Syntegration Against the Platform

Experimentation with the *Team Syntegrity* protocol for viable institutional forms that counter the logic of algocracy in institutions of contemporary art

Volume 1 of 2

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Abstract

This thesis forms part of a practice-led research project that proposes, tests and evaluates group organising and decision-making processes suitable for both collaborative artistic practice and organisational structures within institutions of contemporary art.

Starting from a critique of the algorithmic governance of online platforms—understood as *algocracy*—this thesis looks at the ways in which similar processes operate offline, arguing that the central logic of platforms—the platform-user relation—is also in operation in the institutions of contemporary art. This research aims to find alternatives to algocracy through a practice component consisting of a series of experiments with *Team Syntegrity*, the group discussion and decision-making protocol developed in the 1990s by British management cybernetician Stafford Beer.

Identifying key processes through which algocratic power operates in the platform-user relations—opacity, visibility, predictability and categorisation—the thesis suggests that these experimental syntegrations allow for credible creative activity and persistent organisational forms. Such structures can harness the power of platforms while avoiding the authoritarianism of algocracy and the platform-user relation, instead enhancing the credibility, creativity and subjectivisation. Rather than replacing existing institutions, syntegrations can force adaptations that require them to break with algocratic governance and platform logic.

Contents

Preface

The path this research has taken has a great deal to do with chance. The final essay in Donna Haraway's *Simians, Cyborgs and Women* (1991) lead to Terry Winograd and Fernando Flores' *Understanding Computers and Cognition* (1987)[1]. This book introduced me to the concept of *autopoiesis* and the work of Humberto Maturana and Francisco Varela. A search for Varela's *Principles of biological autonomy* (1979) led to the basement of Aldham Roberts Library and the Stafford Beer Collection. The book was sadly missing but I was encouraged to look again at Beer's preface to Maturana and Varela's *Autopiesis: The organisation of the living* (1979). At the same time the artist Kate Genevieve, who was a regular member of the *Reading and Thinging* group run from FACT, suggested we initiate a meeting using Beer's *Team Syntegrity* protocol. The geometry of *Team Syntegrity*, and the aesthetic of techno-mysticism that was, at times, attached to it, appealed to me and related to ideas of conversations structured by algorithms, games and rituals that my practice had previously been researching.

The institutional focus of this research stems from my own experience with collaborative art practice as part of the group LuckyPDF which, through its use and cultivation of online and offline social networks, hoped to secure autonomy from existing institutions but, as Nicola McCartney has written, can be seen as creating "a mirror product of the art institution" as much as an independent choice or survival mechanism (McCartney, 2018). My experience with LuckyPDF showed me that it is not possible to make a clean distinction between old and new institutional forms, and that established institutions are just as well, if not better,

[1] It was Flores who invited Stafford Beer to apply his Viable Systems Model to the Chilean Economy in the 1970s, discussed in chaper 3. In the 1990 Winograd was a PhD supervisor of Larry Page, who would go on to found Google, discussed in chapter 2.

positioned to harness the power of network technology to promote, expand and entrench their dominance.

Working alongside the Uses of Art Lab at the Liverpool School of Art and Design—and through it to L'internationale's *The Uses of Art: The Legacy of 1848 and 1989*—allowed me to connect directly with a network of museums and contemporary art institutions who were actively working through ideas of how they could work with and alongside others in a way that preserved their autonomy. It also made clear to me that a critical approach is essential when terminology and methods from information and communication technology are being translated into institutional practice. Having an opportunity to contribute to L'internationale's publication *The Constituent Museum* (Byrne et al., 2018) was an important output of this research project, alongside the other written and practice-based outcomes that accompany this thesis.

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For Irvine, of course.

Glossary

Autopoiesis – the process of self-organisation by which a system is able to continually produce the component parts of itself in such a way that the relationship between those parts remains stable. Coined by Chilean biologist Humberto Maturana in 1972 and theorised with Francisco Varela in the essay A*utopoiesis: The Organization of the Living*, autopoiesis is understood as being "*necessary and sufficient to characterize the organization of living systems"* (Maturana and Varela, 1980, p.82) but was later applied by others, including Stafford Beer, to many types of systems.

Identity – a system's independence from its environment as defined either by an external observer or self-observation. For Humberto Maturana and Francisco Varela identity is an emergent property of the autopoiesis of living systems while for Stafford Beer it is a necessary property of a viable system.

INFOSET – a group of people united by a shared interpretation of information, which in a 1973 essay Stafford Beer suggested as a replacement concept for social classes united by shared material interest. Infoset was later used the term from the group of people participating in *Team Syntegrity*. In a Beer's design this number should ideally be 30 (Beer, 1994a, p.10).

Syntegration – the event or process of running the *Team Syntegrity* protocol. In this thesis it is used to mean the exercise of both the 'orthodox' method described by Stafford Beer and any experimental adaptation of those methods.

Systems 1–5 – hierarchically organised components of Stafford Beer's Viable System Model.

Team Syntegrity – the method or protocol for non-hierarchical discussion and decision making developed by Stafford Beer and published in *Beyond Dispute* (Beer, 1994a) that seeks to formalise the efficiency of informal discussion with the aim of producing shared interpretations of information, group cohesion and democratic agreement.

Variety – the possible states of a system, or its complexity. In cybernetic theory, a management system must at least match the variety of the system it seeks to manage (Beer, 1974, pp.10–11)

Viable system – Stafford Beers term for any organisation that has the independent adaptability to ensure its own survival. This independence is what gives a system its identity (Beer, 1972, p.226).

Viable System Model (VSM) – both a theory and 'diagnostic tool' of cybernetic management, Stafford Beer began work on it in the 1960s and it was first presented in his book *Brain of the Firm* (1972). Taking the human nervous system as its inspiration, the VSM formalised Beers ideas into a model that could be applied to organisation of any scale where viability is observed (Medina, 2011, p.35).

Introduction

Research aims and problem

The institutions of contemporary art are, by definition, constantly changing: from the educational, socialising museums of modern art—exemplified by the Museum of Modern Art, New York (Hooper-Greenhill, 1992)—through more inclusive, but individualised, experiential art institutions of the late 20th and early 21st centuries—most notably Tate Modern, London (Rodney, 2015a)—to recent development in institutional practice that have seen a return to the centrality of education and a centring of democracy and autonomy, including the Van Abbemuseum, Eindhoven and MACBA, Barcelona (Bishop, 2014). Art institutions are subject to change from below, via the artworks and artists that they are required to accommodate, and from above, from the wider social, cultural and economic environment that they must exist within. One driver of change comes from technology, in particular the networked communication that has come to dominate how we experience culture, politics and society.

Current approaches and responses to the impact of information and communication technology on the making and showing of contemporary art often adopt, intentionally or otherwise, logics of the platform (Proctor, 2010; Stack, 2013; Ropeik, 2016). While appearing like solutions to demands for institutions of contemporary art to be more inclusive, participatory and responsive to the communities that these institutions serve (Graham, 2018), through this thesis I will argue that platform models have a detrimental impact on equitable distributions of value and democratic distributions of power within institutions, reducing their

capacity for creativity and credible action, and as a result, their potential to produce subjectivity.

Cybernetics—a product of the computer and the information age that began in the middle of the 20th century (Wiener, 1961, p.12)—remains relevant in a world increasingly saturated with information and mediated by computation. Stafford Beer's theories and practices of cybernetic management continue to be influential with much recent attention paid to his Viable Systems Model (VSM), in particular its attempted implementation on the national level in Chile in the early (Medina, 2011; Srnicek and Williams, 2015; Morozov, 2019). However, less work has been done on *Team Syntegrity*, his augmentation to the VSM to allow for non-hierarchical decision-making within organisations. *Team Syntegrity* is a protocol for structuring a "perfect democracy" (Beer, 1994a, p.14) and can be seen as Beer's attempt to offer a counter to the technocracy that he saw as emergent from the marriage of bureaucratic processes and information and computer technology, even in the best implementations of cybernetic management (Beer, 1974, p.41).

As more and more of our behaviour becomes an interaction with technology, what in this thesis I will identify as *algocracy* comes to be the dominant mode of governance. Algocracy operates by structuring power imbalances between the platform and the user, and this thesis will identify the key mechanisms for this as being visibility and opacity, predictability and categorisation. While aspects of Beer's *Team Syntegrity* can be thought of as platform-like—or displaying platform logic—this thesis proposes that an institutional form based on *Team Syntegrity* is able to function as an alternative to *algocracy* by countering the authoritarian centralisation of the platform and instead working to produce a critical, creative and democratic subjectivity where representativeness and legitimacy emerge from the syntegration's embedded characteristics through a process of self-organising.

The specific questions that this research aims to address are, therefore:

how legitimacy, representativeness and credibility can emerge from a process that is not just discursive but also material and technical, while rejecting both bureaucratic and algocratic decision making;

whether *Team Syntegrity* conforms to Beer's own definition of a viable system and can therefore be the basis for a viable institutional form that that does not become subject to the logic of the platform;

whether the *Team Syntegrity* protocol can be adapted and implemented in a way that is suitable for structuring institutions of contemporary art, enhancing creativity and freedom in a way that allows the emergence of both individual subjectivity and coherent group and institutional identity.

Can platform-like art institutions support organisational forms of syntegration without reproducing authoritarian platform-user relations? How can we create institutional forms that provide agency to the artists and art-work, allowing the repurposing of existing systems without this being labelled as misuse and shut down or excluded? Can the lending of support by existing institutions be prevented from creating a creditor-debtor which transfer risk from the largest to the smallest actors?

The answer, I suggest, lies in the fact that syntegration—proposed as a process of institutions building derived from *Team Syntegrity*—is organised such that it is able to generate its own legitimacy and transform this into credible action. The network that syntegration structures is one that distributes and shares risk, precisely the mechanism by which a platform increases its own credibility. Credibility, as the ability "make promises and to be believed" (Ascher, 2016, p.4) is what Hannah Arendt sees as the basis for enduring connections: "the faculty to

promise and to keep promises in the face of the essential uncertainties of the future" (1961, p.164). Credibility is also, as Jodi Dean (2002) argues, necessary to the process of reconfiguring networks of relations. Employing syntegration as the basis for an institutional form allows for the legitimacy that emerges from the *Team Syntegrity* protocol to be transformed into credible action through artistic and institutional practice. The sharing, distribution and enhancement of credibility that syntegration structures should therefore be understood as a rebalancing of the power imbalance that the platform-user relation generates.

The credibility that syntegration generates allows it to create relations with existing institutions where there is not simply a lending of support, but a sharing of power, one where it is not necessarily certain if that power will be given back. In my view the closed, self-referential and identity-generating relations internal to syntegration allow more autonomous and less authoritarian relations with both other individuals and organisation in the external environment. It is their durability, their independent viability and their *autopoietic* nature that prevent their absorption into *allopoietic*—or exploitative—relations with other organisations and networks.

Literature

This research makes its argument by bringing together a wide range of fields—art history, critical geography, history of science, museum and business studies—and as such draws on a wide range of literature. Stafford Beer's own writing are obviously a huge influence on the practice elements (Beer, 1974, 1979a, 1985, 1994a; b, 1995) and the framework with which I evaluate the outcomes of that practice. In many ways Beer's philosophy is adopted wholesale

by this project, though it takes seriously recent critical appraisals of his work (Pickering, 2010; Medina, 2011; Morozov, 2019) and cybernetics more generally (Hayles, 1999). Eden Medina's (2011) history of the implementation of the VSM at scale in Chile in the early 1970s shows clearly the limits and dangers of creating, and insisting on, simple models of complex systems that, by definition, must exclude politics though, for Beer, politics must also conform to cybernetic laws (Medina, 2011, p.199). Medina's conclusion, that Beer's methods were far more suited to maintaining stability rather than undergirding change, is one that must be taken seriously if the work is to be recuperated and extended. If anything, the goal of this project is a more radical version of Beer—rejecting his insistence on the necessity of hierarchical elements within viable systems (Beer, 1985), something I argue he hints at in his final writings (Beer, 1993, 1994a)—that insists on the disruptive, rather than the stabilising, effects of decentralisation.

The application of these experimental extensions of Beer's ideas to collaborative art and institutional practice, and the central argument of the thesis—that it offers an alternative to the platform model of governance that is identified as nascent in institutions of contemporary art—relies on a another set of literature. Here I build on a number of recent doctoral works in related fields. Seph Rodney's *Museums, Discourse, and Visitors* (2015b) describes a set of changes in the institutional imagining, relation to and management of visitors, focusing on Tate Modern. While Rodney's description of the individualisation of the experience of the art museum does not directly identify it as a platform model, he does show how techniques of digital visitor management move offline, something which others have more explicitly argued causes institutions of contemporary to operate like digital platforms (Proctor, 2010; Stack, 2013; Wright, 2013). While others champion these transformations—though Steven Wright does so within strict limits—Rodney is the most critical of the way audience segmentation by marketing departments fragments the museum as a public institution,

preventing visitors from ever seeing themselves as a public. The effects of this are discussed in detail, drawing on the doctoral work of artist and researcher Emily Rosemond (2016, 2017) and the writing of legal scholar Antoinette Rouvroy (Rouvroy and Berns, 2013; Rouvroy, 2016, 2018). Rosamond shows how methods of standardisation, inherent to the platform model, allows the management of user profiles rather than individuals, in a way she likens to a financial derivative. Algorithmic mediation and redirection of address prevents the kind of indirect address that Michal Warner (2005) has argued is key to the formation of publics and counter-publics. Rouvroy goes further to show how the rules of algorithmic governance need never be fixed but can still be applied to the individual without their consent of event them being aware of it. These derivative profiles, whether online or in the museum, prevent the kind of critical view of the self in relation to the group that Rouvroy argues is key to subject formation, while art historian Cadence Kinsey (2018) argues that the tension between the authentic and the archetype is key to how identity within platforms is formed.

Much of the political thinking that informs my arguments comes from cultural and political theorist Jeremy Gilbert and his frequent collaborator Alex Williams (Fisher and Gilbert, 2014; Gilbert, 2015; Williams and Gilbert, 2018). Williams' doctoral thesis *Complexity & Hegemony* (2015a) argues that hegemony, in its sense as leadership, does not only operate at the level of language and social relations—as theorised by Ernesto Laclau and Chantal Mouffe (Laclau, 2000; Mouffe, 2013a) and Scott Lash (2007)—but is embedded in the technical systems that structure contemporary society, guiding bottom-up self-organisation. In this way complex hegemony can be seen as a creative *power-to* as well as a coercive or representative *power-over*. For this reason, as Jodi Dean (2003) has argued, configuration of these technical system, whether they be communication networks or art institutions, is key to the exercise of power. This research seeks to develop methods that can structure more equitable and less extractive relationships within groups and, drawing on Gilbert, connect

these alternatives "with those organisations and institutions which might be capable of enacting" these changes more widely (2015, p.210). Like Gilbert, this work draws on the associative, institutionalist theories of Hannah Arendt (1958, 1961) where freedom is understood as the capacity to act with others. This is presented as in explicit opposition to the sovereignty of the platform (Hu, 2015; Bratton, 2016; Easterling, 2016)—which Michele Feher (2015) argues is the institutional form neoliberalism—and a neoliberal culture which "works specifically to enhance our creative capacities while inhibiting any attempt to put them to work in a collective, political, democratic fashion" (Gilbert, 2015, p.212).

Context, limits and reflection

Despite, or perhaps because of, the broadness of this literature, there are many relevant contexts and fields that this thesis does not make direct connections to. Moreover, this thesis does not attempt to evaluate the outcome of the practice-based research in comparison to other art practices with similar methods or goals. This is despite the practice often being in direct and indirect dialogue with these expansive overlapping fields. The largest of these might be education in general and art education specifically, whether in the academy or the gallery. The PhD project sprung from Liverpool John Moores University's partnership with *L'internationale*—the research partnership of MG+MSUM (Ljubljana), Museo Reina Sofía (Madrid), MACBA (Barcelona), M HKA (Antwerp), SALT (Istanbul & Ankara), Van Abbemuseum (Eindhoven)—and specifically it's 'Mediation Task Force', a group of audience and education specialists who together developed what would become the *The Constituent Museum* (Byrne et al., 2018). My participation in this process, as well as in the 'constituencies' edition of the *Glossary of Common Knowledge* held in Liverpool in 2016,

was a key foundation and framing for much of this project, despite it being rarely referenced directly. My own previous work in gallery education at Flat Time House, London (2009-2015) working directly with students and graduates to support collaborative and self-led learning or supporting other artists—such as with Sarah Peirce's *Campus* (2013), Jakob Jakobsen's *ANTIKNOW* and Julika Gittner's *Common Enemies* (2015)—in realising participatory projects also underpins my approach. Alternative educational models are therefore implicit in the approach to the practice component of this research, informed by discourses that felt especially urgent in the UK at that time (Steedman et al., 2012; Ivison and Vandeputte, 2013; Arts Against Cuts, 2015; Gordon-Nesbitt, 2015) and artists working with and through education models, including Adelita Husni-Bey's *Postcards from the Desert Island* (2011), Fiona Whitton and Sean Dockray's *The Public School* (2007), Ahmet Öğüt's *The Silent University* (2012) and Ivana Momčilović's *PhD in One Night* (2007) well as my own work with LuckyPDF on the *School of Global Art* (2012). Conditions, where part of this research was conducted, is part of this ongoing shift away from seeing the academy as the sole site of art education and the self-institutionalisation (and perhaps professionalisation) of what might previously have been more informal organisations. There is of course a longer history of artist-initiated educational and participatory practices, documented by Claire Bishop in *Artificial Hells* (2012). Her conclusion agrees with Gilbert's, that contemporary 'volunteer' participation is highly compatible with neoliberalism. Indeed it is the foundation of the platform model that forms an ever increasing component of the global economy. Like Gilbert, Bishop sees the necessity (and current absence—something that those working as part of *L'internationale* acknowledge and seek to address) of institutions that can transform artistic imagination into action in the world. The result, argues, is a pressure on artists "to bear the burden of devising new models of social and political organising" (2012, p.284). This may well be one motivators of this project, however it is not participation in general that

this research is focused on, but artistic collaboration specifically. This comes out of my own experiences from 2008 until around 2014 as part of LuckyPDF, an artistic/curatorial group that operated through various layers of membership and participation to creative large collaborative artworks. This was a project of self-organisation and self-instituting that gave me a direct view of the limits of this model, especially when interacting with larger institutions, and specifically their education and marketing departments who were most interested in our event-based practice and large social media following. A techno-optimism—even though it often insisted it was a critical or ironic one—accompanied post-internet art and led us to believe that new digital tools would make older institutional forms obsolete. While this might be at least partially true, this thesis argues that those tools are designed with embedded power-dynamics that redistribute power and value to the platform while shifting cost and risk to the user. As such, my interested in new models of organising is firstly about sustainable structures through which artists can make work together—collaboratively or in parallel—and at the point of interaction between self-organised artists and institutions, whether they be art museums or digital platforms.

It is worth considering if fine art and its institutions are particularly ill-suited to collaborative practice, with many of the best examples of it pushing at the edges of or falling entirely outside of art, even if they are invited into the art museum. Higher profile examples would be Black Audio Film Collective and Karrabing Film Collective, both of which have received artworld recognition but which draw much more from the fields documentary and fiction filmmaking. Equally, Loraine Leeson and Peter Dunn's *Docklands Community Poster Project* was primarily a political campaign—though "the entire history of art production [is brought] to bear on the collective endeavours" (Murphy, 2004 quoted in Leeson, 2009, p. 156)—as was Arts Against Cuts, an organisation that I was peripherally involved in. My own

collaborative practice with LuckyPDF relied on the appropriation of formats from outside of fine art—most notably television but also film, fashion, advertising and education—in order to structure collaboration. For me, however, it was always the event of making television that was the focus, rather than the product. The adoption of mass media forms was just an excuse to get people together working on the same thing, and I was never very interesting in an audience beyond those collaborating. Outside of the context of LuckyPDF, my 2014 project *Cinema6,* in collaboration with curator John Bloomfield, brought the format of a community-programmed cinema into the gallery, structuring collective viewing experiences that have largely been absent from modern and contemporary art and fulling ignoring that it took place in the context of a contemporary art gallery.

There is another area that informs this research but directly addressed in the thesis, decentralised network technology. Both the cryptographic blockchain and federated social networks present themselves as alternatives to the domination of the platform (Mansoux and Abbing, 2020). As well as their many evangelists, there have been already been thoughtful and considered responses to how these technologies might be useful to artists (Catlow et al., 2017) and those seeking to make institutional change might use these technologies (DuPont, 2014; Terranova, 2014; Brekke, 2016, 2020; O'Dwyer, 2017). While Jaya Klara Brekke's centring of the question of which organisational functions we delegate to the algorithm is a central question for Beer's cybernetics, I have been very mindful of Quinn DuPont's argument that even the most sophisticated decentralised algorithmic systems can "devolve into traditional models of sociality—using existing strong ties to negotiate and influence, argue and disagree—all with nary a line of code in sight" (DuPont, 2017, p.158). The argument of this thesis is precisely that we need to develop better systems of negotiating,

arguing and disagreeing before we can decide what is delegated to the algorithm or the political configuration of our networks and protocols.

My use of Stafford Beer's *Team Syntegrity* protocol is then—in exactly the same way as television was for LuckyPDF—an appropriated format with which to structure collaboration, and my own interest remains in the process and experience of the participants, rather than the outcomes. The goal of my work however, in this research and elsewhere, aligns with Beer's: the shared interpretation of information and, as a result, a shared purpose (Beer, 1994a, p.10).

Methodology

While *Team Syntegrity* has been assessed as successful in achieving its stated aims of decision making amongst groups (Beer, 1994a; Bechler and Sakalis, 2017), this thesis proposes that it is capable of successfully structuring collaborative artistic practice as well as non-hierarchical decision-making and that it therefore has the potential to be the basis for a viable institutional form. The research operates through a series of artistic projects and events, which test a number of different adaptations of Beer's *Team Syntegrity* protocol—or syntegrations—in different art institutional contexts. This allows the research to draw conclusions not just about syntegration's validity as the basis of institutional organisation, but also about its capacity to generate autonomy within existing institutions, as well as outside of and parallel to them. The methods used, which by their nature involve collaborative experimentation, seek to discover how individual and group aims and identity and emerge from syntegration, and thus consider the distribution of authorship and leadership in this process.

Considering the *Team Syntegrity* protocol as an algorithm, the methodology draws on Robert Kitchin's (2014) suggestions for approaches to researching algorithms. These include the examination and deconstruction of "pseudo-code and/or source code", as is presented in or can be derived from Beer's publication of the protocol in *Beyond Dispute: The Invention of Team Syntegrity* (1994a). This was the necessary first step taken when developing the experiments in this project however, as detailed in section 4.3.1, this examination and deconstruction was undertaken collaboratively as part of the experiment through a process collaborative learning. Kitchin's second approach is *reflexively producing code*, the auto-ethnographic examination of the translation of action into algorithms in order to "tease out the various practices, interactions and politics of creating algorithms" (Kitchin, 2014, p.18). This approach was taken throughout chapters 4 and 5 when considering the adaptation of Beer's protocol to specific situations and its augmentation in response to suggestions made by collaborators during experimentation.

Due to the incomplete nature of Beer's description of the *Team Syntegrity* process, an element of *reverse engineering*, Kitchin's third approach, was required, especially when looking at the commercial syntegration examined in section 4.2. For this research, however, the most important method that Kitchin details is *unpacking the full socio-technical assemblage of algorithms,* noting that algorithms always operate in interaction with "infrastructure/hardware, code platforms, data, and interfaces" on the one hand and "forms of knowledge, legalities, governmentalities, institutions, marketplace, finance" on the other (Kitchin, 2014, p.21). For this reason, the first chapter of this thesis is a discussion of the causes, processes and consequences of the adoption of platform models by institutions of contemporary art, while the second chapter looks at the operation of *algocracy* within online

platforms. The extensive precursor to the discussion of the *Team Syntegrity* protocol and the experiments with it is necessary because studying algorythms "without considering their wider assemblage […] risks fetizishing the algorithm and code at the expense of the rest of the assemblage" (Kitchin, 2014, p.21).

While Kitchin's approaches are key to consideration of how my experimental syntegrations relate to and differ from Beer's *Team Syntegrity* protocol, and how they interact with the techno-social assemblage of institutions of contemporary art, this research primarily follows a practice-based methodology and the experiments are employed as artistic practice within institutional contexts, and must therefore be understood and implemented differently. While Kitchin notes "the difficulties of detaching oneself and gaining critical distance to be able to give clear insight into what is unfolding" in auto-ethnography, and that it "excludes any non-representational, unconscious acts from analysis", R. Lyle Skains considers subjectivity less of an issue in practice-based research and, indeed, that practice-based research is impossible without subjective self-observation and reflection (Skains, 2018, p.88). The key, for Sullivan, is to "maintain and monitor a creative and critical perspective so as to be able to document and defend the trustworthiness of interpretations made" (Sullivan, 2006, p.29).

