enjoyment in the subject dropping to only 1 in 4. Over 70% of respondents noticed their mental health slipping with fewer than 1 in 10 aware of any support services available to them. Respondents acknowledged significant changes to their 'normal life' during the final semester of the academic year. Notably, over 50% reported a change in housing circumstances while a quarter were furloughed, and a further 10% were let go by their employer. Further analyses were undertaken to juxtapose stress, mental health and well-being pre and during Covid-19 to extract implications and recommendations for the overall system of architectural education.

Findings

The thesis generates important findings from students' responses as interpreted and reflected upon. With respect to pre-Covid condition one in in three students admitted to seeking help in the past for mental health-related issues. It is worrying that the mental wellbeing of architecture students was not improving before the shutdown of institutions in 2020, demonstrating an urgent need to assess the curriculum and its impact on the health of students. A key finding is related to the high demands of studios and course work

which result in long hours and the excessive length of the course impacting students' financial stability and exacerbating the implications of chronic stress.

During lockdown periods, the study reveals that Covid-19 can be classed as a major life changing event in terms of stressors, and due to the impact on the entire world population at the same point in time, it is yet to be seen how extreme the lasting damage will be. It is unclear how students have coped during lockdown compared to the general population. However, it cannot be ignored that they are already in a significant period of personal growth, and any impact on this could negatively affect their mental wellbeing in the future. For architecture students in particular who record much higher levels of stress than the general population, it is worrying.

The unanticipated loss of studio space and social integration has enforced a complete U-turn on expected outputs with many having to learn new software in the run-up to final examination sessions while combating the feeling of loneliness and a lack of peer support. Students who would usually rely on their physical modelling skills and hand drawings were perhaps put at a disadvantage. It is possible that due to the nature of architecture education and the dominant studio culture, putting an emphasis on the 'Design Project' that many students would be relying on the final grade for their studio project to achieve the desired grade. The timing of Covid-19 was detrimental to the already high-pressure environment surrounding final submission of the studio projects and course work. Mencnarowski concludes with the addition of a number of factors, that, when combined, could negatively impact the students' psychological wellbeing. These include: a change in circumstance; isolation; increased responsibilities; increased media consumption and family concerns.

7 Emerging Research Implications Generated by the Students' Theses

Ombretta Romice and Ashraf M. Salama

Various implications can be drawn from the key issues and the findings discussed in student thesis projects. While all submissions offer much food for thought, we focus here on those that were generated by the 7 thesis projects covered in more detail in this document. The implications are classified under four areas including: responsive urbanity, neighbourhood preparedness, pedagogy and practice adaptability, and reflections on the working routines and practices, from home, and outside of the university premises

Responsive Urbanity

The work of Scott Whorlow attempts to capture the idea of walking in the city by bringing psychogeography to the core of discussion on the city. His work utilises the pandemic condition and his personal observations through repeated walking adventures to generate the narrative. What is unique here is that the broad literary research is coupled with personal observations, based on experiencing the city, enable identification of issues relevant to modern urban planning which has resulted in increasing car dependency and the associated infrastructure, the sustained interest in low density and the resulting transportation issues. The study calls for a reconsideration of the conception of modern city and the need to positively address needs and wants of city inhabitants including mental, physical and social well-being, and how the current pandemic has afforded the possibility of addressing and reflecting on these issues. On the other hand, the work of Jessica Gaudi Cowan delves into the development of an app which has the capacity to integrate cities, architecture and local services for its people. The work provides advice to help them look after themselves and others, increase access to services and invigorate e-democracy and involvement in public space.

Notably, the two theses assert the need for user-centred design and responsive planning where local populations are the heart of the decision-making process. Whether calling for the creation of opportunities for people through public spaces and parks or through technologies that enable that use, the two projects pave the road for the development of effective solutions in response to the pandemic condition.