Importantly, that the outcomes of the research are, primarily, artworks—the 'work in the world' or the experimental protocols that Kitchin describes—alongside the knowledge gained from reflection on the those outcomes and the process that produced them. Practice-based research requires both "creative action and critical reflection" (Sullivan, 2006, p.28) and nether is privileged in this research. As Sullivan argues, practice-based research is a "*transformative* act" with others and that "the outcome is not merely to help explain things in

causal or relational terms, but to fully understand them in a way that helps us act on that knowledge" (2006, p.22). He further see the artworks that result from practice-based research as 'institutional artifacts' which "exhibit properties that are primarily objective" and can therefore give "access to insights that can be intuitive, mindful, and discoverable" (2006, p.27).

As artworks, the experimental syntegrations that this thesis reflects on, interprets and draws its conclusions from were carried out during opportunities afforded to me by my own artistic practice through invitations to work with existing groups or form new ones, through the initiation of new projects or the contribution to ongoing ones. For this reason, each experiment is different in structure, ambition and duration, from a one-day public workshop to a four-month teaching project. By adapting the methods of Beer's *Team Syntegrity* to real-world artistic opportunities—working within and alongside different types of contemporary art institutions—the research is able to offer insight into the efficacy of the practice in different contexts and at different scales.

Ethics

The question of ethics in artistic research is contentious. Artistic research poses challenges for the understanding of ethics within an academic context, and very different expectations are placed on artists working inside and outside of the academy (Bolt et al., 2017). The College Art Association's Artist Code of Ethics emphasises artist's freedom to "challenge, criticize, and transgress" social standards and that artists "must be ethically free to ignore

limits established by legal authorities" (College Art Association (CAA), 2011) while Lucille Holmes suggests that "artistic freedom of expression entails the right not only to express opinions without interference, but also the right to employ unethical methods with artistic participants" (Holmes, 2020, p.642). Ethics frameworks and notions of informed consent developed biomedical research not necessarily transfer over to other fields (Jansen et al., 2017). Beyond this, ethical frameworks for creative and performing arts are often undifferentiated from those applying to research in social sciences or humanities, such as philosophy, history and literature (Gurzawska and Benčin, 2015). These often place primary importance on anonymity when collecting data from human participants (Holmes, 2020, p.637) in a way that is not just unsuitable for artistic research, but may directly conflict with art's ethical responsibilities to properly assign credit and authorship to participants even when—as is discussed in section 1.3.4 of this thesis—this may be impossible.

The mechanisms of privacy and authorship are key questions that this project seeks to address and, as will be discussed, syntegration is a powerful tool for producing informed, collective consent in regards to questions of what becomes public and what remains private. Initiating a process of collaborative making and learning, where neither the outcomes or the specifics of the process are predetermined, means informed consent is not possible prior to the process and to pretend it is would be unethical. This being the case, each experiment was conducted with participants responding to an open call which made clear the nature, basis and aim of the process. Each of the experiments also took place inside its own institutional context, with their own ethical frameworks already in place prior to any actions initiated by myself. These leads to some peculiarities, for example the full audio recording of the *Reading and Thinging* session—which in my personal view makes too much of the process visible, but which was standard practice for this group and was consented to by participants as

such—or the necessity of providing grades to those participating in *How to build a platform* as part of their studies.

As such, this project presents only the public outcomes of these experiments which are the result of the processes and which have been made public by the participants themselves and participants are only identified where they are also identified in those public outcomes. The analysis is therefore, as discussed in the methodology, based on my own self-observation and the 'work in the world' and 'institutional artifacts' that resulted from these experiments.

Contributions

This research starts from the position that the democratic institutions are the basis of a democratic society and follows Jeremy Gilbert's call for "a deepening and extending of democratic relations" in all aspects of society. The project aims to be a contribution to the development of what in his view this requires: "both more concrete ideas about what such institutions might look like and also conceptual resources with which to solve some of the problems which an idea such as 'participatory democracy' necessarily raises" (Gilbert, 2015, p.161). The interdisciplinary subject of this research makes a contribution to three distinct fields that I bring together in the theoretical discussion and practical experimentation: critical studies of technology, cybernetic management and institutional practice in the field of contemporary art. Ideas and approaches from all three areas are brought to bear on each other, highlighting gaps in each.

Firstly, it presents the platform-user relation as central to the operation of power within networked society, detailing the mechanisms by which it operates and drawing on cybernetics to show that it is an authoritarian relation in which the purpose of the components it supports are subordinated to the purpose of the platform itself.

Secondly, it shows that syntegrations, derived from Beer's *Team Syntegrity* protocol, are capable of satisfying the requirements for viability because of the way embedded characteristics allow identity to emerge from the network of relations that self-organise around it. Rather than operating through a platform-user relation, syntegrations resist authoritarianism by distributing leadership, cultivating the subjectivities that the platform-user relation proscribes.

Finally, the research shows that, when implemented within institutions of contemporary art, syntegration has the capacity to structure not only discursive relations, but also collaborative artistic practice. This allows self-instituting, with democratic subjectivities and autonomous purpose able to flow upwards to the institutional identities that emerge from the syntegration process. Conceptual tools from the study of technology have allowed a more critical understanding of syntegration as a tool for subject formation which, when combined with creative practice, offers a new institutional model, one that is able to fulfil institutional desire for greater democracy while avoiding the unequal power relation that a platform model constructs.

If, as argued, the politics of platforms result from their specific configuration of a network of relations, then an alternative configuration should allow for a different kind of politics. The

experiments with syntegration as collective creative actions within existing network and institutional contexts also allow this research to make propositions about the suitability of the institutions of contemporary art for the type of practices described. Syntegration, as a simple and transparent framework for collaboration, does not prescribe specific relations but, as this thesis will argue, structures a process of learning how to be democratic together. This research proposes that this method of learning allows for the formation of a democratic subject, aligning with the role given to contemporary art institutions as site of, traditionally, socialisation and subject formation and, in more recent models, the cultivation of individuality. The platform models adopted by contemporary art institutions, even when intending to provide these outcomes, are structured in such a way as to constrain and prevent the types of creativity and subjectivisation they aim to promote and facilitate. This research therefore proposes that only pressures to change that comes from below—from the making of art and the development of small-scale institutions which larger ones must adapt themselves to—has the capacity to achieve open, democratic and creative institutional forms that preserve creativity and autonomy.

Structure

Chapter 1 places the operation of the platform in context. First, it places networked communication in the context of questions of what a public is and how it is formed. Second, it explores how the platform-user relation and the financialisaton of sharing operates within the institutions of contemporary art, which can be seen as increasingly adopting a platform model.

Chapter 2 focuses on algocracy, rule by algorithms, which underpins the platform-user relation. It will be argued that algorithmic meditation of our interactions with technical systems has meant that algocracy has come to replace both bureaucracy and democracy as the dominant institutional order. The desire for predictability that algocracy displays necessarily impacts human freedom and creativity, understood as the ability to do the unexpected, while the impossibility of liberal discourse within the platform means that new methods for producing legitimacy, representativeness and credibility are required, necessitating a common environment.

Chapter 3 examines the theory and practice of Stafford Beer's cybernetic management, arguing that *Team Syntegrity* can itself be understood to conform to his definition of a viable system, rather than just a component part of it as he proposed. It does this by following Laurence Rassel's propositions about the separation of role and function whilst also utilising a closer examination of the influence of Humberto Maturana and Francisco Varela's concept of *autopoiesis*.

Chapter 4 then details both the experiments conducted as part of this research, contrasting it to a recent full-scale 'orthadox' *Team Syntegrity* event, analyised through accounts of its participants and organisers. My four experimental syntegrations will then be used to draw lessons about how, in what context and with what modifications syntegration is able to structure not just discussion but also artistic collaboration.

A concluding, fifth chapter makes a series of comparisons between the theory of *Team Syntegrity* and the experimental syntegrations carried out as part of this research, contrasting them to the platform logic and algocratic platform-user relation. Addressing each of the identified properties and mechanisms of platforms and algocracy—opacity and visibility, predictability and categorisation—it will show that while, in some respects, syntegration

produces a platform-like organisational structure, the network of relations that it structures prevents the authoritarian, algocratic nature of the platform-user relation. Instead, it self-organises around the protocol's embedded characteristics to produce a bottom-up mechanism for determining the system's purpose and non-financialised relations of sharing, allowing the emergence of creativity, credibility and subjectivisation.

Chapter 1 — Platforms

Platform is a ubiquitous term for the way we interact with a wide variety of technologies, whether that be an operating system or a social network (Gillespie, 2017). Increasingly it is also used to describe and understand a much wider variety of social structures and institutions (Gerbaudo, 2019) to the extent that Michel Feher has suggested that the platform is the institutional form of contemporary government (Feher, 2015).

The first chapter of this thesis will define the platform by detailing its unique characteristics, arguing that the platform arises from the interaction of two related technological concepts, *infrastructure* and *protocol* but that in addition the platform displays properties of sovereignty. It then argues that the primary type of relation within the platform is one of sharing which defines the relationship between platform and user.

Following this, the chapter will then take a broader, more historically situated look at the changing notions of public and private following the work of Hannah Arendt. It will then take a detailed account of the function of publicity, particularly online, through the work of Jodi Dean, arguing that networked publics are best understood through the practice of hegemony, but that the understanding of this developed by Erensto Laclau and Chantal Mouffe requires a more materialist basis when applied to the platform.

Finally, it will use this elaborated understanding of platforms and publics to examine the contemporary art institution, showing how the transition from the modern to the contemporary museum mimics the transformation of networked communication into platforms.

1.1 — Platforms, sovereignty and sharing

The first section of this chapter argues that the platform is the ubiquitous form of organisation and governance in contemporary society. Drawing on the existing literature it defines the key characteristics of the platform. Firstly, it makes the connection between platforms and the ideas of *infrastructure* and *protocol*. The concept of *homeostasis* is used to show that what Alex Willians terms 'platform logic' relies on both negative and positive feedback, allowing platforms to regulate and capture the unexpected in a way that the fixed nature of infrastructure and protocol cannot. Benjamin Bratton's (2016) discussion of the figure of the *User* will be used to describe what I will call the *platform-user* relation. Drawing on Michel Feher to show that this relation is based on sharing, the *platform-user* relation will be argued to be part of a process of the financialisation of society in which individuals seek to increase their personal value, reputation or credibility. As value is based on the evaluation of others—subjective rather than objective—it requires what Paolo Virno (2004), following Hannah Arendt, calls 'publicly organised space'.

1.1.1 — Platforms, protocols and infrastructure

The work of architect and urbanist Keller Easterling looks at the physical infrastructure of contemporary global communication, focusing on how it manifests in physical space and the built environment, for example, how the paths of high-speed data cables encourages, and are encouraged by, the siting of 'digital villages' or enterprise zones that exacerbate uneven

development and information access (Easterling, 2016, p.126). Easterling sees infrastructure not only as physical, but also comprised of rules and standards that govern how technology is used, as well as the narratives that make sense of it. She encourages an understanding of infrastructures based on what they do rather than what they claim to do. Arguing for the importance of analysing infrastructure's 'disposition'—"the character or propensity of an organization that results from all its activity" (2016, p.21) as well as "the relationships between things or the repertoires they enact" (2016, p.4)—she sees infrastructure as a series of 'active forms' that have an informational component, making some things possible and others impossible. It is in the informational component of infrastructure that she sees a way to assess their inherent, if undeclared, nature, which "manifests, not in text or code, but in activity" (2016, p.86). Easterling's argument is close to that of Stafford Beer's claim—central to his Viable System Model discussed in Chapter 3—that "the purpose of a system is what it does" (Beer, 1985, p.99). Linking these ideas to Deleuze and Guatari's concepts of the diagram, Easterling suggests that infrastructure, conceived in this way, can be viewed as a platform. When infrastructure is seen as neither an object nor a plan, but a set of instructions for the interplay between parts, it can be used to shape activities and relationships over time (Easterling, 2016, pp.80–84).

These rules and instructions are what Alexander Galloway and Eugene Thacker refer to as protocol. An attempt to understand the politics of networks at the 'microtechnical' level, they define protocol as "conventional rules and standards that govern relationships within networks" allowing the physical infrastructure of a network to function (Galloway and Thacker, 2004, p.8). Though emerging from a specific technological field, they show how protocol is applicable in a social, economic and legal setting (2004, pp.13–14) and beyond this to the biological, with protocol operating whenever a system is conceived as an

information network (2004, p.20). For Thacker, protocol is the answer to the question of "where the power has gone" (Thacker, 2004, p.xix) within the non-hierarchical network, with Galloway describing it as a "management style" or "principal of organisation" which displays "neither on the central control of the sovereign nor on the decentralized control of the prison" (2004, p.3) making a link to Giles Deleuze's essay *Postscript on the Societies of Control* (1992). Deleuze has suggested that contemporary society is not based on discipline and punishment, administered by institutions in specific times and places—as theorised by Michel Foucault (2012)—but one based on a more defuse, but prevalent, system of control which operates through what he terms 'modulation'. While Deleuze connected sovereignty to simple machines and discipline to the steam age, "control societies function with a third generation of machines, with information technology and computers." (Galloway, 2004, p.22)

While Galloway and Thacker's thinking on protocols is helpful in understanding the way infrastructure comes to act as a mechanism of control or governance, it is in the complex constructions of hardware and software, the physical and social structures described by Easterling, through which the platform emerges as the site of control.

Building on the conception of the protological, Alex Williams links Deleuze's concept of modulation back to the homeostatic self-regulation of cybernetics described by Norbert Wiener (Wiener, 2007). Exemplified by William Ross Ashby's *homeostat*—an electronic device that, through feedback loops, could bring itself to a state of equilibrium (Pickering, 2010, p.104)—cyberneticians proposed homeostasis as "the tendency of complex systems to run towards an equilibrial state" (Beer, 1995, p.426). Viewed as a cybernetic system, control society operates through decentralised feedback mechanisms that can regulate without the need to exercise direct authority. For Shoshana Zuboff, rather than simply automating

bureaucracy, in the way that mechanical devices such as a clocking-in machine did, computational, algorithmic mediation operates differently because it "simultaneously generates information" (2015, p.76). This change between 'dumb' and 'smart' automation has the effect of providing a new kind of transparency to a previously opaque processes, such that "events, objects, processes, and people become visible, knowable, and shareable in a new way" (2015, p.77). While this aligns with the suggestion made in Deleuze's conception of the role of the computer in control society, Zuboff's work on computer mediation predates Deleuze's. She argues that the nature of authority and power is altered by 'smart machines', leading to "internal commitment and motivation replace obedience as the primary bond between the individual and the task" (Zuboff, 1988, p.291).

For Williams it is not only restraint or negative feedback through which control societies exercises their power, but also their ability to enable, while still modulating or regulating, unforeseen action using positive feedback. Such feedback loops lead to greater complexity because they are both non-linear (with changes in output not proportional to changes in input) and irreversible. The name Williams gives this mechanism that both restricts and enables, is the 'platform', defined by its complementary qualities of being open and closed, composed of "the necessary and the contingent" (2015b, p.12). This is not a simple opposition of form and content, with the platform providing the former and the user-generated content the later—as with social media—but rather a question of behaviour and use. Like Easterling's description of infrastructure as "spacial software" (2016, p.81), a platform's design may make certain uses more or less likely but 'correct' use is not necessarily predefined. A platform's flexibility, however, means it can adapt to amplify, as well as curtail, new behaviours as they

emerge[2]. Williams describes platforms as consisting of core, relatively stable elements that enable and support a much wider variety of other components. If the new uses, behaviours and components that emerge are reliant on a platform's core, it puts the platform in a very powerful position, leading to what philosopher of complexity William C. Wimsatt calls generative entrenchment—a "feature of a structure [...] that has many other things depending on it because it has played a role in generating them" (Wimsatt, 2007 quoted in Williams 2015, p. 14) and, as a result, a tendency towards monopolisation (Srnicek, 2017).

While generative entrenchment and modulation are key features of platforms, I would argue that alone they are not sufficient to distinguish a platform from protocol or infrastructure. Both protocols and infrastructures modulate behaviour—making certain things more or less likely without the need for enforcement—and can entrench themselves through use, making them increasingly difficult or costly to break away from. A platform's modularity allows it to combine features of both protocol and infrastructure. Protocol's key feature—its openness and decentralisation—does not allow for the re-enclosure that a platform does, while fixed infrastructure alone does not have the flexibility to modulate emerging behaviour. Platforms are able to operate through both centralising and decentralising actions, flattening some things and hierachising others, opening and closing themselves at the same time.

Writing at the beginning of the century[3], Galloway still sees a dynamic of conflict between centralised hierarchy and the protocological network (Galloway, 2004, p.244). Easterling's more recent work emphasises that the modulating effect of infrastructure must be indeterminate in order to be practical, managing a disposition over time (Easterling, 2016,

[2] A good example of this being the twitter #hashtag, which was first introduced by users before being adopted as part of the platform's design (Parker, 2011).
[3] Galloway's *Protocol* was published the same year as Facebook launched and an O'Reilly Media conference popularised the term 'Web 2.0'.

p.91). It is through the flexibility of the protocol that infrastructure becomes a platform. Based upon open protocols, platforms utilise the potential of this openness, while at the same time, like infrastructure, are able to assert centralised and centralising power.

1.1.2 — Sovereignty and the Stack

While Williams sees the modularity and modulation of the platform as evidence that they are expressions of the control society, the next part of this section will move beyond this, to explore ideas introduced by Tung-Hui Hu, Easterling and Benjamin Bratton that, rather than simply being mechanisms of modulatory control, platforms open the way for the re-emergence of sovereignty.

Platform sovereignty emerges at the point where the platform comes into contact, or even conflict, with the state. While Hu sees 'data sovereignty' in the fact that networked technology places us within the same technical, political and economic systems that states use to enact violence (Hu, 2015, p.xvii)—for example the data-driven drone strike kill lists (Currier, 2015)—Easterling's concept of Extrastatecraft is precisely the reappearance of non-state sovereignty—albeit in a "bifurcated" or "hypocritical" form (Easterling, 2016, p.49)—in special economic zones. For Bratton, an overlapping of sovereignties increasingly occurs as states become more machine-like (infrastructural and protocological) and machines become more state-like. The domain in which they then meet is what he calls the Stack. The model of the stack comes from computer science, describing how different 'layers' of computer architecture, from the semiconducting silicon to binary computation to the graphics on screen, function together while only interacting with the layer immediately above or below

them. Rather than simply being a representation of how technology works, the Stack is a model of complex systems: technical, environmental, social and, in operation, combinations of all three (2016, p.11). While Bratton is clear that the Stack is a metaphor, he sees it as not simply helpful as a descriptor but rather as a design principle (2016, p.53), a model or diagram with which to not only to understand complex systems, but also one upon which they are constructed (2016, p.4).

Bratton places more emphasis than the authors already discussed on the role of the user, the topmost layer of his Stack, the history and applications of which will be discussed in detail later in this chapter. The key feature of the User-Platform relation that he describes—and the one that is most important for the arguments that this chapter and the rest of this project makes—is how it constructs and distributes value. The 'higher-order' organising that a platform performs increases the value of the information it organises. This produces a surplus when the value of the result is greater than the cost of collecting and organising disorganised (or less organised) information. Bratton sees this surplus as being divided between the platform and the user, but that the platform is in the position to acquire the greatest share of the surplus (Bratton, 2016, p.154). Platforms are incentivised to provide just enough value to the user—or prohibitive penalties for disengaging—that they will continue to use and, at the same time, maximising the types of information it can organise. Unlike price information in a market, the organisation in a platform is centralised and the visibility of the information is under the platform's control. For Zuboff (2015) this visibility creates a break with the classical conception of the market as unknowable in its entirety from any single point and therefore necessarily independent from bureaucratic governance. Information that was once seen as inherently decentralised in the market is now recentralised in the platform, and can therefore be controlled in different ways, allowing the visible hand of management and

invisible hand of the market to work together. Platforms are able to blur market and non-market information—essentially price and reputation (Morozov, 2019)—in a way that negates the anti-authoritarian qualities of markets that their advocates such as Friedrich Hayek ascribe them (Davies, 2014, p.18). This understanding of the mixing of market and bureaucratic mechanisms and the distribution of the resulting surplus provides a much fuller account of the rise and dominance of platforms than either the cybernetic logics of generative entrenchment and their monopolistic tendencies (Srnicek, 2017) or the protocological adaptability that Galloway proposes. This sharing of surplus value is, in my view, key to understanding platform logic from both the user and the platform's perspective. As the next section will discuss, the sharing that the platform facilitates allows it to operate beyond information and computer networks in the institutions that comprise society.

1.1.3 — Sharing and financialisation

A far more detailed and historically situated account of sharing is offered by Michel Feher. He shows that it is not a simple cost-benefit calculation—the incentive of a share of surplus and entrenchment based on cost of change—that ties users to platforms. The logic of sharing upon which platforms operate is, he argues, part of an new and significantly different self-conception of people and their conduct. Key to Feher's concept of sharing as the governing logic of the platform—put forward in his essay on self-appreciation (2009) and expanded in his lecture series *The Age of Appreciation* (2013-2015)—is that rather than trading, which seeks profit, sharing seeks credit (Feher, 2013). In this situation, value is not something to be realised in the present, but to be held in potential in the future. As Maurizio Lazzarato argues "finance is a promise of future wealth and, consequently, incommensurable with actual

wealth" (2012, p.46). Feher argues that the logic of sharing manifests as the financialisation of 'human capital', going a step beyond the economic subject as proposed by neoliberal economists such as Gary S. Becker that is, in my view, still present in the indebted subject described by Lazzarato in *the Making of Indebted Man* (2012). While human capital 'invests' in the self with the expectation of future profit—for example through education—Feher's contemporary economic subject seeks an increase, or appreciation, in the value of the self—what he calls 'self-esteem' or reputation.

For Feher, this financialisation is achieved by sharing in a number of ways. We share more in the sense that more aspects of ourselves are made available to be evaluated by others. Additionally, as human capital, we are not owners but investors in ourselves and as such share ourselves with other investors (2009, p.34). Feher shows that neoliberal subjects can be governed, or made to govern themselves, by providing "models of self-valuation that modify their priorities and inflect their strategic choices" (Feher, 2009, p.28)—precisely the protcological modulation already described—but goes on to show that this self-valuation is dependent on sharing because the evaluation must occur in public and is therefore dependent on what Paolo Virno (2004), following Hannah Arendt, has called 'publicly organised space'. Feher (2015) argues that the imperative of neoliberal governments, or rather governance, is the facilitation of sharing, and the institutional form of neoliberalism is the publicly organised space of the platform.

Sharing then, as a mode of interaction that allows for evaluation, can be seen as central to platform logic as it is the mechanism that allows the platform to modulate its users through the models of self-valuation and reputation within the system. It is a prerequisite of the higher-order organising from which the platform derives its surplus value, providing the

blurred boundaries of openness and closedness that allows platform sovereignty to capture and exclude as necessary. Sharing and its finacialisation is, therefore, the prevailing mode of economic relation within platforms and platform-like structures. Understanding how they operate beyond information networks requires a deeper engagement with publicly organised space to see how the platform's organisation, outcomes and effects differ from previous conceptions of public space and the public. To do this, the second section of this chapter will take a more detailed look at Arendt's conception of the public, linking and contrasting it to a number of approaches to publics and their politics.

1.2 — The Public and the Private

This second section of the chapter looks at how notions of the public originated and how they have been affected by recent technological developments. Following Hannah Arendt (1958), it will be shown that the modern social sphere blurs the boundaries of public and private. Jurgen Habermas' concept of the *Public Sphere,* key to how many thinkers understand the relationship of the individual to society, is not applicable to networked communication because, as Jodi Dean (2002) argues, it cannot be both inclusive and consensual as an ideal Habermasian public sphere requires. While Nancy Fraser (1990) and Michael Warner (2005) advance the political potential of *counterpublics* for allowing pluralism within the public sphere, Dean argues that the dynamic of networked publics is best understood through Ernsto Laclau and Chantelle Mouffe's ideas of antagonistic groups struggling for hegemony which, for Dean, centre around the configuration of the network itself.

I will argue that Dean's application of hegemony to the formal and material aspects of networked communication suggests that Laclau and Mouffe's theory of hegemonic discourse

is not adequate to describe contemporary publics which should not be understood as organising themselves through discourse alone. Instead, I will argue that technical systems now perform many of the functions ascribed to discourse, legitimation of judgements, identification, subjectivisation and even believing. While Scott Lash (2007) describes this technical power as 'post-hegemonic', my argument will follow Alex William's (2015a) in seeing it as a form of *complex hegemony,* taking into account all kinds of relations, not merely discursive ones, and emphasising hegemony as a form of leadership. This argument will be supplemented by the ideas of Arendt for whom the public realm is based on institutions that require continuous acts of leadership with others. Her understanding of this type of leadership as freedom, based in the creative *power to*, opposed to the *power over* of sovereignty, will be used to show an alternative to the platform sovereignty, described in section 1.1.2, that is necessary for the new institutional form this thesis proposes to be successful.

1.2.1 — The social and the intimate

Hannah Arendt's *The Human Condition* describes how the ancient Greek opposition of political activity—mediated by speech—to the 'natural' relationships of family life and despotic government—based on violence—defines the distinction between public and private realms (Arendt, 1958, pp.24–28). These ancient separations become blurred with the emergence of the modern social sphere "which is neither public nor private, strictly speaking" (Arendt, 1958, p.8) and specifically the nation state, conceived of and politically organised as though it were a single family. Jürgen Habermas's concept of the Public Sphere—conceived as an open and inclusive space in which reason is used to establish and

legitimate norms by rational, self-interested individuals (Dean, 2003, p.96)—operates at the scale of the nation, with citizenship the criteria for participation. Nancy Fraser describes the public sphere as "the space in which citizens deliberate about their common affairs" through "discursive interaction" (1990, p.57), while Chantel Mouffe makes clear that Habermas's public sphere does not allow for a clear separation between public and private (2000, p.91)—acting to bridge private rights and collective formation (2000, p. 85)—and is thus social, rather than properly public in Arendt's sense.

Habermas's conception of an 'ideal discourse'—open, impartial and equitable—allows rational judgments to gain legitimacy, with rational argument always leading to "reasonable outcomes" (Mouffe, 2000, p.88). However, because correct judgments need to be fully informed, Jodi Dean shows how members of the public are compelled to reveal their private selves to public scrutiny. What was previously private becomes of interest and consequence in the public sphere, subject to "the law of reputation" where action becomes "subject to the praise and blame of one's fellow citizens" (Dean, 2002, p.25). Though the private realm of the family is outside the commodification—though "profoundly caught up in the requirements of the market" (Habermas, 1989, p.55)—for Habermas it strives for "transparency" (Dean, 2002, p.32), orientating itself towards an audience in order to allow the rational judgement of the public to act as a moral judgment of the private realm. Whereas the ancient public realm was the space to cultivate and express individuality through action, modern thinkers such as Rousseau saw the public as demanding conformity with deviation from society's norms and rules is considered "asocial or abnormal" (Arendt, 1958, pp.41–2). While public comes to mean social, the private becomes reduced to the intimate. For Arendt the "modern discovery of intimacy seems a flight from the whole outer world into the inner subjectivity of the individual" (1958, p.69). To be private is to be disconnected from others, where action is "without significance and consequence" (1958, p.58).

1.2.2 — Publics and Counterpublics

Publicity is the mechanism by which things come to public attention and which, for Arendt, allow us to construct a shared reality (1958, p.52). Jodi Dean goes further to propose publicity as the "organizing element of democratic politics" as well as the "governing concept of the information age" (Dean, 2002, p.15). For Dean however, publicity is always in relation to its inverse, the secret. Dean shows the public sphere as arising from a public critical of absolutist governments, protected by their "sovereign privilege of secrecy" (2002, p.17), with publicity providing "a way to counter, to rationalize, arbitrary sovereign power by subjecting it to the scrutiny of reason" (2002, p. 28). Publicity drives the movement towards an ideal, unitary public that can have a single opinion and single interest. This idealised public requires and demands a constant "active *knowing"* (Dean, 2002, p.18)—a gaze from which nothing can escape—that aims to reveal and scrutinise secrets. Dean points out however, that the secret, as "form, not content […] can never fully or finally be revealed" (2002, p.42). While Habermas admits that the public sphere can be manipulated by public relations—consumer as opposed to critical publicity (Dean, 2002, p.38)—his proscription is more transparency to allow for more rational debate and a disavowal of the 'secret politics' of interest groups (Habermas, 1989, p.201). Dean connects this to the drive towards surveillance found in the platform architecture of networked communication (2002, p. 46) but it can also be found in the ideology of Wikileaks which demands a forced publicity—or 'black transparency' (Metahaven, 2015, p.25)—in the name of democracy. Dean argues that this desire for more publicity and wider circulation has been answered by networked

communication but that, far from allowing for the emergence of an ideal public, networks reveal more clearly the fiction that the public sphere has always relied on, that it's possible to determine a single social interest.

The deliberative democracy that Habermas promotes advances to all citizens the capacity to rationally discuss and come to consensus on how to act in the public interest, seeking to expand the bourgeois public sphere that emerged in the 18th century with the aim of reaching consensus, rather than compromise, between conflicting parties (Mouffe 2000, p. 82). Nancy Fraser (1990) criticises Habermas's insistence that a singular public sphere is the ideal arena for democratic discourse and that deliberation's goal should be to produce a unitary public with united interests. Against Habermas's assertion that the fracturing of the public sphere has led to a degradation of democracy, Fraser argues that in a stratified society "parity of participation" is not possible and that a single public sphere will exacerbate existing social inequality (Fraser, 1990, p.66). The public sphere was never open or accessible to anyone who could "justifiably show that they are relevantly affected by the proposed norm under question" (Mouffe, 2000, p.87), as it claimed, a claim upon which its legitimacy rested (Fraser 1990, p. 63). Fraser argues that excluded groups have repeatedly found it advantageous to create what she calls *subaltern counterpublics* that "stand in a contestatory relationship to dominant publics" (1990, p.70) and "permit them to formulate oppositional interpretations of their identities, interests, and needs" (1990, p.67). One important area where this happens is in the boundary between public and private, or rather what private matters are deemed publicly relevant. Fraser argues that the privacy of the domestic sphere has been used to remove issues like domestic labour and spousal violence from public debate and contestation (1990, p. 73). The second-wave feminist movement of the second half of the 20th century acted as a subaltern counterpublic because it contested what was previously "exempt from contestation" (1990, p.67), thus altering what was part of public discourse, the

public's understanding of itself.

Michel Warner's influential *Publics and Counterpublics* (2005), which takes up Fraser's idea that multiple publics can and do exist in opposition to the totalising public sphere described by Habermas, contends that, rather than publics generating contesting discourses, it is discourses that generate publics. For Warner, publics come into existence by virtue of being addressed (2002, p.50) and a public is created when it recognises itself as being addressed by a discourse or, more broadly, a text. A public must be imagined by a discourse before it can come together through recognising itself as the intended audience of that discourse (2002, p. 51). To put this another way, a public must be represented in discourse, and recognise itself in that representation. Warner builds on ideas contained in Habermas (1989, p. 20-2) and expanded in detail in Benedict Anderson's *Imagined Communities* (1991) about the centrality of newspapers in producing a modern public and national identity, but goes further than both by describing how this happens on multiple scales, not just at that of the nation. Warner conceives of publics as 'self-organising' around the discourse that it recognises as being addressed to it. This means that the addressee is not known in advance, so discourse must be both personal and impersonal, as though addressed to a stranger. Recognition as being the stranger addressed is therefore subjectivising—what Louis Althusers would call interpellating (Althusser, 1971)—because it produces an understanding of ourselves in relation to others. Counterpublic discourse is, for Warner, creative rather than persuasive (2002, p.82), operating as a world-making project that must imagine new forms of stranger-sociality and attempt to realise this new world by putting its discourse into circulation (2002, p. 87).

For Warner, publics lack "any institutional being" (2002, p.61) and this is a fundamental feature of their independence. I would argue, however, that institutions and publics are not so easily separated. Warner acknowledges that a public only 'seems' to be self-organising

around discourse and in fact "requires preexisting forms and channels of circulation" (2002, p. 75) but argues that publics "cease to exist when attention is no longer predicated" (2002, p.61). For Arendt, institutions are the product of continuous action and their "conservation is achieved by the same means that brought them into being" (Arendt, 1961, p.153) which is continued action. Although Arendt would not class attention as action, I would argue that networked communication removes the boundary between action and attention, blurring the boundaries between attention-based publics and action-based institutions. Warner's counterpublics are, I would argue, not separable from their infrastructural supports. In my view it is beneficial to understand the structure around which publics organise themselves as institutions and that, rather than being independent from them, there is an inter-dependence between the institutional form around which a public organises and the action and attention of that public which maintains the institution. Understanding how material conditions and institutional forms impact on discourse is, therefore, important and requires a supplemented understanding of the public and the public sphere, especially within the specific institutional forms of networks and platforms.

Jodi Dean shows that while technically non-hierarchical at the level of protocol, networked communication does not eliminate the barriers to inclusion that prevent equal participation in the public, namely that what and who is considered 'reasonable' is determined by existing power structures built on gender, race and social class (2003, p.104). Further, the abundance of voices and opinions means that the public sphere's goal of reaching reasoned consensus necessitates a filtering of information by institutional and, as will be discussed in detail in Chapter 2, algorithmic forces. Here Dean identifies one of the key ways in which platforms exercise power. While the internet has allowed more and more people to "speak 'in one's

own voice'" (Fraser, 1990, p.69), Joe Veix (2016) has shown that the filtering that online platforms employ hide the 'weird' from view, preventing the circulation that would allow them to become part of a discourse. In Dean's view neither the secret counterpublics which lose their transformative potential on contact with the social public sphere—described by Warner (2005)—nor the counterpublics acting to allow equitable participation of previously excluded voices—put forward by Fraser (1990)—are able to interact is a way that leads to consensus. Instead, she draws on ideas developed by Ernesto Laclau and Chantal Mouffe to show that the internet remains antagonistic and operates as a site of struggle for hegemony over the configuration of the network itself.

Dean's argument is that publicity in the information age no longer serves the function it was given by Jeremy Bentham, as a relation of trust between a knowing elite and a believing majority, but rather its opposite (Dean, 2002, p.19). With ever more access to information, everyone can be an expert but "the more information we have, the less we think we have" (2002, p.43). The public knows, even though we know that we don't know everything. Face with a disbelieving public, it is technologies of publicity that take on the role of believing. As Dean states: "satellites, the Internet, and surveillance cameras" do the believing for us (2002, p.44). In the absence of a credible public sphere, the belief that the technologies of communication must maintain is in the existence of a public. In network communication, it is the platforms that have to believe, to hold everything together, to imagine a public that we know doesn't exist. This is, I would argue, the role that Bratton ascribes to global cloud computing: "computation, which otherwise might be defined differently, comes to refer to 'algorithms holding systems of information together.'" (Bratton, 2016, p.55). Information, as the basis of the rational judgement of the public, is not revealed by public debate but rather constructed by algorithmic computation. While the computational construction of norms will

be discussed in Chapter 2, and alternatives to this described in Chapters 3 and 4, the following section will look in more detail at the exercise of power within platforms through the configuration of institutions as a component of hegemony—combinations of infrastructure, protocol and discourse—emphasising leadership.

1.2.3 — Institutions and complex hegemony

Dean's application of hegemony to the material configuration of networks—not just the discourses that exist within it—begins to suggest that the post-structuralist ideas of Laclau and Mouffe—as well as Warner and Fraser—are not adequate to describe contemporary publics or the politics of networks and platforms. A public or publics can no longer be understood as recognising and organising themselves through discourse alone. Instead, technical systems now perform many of the functions ascribed to discourse, legitimating judgement but also identification, subjectivisation and belief. Laclau and Mouffe's expanded definition of discourse as meaning given to things—objects as well as ideas—through their relations or articulation (Laclau, 1990, p.100) allows them to generalise the concept of hegemony as the power to produce meaning through the making of relations of difference and equivalence (Williams, 2015a, pp.113–5). Alex Williams, however, argues that "a social ontology of discourse, operating on language-like relations of difference and equivalence" that Laclau and Mouffe advance "becomes increasingly incoherent the further the object of analysis moves from ideology towards the material, the scientific, the technological, or the infrastructural" (Williams, 2015a, p.8). The increasing influence of non-language based and non-discursive forms of power, namely technology, means that theories of discursivity have "failed to preserve the full complexity of the social" (Williams, 2015a, p.9). While Scott Lash has argued that social and technological developments have led to an operation of power that is post-hegemonic (Lash, 2007), the shifting forms of contemporary power that he identifies

does not lead Williams to abandon hegemony as a conceptual tool. Instead, Williams updates the concept to make it relevant to contemporary complex systems. Taking up the sense of hegemony as leadership—important in earlier deployments of the term by Antonio Gramsci (Williams, 2015a, p.89)—he proposes that it operates as "guided self-organisation" (Williams, 2015a, p.9). For Williams, Lash misrepresents hegemony as purely a *power-over*, rather that it's leadership dimension that makes it a *power-to* (2015a, p.128). He argues that "hegemonic *effects* are still readily observable in our present moment" (Williams, 2015a, p.133) and therefore it is necessary to update the concept of hegemony to include ontological as well as epistemological or discursive relations. He does this by showing how hegemony can be embedded into complex systems (Williams and Gilbert, 2018), an internal guiding force rather than an external one. This development of the concept of hegemony, which he calls *complex hegemony*, enables elements of both coercion and consent, epistemological and ontological power and internal and external organisation that he sees as necessary to understanding the contemporary operation of power within a platform networked society.

Williams helpfully describes self-organisation as "organisation of a self" (2015a, p.24), making the connection between complex systems and identity. Hegemony is understood as the guidance of self-organisation and can be seen to effect the production of identity and subjectivity. The guided self-organisation of complex hegemony is apparent in the self-organising identities that Warner describes, which assemble themselves around a text that is indirectly addressed to them. Williams is clear, however, that complex hegemony also effects "processes and entities which are non-discursive"—outside of language and language like-relations of equivalence and difference—"including the economic and the technical infrastructure" (2015a, p.125). This is therefore closer to the insights from Bratton and Dean, that technology and computation, and more importantly a belief in them, are a key site of the

struggle for hegemony and the exercise of power. In understanding this, it is important to follow Dean's insistence that bringing non-linguistic relations into ideas of hegemony is not simply another way of bringing 'sameness and equality' to a wide range of things, but follow Williams in recognising the "specific local logics of organisation" (2015a, p.226), finding ways to "communicating with, rather than simply overriding" them (2015a, p.126). For Dean, this means that the network becomes the ideal, yet empty, 'zero institution', a concept she takes from Lévi-Strauss, which "enables myriad conflicting constituencies to understand themselves as part of the same global structure" (2002, p.167). As such, its structure, function and role are contested and, unlike the public sphere, it is the site of conflict and antagonism rather than consensus. While this is also the case for Mouffe's account of institutions, or at least their potential, which calls for a "critique of institutions" in order to turn them into "the terrain of contestation" (2013b, p.66) and provide "spaces for antagonistic confrontation" (2013b, p.69), for her this remains at the level of discourse, with critique functioning to "makes visible what the dominant consensus tends to obscure" and give "a voice to all those who are silenced within the framework of the existing hegemony" (Mouffe, 2007, pp.4–5). Dean, however, sees this conflict centring around the configuration of the network itself, the infrastructures and protocols, aiming towards hegemony and the credibility of claims rather than rational agreement. For Dean, the World Wide Web has come to symbolise "institutionality as such"—the very possibility of social institutions—so that "conflict over configuring the Web is at the same time a conflict over the configuration of the world of unity and difference" (2002, p.168).

In Dean's view, the politics of the network should prioritise duration and credibility over inclusiveness and rationality that legitimate the public sphere (2002, p.172). Here she is in agreement with Arendt for whom the common requires permanence, or at least a sense of

intergenerationality, shared not just with those we live with but those who have lived and will live before and after us. True political action, in Arendt's eyes, should seek to affect the common world in perpetuity, and in doing so, create a true public, rather than merely social, realm (1958, p.55). While modularity and scalability of platforms offer the promise of "organising without organisations" (Tufekci, 2017, p.xiii), Zeynep Tufecki argues that this is at the expense of building the power or 'acting capacity' of those that it organises (Tufekci, 2017, p.269). For Arendt, politics has always been reliant on enduring connections, deriving from "the faculty to promise and to keep promises" (1961, p.164). Constituting a public space is a continuous act of leadership *with* others to create and maintain a space of freedom, that is a space where the will or desire to act can be aligned with the ability or power to act, with the goal of the political being "to establish and keep in existence a space where freedom as virtuosity can appear" (1961, p.153). Importantly, Arendt does not see freedom as aligned with sovereignty. While freedom is mutually constitutive—reliant on being free with other free individuals—sovereignty is always exclusive, curtailing the freedoms of others and, because it is ultimately reliant upon violence, essentially non-political. In this way, Arendt's concept of leadership as associative should be understood as very different from the dissociative, exclusionary hegemony of Chantal Mouffe (Mouffe, 2013a, p.231). What is important for Arendt, again drawing on Ancient Greece, is that the *archè* or authority of the act is not expressed in the leadership of others but rather leading with them, enlisting the help of peers in order to carry through what had been started. For this reason, Étienne Balibar suggests Arendt finds "'an-archy' at the very heart of *archè* itself" (Balibar, 2007).

Bringing together the work of Dean and Williams allows an understanding of the politics of platforms as leadership of the configuration of networks at the material and discursive, infrastructural and proctological levels. The understanding of leadership that I take from Arendt shifts the concept of hegemony, which Dean argues is key to understanding the

publics produced by networks, and Williams shows to still be in effect, further from Laclau and Mouffe's emphasis on inclusion in and exclusion from discourse. The operation of hegemony within platforms is both internal and external. Contestation over the configuration of networks is necessary not just because it is where epistemological, *power-over* lies, but because it is this configuration that guides self-organisation at lower levels, the ontological *power-to*. If the building of a public, common world is at least as reliant on the configuration of institutions and their continuous maintenance as it is on the discourses that circulate and with which people identify, then the politics of platforms and institutions should be approached on their material, that is infrastructural and proctological level, as much as what is said and done within and upon them. An institutional form that can reject or resist the platform's centralisation of power and value requires the embedding of these qualities at the infrastructural and proctological level around which an institution can self-organise. The next section will look more precisely at the institutions of contemporary art, showing their development towards a platform model and what this means for the politics of their operation, with dynamics of sovereign exclusion and free leadership both evident.

1.3 — Museums as platforms

The final section of this first chapter takes the arguments about the dominance and effects of platforms and applies them to the institutions of contemporary art. The museum is presented as having a central position in the development of the public sphere and the modern citizen. As Rosalind Kraus (1990) argues, the contemporary museum is less interested in representation and instead aims at intensity of experience, where the spaces of the museum itself come to dominate the interaction between artwork and viewer. This domination can be

seen as a form of sovereignty (Groys, 2013) that constrains the type of actions and experiences that can emerge within them. Drawing on Seph Rodney's (2015b) analysis of Tate Galleries, this section will argue that the 'new museum' of the late 20th and early 21st centuries seeks to cultivate individuals through personal experience, rather than a public through collective ones.

While there are many examples of contemporary museums adopting practices and terminology from network and communication technology, I will argue that the platform-user relationship is evident in how institutions of contemporary art view themselves and their relationship to their audience. Central to this is the argument made by Steven Wright (2013) that it is the visitors, as users, that are the source of the museum's value. I will argue that Wright's conception of usership always necessitates sharing and that, as Olia Lialina (2012) argues of Web 2.0, the power imbalance between user and platform becomes hidden. Usership, rather than being opposed to ownership, is better understood as a simulation of it that leaves underlying power untouched.

Kuba Szreder's (2013) understanding of the reputational economy and how gatekeeping power functions will be connected to Ivan Ascher's (2016) account of financial credit to show how reputation accrues upwards in institutions. I will argue that Wright's call for 'remunerated use' is insufficient if it leaves the financialised sharing of the platform-user relation unchallenged and that questions of ownership are more, not less, important within financialised, reputational and platform economies.

This section concludes that the institution of contemporary art remains an important site of political action because of its ongoing role in the representation and production of the public.

This final section will argue that it is through institutions that artists can challenge and reconfigure networks of relations, key to contemporary platform politics and, as a result, challenge the imbalances in the way that the financialised logic of sharing distributes value and ownership.

1.3.1 — The Modern Museum and its transformation

Much has been written about the development and transformation of the public art museum from private, "princely collections" in the 17th and 18th centuries (Hooper-Greenhill, 1992; Bennett, 1995; Duncan, 1995). For Stacy Douglas, the public museum served to "displaying the transparency of the new democratic order" in order to validate the new modern state (Douglas, 2015, p.7). Museums were a central component of the bourgeois public sphere, acting as space in which these new subjects could come together and, through discussion, see themselves represented (Sheikh, 2006). Here we see the form of publicity described by Arendt and Dean in action. The opening of collections to a public had the explicit function of universalising an order that was both scientific and moral while also instantiating a shared reality. The public museum was a space where the working class could learn how to act in public, thereby moulding the public into the bourgeoisie's image of itself (Douglas, 2015, p.11). In order to claim their power as 'the people', citizens were required to conduct themselves in a way that conformed to how the people were 'meant' to be (Douglas, 2015, p.8). For this reason, many—including Douglas Crimp (1980) and Tony Bennet (1988)—have seen museums as examples of the disciplinary institutions discussed in section 1.1.1.

Critiques of the museum have been made in much the same way as those of the public sphere, namely that its claims to universality and accessibility are in fact a mechanism of

social discipline. In much the same way as Dean describes publicity and the secret, Douglas shows that the museum's desire to be universally representative means that it must always reform itself in order to be more open and more inclusive. For Douglas this drive is "*structurally insatiable"* and ultimately impossible to fulfil (2015, p.12). Douglas, in a similar way to Beth Lord (2006), has highlighted the museum's potential to make explicit this process of representation and recognition in forming the boundaries of a community. Their ability to be self-critical enables museums to constantly question the basis upon which claims of representation are made. Here, however, a similar critique to the one made by Dean of the internet is useful. Reflexive self-criticism is, and always has been, an essential part of the transparency. However, total transparency is unachievable and will never lead to true or complete representation. The credibility of an institution is based in the belief of the legitimacy of its representation of a public, while the institutional structures and infrastructures function to create that public in the image of its representation.

The modern museum has, however, undergone a series of changes in how it tries to represent the public through art and, importantly, how it imagines its relation to its visitors. Rosalind Krauss describes the shift from a modern museum that presents (or represents) art history to a "late capitalist' or postmodern one that aims to produce an intensity of experience. For Krauss, the way museums have adapted to deal with minimalism in key. In *The Cultural Logic of the Late Capitalist Museum* (1990) she shows that minimalism's relationship between plan and object, allowing works to be remade or duplicated without affecting their status as original, has altered what the preservation and care of artworks entails. More broadly, in Peter Osborne's (2013) definition of contemporary art as *post-conceptual* in its acceptance of the impossibility of dispensing with the art object completely, we can see how contemporary art is marked by its uncoupling from materiality, both in terms of being

"object-based and medium-specific" (Osborne 2013, p. 56). Krauss draws on Robert Morris' claim that, instead of a basis in relations *within the work*, minimalism functions aesthetically in relation to the things around them, namely space, light and the vision of the viewer. Minimalisms insert the viewer into the work of art such that the work exists at the "interface between the work and its beholder" (1990, p. 8), as does the subjectivity of the viewer. However, Krauss argues that this co-constitution of work and viewer need only be "pushed a little further" to produce the "utterly fragmented, postmodern subject of contemporary mass culture" (1990, p. 12). The subject that minimalism sought to involve in the work through 'lived bodily experience' has been replaced by a dispersed postmodern subject while the works—Krauss uses as her example the illusionary works of James Turrell—function to do the viewer's perceiving for them. The experience happens not in the relation between the work and viewer but is external to both, determined by the situation that both are in, with the "spaces themselves increasingly emerge as the focus of the experience" (1990, p. 14).