Neighbourhood Preparedness

The thesis project of Dominik Jakub Franczek demonstrates that it is possible to identify, for various neighbourhood typologies, a range of targeted initiatives to put in place for retrofitting the existing form, so that each weakness can be addressed to minimise its negative impacts. Fundamentally, Jakub Franczek's work shows that the actions to alleviate some of the negative impacts of restricted periods of mobility are

very similar to those that are generally advocated for the development of socially and environmentally sustainable places and that therefore, building 'right' from the start, is the best strategy in any case, emergency or not. While still very much subjective in nature, the work represents one side of a much more complex overview. However, it suggests a wider scope for further research which we are currently aiming to pursue.

The implications of the work of Augustijn van Gaalen on urban design are vast. It is evident that the shared nature of tenement flats, fosters community engagement, solidarity, and creates a sense of ownership and control. While it was the resourcefulness of Woodlanders that transformed front gardens into pandemic-proof social spaces, it was the typological nature of the tenements and the presence of gardens and shared spaces that afforded them this opportunity in the first place. These spaces therefore act as anchors for cultivating socio-spatial resilience. Similarly, Wyndford's awareness and engagement with issues of community resilience highlight that typological constraints have severe ramifications on local communities and confirm that in-built flexibility and adaptation is crucial to building successful communities.

In essence, the two theses generate preliminary findings that require further validation utilising a wider range of case studies and a more comprehensive range of neighbourhood space typologies. The integration of these findings into current staff work and interests would allow for further fast-track assessment studies of how various neighbourhood typologies can have the capacity to react through adaptability to crises situations.

Pedagogy and Practice Adaptability

A number of implications for the future of architectural education and practice can be derived from the outcomes of the work of Ryan Alexander Reid. A key lesson is the need to observe, reflect and adapt to be able to respond to immediate pressing wider issues related to education and professional practice in architecture. The development of multiple 'what if scenarios,' which could be explored as additional research, demonstrates various implications that range from integrating theory into practice to the dynamics of practice in professional offices. A key implication is centred on the conceptualised R.A.W. model that links design thinking to practical construction realities and the funding resources required to test this model. Another implication relates to the way in which the new professional practice office size will take shape and that large-scale enterprises may suffer and the potential associated rise of manageable small teams. Further research into the articulation of these implications and validating their premises is required to develop further finding that enable conceiving the future of architecture learning and practice. Focusing on the development of new design principles as a critical response to the pandemic, the work of Samantha Auld argues that internationally there are no design regulations with regards to preventing viral transmission within public spaces. However, there are multiple design solutions already existing that can be employed by designers such as the application of the COM-b framework to influence behavioural change, antimicrobial materials, biometrics and UVC light. Designers can adopt these methods and synthesise them towards the creation of liveable but safe public spaces.

While Reid's findings would require further conceptualisation as well as validation, the work of Auld asserts the need to inform and train designers, so that established practices and standards can be applied to all public spaces to tackle viral spread whilst maintaining liveability. Due to the alarming rise in mental health struggles emphasised by experts during the current pandemic; design has a central role in addressing issues of biosecurity, liveability and behavioural acceptance as a critical starting point that merits further

development. The work of Mencnarowski establishes key implications that place emphasis on demands, control, social and professional relationships, roles, and the guiding policies that govern various spatial practices. The findings related to mental health and wellbeing and the associated stress offer an excellent platform for debating and rethink current pedagogical models and the delivery system of architectural education.

Student Reflections

Collectively, students emphasise that studying throughout a global pandemic was a strange and sometimes exhausting or frustrating experience, especially for final 5th year students who are about to conclude their journey to becoming an architect. Students commend the University of Strathclyde for having made the transition between face to face and online teaching as smooth as possible, making sure all classes continued to run without interruption, whilst also providing online resources and guidance. Students also appreciate that conversations with tutors remained interesting and thought provoking even over the zoom sessions.

There have been mixed views on the negative consequences of the pandemic condition on their learning. Some argue that one-to-one, face-to-face engagement was missed, which is essential to design learning. The ability to pin up on the wall and have tutors and peers scribble ideas on paper is a process which many students see an essential component of the learning process. Mostly, it is argued that the development of design projects is hard to replace on an online platform. The social nature of the studio is essential to the learning process. Generally, students report that a lot of their learning cannot be replicated online. Yet, all emphasise that the learning experience was fruitful due to dedication of university and staff.