Krauss is clear that this emphasis on intensity of experience, while latent in minimalism and other forms of contemporary art, is amplified by contemporary art institutions as they adapt to deal with the challenge that contemporary, post-conceptual art makes to the traditions of museum culture. Although the development of 'new art history'—which disrupted a narrative of linear artistic development with post-stucturalist, Marxist and psychoanalytic approaches—was slow to reach the museum of modern art (Duncan, 1995, p.103) by the 1990s, new kinds of museums developed—often linked to the construction of new museum buildings—which attempted to "blur disciplinary boundaries" and "promote interpretation according to a wide and inclusive scope of reference" (Message, 2006, p.604). Seph Rodney draws on the work of Max Ross, who identifies the qualities of the new museum as including "institutional reflexivity, increased accessibility […] more acceptance of pop culture […] and

a more ‘democratic climate’” (Rodney, 2015b, p.45). Rodney’s work, focused on Tate Modern, details the shift in how the museum visit is conceptualized, becoming a "visitor-oriented, personalized encounter” (Rodney, 2015a) with museums encouraging visitor participation, collaboration, and production of museum displays (Rodney, 2015b, p.12).

For Rodney, it is the museum’s movement away from and educational relationship with the visitor through the transmission of knowledge, to one where the museum produces experience for the visitor’s consumption—meeting their perceived individual needs—that differentiates the new museum from the old which was orientated to the perceived needs of a unified public citizenry (Rodney 2015a, p. 220). As a result, the professional role for identifying these needs is not the curator but the marketer. Following policy shifts in the UK led by the New Labour government of the late 1990s towards ‘access and inclusion’ audiences became ‘segmented’ by ‘desires’ with ‘products’ developed to satisfy each segment (Rodney, 2015a). This is one of the ways in which—as Helen Kaplinsky points out—“Victorian ideals” remain embedded in the contemporary museum through the way they classify and segregate bodies as well as, or instead of, objects (Kaplinsky, 2017, p.261).

While there is a clear similarity between Rodney and Krauss’ accounts of the experience of audience or visitor in the new Museum, Rodney’s description of how the visitor is imagined in relation to the museum—based in Museum studies—excludes both artworks and artists as active players in what the museum experience is. Krauss’ argument emphasises the way museums adapted their approaches to the display of artworks, and their conception of the artwork’s viewer, in response to the anti-object nature of minimalism and post-conceptual practices, while Kaplinski sees a path where the criticisms of museums—as instruments of a disciplinary society—affected change, first of all in the work artists were making, and then in

the way museums adapted to show this work (2017, p. 266). By adopting a post-modern approach to the modern museum, artists drew out the relational potential that always existed in the museum and its collections, the ability to make connections and meanings against or in spite of the dominant narratives, temporalities and identities that the museum tries to present and impart. It is the embrace of the relational qualities of the art object within the context of the art institution that Kaplinski sees as the precedent for the collaboratively constructed meaning between the museum and its visitor. While a museum's visitor always had agency, it is only recently that this capacity has been purposefully amplified by the museum itself (Rodney 2015a, p. 228). However, in large institutions such as Tate Modern, this collaboration is mediated by marketing, where the visitor "hand-in-hand with the museum marketer creates an experience of customized meaning" (Rodney, 2015b, p.224).

The new museum can been understood as the product of its adaptation to pressures from both above and below; from criticisms of the modern museum, cultural policies that promote inclusion—as well as value for money (Rodney, 2015b, p.109)—and artistic practices that rejected their autonomy from their viewer and questioned the art institutions separation from the world. The fragmentation of the museum visitor—the emphasis on individual experience, the valuing of difference and the promotion of meaning created relationally with viewers—leads to the question of how the museum, its audience and its collection, are able to maintain any coherent identity at all. For Rodney, it is the branding that is able to hold this heterogeneous whole together, connecting Tate's out of focus logo to the brands ability to "hold in abeyance, that is without resolution, the complex, overlapping conceptions" of the museum (2015b, p.228). However, while branding is one of the tools that new museums use to hold their fragmented identity together, I will argue in the next section that they can be seen as utilising the same techniques to produce coherence as the platform.

1.3.2 — The platformisation of the museum

The ubiquity of the term platform in business and technology makes it inevitable that the term will have been applied to cultural institutions. While in some cases it is a specific reference to a museum's online activities, there is a tendency for making digital and online strategies applicable to the museum as a whole. Some see the museum as 'platform-like' purely by being a "distributor of content" (Proctor, 2010, p.35) while former Head of Digital Transformation at Tate, John Stack, has written, "If the museum of the future is a platform where ideas and meanings are generated and exchanged, digital technologies will likely be key to enabling this" (Stack, 2013). Rodney argues that "the virtual platform encourages a kind of solipsistic experience in that it eschews the intellectual intervention of the curator" (2015b, p.224) which then becomes the model for the visitor- or user-led experience in the museum. The ease at which the relational qualities of the new museum can be expressed in the language digital and networked technologies is telling, where the notion of a platform museum has also been used in the sense of a business platform, the museum acting as an infrastructure upon which other enterprise activities can base themselves, for example, Museum Hack, a private 'alternative' gallery tour business that operates in museums across five cities in the United States (Ropeik, 2016).

In order to argue that the contemporary museum is best understood as a platform, I will return to the properties of platforms detailed in section 1.1. The standardisation that Bratton sees as key to making platforms predictable to their users is precisely how branding operates in Rodney's analysis, with all Tate branded venues, exhibition and products associated with the reputation and identity of the whole organisation as an "innovative and fun exploration"

(Rodney, 2015a). Modularity is apparent in the "menu of options" (Zolberg, 1994) that can be chosen, a la carte, by visitors. These aspects of standardisation and modularity are perhaps most apparent in the ARTIST ROOMS, a Tate branded suite of touring exhibitions that travel around the UK, bringing a standardised Tate experience to an ever increasing number of regional venues (Tate, 2018). While museums remain largely bureaucratic—in Bratton's sense that they have their desired outcomes are predefined, set largely by state cultural policy—these outcomes, though framed in terms of democracy and accessibility, are not markedly different from those that motivate other platforms, namely openness and inclusivity leading to an expanded user base. This can be seen in in examples such as FACT's 2015 exhibition *Follow,* which presented artworks that dealt critically with questions online hyper-visibility and digital micro-celebrity (Follow, 2021) but which was itself operating within logics of maximising visibility and audience reach. Arts Council England's (ACE) Example Digital Policy state "we will use digital channels to understand our current and potential audiences better, engage them in conversations and incorporate their feedback into our work. We will be agile and respond quickly to what our audiences are saying" (Arts Council England, 2016). While this guide—created by ACE/BBC collaboration The Space and digital consultancy MTM—may start from the desire to increase the reach of culture, it does this through standard practices from commercial digital platforms of user profiling and data collection, with the ultimate aim of achieving "better value from [ACE's] public investment in arts and culture" (Arts Council England, 2016).

The expansion and globalisation of museum brands (Rodney, 2015b, p.158) is arguably an example of generative entrenchment or the tendency towards monopoly. The Louver's opening of a branch in Abu Dhabi should be seen in the same light as the branch of New York University while the expansion of art fair brands like Art Basel and Frieze to ever more

locations is an example of the platform's capacity to accrue value though openness and maintain it through closure and exclusion, while externalising risk. Another instantiation of generative entrenchment, however, would be the way institutions increasingly draw on their own history and archives as a generator of their value. Between 2008 and 2017 the ICA, London, held eight exhibitions that presented or recreated its own exhibition history while in 2016 the Serpentine Galleries re-exhibited a Marc Camille Chaimowicz's originally shown there in 1972. It is, however, the platform-user relation that is most relevant to this project and specifically the way value is generated and captured from user interaction with the platform. Nancy Proctor, former Head of New Media Initiatives at the Smithsonian American Art Museum, sees the rise of platform museum practices in crowdsourcing and user generated content initially as online only augments to physical exhibitions, and then increasingly as parts of displays and interpretation (Proctor, 2010). The examples she gives include Tate Britain's *How We Are Now* help in 2007 and *Click! A Crowd-Curated Exhibition* at the Brooklyn Museum in 2008. More recent examples would be the events programme around Manchester Art Gallery's *Get Together to Get Things Done* in 2019. The idea of the museum user has been present in new museum discourse since its inception (Rodney 2015a, p. 66) but the notation of users have gained more currency with the ubiquity of the internet and web platforms. Steven Wright, in *Towards a Lexicon for Usership* (2013), argues that museums have adopted a Web 2.0 model, but have not fully acknowledged this. His centring of the user and 'usership' within the museum intends to push this trend further in order to radically transform how museums operate, seeing its potential as being inhibited by museums' physical and conceptual architecture which are built for spectatorship (2013, p.39). By positioning usership against spectatorship, as well as against the expertise of the curator, Wright's arguments align with many that have already been proposed by new museology and

its realisation in the new museums, with their quite explicit adoption of models from networked and digital technology.

1.3.3 — The Museum's Users

Wright's conception of the user is close to the one described by Olia Lialina in her essay *Turing Complete User* (2012). Lialina argues that with the development of Web 2.0 the user and its counterpart, the computer, become hidden. The computer dematerialises into *the Cloud* and the user becomes, simply, *You*. By rendering the computer invisible, the power imbalance between the user of a system and its developer also becomes hidden. However, Lialina complicates the simple 'program or be programmed' dichotomy by arguing that a user, with "enough time and respect", can find a way to achieve a goal[4] (Lialina, 2012). The rather 1.0 user she describes is able to repurpose, work around and fill in gaps in a way that was far more common before computer networks became cloud platforms, echoing Wright's assertion that use by non-experts is inevitably misuse. Wright's somewhat accelerationist approach argues that there is a radical potential in the prospect of remunerated use. Wright very succinctly makes the point upon which platform capitalism is premised, that "usership in fact generates value rather than consuming it" (2013, p. 40) and asks "how long will communities of use sit by as their user-generated content value, rather than being remunerated, is expropriated and privatised?"[5] (2013, p.66) This conception of value generation does not, however, fully take into account the nature of the 'platform surplus' that

[4] This ideas—like the essay's title—references the universal Turing machine that can "can solve any logical task given enough time and memory" (Lialina, 2012).
[5] Here we see similarities of the calls for 'Wages for Facebook' made variously by Alex Andrews (2012) and Laurel Ptak (2014).

Bratton describes. Value in platforms is generated by higher level organisation of information. Individual use does not add value—or usefulness—unless it is organised into valuable, useful relations with others, precisely the role that the platform provides.

It is in advancing usership against ownership, however, that Wright sees the idea having the most effect. Wright asserts that "Capitalism is still grappling for a durable model of accumulation for the twenty-first century" (2013, p.45) but, as has been argued already, the platform is precisely the form that allows the capture of value generated by the connection and organisation of information. Value in the platform is generated from use, where the ownership—whether it is ownership of data or of the properties listed on Airbnb—is not relevant. Mckenzie Wark argues that as ownership of the means of production—specifically the production of information—become democratised, ownership of the means of circulation and abstraction—by a new 'vectoralist' class—becomes increasingly important (2004, p.29). In a financialised economy, ownership is less important than circulation—for example in the 'short selling' of borrowed assets with the aim of buying them back at a lower price before they're due for return (Levine, 2017)—and this is as true in the museum as it is in the stock market. Krauss notes the transformation of the collection from "cultural patrimony to assets" value is "only truly realized when they are put into circulation" (Krauss, 1990, pp.4–5). Rodney's analysis of Tate's promotion of individual and individualised visits—as well as their use for adding value to Tate's sponsors—as reliant on forms of privatisation of the publicly owned collection (2015b, pp.225–6).

It is important to note that the figure of the user—"the locus and agent of surplus-value extraction" (Wright, 2013, p.45)—has, since its inception, been a mechanism of control. In his *Prehistory of the Cloud,* Tung-Hui Hu argues that the subjectivity of the user is based

upon an economic relation. Tracing it to its origins in the time-sharing systems of mainframe computers in the mid-twentieth century, Hu reminds us that the user is created precisely to monitor, keep track of and, ultimately, bill the individual for their individual use (Hu, 2015, p.39). To be a user requires a 'username' that makes you uniquely identifiable to the system and ensures the user's identity is synonymous with their usage (2015, p.46). It also shifts responsibility for use—particularly their use of time—onto the identified individual user. The cloud that Hu historicises is premised on 'virtualisation', a slight-of-hand trick that allows you to feel as if you're using your own private storage or software when you are in fact sharing it with innumerable others (2015, p.61). The username, and the password, creates a false sense of both privacy and privatisation in a very similar way that the individuated museum user is encouraged to feel they can have unique, personal and private experiences in the public space of the museum. Contra to Wright, I would suggest that usership is not opposed to ownership but rather, like with cloud computing, a simulation of it, one that leaves the underlying ownership of the platform or institution untouched. While this is a useful insight in understanding the platform-user relationship between contemporary art institutions and their visitors, the next section will argue that it is even more relevant to the relationship between the institution and a different class of user, the artist.

1.3.4 — Reputation and Sovereignty *or* Learning to Share

While discussions of the museum user have so far focused on the visitor, ideas of Boris Groys and Kuba Szreder open up these ideas with respect to cultural producers, that is artists and curators. In his essay *Entering the Flow: Museum between Archive and Gesamtkunstwerk* (2013) Groys explores how networked communication and the digital image have affected

the way that the museum functions in terms of public and private space and of sovereignty. He describes a shift from the static, or atemporal, modernist artwork that keeps its viewer external and preserves the sovereignty of their gaze to the installation, event or project that must be entered into. His arguments that the expansion of the artist's sovereignty to include the artwork's context removes power from the viewer is very similar to Kraus's description of how the installation work of James Turrell does the viewer's perceiving for them. Even in the case that this sovereignty is used to create a democratic platform—one that allows or requires participation or use—the author holds the authority to "install any political order" (Groys, 2016, p.85) with the ability to impose or suspend laws, close as well as open and exclude as well as include, necessitating the privatisation of what was, symbolically at least, the public space of the museum. Groys stresses that the installation and projects can be led by curators as well as artists and suggests that, in the contemporary museums, the curatorial project has superseded the exhibitions and collections as the museum's focus (2013, p.6), describing a platform-like museum that has become "a stage for changing curatorial projects, guided tours, screenings, lectures, performances, etc." (2016, p.6). All these events are subject to documentation and a form of standardisation that can make them ready for the internet and the archive. The museum's role is to assemble these documents in a way that Groys likens to a blog, organised as a document of its own history, a "chain of events staged by the museum itself" (2016, p.7).

Kuba Szreder also sees the project as the contemporary form of artistic activity, but highlights the problems with the way authorship function within reputational economies. Szreder's framing of reputational economies, which draws on Luc Boltanski and Eve Chiapello's *The New Spirit of Capitalism* (2007), describes how recognition is ascribed to individuals for collective or collaborative works, or for works that draw on a creative or

intellectual commons. Szreder makes the case that "what we do when we publish"—or more generally publicise—is that we "authorize" but emphasises the "structural injustice of reputational economies", drawing attention to the invisible pool of professionally trained but unacknowledged contributors that "hovers below the threshold of authorial attribution and remuneration" (2013, p.39). Drawing on Yann Moulier Boutang's concept of pollination, he shows how in an information economy—or 'cognitive capitalism'—"ideas and symbols have to be carried, exchanged, reworked, undone, redone, spoken over, and discussed" (2013, p.41) before they can take on a public or published form that can be authorised but that the "Loose networks of cooperators and their labor of pollination are simply not accounted for" (2013, p.48). Szreder describes a network that "provides access to accumulated opportunities and stored resources" and that access and use of this network grants "power to change reality without even 'owning' anything". Here we have a very similar idea to Wright's notion that a thing is made more valuable through its use. Wright asserts that Boutang's "economy of pollination and contribution" is an economy of usership (Wright 2013, p. 28) while for Szreder "property issues are of secondary importance in projective polity" but that "getting a grasp on a product is much less important than capturing socially produced values 'on the move.'" (2013, p.41) As such, he aligns with Groys' assertion, that with continuous documentation a final product is never required (2013, p.11) and with Wark's description of the vectoral class discussed above. As he says: "Projects are always collective undertakings, but their teams often dissolve afterward" (Szreder, 2013, p.43). Like Groys' description of the Wagnerian *Gesamtkunstwerk,* projects "bind together agents, institutions, things, spaces, pools of resources, channels of distributions, and audiences" temporarily before they disassemble and reconfigure themselves (2013, p.42). While Pascal Gielen (2013) criticises the temporariness of project thinking that he identifies in the shift from museum to biennale as the site of contemporary art, Szreder's argument is that while project working necessitates

cooperation, limited access to these networks creates competition, and "gatekeepers are able to extract their toll" (2013, p.46). How exactly this access is limited is, I think, of great importance. Szreder states that a central position within this network allows individuals to more easily take, or be given, credit for collective work (2013, pp.45–6). While this is no doubt true, centrality is a measure of how well directly and indirectly connected a node is in a flat network (Borgatti, 2005). What a stack-model like Bratton's can add to our understanding is that some kinds of links can only move up or down layers, not between network nodes. The system is not as flat as Gielen perceives, or the institutions like to imagine themselves to be. A reputational network is not only defined by "professional profile" but also by functionality. Conceiving a reputational economy as simply a flat network, I would argue, makes the structural injustices less, rather than more visible.

The role, and the subjectivity, of the user is one that gives that platform great power to control access. While the user is a generic, non-stratified identity, just as in a computer network different users are afforded different privileges. Thus, a museum's artist user has a different kind of access to a curator, visitor or patron user. Furthermore, user privilege is not simply granted by type, but individually; different artists will have different types of access. A "cultural producer"—though this can be seen as equally true of 'cultural consumers'—"needs to be recognized and is ranked according to his own individual reputation" (Szreder, 2013, p.45). In network management, user privileges are granted by a systems administrator. Similarly, with the network that Szreder describes, access can never be taken but is only ever given. The question, then, is how the value of a project's results, in terms of authorship and credit, are stored and put to use. The argument I will make, following Groys, is that it is the document and its assembly into a blog-like chain of events that is best able to capture, and hold on to, value within a network. The increased prevalence and profile of events

programming in contemporary art institutions is undoubtedly linked to the drive to reach a wider and more segmented audience discussed in the previous section. It also allows them to increase the number of artist—as well as writers, musicians, DJs, filmmakers and activists—who they associate themselves with. Programming like *fig. 2* at the ICA, London in 2015—which presented one artist's project a week for 50 weeks—or the Serpentine Galleries' *Marathons*—which ran from 2006–2018—allow institutions to connect themselves to an increasing number or artists with very low institutional investment while the mixing of high-profile artists with those less known or establish allows the institution to minimise its risk while positioning itself to take credit for future success by those it has promoted. Importantly, the institution is not simply operating as neutral infrastructure and it is not the resources they can offer to projects—whether they be physical space, financial or administrative—that makes the institution a platform. Rather, it is the ability to chain events and projects, thus bringing them into higher order organisation, that defines institutions as platforms and allows them to capture the platform surplus. While other types of actors can also make these chains—indeed cultural producers are "obliged to build their own reputations" (Szreder, 2013, p.44)—museums are in the best position to do this precisely because they are the most stable and the most credible. Their longevity allows them to continually make connections to and within their own history and archives, recirculating and putting them to use to maximise their value. Further to this, the financialisation of credibility allows institutions to lend credibility to others while increasing their own credibility, precisely because they operate at a scale that allows them to spread risk in a way that an individual or project cannot.

1.3.5 — Financialisation

In the language of credit we can say that Szreder's 'authorization' has a dual role, lending credibility to something while at the same time taking credit for it. Here, it is useful to turn to Ivan Ascher's (2016) description of how credit and credibility works in the broader financial economy. Ascher's account describes the relationship between those who seek credit and those who are able to offer it. The credibility, or reputation, of a credit seeker lies in their ability "make promises and to be believed" (2016, p.4). Those who give credit, the lenders, exchange something in the present for a claim on, or promise of, the future value of the borrower (2016, p.16). The innovation that Ascher sees in modern, financialised capitalism is that, by being able to measure risk—"calculate the probability that the promise will be kept" (2016, p.15)—and sufficiently spread that risk, a lender can mitigate risk to themselves. For this reason a lender becomes more credible, even as they lend more to higher risk borrowers, because their own credibility is based on their ability to manage that risk. The analogous working of a reputational economy is, I believe, clear. The scale at which you operate and the number and diversity of projects you are able to participate in allows you to mitigate risk and maintain credibility even when there are losses and failures. The individual, or non-institutional actor, has a limited capacity and is therefore less able to spread the risk they take on by joining a project and more likely to lose credibility when things go wrong. Institutions, therefore, produce the structural inequalities in a reputational economy in two ways. They are the best positioned in the network or stack to take credit for success while at the same time being most able to absorb the costs of failure without an effect on their own credibility. Institutions can take on more risks—and indeed a well-managed, diversified 'portfolio' should include some high risk investments (Ascher, 2016, p.11)—because failures can be offset by successes elsewhere. Szreder's call is to "reinvent and revolutionize" (2013, p.50) the existing apparatuses that "produce and reproduce social conceptions that define artwork,

author, public, act of reception, or intellectual property" (2013, p.40) in ways which promote "expanded models of authorization, the appreciation of the structural role of invisible labor in the arts-based economies" (2013, p.50). Here he is very close to Wright's more direct demand that value is redistributed "within the community that produced it" (Wright, 2013, p.40). I would argue, however, that there is a problem with the idea that structural inequalities can be addressed by more equitable distribution of values even if, as Wright suggests, the remuneration is not financial. First of all, it requires that all types of use, contribution and pollination can be measured and evaluated as equivalent. As Szreder makes clear: "Only communicating openly and announcing ideas in public, in front of a peer group, secures recognition", precisely the argument made by Arendt about the necessity of politically organised space. Necessarilly this must exclude private use, allowing only the pseudo-privacy of the ever-monitored user. The billing that Hu shows to be at the heart of the platform-user relationship—even when the bill is travelling the other way—still requires users to be uniquely identifiable to the system. Anonymous use is therefore also excluded from this system. Rather than being empowering, remuneration within a platform-user relation gives that platform an even greater capacity to modulate its users behaviour, whether you are an artist, an Uber driver or an Airbnb host.

It is not simply the case that museums resemble online platforms because they are both subject to the same forces of financialisation. Rather, it is that platform structures appear where financialisation does because platforms are the model of government of financialised relationships. The platform is the institutional form, the publicly organised space, that allows sharing, evaluation, and the granting and rescinding of privileges necessary for capturing the value generated by higher-order organisation. This first chapter surveyed the existing literature to build a definition of platforms as resulting from the flexible interplay of

infrastructure and protocol technologies, emphasising their reliance on inducing sharing from their users, allowing the higher-level organisation of information from which they can extract value. This material emphasis augments more discursive understandings of how publics, of different types as sizes, form around structures that I suggest should be understood as institutions in Arendt's sense.

The platform is a specific intuitional form resulting from its embedded properties and the types of public and discourses that organise around it, with technology supporting belief in the publics that they help to organise. Tensions exists between the different ways of understanding the operation of hegemonic power within the platform: sovereignty, based on the power to set boundaries and make exclusions and complex hegemony, emphasising leadership. Discussion of the politics and mechanisms of boundary setting and leadership with others will be developed in the following chapters. While both sovereignty and complex hegemony are at play in platforms as we observe them—with boundaries used to capture value generated by self-organising, but still directed, relationships—it is the latter that offers the potential to promote freedom by structuring the anarchy of self-organising identified by Arendt. Key to this is, I would argue, is the temporality of relationships, the recognition that boundaries exist in time as well as space. While both the temporary project and durable relationship rely on the credibility of promises, the temporal bounding of the project allows value to be authorised, individualised and privatised. For this reason, I believe it is necessary to reject platform-user relation, which is at heart a mechanism of privatisation, and look for other institutional forms which embed different qualities around which institutions and individuals can self-organise.

Chapter 2 — Algocracy

While the platform is an organisational structure, algorithms are the logic through which technical systems interact with the world and, as a result, mediate relations between people. The term *algocracy* was coined by A. Aneesh (1999) and has since been adopted and developed by other writers (Danaher, 2016; Rosamond, 2016; O'Dwyer, 2017), alongside the more general term 'algorithmic governance', to describe "the use of software, code and data repositories to govern effectively" (O'Dwyer, 2017, p.1). Algocracy is related to but different from markets and bureaucracies, with John Danaher (2016) describing how bureaucracies operate by rules, markets by price, and algocracy by algorithms.

Having argued in the previous chapter that the contemporary art institution is best understood as a platform—asserting sovereignty and promoting financialised sharing—this chapter will first examine algocracy as the underlying logic upon which the platform operates,, closely considering the way it manifests itself within AirBnb, Google, Facebook, YouTube and OkCupid; platforms for short-term property rental, search—or more broadly information management—social, video, and dating. Each of these platforms and their implementations of algocracy will be used to show the ways in which power operates in the platform-user relationship. Analysis of the mechanism by which platforms constrain and promote certain human actions will be used to suggest necessary properties for alternative institutional forms that are appropriate to an institution of contemporary art. Through a discussion of opacity, visibility, predictability, address and categorisation I will suggest ways that the power

dynamics and their effects might be resisted, or countered, by a different institutional form, emphasising the promotion of credibility, creativity, and subjectivisation.

The final part of this chapter takes a more detailed look at the subject of the user through the work of Antoinette Rouvroy (2011; Rouvroy and Berns, 2013) and the specific ways that the subjectivity of platform users is produced and constrained by algocracy in an a-normative manner, arguing that the user profile shapes human behaviour in a way that removes the possibility of subject formation and makes the case for an institutional form that creates a common environment not mediated by algorithmic logic and outside of the platform-user relation.

2.1 — Regimes of algocracy

Algocracy might best be thought of as governance by prediction, or governance via rendering of the world more predictable. The algorithmic governance of platforms operates through what I will call government-by-simulation which mediates the platform-user relation in a way that controls visibility and identification such that they are non-representative. At the same time, the opacity of algorithmic decision-making means that, unlike in the public sphere, legitimation is not the result of a discursive or hegemonic process, but based on results and effects. The value that platforms derive from the predictability of user behaviour means that algorithmic governance works to reduce freedom and creativity, or the capacity to do the unexpected. Algorithmic mediation of communication between users via the platform means that the indirect address that Warner sees as key to creating counterpublics, and the subjectivisation that this produces, becomes impossible. Opacity, visibility, predictability,

address and categorisation are employed in specific ways to ensure the centralised and centralising organisation of power and value within the platforms. By identifying how these mechanisms work it becomes possible to identify organisational forms that prevent their operation and therefore resist platform logic. An alternative to an algocratic platform model of an institution, and especially an institution of contemporary art, should function in such a way as to promote credibility, creativity, and subjectivisation, finding an alternative process of legitimation. Examples of algocratic systems in action will be used to detail these effects which, in Chapter 4, will be used to test the *Team Syntegrity* protocol and the syntegration experiments that form the practice-based component of this research.

2.1.1 — Simulations

Algorithms are able to make predictions by modelling future behaviour based on knowledge of past interactions but, as I will argue, the predictive power of algocracy goes beyond simple modelling, operating by what following A. Aneesh (2009) I call government-by-simulation, encouraging desirable, pre-modelled, behaviours that eliminate the possibility of certain outcomes. While protocol can be seen as the translation or embedding of formal rules into technical systems, algorithms are active in mechanisms of evaluation, "testing outcomes, not managing process" (O'Reilly, 2011). The algocratic regime of the platform combines protocol and infrastructure with cybernetic feedback loops, with evaluated outcomes used to alter the functioning of the system. This is what Aneesh means when he says "Programmability means governability" (1999, p.12), cybernetic feedback allowing "ever-changing algocratic forms" producing "new functionalities and new orders of governance" (1999, p.17).

There are important implications of Aneesh's proposal of the programmability of governance—or governance-by-simulation—specifically in the way that his conception of the simulation relates to a more traditionally cybernetic concept of the model. By the 1970s, Stafford Beer had already seen the need to create self-modifying software to model and manage the complexity of contemporary society (Beer, 1995). For Beer, however, the model is separate from the system that it represents. This specifically allows for experimentation with the model that will not affect the system itself, with conclusions drawn from manipulation of the model then applied to that system (Beer, 1995, pp.87–8). Aneesh, however, draws his understanding of simulation from Jean Baudrillard, to argue that simulations "do not necessarily follow real organizations; rather, they precede them" (Aneesh, 1999, p.11). This is what Scott Lash means when he says that algorithms can act as "generative rules… virtuals that generate a whole variety of actuals" (Lash, 2007, p.71).

Following Baudrillard further than Aneesh, we can see how simulation does not simply precede reality—the active metaphor of the diagram described by Benjamin Bratton in section 1.1.2—but rather replaces it. The simulation of algocracy is not separate from the system it governs, rather the reality of the system is inside its simulation, with the alterations in the 'virtual' of the simulation producing direct effects in the 'actual' of the system itself, immediately, in real time, and without the opportunity to critically reflect or object. This curtailing of the unpredictable and removal of the possibility of criticality through opaque decision-making puts algocracy in direct conflict with what I will identify in this chapter as the necessary characteristics for an alternative institutional form to the platform, suitable for structuring an institution of contemporary art: credibility, creativity and subjectivisation.

2.1.2 — Transparency and Opacity

The opacity of algocracy means not just that decisions are made out of sight, without knowledge or consent, but where the reasoning behind those decisions is potentially incomprehensible to humans with decisions that are non-interpretable. John Danaher describes how "algorithm-based systems structure and constrain the opportunities for human participation in, and comprehension of, public decision-making" (2016, p.246). An example of this can be seen in AirBnb's Smart Pricing feature, "a Machine Learning (ML) model to guide daily prices" (Bray, 2016) that uses a number of market, market-like, and non-market systems to suggest the prices at which the platform's host users should set for their short-term rental properties.

While AirBnb, as with many platforms, might like to present itself as a marketplace, or rather "information society service" (Court of Justice of the European Union, 2019), simply connecting different kinds of users and charging a fee, there are many ways in which AirBnb uses algorithmic simulation to constrain user interaction. Factors that feed AirBnb's Smart Pricing algorithms include market-like mechanisms, such as neighbourhood averages—with neighbourhoods automatically, algorithmically generated—but also non-market methods, using image analysis algorithms to evaluate a property's quality and potential desirability (Yee and Ifrach, 2015). While AirBnb presents Smart Pricing as a way of making pricing quicker and easier for its host-users, it is also a mechanism by which the platform can exert greater control over prices than would be possible with a purely market mechanism. While the initial implementation of AirBnb's Smart Pricing operated as a what Danaher would call a 'human in-the-loop'—where the algorithm merely made suggestions to a user by giving feedback on the probability of a property being booked at a specific price—the current

implementation is ‘human-on-the-loop’, allowing users to simply accept or reject a single price which the algorithm suggests will guarantee a booking, rendering the basis of this price opaque (Danaher, 2016, pp.247–8).

A platform such as AirBnb can only have this kind of algocratic power within a marketplace because the computer mediation of all interaction on the platform renders everything transparent *to the platform*. Individual users do not have access to this information except as mediated by the algorithm. Multiple inputs, feedbacks and processing methods make the algorithmic decision making opaque, as it is not necessarily possible to give a definite answer as to why the image analysis algorithms have returned the value that they have. As Lash (2007) has pointed out, algorithmic rules are not encountered in the same way as those of law. Constant flows of new information mean the algorithm itself is subject to modulation, adaptive and therefore much harder to confront or resist than a fixed, bureaucratic rule. We do not need to know the rules in order to comply with them and “rules may be machine-readable but they are not legible to human subjects” (O’Dwyer, 2017, p.7). If opacity is a key mechanism by which platforms shift power to themselves and away from their users, then alternatives to algocracy must ensure that the transparency that mediation by smart machines makes possible is not the preserve of the platform. Algocratic opacity does not primary operate at the level of data but rather at that of the algorithmic decision making. The capacity to make decision-making transparent, and therefore contestable, is key to redistributing power away from the platform and is therefore necessary for an alternative institutional model.

As is seen with the Smart Pricing algorithm, it is not simply market price information that is rendered transparent to platforms, and therefore open to algocratic control. Zuboff’s analysis

of Google—through a close reading of statements made by its Chief Economist Hal Varian—focuses on the way it collects non-market data and renders it as the 'raw material' for what she terms 'surveillance capitalism' (2015). Through analysis and aggregation, the small data of individual user interactions with Google's platforms can be turned into Big Data, with nothing "too trivial or ephemeral for this harvesting" (2015, p.79). This is a key aspect of the formal indifference that Google exhibits when it gathers data. All data can be "signals of subjectivities" that "travel a hidden path to aggregation and decontextualization" (2015, p.79). Algorithmic analysis and aggregation allows this to be transformed into assets which can then be invested with "surveillance capital" through the sale, by auction, of user attention to advertisers through Google's AdWords system (2015, p.79). Any behaviour can become valuable if it can be used to better predict future behaviour. The fact that this data is collected largely "without dialogue or consent" (2015, p.79)—with consent assumed by or necessary for any interaction (Rouvroy and Poullet, 2009)—leads to an unequal power relation between platform and user. Privacy, which Zuboff sees as the right to decide what remains secret, is not eroded but rather redistributed with the "unilateral redistribution of rights" towards platforms and away from users resembling "the social relations of a pre-modern absolutist authority" (2015, p.83) and "the installation of a new kind of sovereign power" (2015, p.86). Lacking authority legitimated by consent, "authority is supplanted by technique" (2015, p.81) with legitimation achieved by effects or results.

The closed-loop of algocratic legitimation, where results are evaluated by the system itself, excludes the possibility of reflection or critique. As Antoinette Rouvroy states, algorithms "appear evaluated increasingly according to criteria of flexibility, speed and relevance, and decreasingly according to criteria of truth, objectivity, and justice" (Rouvroy, 2011, p.127). For Rachel O'Dwyer, algorithms exempt us from the burden of creating an "epistemic

community"—the process of appointing and monitoring experts—"or anything resembling processes of interpretation and evaluation" (O'Dwyer, 2017, p.4). Interpretation and evaluation, decisions about meaning and value, are instead delegated to algorithms. With the reasons behind decision-making opaque, and therefore not able to be deemed legitimate or otherwise, the efficacy of outcomes is the sole measure for legitimacy of the system. For this reason, O'Dwyer describes algocracy as "the total succession of this aggregative model of democracy" (O'Dwyer, 2017, p.5). With aggregative democracy, the common good is not decided discursively or deliberatively, as in public sphere theory, but is simply taken to be the "aggregation of individual preferences and interests" (O'Dwyer, 2017, p.5). This aggregation allows for consensus to be reached without the need for hegemony, in the sense that nothing is excluded. All positions, preferences and interests are incorporated as inputs into a system that interprets and evaluates each of them in order to produce a single, indisputable answer to the question of what is best. This economic or financial decision-making becomes 'derivative'[6]—based upon but finally separate from its underlying sources and causes—and not necessarily reversible once inputs have been processed and an output reached. Algocracy's authority is drawn from its incontestability with its opacity serving to legitimate its objectivity and independence.

Transparency and opacity are both techniques selectively used by algocracy to redistribute rights away from users and towards this platform. It is therefore important not to see transparency as a defence against or a solution for the algocracy's opacity. Indeed, as was suggested in Chapter 1, the call for transparency is too often a pretext to demand every increased sharing. Instead, I would argue that the question is one of consent, or rather how

[6] A Google search rankings, for example, is an opaque repackaging of multiple, interacting indicators of relevance, produced for individual users at the moment the search is made (Shirky, 2009)

decision over transparency and opacity are legitimated. Algorithms can be viewed as autocratic, making an incontestable decision, democratic, in the aggregative sense, or plutocratic in the way that it reinforces elite power at the same time as obscuring it.

Danaher disputes the legitimacy of purely statistical, aggregative decision-making and argues that legitimate procedures must allow for human participation in and comprehension of those decision-making procedures (2016, p.254). He sees the 'threat of algocracy' as being that trust in and the legitimacy of decisions will be eroded if they cannot be adequately explainable and understandable. However, taking an individualist approach with its insistence on human autonomy (2016, p.264), his suggestion that human participation in algorithmic decision-making will likely require some kind of human 'enhancement' such that the individual is able to rationally understand what is currently beyond human comprehension. This, I would argue, is precisely the misuse of technology to increase rather than reduce complexity that Stafford Beer decried in the 1970s (Beer, 1974, p.26). Rather than this approach—by which only by coming less human can we hope to understand the non-human reasoning with which algocracy governs us—I would argue for the necessity to move towards an approach that is more human in the way it makes decisions while at the same time, following Rouvroy and Berns (2013), rejects the possibility or an individual response.

A non-individual, human the response must be institutional, in Hannah Arendt's sense of being a collective endeavour and a political community (Balibar, 2007, p.733). Rather than simply bureaucratic or procedural, in the case of discursive democracy, or algocartic but with greater human control, I would contend that an alternative institutional form needs the capacity to create epistemic communities, precisely by not delegating the processes of interpretation and evaluation to algorithms. While epistemic communities can give decisions

legitimacy, I would argue that it is only when combined with the institutional power to act on them that these decisions also become credible in the sense discussed in Chapter 1, the capacity to make promises and be believed. Moreover, this capacity to decide and to act must be embedded into the structures around which the institution organises itself, rather than applied to them through legal, bureaucratic or technical processes.

2.1.3 — Visibility and recognition

While the capacity for platforms to make incontestable, opaque decisions about transparency and opacity are an important mechanism by which they redistribute rights and centralise power, decisions over visibility can also be used to influence the behaviour of the user. Zuboff's ideas about the redistribution of rights, and her suggestion that platforms can affect 'behaviour modification', are in agreement with those who adopt Deleuze's idea about the transition from discipline to control. Taina Bucher (2012), however, sees Foucault's description of discipline as remaining useful in understanding how platforms regulate user behaviour through reward and punishment, primarily in the form of visibility. Bucher discusses the redistribution of rights within the platform-user relation but reverses Zuboff's line of enquiry by focusing on the right to visibility—that is "to be recognised as a subject with a voice"—and the "conditions through which visibility is constructed by algorithms" (2012, p.1165). Studying Facebook's role in framing, gatekeeping and agenda setting, Bucher describes a move that is apparent across all Web 2.0 platforms, away from unfiltered and unsorted feeds and streams, to algorithmically organised or 'curated' access to information (Oremus, 2017; Wright, 2018). For Bucher, visibility is the reward for using the platform in a way that Facebook wants (2012, p.1169) with "some forms of participation are more valuable

than others" (2012, p.1175), for example the location data generated by 'checking in' or tagging people in photos to enrich the platform's social graph[7]. While Bucher suggests that Facebook's EdgeRank algorithm makes visibility 'unstable', 'scarce' and therefore sought-after (2012, pp.1171–2), users can only be invisible to each other, never to the algorithm. The 'threat of invisibility' is real in the way it operates as a modulator of behaviour but it is dependent, first of all, on total visibility that comes from entering the platform's architecture. Making oneself more visible to the algorithm is likely to be rewarded with visibility to other users, but this is always at the platform's discretion, with direct relations between behaviour and visibility opaque and liable to change (Bucher, 2012, p.1176). In this way, platforms can be understood as creating what Tarleton Gillespie calls 'calculated publics' (2014, p.188). The power of the platform to 'recognise' subjects, and to give them voice within a calculated public, is key to how algocracy disrupts the public sphere as well as to counterpublic theories of how representation functions.

Representation within a platform is a two-stage process of recognition. Firstly, as Bucher says, the platform must recognise the user but secondly, the user must recognise themselves in how the platform represents them. As was discussed in Chapter 1, recognition of itself in a representation is key to how publics and counterpublics form. Bucher suggests that the user profile functions as a prison cell in a panoptical system of surveillance, creating a fixed point at which standardised, interchangeable individuals can be observed (2012, p.1171). The algorithm can then create a 'semi-public space' by allowing partial visibility among specific users and content based on assumptions about their relevance (Bucher, 2012, p.1168). The process of recognition, representation and then self-recognition among users is entirely

[7] Facebook itself is able to frame this in a particular way, making claims of the "positive benefits between well-being and active engagement on Facebook" (Ginsberg and Burke, 2017), by which they mean posting more information about yourself, rather than just passive consumption of existing content.

controlled by the platform, in Facebook's case through power over of users' transparency to the platform, opaque decision making about groupings and control over visibility within these semi-publics. An alternative institutional form that prevents this kind of centralised and opaque algorithmic decision making must, I would argue, ensure a process where visibility is neither a reward or punishment. It must also ensure that decisions about who is visible to whom are based on representations that we are given a choice to accept or reject. Recognition of oneself in a representation and, importantly, recognition of not being represented are key to how change to systems of representation in liberal institutions is meant to operate (Douglas, 2015, p.6). While, as argued in Chapter 1, belief in that validity of a representation and the possibility of them being valid is held at the institutional level, the institution's self-critical reflection of its representations must be something that those recognised, or misrecognised, can participate in; a process that the algocacy of the platform denies. The pressures put on human behaviour by algocracy's control over visibility within platforms is also something that must be addressed in an alternative institutional model. Full transparency is not the answer because, as I have argured, demands for transparency do not address Zuboff's concerns about privacy as the right to decide what is share. Nor do they address the fact that even fully transparent technical systems may remain opaque to non-experts—and indeed even the designers of those systems themselves—or Beer's concerns about the quantity of information that is comprehensible to people. What I would argue is required is a structure where actions are not evaluated against expectations—which works to the detriment of creativity—but instead individual subjectivisation through unexpected and unpredictable actions is promoted.

2.1.4 — Archetypes and predictability

While visibility within platforms can be used as a reward or punishment to encourage and discourage certain behaviours, platforms are not necessarily interested in controlling the specific actions of their users. Instead, a specific user's actions are less important than how predictable they are and how closely they conform to an expected behaviour of an individual or group profile. In this section I wish to argue that, because of the way they encourage user behaviour to conform to expectations about the profile they are assigned, algorithmic processes alter behaviour and desire in ways that create tendencies towards polarisation and extremism. Zeynep Tufekci's analysis of YouTube shows that its recommended algorithms tend to suggest increasingly extreme or inflammatory content—"Videos about vegetarianism led to videos about veganism. Videos about jogging led to videos about running ultramarathons" (Tufekci, 2018)—with evidence suggesting YouTube is influential in far-right radicalisation (Evans, 2018; Roose, 2019). YouTube's algorithmically curated 'up next' suggestions are another example of the power that algorithms have over visibility and opacity within networks.

YouTube's algorithms employ what their designers call 'unsupervised learning' that detects patterns and relationships between videos that would not be apparent to the human designers (Newton, 2017). This means that user preferences are not the result of their own filter bubbles—with users choosing material that aligns with or reinforces their existing views preferences[8]—but rather algorithmic prompts to take specific paths through a diverse media

[8] Criticisms about the potential effects of these algorithmically produced 'filter bubbles' are well known (Pariser, 2012; Hooton, 2016) though there is evidence to suggest that, at least in the case in political discourse, this is not as true as might be popularly be believed (Bruns and Highfield, 2016; Dubois and Blank, 2018; Guess et al., 2018).

ecology which aim to make the site 'sticky', recommending "videos that keep users staying to watch still more" (Nicas, 2018). However, rather than extreme content simply being more engaging, I want to suggest that extremes are important for understanding how the platform relates to the individual. Cadence Kinsey's discussion of the role of the architype in online identity is particularly helpful here. While Kinsey looks specifically at the concept of authenticity in the relation of online to offline identity—arguing that there is trend towards "re-synchronisation" of online and offline practices in constructing identity (Kinsey, 2018, p.27)—she suggests that, within platforms, authenticity is evaluated by a conformity to pre-existing archetypes. While authenticity is "commonly understood as an intensification of the individual" and "the archetype could be seen as an eradication of it", for her the defining condition of identity formation within social media is the tension between the two (2018, p.34). As Rob Kitchin describes, content and users are treated in a similar manner by platforms, as both are being "atomised, quantified, computed" (Kitchin, 2014, p.9). Kinsey sees a structure in social media where content, and the user associated with that content, is evaluated as authentic "according to its alignment with […] pre-existing ideals" (2018, p.29) leading to a "regressive, and indeed aggressive, system of rewarding such normative [self] representations" (2018, p.31). While for Kinsey these pressures are social, rewarded with the likes and comments of one's peers, I want to argue that it is not possible to separate these social rewards from the algorithmically-rewarded visibility that Bucher describes with Facebook, especially given that user interactions are the primary way that Facebook's algorithm evaluates 'relevance' and assigns visibility to content (Bucher, 2012, p.1174).

Rewarding archetypal or predictable behaviour and self-representation is, by definition, a disincentivisation of unpredictable, unexpected and creative action. Authenticity, if it does allow for creativity, requires it to remain within certain parameters and the platform's ability

to regulate it. Even if, as per William's suggestion discussed in section 1.1.1, regulation can be either positive reinforcement or negative curtailment, beyond the platforms capacity to regulate creativity it is, as Lialina shows, labelled misuse and excluded. Equally, as was discussed in section 1.3.3, creativity should not be understood as the attribute of an individual but understood as the result of interactions. While early network optimists saw networked information and computer technology having the capacity to increase creativity through its multiplication of unexpected interactions (Apprich et al., 2020), the platform-user model, like the art institutions described by Szreder (2013), require this creativity to be ultimately individualised and privatised, even as the value of that creativity is accrued to the platform itself. An alternative to both online platforms and platform-like institutions of contemporary art would therefore function to promote unexpected and unpredictable interactions that are neither fully transparent nor subject to modulation by a centralised system. Key to this, I will argue in the next sections, is that people have the opportunity to address each other directly, without algorithmic mediation, and that norms or categories emerge from individuals and groups themselves, rather than being externally imposed.

2.1.5 — Address

Returning to Bucher's definition of visibility within the platform as being 'recognized as a subject with a voice', it is important to see how this 'voice' functions within platforms and algocracy. Using Mikhail Bakhtin's theory of addressivity, Emily Rosamond argues that, within platforms, communication between users is "more than" their address from one to another (Rosamond, 2017, p.2). Just as we have seen imbalances of transparency, opacity and visibility within the platform-user relationship, Rosamond argues that there is an imbalance

of addressivity. While the data that users submit are addressed to other users, they are witnessed by an algorithm that is not the imagined addressee. Rosamond described how user profiles on dating platform OkCupid are created following prompts and templates, making certain types of user responses more likely than others while making it easier for the platform to transform user inputs into data that can be algorithmically processed, "manage users' particularity" and "making it aggregate easily". Connections are then made by the algorithm "from algorithmically analysed personality to personality" (Rosamond, 2017, p.4). OkCupid's address to its users encourages them to share more about themselves, not just so that they might be more effectively analysed by the algorithm, but also so that they might better understand themselves. For Rosamond, the platform "often blurs the distinction between sociological and surveillance-capitalist paradigms for data analysis", (2017, p.5), drawing on the "pleasure in seeing how one fits in (or otherwise) to norms" (2017, p.6) and "address themselves to the data-set, in order to be 'analysed' and thus rendered more self-conscious" (2017, p.8). Rosamond argues that the specificity of addressivity within platforms—where the algorithmic witness views users in aggregate rather than in particular—means that the voice of the user is neither as particular to them nor as independent from the witness as literary characters are for Bukhtin. Instead, they are handled as derivatives. Here, following Randy Martin, Rosamond shows how the financial logic of "qualities, traits and risks" becoming "packaged, bundled and managed" appears in the social sphere (2017, p.8). The result is that instead of an individualised voicing—in the sense of the speech act which can have an effect of the world—communication on the platform allows only for a financialised, aggregated sharing.

To understand the importance of considering address in testing institutional forms that could offer an alternative to the platform, it is important to make a distinction here between the

indirect address to an audience that Michael Warner describes—as detailed in section 1.2.2—and the way addressivity operates on the platform. Through algorithmic analysis and aggregation, the platform is able to redirect address away from its original audience—for example the potential partner already imagined and indirectly addressed by the user in their dating profile—towards advertisers who are able to purchase targeting to aggregated subgroups of users. Equally, as Rosamond shows, the platform is also able to direct investors within the platform who look to the platform's potential for future market control[9]. The indirect address of the user on the platform does not only, or even primarily, work to interpolate or individuate the recipient who recognises themselves in the address. Instead, it impacts on how the speaker is categorised by the platform, dictating who this address is able to reach, as well as what messages, from advertisers as well as other users, will be addressed to them. Through mechanisms of opacity and visibility, prediction and address, the platform redistributes powers, rights and capabilities that were previously understood as human to itself, operating through automated action intentionally beyond the direct control and contestation. What I wish to argue is that the most important of these rights when it comes to the process of subjectivisation, the right of the individual to identify with or against a group, is further removed from the person through the algocratic regime of categorisation.

2.1.6 — Categories and norms

[9] As Rosamond shows "Match Group Inc. has broken out as a stand-alone public company (known on NASDAQ as MTCH), which owns "OkCupid, Tinder, and 45 other dating brands" (Flynn 2016), including Match.com and PlentyOfFish" (Rosamond, 2017, p.7)

Rewarding normative user behaviour and self-representation within the platform is significantly different from the type of normativity that disciplinary institutions of the bourgeois public sphere encouraged and enforced. Under algocracy, normative categories are not fixed but flexible, further altering how identity is conceived, recognised and represented. John Cheney-Lippold describes how through algorithms "commonalities between data can be parsed and patterns within data then identified and labelled" (2011, p.168) allowing for new ways of representing the world, or rather data about the world, forming the basis for the production of new value. For him, the most important place where the impact of this can be seen is in how identity is conceived of and produced. Identity under algocracy should not so much be considered the property of an individual but rather the label given to an identified group. It cannot be attached to any "essential" quality but is instead a categorisation of behaviour as it appears in or as data (2011, p.168). If we apply Kinsey's insight about archetypes we can see how authenticity and the archetype interact. To be authentically female is to display behaviour that conforms to the female archetype as defined by the algorithm's categories. What is key for Cheney-Lippold—where he goes beyond Kinsey's description of archetypes and where I argue we see another key feature of algocracy—is the construction of what he calls cybernetic categorisation: feedback loops which allow the "continual interaction with, and modification of, the categories through which biopolitics works" (Cheney-Lippold, 2011, p.173).