Working on a Masters thesis while confined to the domestic setting has had its challenges, however as architect should, constraint can offer some interesting context within which to work. Students were appreciative of staff responsiveness and enthusiasm for their thesis projects. Despite some difficulties encountered students see that their thesis projects thrived through the investigation of the condition itself and through experiencing it as it happened.

8 A Call for Trans-disciplinary Built Environment Research and Collaborative Action

Ashraf M. Salama and Ombretta Romice

The selection of Masters Theses (2019-2020) represents an excellent beginning to address the significant implications the covid-19 condition has on the built environment. It also demonstrates the commitment of Architecture @ Strathclyde to swiftly address critical, timely, and pressing issues as part of its educational and research process. The multiplicity of implications presented by the students captured by the editors under the three themes of a) Responsive Urbanity, b) Neighbourhood Preparedness, and 3) Pedagogy and Practice Adaptability invites us to envisage possibilities for future built environment research and collaborative action.

The public health catastrophe caused by coronavirus has significant impacts on societies, cities and settlements around the world. The complexity of the implications requires active engagement from various disciplines from an integrated transdisciplinary perspective where architects and urban designers play a major role. Operationalising ideas generated by John Zeisel (2006), trans-disciplinarity in this sense can be explained as a form of learning through action involving co-operation among different parts of society, professionals, and academia in order to meet complex challenges of society. Trans-disciplinary research starts from tangible, real-world problems. Solutions are devised in collaboration with multiple stakeholders, including academics and professionals from different disciplinary backgrounds (Pohl & Hirsch Hadorn, 2008). Thus, trans-disciplinarity is about blurring then transcending the boundaries of the various disciplines. As a mode of knowledge production, it can concurrently encounter complexity while challenging fragmentation of knowledge. Its hybrid nature and non-linearity easily enables it to transcend and indeed incorporate any academic disciplinary structure (Dunnin-Woyseth & Nielsen, 2004; Lawrence & Depres, 2004; Doucet & Janssens, 2011). In essence, the implications of Covid-19n on architecture and urbanism represent a hybrid condition that requires hybrid modes of thinking and approaches to investigation.

Health and well-being, adaptation and appropriation in crisis situations such as this pandemic appear to be at the forefront of issues at various scales including architecture, public space, public realm, cities, and global scales. According to Forsyth (2020), “the current pandemic brings the question of designing for infectious diseases back to the forefront, however, and raises important questions for future research and practice.” Therefore, the development of healthy environments must be central to architecture and urbanism in the future; despite that, health does seem to be absent within the education and practice of architecture and urban design and planning professions. Forsyth (2020) asserts this view and argues: “*For the*

past decades, those looking at the intersections of planning, design, and public health have focused less on infectious diseases and more on chronic disease, hazards and disasters, and the vulnerable." Rice (2019) maintains that the design of the built environment is a determinant of health and thus there is an increasing need for greater synergy between architectural and urban education, research, and practice and public health.

It is possible to capture three overarching areas in built environment research which address Covid-19 implications in a transdisciplinary manner. The following is a brief outline of these areas with potential research topics that engage with various types of disciplinary knowledge that require a transdisciplinary thinking and, concomitantly, collaborative action. The topics are examples and should be treated as such; they can be elaborated upon, and expanded, and tailored to address specific contexts and their associated challenges.

Urban Dynamics

This is a critical area that deals with the implications of virus spreads at the city scale as well as the wider global dimension. Key disciplines that would work together in this area include urban design, urban planning, human geography, transportation engineering, and public health experts. Vital topics under urban dynamics as they relate to virus spread and environmental health include:

- Emerging perceptions of urban density and designing for effective density management
- Urban peripheries and sprawl versus healthy urban centres
- Connectivity and enhanced policies for alternative forms of transit
- Urban mobility in relation to air pollution, carbon emissions, and mortality rates
- Access, space standards and emerging protocols for design and use of public facilities
- Impacts on, and potential intervention strategies in, slums, informal settlements, and urban poverty in the global south
- Impacts of paused/reduced global infrastructure and global interworks on cities
- Impacts on airport hubs and industrial place typologies

Distancing Measures

Spatial and social distancing measures and protocols are altering our understanding of spatial design, especially at the urban spaces level whether in dense urban areas or in more open residential areas. Key disciplines that would collaborate in this area to address relevant implications and generate new knowledge include architecture and urban design, environmental psychology, disaster psychology, and public health. Primary topics under the implications of distancing protocols resulting from various tiers and levels of intensity of measures include:

- Emerging standards for integrating health in public spaces and as key constituent in understanding place
- The nature of future use of publica spaces including spontaneous interactions, social control, passive/active engagement as they relate to personal and public health and safety
- Mitigation through: Biophilic design standards, healing environments and engagement with nature
- Emerging design standards addressing new measures of personal space, proximity relationships, healthy urban settings
- Potential seasonal migration patterns (the urban, the peripheral, and the rural)
- Emerging perception of geographical locations within the city (home zone/range, workplaces, recreational environments, city centres)

Living and Working Patterns

The Covid-19 condition has altered the nature of living and work from a state of isolation to one of integration of two types of use. This has significant implications on current and future home environments and workplaces. Key disciplines that would work collaboratively in this area to address relevant implications and generate new knowledge include architecture, interior and urban design, architectural engineering, environmental psychology, various disciplines within social sciences (anthropology and ethnography). major topics include:

- Emerging standards of spatial environments that accommodate new living/working patterns
- Appropriation and adaptation (retrofitting) of the existing housing stock (and that which is under development) to meet emerging needs
- Standards and specifications for new residential environments
- Work-based life modes (wager-earner, career-oriented, self-employed) as determinants of designing future home environments
- Attitude based sub-cultures (within the larger society) competition and individualism, isolation and avoidance of social controls, equity and negotiation, as determinant of future housing choices.

The trans-disciplinary understanding of the implications as they relate knowledge production and future built environment research, would reveal important insights into the factors that will impact future education, research, and practice of architecture and urban design and planning with health and interconnectivity as key research drivers.

The preceding areas act as a base for potential contributions of architecture and urbanism as academic disciplines and professions to develop new insights into the impact of a pandemic on cities and urban environments and the socio-spatial implications of Coivd-19 measures and protocols. As the spread of the virus has influenced individuals, communities, organisations, and governments, its impacts will be on every level and scale from global networks and infrastructure to global cities and urban regions, and from residential neighbourhoods and public spaces to home and work environments and will continue for many years to come.

The spread of the disease generated a condition, which is characterised by human detachment, isolation, and engagement in a virtual world, coupled with an emphasis on working from home through the utilisation of information and telecommunication technologies. The necessity and acceptability of these new norms as a result of attempting to limit the disease spread appears to be a catalyst for future research. While addressing health in a post pandemic virtual world, negative consequences emerge where many people around the world will be living and working in confined spaces, surrounded by gigantic cities and massive high-rise agglomerations, others will have privilege of engaging with nature.

This condition we are now encountering was predicted, more than 15 years ago, as evident in the writings of theorists in architecture and urbanism. Manuel Castells in his book: The Rise of the Network Society: Economy, Society, and Culture (2000) developed a methodical theory of the information society, which is based on the overpowering impacts of information technology in a contemporary global world. His assumption that the global city is not necessarily a place, but a process seems to manifest in where we are the moment. The visionary trilogy of the late William Mitchell is clear evidence that where we are represents the prospects of our future built environment (Mitchell, 1995, 1999, 2003).

In an electronically connected world our cities, build-

ings, social practices are being reshaped and thus that we must extend the definitions of architecture and urban design to integrate virtual places as well as physical ones, and interconnection by means of telecommunication links as well as by pedestrian circulation and mechanized transportation systems. Strategies for the creation of cities that not only will be sustainable but also will make economic, social, and cultural sense in an electronically interconnected and global world will be important to interrogate and further develop.

A world which is less and less governed by boundaries and more and more by connections requires the reconstruction of our understanding and knowledge of our environment and our cities and call for a reconsideration of the ethical foundations of architecture, urbanism, and allied disciplines in this emerging world order. The three proposed areas are initial thoughts on how this new worder can be understood.

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