Archetypes become unfixed, because what counts as archetypal behaviour is continuously reassessed based on the typical behaviour—or usage—of users who have been classified as a particular type. For Cheney-Lippold, this form of biopolitical control is 'soft' because it does depend on static or pre-defined 'hard' categories, but rather on probability or "statistical belief" (2011, p.178), with 'soft biopower' operating as a "variable indirect processes of

regulation" (2011, pp.172–3). Here we have a form of control not based on self-regulation due to panoptic surveillance, nor on a 'code-as-law' protocological curtailing of what actions are possible, but rather what could be called active representation, "something that tells us who we are, what we want, and who we should be" (2011, p.177).

Hard biopolitical categories like race and gender become soft categories, for example Facebook's "ethnic affinity" (Ortutay, 2018). These soft categories are tautological. Female behaviour is the behaviour of those classed as female and people are classed as female because the display female behaviour[10]. If a user's behaviour alters, the algorithm is "programmed to interpret a mis-categorization and reassign a category of identity based on that user's newly observed behaviour" (2011, p.176). This is possible because of the transparency of behaviour within platforms and the speed at which the modulation of categories can occur, which can be understood as "real time" (Viana, 2016). For Cheney-Lippold, algocratic categorisation is a new addition to the way biopolitical categories and behavioural norms are defined, "it is also through data and statistical analysis that conceptions of gender change – not just through discourse" (2011, p.175)" as is the case in theories of the public sphere and counterpublics. Categorisation is then another mechanism of producing unequal power relations between platform and user. While the unfixed, non-essentialist categories of algocracy might suggest a liberatory potential over the hard, disciplining categories of bureaucracies, the user is not able to categorise themselves by choosing to identify with or even by aligning their behaviour with pre-existing, stable categories. Categorisation is always an algorithmic decision that, because of the imbalances in transparency and visibility, is rendered incontestable by the categorised subject. While the

[10] In another example, the statistical analysis showing that the dating profiles of white women are more likely to include the words 'love to be outside' and 'campfire' can be reverse to show that is a profile contains the word 'campfire' the user is more likely to be a white woman (Rosamond, 2017, p.4)

algorithm is affected by user behaviour, there is no possibility of active engagement. Any resistance to typical or archetypical behaviour becomes data that serves to improve the algorithm, making you and others more easier to categorise.

Better categorisation is, however, a means rather than an end. The key aim of these mutable, soft categories is not merely description or labelling but, as has been discussed, prediction. Active representation—seen in Chaney-Lippold's soft biopower—and the platform architecture that rewards conformity to existing categories—as described in different ways by Zuboff, Bucher and Kinsey—combine to cause the extremism that Tufekci terms radicalisation. This tendency occurs because platforms aim to use protocol, algorithms and cybernetic feedback to render the world more predictable. It is not simply the case of making better predictions through the use of data, rather, it is making a world that better conforms its simulation, using "complex algorithmic models of possible future risks in order to tame chance" (Aneesh, 1999, p.15). This is what Zuboff means when she describes 'behaviour' as the commodification of 'reality' analogous to 'labour' as the commodification of 'life' (2015, p.85). To commodify reality as behaviour requires not just that this behaviour is visible but that it's risks are manageable. While extremes might initially seem more risky, they are in fact more predictable when understood as a hyper-conformity to an archetype. To repeat Zuboff's point, it is the results and effects, not actions and causes, that are valuable to the platform.

The flexibility of soft-biopolitics that Chaney-Lippold describes represents an important, and potentially liberating, break with the hard categories of discipline that arose concurrently with the public sphere and its institutions, including the museum. Calculated publics based on behaviour are, however, a commodification of reality. While an institutional form that is able

to organise around flexible, or active, representation would go some way to addressing the "Victorian ideals" of categorisation (Kaplinsky, 2017) and "segmentation" of audiences (Rodney, 2015a) discussed in Chapter 1.3.1, algocracy means that these categories are still externally and opaquely applied. Furthermore, there are limits to the flexibility of soft biopolitics. Rouvroy has made more explicit the fact that this capturing of reality cannot be neutral or without bias (2011, p.121). Algorithms in fact have the tendency to replicate, and even amplify norms and normative processes, while at the same time obscuring their existence (Rouvroy and Berns, 2013, p.IIV). A new institutional form should, I would argue, facilitate active representation, but it must arise through a process of self-organisation that allows subjectification. While this is a process described by Warner's ideas of counterpublics discussed in Chapter 1, which self-organise around discourse, the indirect address that this requires is also subject to algorithmic intervention that prevents this from happening. An alternative institutional form must allow for unmediated indirect address but this must be possible at the level of network configuration, described in section 1.2.3, not just at the level of discourse. This, as will be argued in the next section, necessitates going beyond the flexibility of soft biopower and instead looking at how subjectification can result from a process of individuation in relation to a common environment.

2.2 — Algocratic subjects

For Emily Rosamond, the user is never the human subject that it purports to represent. Rather, it is always a "dialogical relations between the platform and the profile" that says more about that relation "than it does about a presumed stable or closed off identity of its subject" (2017, p.4). The final section of this chapter builds upon the arguments already put

forward for the operation and subsequent imbalances of power in the platform-user relationship through the work of Antoinette Rouvroy on a-normative modes of social representation and control (Rouvroy, 2011; Rouvroy and Berns, 2013; Rouvroy and Stiegler, 2016). This aims to better understand how the power of platforms constrains human action, looking again at the figure of the user and the process by which they are formed, in order to suggest alternative types of subjects and relations to institutions beyond the platform-user model. Rouvroy's question: "Can we govern ourselves without norms without dissolving ourselves in fluxes?" is key to the thinking about the process of subject formation that is necessary for an institutional form that provides an alternative to platforms and algocracy. I will argue that the user profile is best understood as the environment—which Rouvroy sees as the object of governance, rather than the subject—with implication for how Arendt's concept of action can operate in algocracy. This profile, or environment, acts on us without us being able to act on it, with the consequent curtailing of creativity and subject formation that has already been discussed. It is not just an awareness of the self but an ability to change the situation and, moreover, the ability to think via the possibility of that change which allows individuals the capacity to act not as predicted. In this section, I will argue not only that an environment must be alterable to allow subjectification but that, instead of an environment being reduced to the user profile of an individual, the environments that a new institutional form creates must become common in a way that allows for the emergence of group identity.

2.2.1 — Data selves

Antoinette Rouvroy's work with Thomas Berns has explored in detail how algocracy governs

through an a-normatively model of "social reality". For Rouvroy and Berns the way in which statistics are employed by algocracy is no longer to make comparisons to averages or norms. Data is collected and stored indiscriminately, "devoid of any prediction about specific end uses" (2013, p.VI). Instead, as Chaney-Lippold also argues, the self-learning nature of the systems mean that norms appear "to emerge directly from reality itself" (2013, p.VII) with data claiming to exist as reality 'captured'. Instead of being compared to norms, singular cases (individuals or behaviours) are evaluated against an unfixed set of relations with disparities and differences algorithmically integrated into a coordinated system. While measurements are 'individualised', for Rouvroy this "has nothing to do with taking the singularity of persons into account" (Rouvroy, 2018). The measurements of differences between multiple data points, rather than between individuals and norms, means that "algorithmic governmentality thus focuses not on individuals, on subject, but on relations" (Rouvroy and Berns, 2013, p.V). By measuring and acting on relations, the social reality that emerges is not necessarily reducible to its parts. Relations and their properties, while real, are 'transindividual' and not always assignable to the individuals or subjects to whom they relate. The impersonal nature of much of this information, cleansed of context and meaning and not belonging to anyone in particular, allows it to be collected without consent (2013, p.VI). This is also the basis of its claim to objectivity, being separated entirely from subjects each individual data point, whatever the source, is only ever itself, 'what happened' or indeed 'what is happening' (2013, p.VII). The supposed neutrality of the automated system—what Rosamond (2017) would call an algorithmic witness—grants it exclusive rights to decide truth. Under this regime, what is present or visible, in real-time, is real "belonging to the domain of truth, authenticity or facts" (Rouvroy, 2011, p.128).

Devoid of context, and therefore meaning, the facticity of data renders it incontestable, free of intention, motivation or subjectivity (Rouvroy and Berns, 2013, p.VI–VII) which for O'Dwyer (2017) puts it "beyond dispute". What is not apparent in the present is not just ignored but removed "from the physical model of the universe" (Terranova, 2004, p.67). The function of visibility under algocracy goes beyond what was described in section 2.1.3. It is not simply that things which are visible to the platform are only selectively revealed to its users but that anything that is not shared with the platform no longer functionally exists. This deconextualised factual reality is, however, re-inscribed with meaning through a process of correlation, the re-connecting of data so that patterns emerge. This is an automated process, able to occur largely or entirely without human oversite or control, without the need for a hypothesis—or proposition about the world—before the data is given sense, creating a "collapse of states between the raw data and the database and the production of knowledge where critique might occur" (O'Dwyer, 2017, p.4). The objective correlations that the system identifies are not able to suggest the reason that these relationships exist—the 'why?—and instead causes are deemed unnecessary, too subjective, not apparent in the data and therefore not factual[11].

Algocracy's avoidance of the individual affects the way subjectivity is formed because it is always external to the individual. This prevents a critical view of the self that Rouvroy and Berns (2013) see as key to subject formation, with the meaning produced by algocracy always objective, disallowing the possibility of subjective meaning to emerge. For Rouvroy the avoidance of danger has replaced remediation, which would require an understanding of cause, while the individual subject has been replaced by a profile constructed out of relations

[11] The identification by American intelligence services of Al Jazeera journalist Ahmad Muaffaq Zaidan as a member of both Al Qaida and the Muslim Brotherhood via his phone metadata positions the objective truth of correlations above the too subjective reason that could identify his profession as explanation for his contact with members of proscribed organisations (Currier et al., 2015).

and correlations. While the individual is avoided in this new statistical regime, what Rouvroy term a 'statistical double' emerges. This profile or 'data self' arises "from statistically predictive correlations between impersonal behavioural variables automatically detected in the mass of available data" (Rouvroy, 2018, p.99). Despite being separate from the individual, actions upon this double will affect the behaviour of the subject. It is a profile that is 'applied' to individuals in order to make their behaviour more predictable by revealing "preferences, intentions and propensities" that would otherwise not be evident (Rouvroy and Berns, 2013, p.VIII). For Rouvroy and Berns, algorithmic governmentality regulates not by ensuring individuals conform to a desirable norm but simply by making behaviour is predictable through ensuring that "everyone is truly themselves". Indeed, "prediction and avoidance of danger have replaced the identification and remediation to its causes", (Rouvroy, 2011, p.126), the danger being that the individual acts outwith the boundaries of their predicted behaviour. I would argue that the subjective meaning-making that algocracy denies is one of the key things that an alternative institutional form needs to preserve and promote. This process of subjectivisation and subjective meaning-making, as the next section proposes, requires the development of institutional forms that create fungible environments that are not individualised but are instead common.

2.2.2 — Environmental collapse

By acting on relations and connections, rather the individual, algocracy operates by exercising control not upon the individual directly but on the environment (Rouvroy and Berns, 2013, p.IX). This action on, and therefore through, the environment (2013, p.XVII) has the effect of constraining what behaviours are likely and possible, making "certain forms

of marginality ever less probable" by being able to "pre-emptively affect possible behaviours" (2013, p.X). It is important to note, however, that the environment is personalised to each user (Rouvroy, 2011, p.132). This personalisation is a form of 'hyper-segmentation' that looks to channel a user's more-or-less predictable desires towards the system's desired outcomes. The separation of the individual from their environment will be discussed through the work on biologist Humberto Maturana in Chapter 3, but here it might be helpful to equate—more explicitly than Rouvroy and Berns themselves do—the environment that the individual inhabits and the statistical double of their profile. The profile is the means by which the system decides what information is made visible to the individual and what future connections and relations are likely to be established (Rouvroy, 2011, p.132). Both environment and profile are adaptive in response to behaviour and use as well as the behaviour of others with whom the profile is algorithmically correlated. The profile generates the environment and is refined by interactions with that environment. This continuous feedback or mutual refinement aims to bring the two closer together with the aim of providing the environment you want before you ask for it (Wakabayashi and Barr, 2015). However, it also promotes action without formulating desire (Rouvroy and Berns, 2013, p.XIII) with the environment in becoming simply a reflection of the profiles anticipated action. The individual becomes less and less relevant as the profile/environment provide fewer and fewer opportunities to act beyond expected behaviours. This is the basis for what Rouvroy calls 'digital behaviourism', the idea that you can "govern behaviours without directly worrying about individuals, and simply governing based on a statistical expression of reality that might replace reality itself" (Rouvroy and Berns, 2013, pp.XXIV–XXV). The collapse of profile and environment eliminates creativity in order to maximise predictability but, in reducing the environment to the level of the individual, this collapse has consequences for how the subjectivity of individuals is able to develop and their capacity to make meaning

out of their interactions with their environment.

Statistical doubles or user profiles are fundamental to the way we are governed within platforms yet we have no influence or control over them. Rouvroy and Berns say that we have no "relationship" with them (2013, p.XVII) but I wish to argue that it would be better to say that there is an unbalanced relation. The profile, or environment, acts on us while our ability to act on it are never direct but always mediated by the algorithm. The act of being able to change is key to what Diann Bauer (2018) describes as sapience, not just an awareness of the self, but an ability to change the situation and, moreover, the ability to think via the possibility of that change. While the system acts on us to become more like our profile[12] Rouvroy and Berns stress the importance of seeing the discrepancy between ourselves and our representations in data. This they locate in what Rouvroy, drawing on Arendt, calls spontaneity, the capacity to act not as predicted (Rouvroy, 2011, p.133) which, as I have argued, should also be understood as creativity. The scale of the data collection and processing power available to algocracy is such that it "presents the possibility of a seemingly perfectly "democratic" normativity" (2013, p.IX) which is to say, aggregative, non-exclusionary and non-restricting of the individual to any predefined classes or categories. Here I wish to connect Rouvroy and Berns' thinking to that of Kinsey. The statistical double, or the user profile, acts as the personalised architype to which the subject strives to become. In reality, however:

> "The information systems embedded in ambient intelligent systems are not intended to observe the unique complexity of each human being, but to *sort* individuals in a

[12] Rouvroy and Berns liken this process to the Christian, confessional subject which "refines" rather than "produces" the self through "dialogue with oneself, aided by political, spiritual or technical mediation" rather than the modern legal subject governed by discourse and norms (Rouvroy and Berns, 2013, pp.XVII–XVIII).

> variety of heterogeneous categories for the purpose of predicting their willingness or need to buy specified commodities, their risks to fill claims with health and disability insurances, the danger they represent for themselves or for others, or other propensities that marketers, insurers, law enforcement officials and many others may find useful to have." (Rouvroy, 2011, p.128).

Thus, while they might be highly personalised, the profiles can never quite approach uniquely individual archetypes. The process of "becoming one's own profile" (2013, p.X) is not a process of producing a self, even if it is far more accommodating, or even demanding, of difference than the statistical averages and norms of previous forms of governance. For this reason, the statistical double acts to "hinders any subjectification process" (2013, p.V). That this happens opaquely, outside the view and comprehension of humans, and therefore outside of discourse, creates a depoliticised democracy (O'Dwyer, 2017, p.5) where nothing needs be contested because decisions are placed beyond human grasp. For Rouvoy and Berns, algocracy "seeks not to govern reality, but to govern on the basis of reality" (2013, p.XX).

While the current "focus on contingency and risk minimisation has shadowed most other political goals" (Rouvroy, 2011, p.136), Rouvroy leaves open the possibility that the same types of processes may enhance our capacities for utopian virtual or statistical selves that we can move towards if we don't systemically preclude them.

> "Virtuality, or our virtual dimension, has to do with the capacity we have to suspend any definition of ourselves, our capacity to 'think of ourselves beyond ourselves' in a cultivation of ecstasies or self-transcendence, self-overcoming or self-deconstruction." (Rouvroy, 2011, p.131)

The result, or indeed the purpose, of preventing critical reflection, and therefore subject formation, is a separation of the subject of governance, the individual, from the object of governance which Rouvroy and Berns identify as the relation or environment (2013, pp.XX–XXI). These are not simply the relations between things, but the relations that pre-exist a connection, types of relations that make connection possible. Here they follow Gilbert Simondon in making relations primary (Terranova, 2004). Rouvroy and Berns draw on Simondon to describe how communication happens between preindividuals, with the act of communication causing individuation to take place in a similar manner to the process described by Michael Warner in Chapter 1, though not limited to indirect address. Importantly for Simondon's conception of individuation, the individual will differ from the potential that pre-existed it (Terranova, 2004, pp.67–8). Algocracy, therefore, can be understood as the limiting of the possibility for a subject to arise differently to how it was predicted. Algocracy seeks to avert a crisis, being the moment where a decision must be made, by maintaining relations that are undisturbed by the process of subject formation.

While there is potential in the liberation from predefined categories that algocracy's soft-biopolitics allows, there is not liberty in the sense of being able to project oneself differently. For individuation to happen a common, rather than individualised, environment is required, which Rouvroy and Berns understands as "that place of co-appearance where beings are addressed and talk about themselves to one another, with all their dissymmetries and 'disparateness'" (2013, p.XXVIII). Here then we have public space but it is not one that seeks consensus. Rather the "common requires and presupposes non-coincidence because it is from there that processes of individuation occur when that is what compels us to address one another." Under algocracy the environment is exactly what is not allowed to be common

(2013, p.XXVIII), instead the environment collapses into an individual user profile while all possibility of connection is controlled by the platform. Here it is useful to return to Arendt description of the common world as the world of things produced by humans but not privately owned and which "as a table is located between those who sit around it […] relates and separates men at the same time" (1958, p.52). This common world is an environment made up of material, human things, including the infrastructure and protocols that make up a platform or an institution. The sharing of a common environment, and the connections and separations that it provokes, is what allows and requires individuation and subjectivisation. In the individualised, privatised world, the environment collapsed into a user profile does not allow subjectivisation because all connection and separation is performed by the algorithm through a regime of visibility and opacity, prediction and categorisation. A new institutional form must therefore ensure that environments are common. In the following chapters I will analysis the cybernetic forms and models that were developed by Stafford Beer, suggesting and testing the ways that they might form the basis for an institutional form that resists algocracy's methods of control and the platform's centralisation of power. These models, I suggest, allow for common environments and flexible, contestable and rejectable representation that promote the credibility, creativity and subjectivisation that algocracy denies.

Chapter 3 — Syntegration in theory

Team Syntegrity, Stafford Beer's protocol for problem solving and decision making within groups, was the culmination of multi-decade experimentation with and theorising of non-hierarchical organisations. It grew out of his experiences designing and implementing his Viable System Model, a cybernetic management tool he saw as being applicable to all types of self-organising and self-sustaining systems. This chapter will start by looking at Beer's work on viable systems, showing how his encounters with Chilean biologist Humberto Maturana's theory of *autopoiesis,* whilst working to implement cybernetic management in Chile in the early 1970s, spurred a development in his cybernetic thinking and a deeper engagement with the problems of non-hierarchical management, anti-authoritarianism and human freedom. It will argue that Maturana's ideas have implications for how we understand identity and self-identification in individuals and organisations and that the identity of a group arises from its autopoietic self-organisation in relation to its environment. This, I propose, is precisely the process required in the building of a viable institutional form that can utilise the flexibility of platforms without a regime of algocracy. It will be argued that *Team Syntegrity*—like algocracy—functions as government-by-simulation but that it does so in a way that counters the authoritarian nature of the platform, allowing it to form the basis of a new institutional form.

3.1 — Viable Systems

For Beer, cybernetics was the science that could understand, control and design complex systems which are not fully knowable or predictable. His approach focused on what a system

does in its interaction with the outside world rather than how it works internally. Beer sought to design systems that were able to stabilise themselves, which he termed *viable systems*. He attempted to convert his cybernetic approach to management and his early experiments in biological computing[13] into a formal system he called the Viable System Model (VSM) (Pickering, 2010, pp.243–244). This research was begun in the 1960s and was first presented in the book *Brain of the Firm* (Beer, 1972). Taking the human nervous system as its inspiration, the VSM formalised Beers ideas into a model that could be applied to all scales of organisation (Medina, 2011, p.35).

3.1.1 — The VSM

Beer's development of the VSM through the 1960s, 1970s and 1980s built on the self-regulation of the Ashby's homeostat, discussed in section 1.1.1, to produce rules that apply to all viable systems whether they be biological, organisation or societal. For Beer, however, viable systems must also be dynamic within physiological limits. This is most clearly seen in a living organism, where viability must achieve a stability that is neither static, dead, nor destructive; where it stops being a coherent entity. Beer saw society in the second half of the 20th century as becoming increasingly complex. "The elements of our society ever more richly interact: the more this happens […] the more complex does society come" (Beer, 1995, p.221). He viewed this increased interaction and its resulting complexity as driven by communication and data-processing technology but also the result of a demand for freedom and an explicit rejection of existing social regulation by the post-war generation (Beer, 1995, p.222).

[13] Assessing how tanks of pondlife would return to states of equilibrium after disturbance by light or electromagnetism.

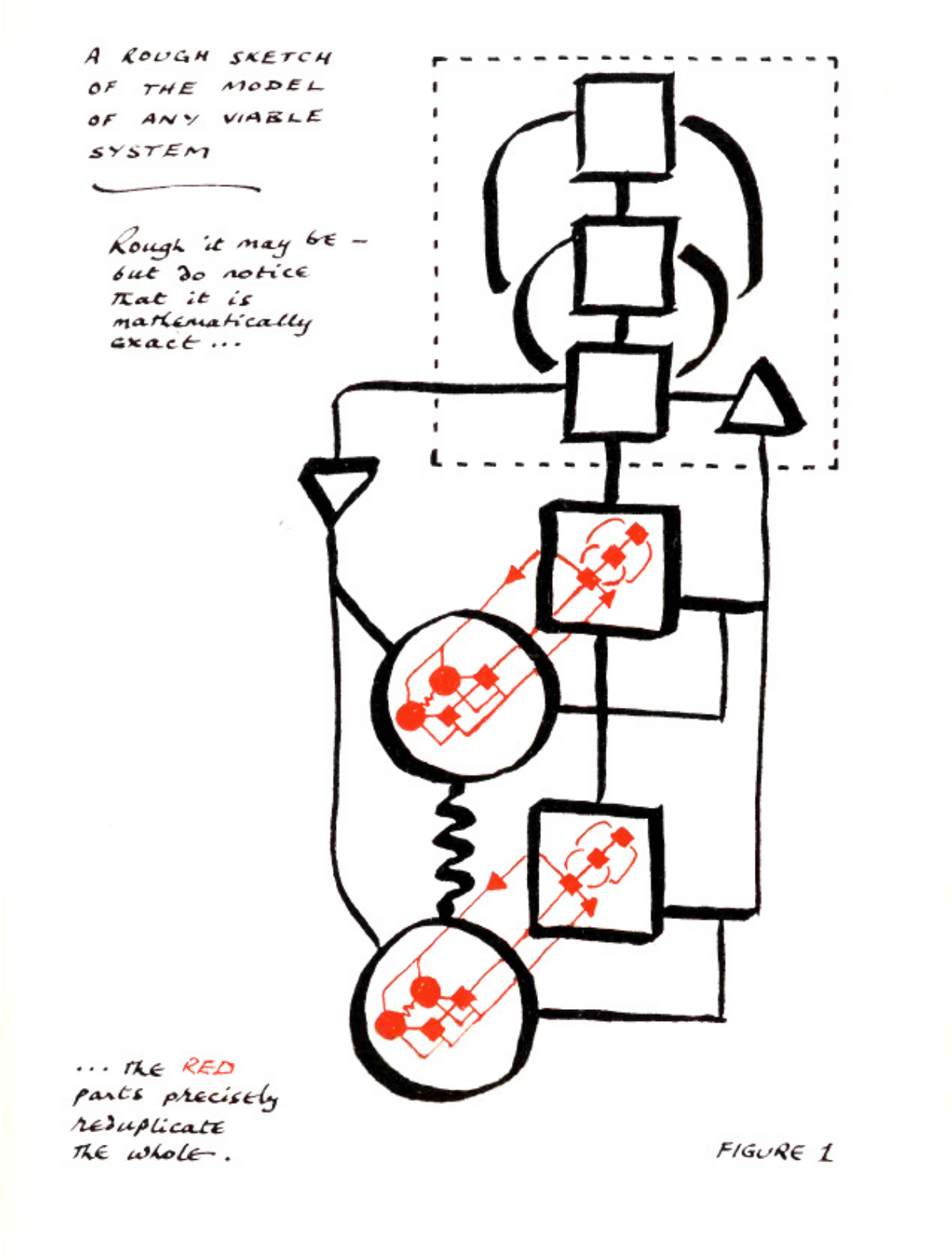

Figure 1. *A rough sketch of the model of any viable system*, Beer (1985, p.3). Note that the system is recursive, with the model reproduced at a smallmer scale within System 1.

As Beer stated in 1973, “increased freedom (including new opportunities) proliferates variety to a point where our respected institutions cannot any longer cope with it” (Beer, 1974, p.17).

For him, society had "outgrown the dynamic regulatory capacities of its own hallowed structures" (Beer, 1995, p.222) or, as Evgeny Morozov has commented, "the old ways of minimizing [complexity]—religious edicts prescribing strict codes of individual behaviour, for example—no longer worked". In Morozov's view, "Beer dedicated his life to deploying the tools of cybernetics to make both market and non-market institutions more responsive to the demands of growing social complexity" (Morozov, 2019). The dynamic nature of the interactions between a system and its regulation are important. An accelerated rate of change means that traditional institutional structures are not able to return to a stable, or relaxed, state before the next stabilising adaptation needs to be made (Beer, 1974, p.11, 1995, p.427). As a result, they are not able to recognise what stability looks like and instead operate under a constant state of crisis that leads to ever increasing instability. A viable institutional form which can offer an alternative to the platform must therefore possess characteristics of dynamism and flexibility in a similar way to the platform and algocracy as discussed in Chapters 1 and 2. It must also, however, direct these capacities to stabilisation which, as I will argue in the following sections, is dependent on self-organisation and self-recognition.

3.1.2 — Self-organisation

Beer's understanding of a stable and viable society is one that is itself made up of stable and viable institutional components. However, in order to maintain their own stability, institutions will inevitably effect instability upon the institutions around them (Beer, 1995, p.229). In order to achieve stability at a higher level, a 'metasystem'—or stable system of stable systems—must be in place to regulate the interaction of different parts. Institutions that are independent must be connected in such a way as to maintain a state of equilibrium. Beer formalised this multi-level stabilisation in his Viable System Model (VSM) which operates

on the principle that it can ignore—or 'black box'—the internal operation of subsystems if mechanisms are in place to regulate interactions between them (Beer, 1995, p.228). As the model follows fixed cybernetic laws that, in Beer's view, "are invariant to the transformations of their fabric" (1995, p.425) he viewed the VSM as universally applicable to all viable systems.

Split into five subsystems or levels, each part of the VSM took a role in regulating the system such that it was ultrastable, able to correct itself in response to all outside perturbations. The VSM is, then, an example of Keller Easterling's medium design (Easterling, 2018) but, rather than increasing information flow as Easterling advocates, the VSM aims to make information manageable so that communication channels, receivers and transducers do not become overwhelmed and information does not become destabilising (Beer, 1985). For Beer all viable systems are "basically *self*-organizing" (Beer, 1985, p.30) which is to say that "the output they hold steady is *their own organization*" (Beer, 1974, p.77). Self-organisation is, as was noted in section 1.2.4, the organisation of a self. While viability can be determined from a system's interaction with its environment, it results from its internal organisation. That the world around us is made up of self-organising, viable systems is seen as self-evident by Beer. If systems were not viable they would not continue to exist or it would be apparent that unstable systems were being continually put back together by some other viable system. Beer saw viability as "both necessary and sufficient as a criteria of effective management, and therefore cybernetics itself " (1995, p.426).

For Beer, self-organised viability was the basis for autonomy and, I will argue, also necessary for institutional forms that can serve as an alternative to the platform model. As argued previously, self-organisation is the underlying principle through which complex hegemony

operates. Characteristics and qualities that emerge from complex systems are embedded in the structures around which they self-organise. Self-organisation is not, however, enough to ensure viability or the autonomy that Beer's VSM was based on. For this to happen, there must also be a process of 'autopoiesis'. Drawing on what I identify as the chief source of Beer's theory of autonomy and identity, the work of Humberto Maturana, I wish to argue that identity is the result of the recognition of something's separation from its environment, with autopoiesis understood as self-recognition of that separation and identification with a stable, viable state.

3.1.3 — Autopoiesis

Autopoiesis means self-making and it was established by Maturana with his colleague Francisco Varela in a 1972 essay later published in English as *Autopoiesis: the organisation of the living* (1979). Autopoiesis concerns autonomy and aliveness, and it was Maturana's attempt to answer the question "what is common to all living systems that qualifies them as living?" (Maturana and Varela, 1979, p.74). The answer that Maturana and Varela gave is that they have an autopoietic organisation—with organisation understood as a fixed set of relations, opposed to structure as a variable set of material components—and that they are self-maintaining through a continuous process of self-making.

Beer viewed autopoiesis and the VSM as 'mutually enriching' and saw autopoiesis, self-production, as necessary to viability (Beer, 1981, p.338). The idea of viable systems outputting their own organisation is a direct transposing of the biologically focused autopoiesis into the language of management cybernetics (Beer, 1979a, p.66). Beer's encounter with Maturana and the concept of autpoiesis was a result of the work he undertook

in for the short-lived democratic socialist government of Salvador Allende in the early 1970s. In 1971 Beer was contacted by Fernando Flores, an engineer working in the Chilean State Development Corporation that was overseeing the country's nationalisation program, seeking advice on implementing cybernetic management at a national scale, titled Project Cybersyn (Medina, 2011, p.16). Beer responded with an offer to work directly for the Chilean government, implementing the VSM at the scale of the Chilean economy (Beer, 1981, p.338). During Beer's time in Santiago between 1971 and 1973, he and Maturana became close friends, while Maturana worked with Varela to formalise the theory of autopoiesis develop in 1969 during his time working in Chicago on the invitation of cybernetician Heinz von Foerster (Maturana and Varela, 1979, p.xvi). Beer made use of Maturana's work in a report 'on Decybernation' (1973) in an attempt to explain why the Chilean governmental bureaucracy was resistant to the changes he was proposing and later worked to have the translation of Maturana and Varela's *Autopoiesis* published in an unrealised edited collection titled *Challenge to the Paradigm* (Hancock and Naughten, 1993).

Maturana and Valera's theorising of autopoiesis was, I would argue, one of the key influences on the development of the VSM after 1971. While the self-regulation of the homeostat is a fundamental idea in cybernetics—and the idea that such mechanisms might be the basis of life is inherent in Ashby's Homeostat (Malapi-Nelson, 2017)—Beer saw autopoiesis as a "special kind of homeostasis" (Beer, 1981, p.338). Autopoiesis goes beyond homeostasis by positing self-organisation as the basis for self-reference and therefore self-identification (Beer, 1979a, p.66). For Beer, autopoiesis becomes the way of locating the individual, viable and autonomous, within an inextricably interrelated system; a way for the self to recognise itself as distinct from its environment. This, I would argue, became necessary as a response to the criticisms Beer received for working for a socialist state and

charges of "'Big Brother' tactics" (Medina, 2011, p.173). Beer rejected the idea that "identity is a political inference" (Beer, 1979a, p.64) but rather a product of self-production. As N. Katrine Hayles notes "one of the principal effects of autopoiesis is to secure for a living system the crucial qualities of autonomy and individuality" (Hayles, 1999, p.142). Furthermore, if a system's purpose is to maintain its own viability, for Beer it is also necessary to maintain its identity and autonomy (Beer, 1979a, pp.67–9).

The continuous self-production of a viable system is what underwrites identity, both externally and to itself (Beer, 1985, p.9). To be viable, a system must stabilise itself, while necessarily destabilising—dumping entropy into (Williams, 2015a, p.25)—its environment. Viable systems are, however, also self-referential or logically closed in a way that allows for the maintenance of identity and the production of self-awareness (Beer, 1985, p.4). This is a key point of Maturana and Valera's work that Beer draws upon in the ongoing development of the VSM. The idea of closure as the basis of identity can be seen to flow from Maturana's insights into the closed nature of the nervous systems which, rather than responding to information, react through self-regulation to deformation caused by internal perturbations (Beer, 1979a, p.77; Hayles, 1999, p.136). To stabilise itself, a viable system must have an internal representation of its relaxed, stable state. It is therefore sensible to see the VSM as an example of Maturana and Varela's influence in what N. Kathryn Hayles describes as the transition from the first wave of cybernetics to the second. While the first wave—for example Ashby's homeostat—looked to engineer behaviours that mimicked biological processes, Beer's work looked to engineer processes and environments, self-organising around systems of relations that produced those behaviours (Hayles, 1999, p.141).

The contestation around autopoiesis was, and continues to be, the question of what kinds of systems they are applicable to (Maturana, 2011, p.299). For Beer all viable systems are self-producing—autopoietic by nature—and therefore, strictly speaking, biological with a "cohesive social institution" understood as an autopoietic system (Beer, 1979a, p.70). Neither Maturana nor Varela agreed with Beer, nor did they agree with each other. For Maturana a social system is the result of the stabilised relations of a number of autopoietic systems in the process of their autopoiesis, an interdependence of biological systems that is not itself biological (Maturana and Varela, 1979, p.xxvi). Varela saw production of component parts, at a chemical level, as the key feature of autopoiesis (Varela et al., 1974). While a social-system might be self-organising, that does not mean it is self-producing in the same way as an organism is.

Beer's conception is closer to the one developed by Felix Guattari, for whom "institutions and technical machines […] when one considers them in the context of the machinic assemblages they constitute with human beings […] become ipso facto autopoietic" (Guattari, 1995, p.40). An organisation composed of autopoietic humans can become autopoietic if it sustains itself, that is, if it is viable. These disputes, I would argue, revolve around the question of boundaries: where does the autopoiesis stop? For the biologists, it was necessary for it to stop at the edge of biology. For the management cybernetician, it can be found at any scale where systems self-organise. Guattari is more concerned with the removal of boundaries than their demarcation. For the purposes of this thesis, I will define autopoiesis as arising whenever a system is able to identify itself, that is to organise itself as a self with an identity, with the effect that it separates itself from its environment. At an institutional level, this can be understood as instituting itself. Key, however, is that this is a viable, continuous and, as I will argue in the next section, recursive process.

3.1.4 — Self-identification

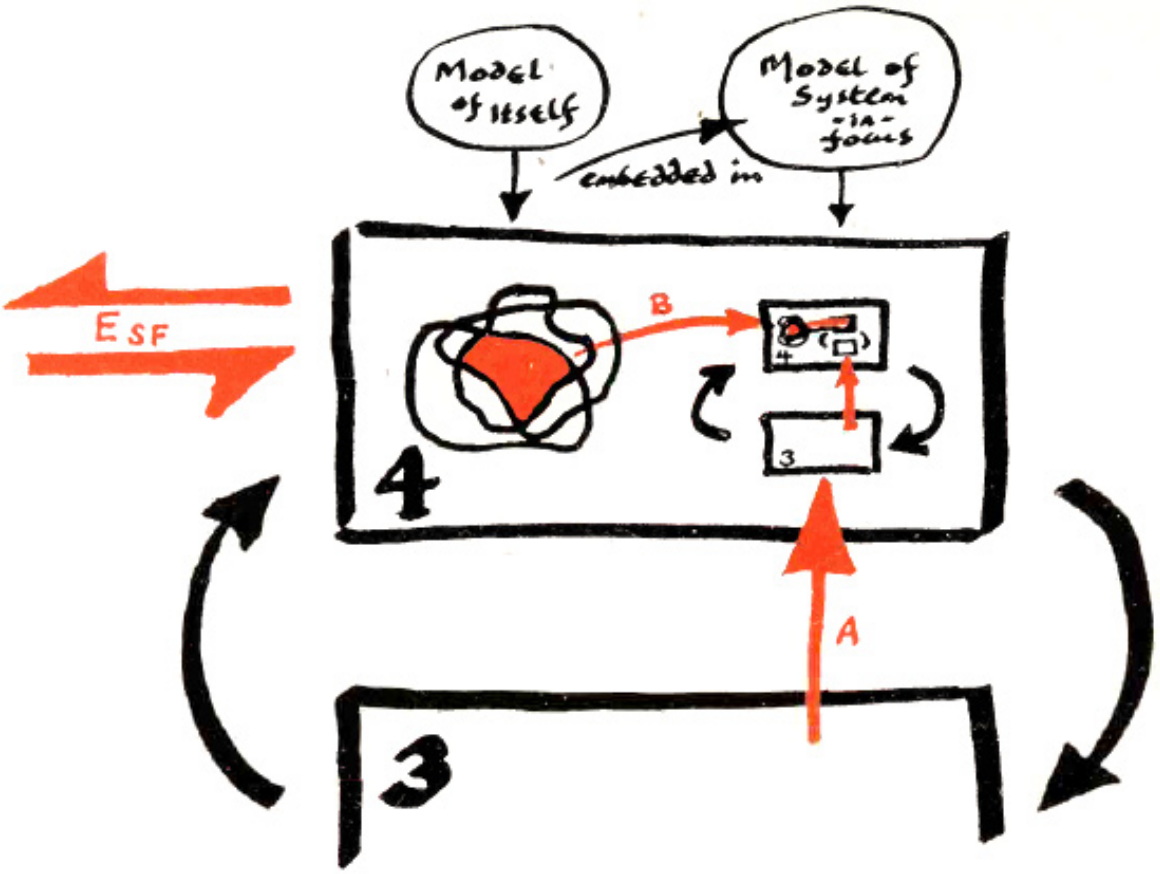

Figure 2. *Recursion*, Beer (1985, p.116). System 4 contains a model of the whole system, recursively.

Recursion plays a key role in how Maturana and Varela understand cognition. The recursion of an observer observing themselves in relation to—and separate from—their environment, and in turn, observing that observation, is what produces self-consciousness (Maturana and Varela, 1979, p.29). This idea is also taken up by Beer's Viable System Model in the way that a viable system must have a model of itself (Beer, 1985, p.116). The distinction between Beer's viability and Muturana and Varela's autopoiesis could then be thought of as a difference between *maintenance* and *production*. A viable system can, by definition, maintain itself and in doing so demonstrates effective management. Viable systems, however, do not necessarily produce themselves in the same way that a truly autopoietic system does (Varela

et al., 1974). They are synthetic rather than organic, put together—at least initially—and, as we shall see, are not necessarily fully closed in the way that an autopoietic organism is. Their variety—cybernetics' measure of complexity or possible states—leaks into the systems in which they are embedded allowing and requiring metasystems to make regulatory interventions.

I would argue, however, that the identity of a system can be understood as autopoietic because it does produce itself in situations where a system is able to recursively observe itself as being separate from other systems and from its environment. Autopoietic identity is an emergent property of specific types of viable systems. While questions over which systems are self-identifying and which require separation from their environment by an external observer are central to criticisms of autopoiesis (Hayles, 1999, p.146), I believe it is possible to say that systems which observe the viability of their own organisation, and use that representation to stabilise themselves internally and in relation to their environment, produce their own identity and therefore their autonomy. A viable system will stabilise itself while destabilising its environment but an environment—or in Beer's language a *metasystem*—can be engineered to stabilise relations between the components that share it. While an engineered metasystem might not be able to be understood as self-making in a strict sense, to be viable, it must continuously self-make the identification of the stable relations between its components: what Maturana would call its organisation; though not necessarily its structure: the components themselves (Maturana and Varela, 1979, p.xx).

The identification, or identity of the organisation, emerges through the processes of stabilisation and, because the interaction of complex systems is not predictable, cannot be said to have existed prior to that action or external to it itself. For this reason, autopoiesis is a

useful tool when understanding the effects of the removal of the possibility of critical reflection by algocracy described in section 2.2.2. The collapse of the distinction between user and environment that I identify not only removes the opportunities for spontaneous action but also the reflection that would reveal a separation from the environment and therefore an identity separate from it necessary to stabilise relations. Identification of the separation between an entity and its environment is necessary for both individuals and organisations to act independently and maintain their viability. The autopoietic emergence of identity from a viable system that is vital for its viability is inherent in Beer's VSM. As I will argue in the next section, however, it is 'syntegration', a protocol for generating recursive, stabilising self-identification, that is most valuable when thinking about an institutional form capable of offering an alternative to the platform.

3.2 — Viable models and simulations

Stafford Beer's *Team Syntegrity* protocol was developed as a counter to the technocracy that he saw as arising from the application of science and technology to government, in part a response to the problems we encountered when trying to implement the Viable System Model in the management of the Chilean economy through *Project Cybersyn*. A protocol for a self-organising, non-hierarchical meeting, *Team Syntegrity* was proposed as a process for decision making within the VSM. It is also able to function independently for "normative, directional, and strategic planning — and other creative decision processes" (Beer and Editors, 2000). This next section details the working of the VSM, before briefly discussing its operation in Chile, and Beer's ideas of both the democratic potential and technocratic dangers of the increasing use of information and computer technology in governance. It will then detail the

Team Syntegrity process, arguing that it should be understood as a development away from the cybernetic modelling of the VSM, towards a form of government-by-simulation.

3.2.1 — Systems 1–5

A more detailed outline of the details of the Viable System Model is useful in allowing us to place the syntegration process within Beer's wider philosophy. The model is composed of five subsystems. As has already been stated, the viable system is recursive, meaning that viable systems are themselves made up of viable systems. System One are the embedded viable systems that produced the system, much like the cells of an organism or the bees of a hive or, at the scale Beer commonly uses, the divisions of corporation (Beer, 1985, p.140). System Two monitors and coordinates the inevitable conflicts that arise between multiple independent System Ones. Though System Ones are themselves independently viable, they require a mechanism by which their interactions can reach a state of homeostatic balance through coordination of their independent regulation. As Beer states, System Two's "function is not to command"—that is to make decisions—"but to damp oscillations" in a way that allows System One the time to balance itself (Beer, 1985, p.68). Beer's example of a System Two is a school timetable which prevents the double-booking of classrooms or a publisher's style guide (Beer, 1985, p.77). System Two is authoritative because it codifies decisions made elsewhere and is effective because it requires only regular, but not constant, renegotiation (Beer, 1985, p.69).

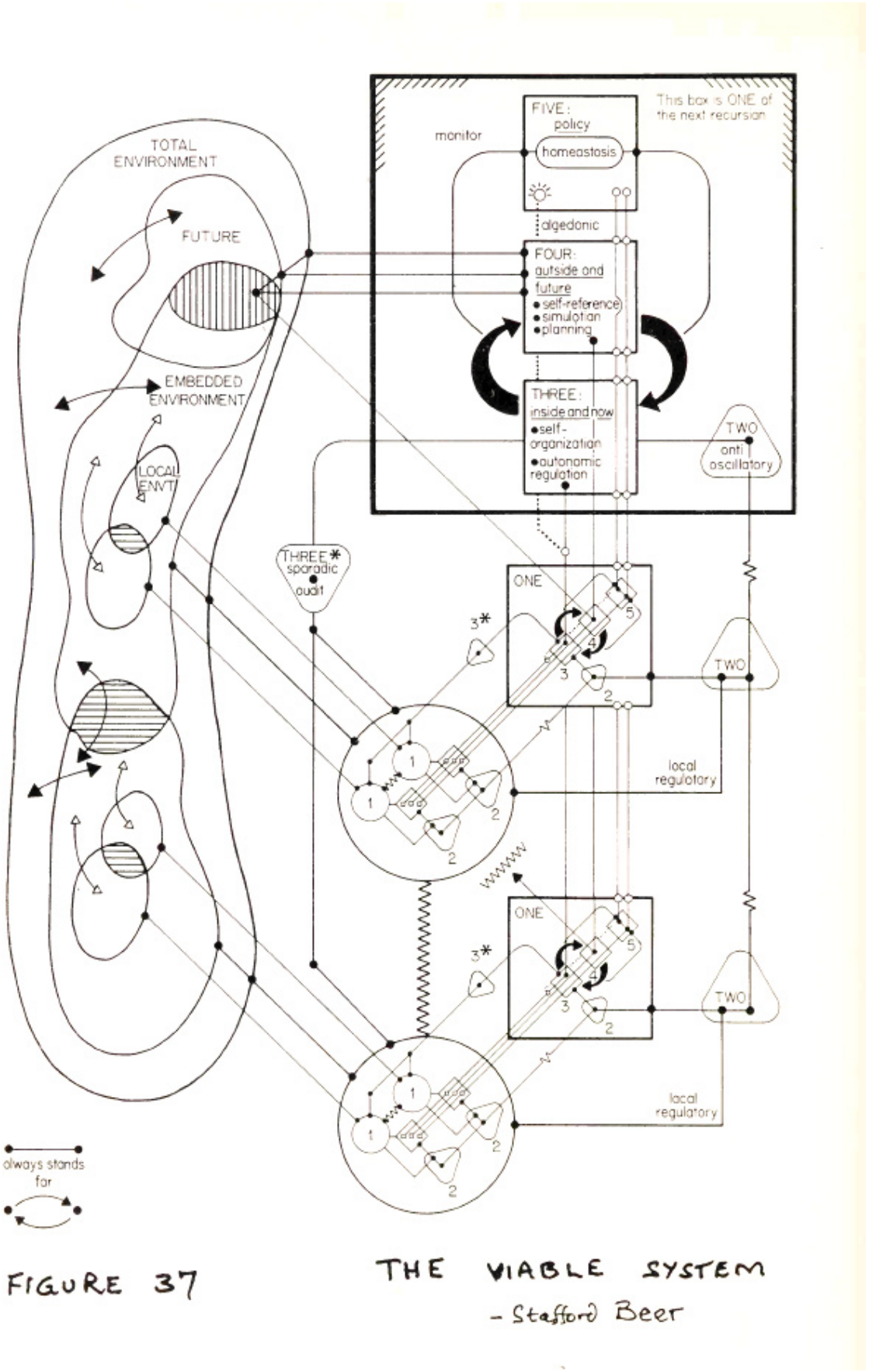

Figure 3. *The VSM*, Beer (1985, p.136).

While System Two allows the functional autonomy of System One, System Three does exert authority, managing the activities of the independent Systems Ones largely by providing resources in return for specified actions or outputs. While System Three is concerned with the internal functioning of the organisation, System Four looks outwards, engaging with the environment that contains all of the embedded Systems Ones' environmental niches or 'micro-environments' (Beer, 1985, p.109). It allows managed adaptation to a changing external environment through research and planning but also holds a representational model of the whole system. Here, then, is the idea Beer brought from Maturana and Varela. This recursive self-image is key to the self-awareness of a viable system (Beer, 1985, p.116). For this research, the key part of the VSM is this loop of information that Beer calls the 'Three-Four Homeostat', the balancing regulation between the internally and externally focused systems. As Beer says: "The Three-Four homeostat is the organ of ADAPTATION for the enterprise" (Beer, 1985, p.120). The relationship between the 'inside and now' of System Three and the 'outside and then' of System Four is crucial for viability and is seen by Beer as a frequent cause of organisational problems (Beer, 1979b, p.255). In a viable system Systems Three and Four are equal and "accountable *to each other"* and do not filter or restrict each other's operation (Beer, 1979b, p.252). Beer states that the best way to maintain the necessary information flow between Systems Three and Four is to have them communicate continuously, or 'in real-time', through an operations room, which was famously built in Chile, or a management centre, which Beer envisaged as a management 'clubhouse' (Beer, 1979b, p.258).

At every stage of the viable system, variety that cannot be absorbed at one level must be absorbed at the level up. Things that are undecidable, or conflicts that are unresolvable, must be dealt with by a metasystem (Beer, 1981, p.402). The final component of the VSM is

System Five, which Beer defines as 'ethos', which acts as a 'variety sponge' able to monitor, absorb and regulate possible states of the system that can't be dealt with by the interactions of Systems Three and Four. It supplies ultimate authority and provides 'logical closure', defined as a self-referential process (Beer, 1981, p.260). This System Five is what Beer calls 'the boss' though this is not necessarily a single, defined person[14]. System Five could be a number of people, so long as they are organised in a way that absorbs the variety that Systems Three and Four cannot absorb themselves, making decisions that cannot be made by lower systems. System Three is in control of what the organisation actually does, the actual production that constitutes it, while System Four is what creates the understanding of the organisations role in a wider and longer-term context. System Five monitors the loop of information exchange between Systems Three and Four, ensuring the homeostatic maintenance of balance by closing any unresolvable conflicts.

Though the Viable System Model does not seek to dispense with hierarchy completely, (Beer, 1985, p.91), it is a 'bottom-up' model of organisation that places primary importance on the production rather than the control of a system (Beer, 1981, p.254). Beer emphasises that while Systems Three-Four-Five (management) are logically superior to Systems One-Two-Three (production) they are not more important. They are, however, able to make decisions that it is not possible to make at lower levels because of their access to information organised at a high level and, in this way, can be understood of as a platform, with the System Ones as users.

[14] When Beer showed the VSM to president Salvador Allende, expecting him to identify himself as System Five, Allende instead recognised it as 'the people' (Medina, 2011, p.75).

Allowing the self-organisation of parts in System One reduces the need for hierarchical control. Beer defines authoritarianism as the distribution of regulatory variety between direct command and other forms of systemic regulation (Beer, 1985, p.101), in effect this asks whether the purpose or identity of a system flows upwards from the purposes and identities of its component parts, or whether it is decided and enforced by centralised commands. Beer states that there is an inevitable compromise between purpose from above and purpose from below but that the democratic or authoritarian nature of a system can be determined by which takes precedence (Beer, 1985, p.100).

All sub-systems are vital to the viability of the system and to the maintenance of its identity. A system's identity is what it does, what happens at the level of System One. However, what it does is only recognised, by itself as itself, by the closure provided by System Five. The embedded viable systems should, by definition, be able to function independently, while the control systems should not (Beer, 1981, p.338). A self-preserving bureaucracy is detrimental to the variety of the system as a whole, as it is the adaptability of control systems that allow for systemic stability. What the hierarchical or vertical components of a system do is maintain the identity of the system both internally and to the outside world. Embedded components need not be aware of their participation in the higher level system. As Hayles describes, independent parts only require unification when parts come into conflict, with consciousness emerging "as an epiphenomenon whose role it is to tell a coherent story about what is happening" even though that story is unlikely to be true (Hayles, 1999, p.157). For Beer, this System Five consciousness is necessary for the maintenance of viability through its coherence of independent parts.

Questions of exactly how these relations, coherences and identities get formed are, then, of clear ethical and political importance when considering the application of Beer's ideas to the development of an institutional form that offers an alternative to the platform. The next section will look in more detail at Beer's proposals for an cybernetic approach designed to minimise authoritarianism and maximise freedom. I will argue that in doing this the *Team Syntegrity* protocol also maximises credibility, creativity and subjectivisation that are denied by the centralised, authoritarian platform model and administered through algocracy.

3.2.2 — Against authoritarianism

If the fundamental purpose of a viable system is its own survival, then any system that's purpose is purely the survival of a higher level system, and not its own survival, would cease to be independently viable. To use Maturana's terms, it would be allopoietic rather than autopoietic, having "as the product of their functioning something different from themselves" (Maturana and Varela, 1979, p.80). An authoritarian system subsumes all components to its own survival, undermining or erasing the identities of its component parts, while a system that gives no purpose to its components does not have its own higher level identity. Beer sought to maximise individual freedom through designing stable systems. He does, however, make a point of acknowledging that individual freedom is always constrained by the systems in which they exist. The increased efficiency of social control that his ideas aim towards threaten freedom but a properly designed system can mitigate this threat. Inefficiency, which leads to unstable and failing social institutions, is also identified by Beer as a threat to the freedom of the individual (Beer, 1974, p.89).

Beer's vision of a viable system as a “blend of central and peripheral command” is based on his vision of the human nervous system. For Beer, there is a balancing point between centralisation and decentralisation that allows for viability (Beer, 1995, p.428). His work in Chile attempted to devolve power as much as possible while still maintaining forms of control that would keep the system viable as a whole. For Beer, this meant not only “furnishing them and their governments with new channels of communication” but also “a new kind of educational system and a new kind of publishing system” (Beer, 1974, p.65). Beer’s vision of the applicability of cybernetics to national and international government, rather than just business and industry, led to allegations not simply of technocracy, but also that his ideas were in the service of totalitarianism. Cybernetics, as the “the science of control and communication” (Beer, 1974, p.13) or even as the science of “effective organisation”, (Beer, 1995, p.425), was seen as a threat to individual freedom (Medina, 2011, p.173). Beer insisted that this was a misunderstanding of what control meant within cybernetics, where it is understood as the systems of regulation that maintain stability (Beer, 1974, p.88), noting that it was “perhaps more alarming that private concerns are able to build systems of this type, without anyone's even knowing about their existence, than that democratically elected governments should build them in open view and with legal safeguards” (Beer, 1974, p.34).

As Eden Medina notes in *Cybernetic Revolutionaries* (2011), her comprehensive history of *Project Cybersyn*, while the technical innovations of Beer’s project were put to use—most notably the use of a telex machines to share information, helping to overcome the blockades during the October 1972 truck driver’s strike (Medina, 2011, p.149)—his attempts at devolving decision making to lower levels of nationalised industry were less successful. Beer expressed fears that, while the reorganisation of existing technical infrastructure was successful in achieving certain technocratic aims, the goal of effecting a change in the

organisation of the economy and society was undermined by a lack of political, and it would seem cybernetic, commitment. The 'professional' staff that made up the team working on Project Cybersyn were happy to be working on tools for more effective, technocratic management, but were less successful in implementing those tools in a way that allowed for the self-management that system-viability required (Medina, 2011, pp.194–5). This, I would argue, is an example of a failures caused by systemic change being imposed from the outside, rather than self-organising around a material infrastructure and protocol. As was discussed in section 1.3.3, the embedding of organisation forms in infrastructure and protocol is key to a complex hegemony. External re-organisation is also, of course, more authoritarian by Beer's metric than self-organisation even if, as I have argued is the case for platforms, control based on embedded qualities and characteristics does not necessarily maximise freedom.

What is needed for an institutional form that offers an alternative to the platform and algocracy is exactly that it is bottom up self-organising, built from already viable System Ones that are themselves built of viable components. This approach, inherent in Beers own theory, makes clear why the reorganisation of a country's economy was undermined by this contradiction. It does, however, suggest a much more optimistic attitude to large-scale institutional change. Changes to organisation must first happen at the smallest scale, establishing autonomous and viable organisations, and then the systems that allow them to interact in an environment engineered to avoid mutually destabilisation. The next section will look in more detail at *Team Syntegrity*, arguing that it is precisely this process that allows viability to emerge from bottom-up self-organisation.

3.2.3 — Team Syntegrity

The iconic operations room of *Project Cybersyn* aimed to provide a location for the rapid transfer of high quality information between those concerned with the internal operation of an organisation—System Three—and those concerned with its external and future relationships—System Four. This 'Three-Four homeostasis' that kept internal and external concerns in balance was drawn on Beer's VSM diagram as two thick black arrows. The operations room, as Beer envisaged it, was not simply a space for managers or government ministers, but also where workers could be included in the decision making process (Medina, 2011, p.179).

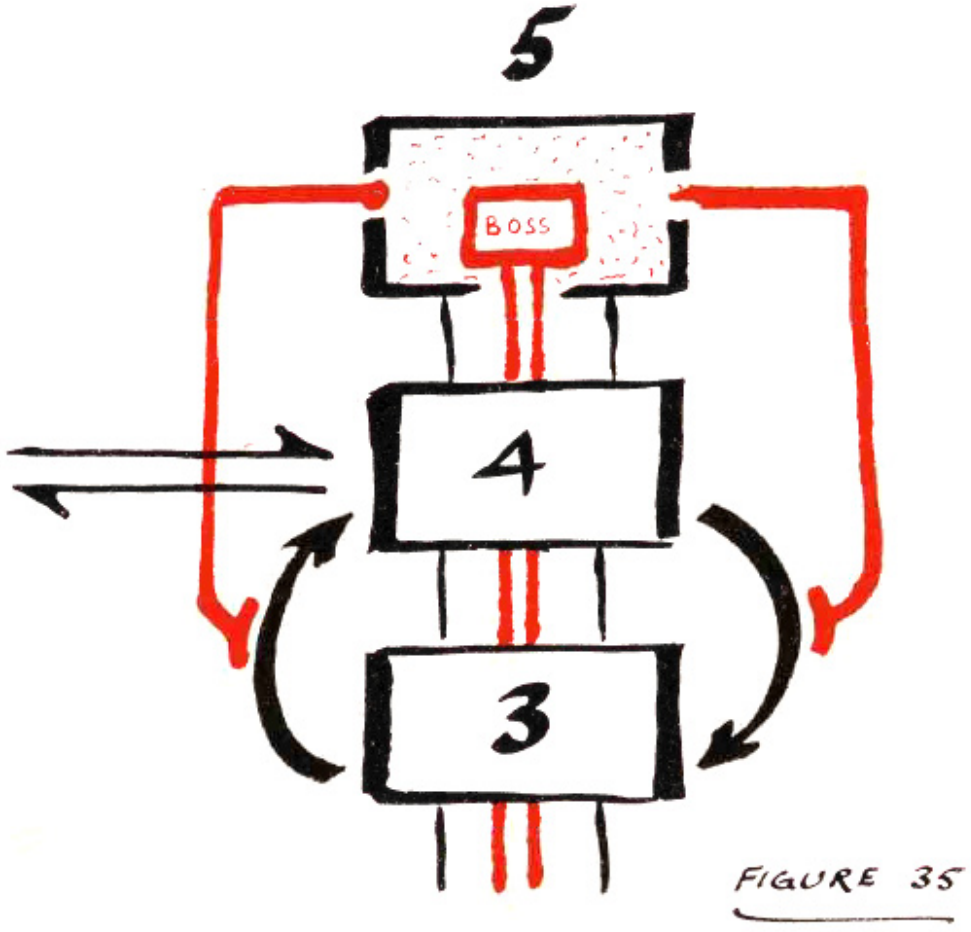

Figure 4. *Systems 3-4-5*, Beer (1985, p.129). Note the black lines of homeostatic balance between 3 and 4 and red lines of the System 5 auditing this process.

Beer's attempt to define, refine and generalise the flow of information of the Three-Four homeostat of the operations room came in the development of *Team Syntegrity* (Beer and Editors, 2000). Beer had been exploring non-hierarchical organisational structures since the 1950s (Beer, 1994a, p.4) and he began work on *Team Syntegrity* in the 1990s as a way to balance the tensions between the internal, present focused, and external, future focused components of the VSM. *Team Syntegrity* is a protocol for non-hierarchical discussion that seeks to formalise the efficiency of informal discussion with the aim of shared interpretations of information, group cohesion and democratic decision making. The protocol organises a group of 30 participants into overlapping groups and roles in a configuration inspired by Richard Buckminster Fuller's geometry, leading to logical closure that can be connected to Maturana's conception of the closed nervous system. *Team Syntegrity* is, at its core, a complex protocol for a meeting, one which allows non-hierarchical discussion, unconstrained by pre-existing power relations, specialisms and categorisations as possible. Importantly, it is a meeting without an agenda for, as Beer argues, "if a meeting sets out with agenda, it has structured the whole outcome in advance" (Beer, 1994, p.8).[15]

Beer saw shared interpretation of data—with the act of interpretation transforming data into information—as the key to creating purposeful individuals and, as a result, group cohesion. While working in Chile, Beer proposed this as a cybernetic model of class-consciousness in which a lack of information, or the active disruption of a shared interpretation, prevents class solidarity. He saw, however, the revolutionary potential of 'infosets' that is, groups that form a shared purpose around a shared interpretation of information (Beer, 1994, p.10). Beer's

[15] The protocol for a *Team Syntegrity* starts by generating its own agenda. This process, which Beer terms the 'problem jostle' was used by Beer at the 1979 meeting of the Society for General Systems Research. Participatory agenda setting is a common technique used in the 'unconference' developed by Sara Winge, which draws on the Open Space methods developed around the same time as Beer's method by Harrison Owen (O'Reilly, 2018)—both of which aimed to stimulate informal exchanges of ideas that were usually relegated to the fringes of formal meetings and conferences (Leonard, 2008)

attempt to translate the Marxism of the Allende government into cybernetic terms led him in a similar direction to the post-Marxist anti-essentialism of Laclau and Mouffe discussed in Chapter 1, where a group can be identified by their 'informational characteristics' rather than material conditions. Exploitation of one group by another, which Beer saw as based on a deprivation of information leading to deprivation of the choice of selection that comes from receiving information, can be understood as similar to Mouffe's argument that collective identity comes from being able to choose "between real alternatives" (Mouffe, 1999, p.756).[16]

Beer's aim was to create a group dynamic that conformed to Richard Buckminster Fuller's theory of tensional integrity exemplified by the tensegral icosahedron, balancing compressive forces of a group dynamic, which might bring about consensus, with tensions that will generate discussion.[17] Beer saw the tensile integrity, or cohesion, of the group as engendering a form of logical closure that can be understood as similar to the closure of the nervous system as described by Maturana (1979). Information can perturb the closed system, and that perturbation will elicit a response, but there are no inputs or outputs, nothing enters or exits the system. Beer describes his choice of the size and shape of the Syntegrity group as being based on experience rather than derived from theory and the limitations this sets as arbitrary (Beer, 1994a, p.15). *Team Syntegrity* arranges 30 participants into 12 groups of five, with each participant a member of two groups and a critic of a further two. These limitations reduce the variety of the system—its number of possible states—to what Beer deemed a

[16] This is what we would today understand as identity politics, a term coined by Black feminists in the 1970s to describe political solidarity that results from shared *experiences* other than capitalist exploitation (Combahee River Collective, 1983). I would argue that, in second-wave cybernetics, the equivalence of lived experience and information becomes evident.

[17] It should be noted that *Team Syntegrity's* icosahedron might have been inspired by Buckminster Fuller's, but it is not in fact an example of tensegrity as Beer suggests (Beer, 1994, p.13). Its stability is a result of every edge having both compressive and tensile strength, keeping the triangular faces ridged. True Tensegrity requires each strut to provide either compressive or tensile forces (Tomkins, 2008). Beers icosahedron requires 30 external tensile-compressive edges, whereas Buckminster Fuller's requires 24 external tensile and 6 internal compressive components.

manageable level (Beer, 1994, p.17) and the regular structure of the icosahedron removes any privileged position of centrality with regard to information with no participant more central or peripheral than any other.

The protocol outlined by Beer in *Beyond Dispute* (1994) details how the 30 participants and four facilitators should collect possible topics of discussion in the format of statements that must be contestable such that their inverse is also valid[18]. Topics are then reduced, first by discussion and consolidation, and then by a system of dot-voting to establish 12 topics which are arranged as nodes on the icosahedron known as the 'problem jostle'. Participants must then choose which two topics they want to discuss, within the limitations that a group may only have five members, and the two topics must be adjacent on the icosahedron, a phase called the 'topic auction'. This can be done either through a process of negotiation or, as in later iterations of *Team Syntegrity*, through a process delegated to an algorithm that searches for the mathematically optimal arrangement based on a further round of voting (Hancock, 1994). Once the group has been arranged, a series of group meetings takes place. The shape of the group allows two meetings to take place simultaneously, with five members and five critics participating in each. Members discuss for 30 minutes, followed by 10 minutes in which critics can respond, with the aim of producing a final statement. Six of these 40 minute sessions allow each group to meet once. This four hour meeting process is repeated at least three times, each time aiming to produce an improved final statement. This aims to create what Beer calls 'reverberations' where the direct and indirect contact between groups and participants create shared interpretations and understandings, and therefore a coherent group identity, even when there is no direct contact between participants (Beer, 1994a, p.14).

[18] "Test for detecting motherhood statements: negate the statement, which must still be debatable. 'God exists' becomes 'There is no God': keep it in (men have died over less). 'We should do all within our power, and take every step that is legal ...' Throw it out: the negatives cannot be argued." (Beer, 1994, p.23)

Team Syntegrity is a method for allowing high quality information exchange between a fixed group of equal participants that allows discussions to be rapidly advanced. Decisions among a non-hierarchical group must be based on agreement and this is emphasised by Beer's description of the process where participants should sign statements made by groups that they endorse. I would suggest, however, that the network of members and critics that the protocol constructs is less about consensus—for example critics don't have to agree with a groups decision—and more about preventing one group's action from destabilising the other. Like with the VSM, the purpose is to dampen oscillations. The synergy that *Team Syntegrtiy* aims for is less about having everyone in agreement and more about having all decisions compatible with each other. Limiting discussion of a topic to five participants and five critical observers in effect creates a tiny, temporary 'epistemic community' of the kind that O'Dwyer sees as being designed out of algocracy and which, as argued in section 2.1.2, are a key characteristic required of an alternative institutional form to the platform. These groups, then, are micro-elites, able to make decisions due to superior access to information about their given topic but doing so transparently, in full view of an equal number of critical observers. The highly informed yet transparent character of this process is what gives the outcome legitimacy, making decisions credible.

3.2.4 — From Models to Platforms

While the Viable System Model is, of course, a model[19]—useful for diagnosing problems in the flow of information within a system and designing the amplifiers, attenuators and channels of variety that Beer saw as vital to viability—I wish to make the case that *Team Syntegrity* moves beyond this to operate not simply as a model but as a simulation. For Beer, the model is separate from the system that it represents. This specifically allows for experimentation with the model that will not affect the system itself, with conclusions drawn from manipulation of the model then applied to the system (Beer, 1995, pp.87–8). Beer's VSM, and the Cyberstride software developed for its implementation in Chile, was intended as a tool to test possible changes to inputs and outputs of the system it modelled. I wish to argue, however, that *Team Syntegrity* displays similar characteristics to platforms and algocracy in that it operates by simulation. *Team Syntegrity* does not simply precede but generates the system it describes, with the properties of democratic information exchange that emerge from it embedded into its design. The abstract geometry of the protocol constructs a reality in its image; the virtual generating the actual. As such, it is less that the shape of the icosahedron represents the network of connection between participants, rather the icosahedron is formed from those connections, structuring reality in much the same way as the algocratic platforms already examined. A different protocol, with a different geometry, would produce a different network and different outcomes. It is the inseparability of abstract process and concrete results that means *Team Syntegrity* operates as a simulation and this, as we shall see in the final chapters of this thesis, is what gives it the potential to structure a different kind of institution.

In the next chapter I will argue two things. Firstly, that beyond being a component of a viable system, the *Team Syntegrity* protocol and modifications of it have the potential to structure a

19 The VSM diagram was permanently on display in the *Project Cybersyn* operations room.

system that is itself viable—in that it can self-organise to persistently produce its own identity—and secondly, that Beer's *Team Syntegrity* protocol has the properties that allow it to promote credibility, creativity and subjectivisation for and between the people who use it.

Chapter 4 — Syntegration in practice

Team Syntegrity has been used in a number of contexts since Beer published the protocol in 1995—most notably by management consultant companies Malik Management in Switzerland and Syntegrity in Canada—and has been developed and adapted for a number of purposes, from consultancy to conferences (Metaphorum 2019, 2019) to performance (Community in Progress II: Syntegrity, 2015) to fashion collaboration (Izeogu, 2018), with variations in process, group-size and duration. In this chapter I will argue that the *Team Syntegrity* protocol can be used to construct a viable system as described by Stafford Beer's VSM, but one in which its hierarchical functions do not require hierarchical roles. The implication of this is that syntegration is not limited in its application to fixed, time-limited meetings—as was Beer's intention for *Team Syntegrity's* role within the VSM—but can function as the structure for ongoing, viable institutions and organisation. It can therefore be the basis for an alternative institutional form to the platform, breaking with the platform-user relation and an algocratic regime of opacity, visibility, prediction and categorisation, and instead embedding characteristics of credibility, creativity, and subjectivisation. If the purpose—the 'what it does'—of a system can self-organise around the purpose, intentions, needs and desires of the participants—allowing them to recognise the system's purpose as their own—the result will be a non-authoritarian, bottom-up relation between an institution and the people that comprise it.

Following this I will look at an implementation of the *Team Syntegrity* protocol facilitated by Malik Management for the political website *openDemocracy* in June 2017, analysing participant responses for evidence that syntegration embeds characteristics around which an alternative institutional form can self-organise. Next, I will describe four experimental uses

of aspects of *Team Syntegrity*—which I will refer to generally as 'syntegrations'—in art institutional and art educational context, conducted by myself between 2015 and 2019, aiming to go beyond the discursive decision making for which *Team Syntegrity* was intended, towards institution building and collaborative artistic practice.

4.1 — Viable syntegrations

The assessment of and experimentation with *Team Syntegrity* detailed in this chapter demonstrate a number of characteristics central to the argument of this thesis. While direct comparisons between the process of syntegration and the characteristics of the platform detailed in Chapter 1 and algocracy detailed in Chapter 2 will be made in the conclusion, I wish to first discuss in more detail the relationship of syntegration to Beer's VSM outlined in Chapter 3. Central to this will be the question of whether a group organised through the *Team Syntegrity* protocol can itself be understood as a viable system or whether it should rather be seen, in the way that Beer suggested, as merely a component part of a viable system, regulating the balance between the externally, future-focused and internally, present-focused parts of a viable organisation. This means either agreeing with Beer's view that hierarchical components are necessary for a viable system or, drawing on Laurence Rassel's ideas (Rassel, 2018), seeing the *Team Syntegrity* protocol as allowing the separation of hierarchical roles from their hierarchical functions.

The VSM, as already stated, is based upon the human nervous system. It has functionally autonomous organs in System One, connected by a spinal command system and other regulatory systems (System Two) to a 'brain' consisting of System Three. This then co-

ordinates internal activities by providing resource inputs in return for agreed outputs for System Four, which co-ordinates the systems responses to external, environmental changes. System Five provides 'logical closure', a sense of identity, and can intervene directly and with authority to resolve problems or conflicts that lower systems do not have the variety—that is complexity or, rather, latitude for action—to deal with themselves. Beer saw *Team Syntegrity* as suitable for managing the inevitable conflicts that would arise between the "outside-and-then" and the "inside-and-now" of Systems Three and Four (Beer, 1985, p.111) because it allowed constant, rich information flow of the type that, in Easterling's view, can help to reduce conflict (Easterling, 2018, p.16). In order to assess whether the *Team Syntegrity* protocol is sufficient to make it a viable system in itself, however, it must be shown if it also possesses the other properties and functions that make up the VSM and its five sub-systems.

System One of the VSM is the independent organs, departments or functions of the system as a whole. The 12 groups in a syntegration—tasked with developing separate statements or, in some of my own practice-based research, separate artistic outcomes—can be clearly mapped onto the VSM's System One. Each could exist independently and each contributes to the overall functioning and purpose of the whole. System Two of the VSM, which regulates and co-ordinates the interactions of System One, can be found in the protocol itself, the timetable of set meeting lengths and timings, ensuring that no participant needs to be in two places at once. System Two, however, has other regulatory functions beyond timetabling. Beer describes it as the "anti-oscillatory device for System One" (Beer, 1985, p.66), reducing the destabilisation between components so that the viable system can more easily reach a stable state. This, then, is the role performed by *Team Syntegrity's* critics. The five critics that observe, intervening where necessary, and participate in a group discussion or working have

knowledge of the other groups necessary to prevent actions that would bring two groups into conflict. Like System Two, the critics role is "not to command, but to damp oscillations" (Beer, 1985, p.68) reducing the variety that would proliferate in completely independent systems, making them unable to be connected as a coherent whole. In the VSM, System Two is vertical, following rules agreed at the higher level of the organisation. As will be evidenced from the analysis of the *openDemocracy* syntegration, the methods of *how* to be a critic were not pre-defined or given as part of the protocol, but rather learned by participants as of the process of criticising and being criticised. These learned behaviours were then able to be distributed themselves across the system, dispensing with the need to have System Two set by 'senior management' as in the hierarchy of the VSM.

Alongside System Two, the VSM includes five other vertical axis with which activities of the organisation are co-ordinated. The agreed inputs and outputs, or budgeting, between management and System One, the authoritative commands that hierarchical management can make, the connections that happen autonomously between component parts through both their functioning and their overlapping connections in the environment plus the 'audit function' that Beer calls 'System Three*' which can allow periodic, direct observation and intervention by management in inner workings on the component systems (Beer, 1985, p.84). Less important than whether these specific separate roles exist in *Team Syntegrity*—Beer saw the VSM as a sufficient model for all viable systems including, implicitly, biological ones—is whether their function can be identified. Key here is Beer's assertion, following the law of requisite variety, that the variety of the six vertical channels must match and absorb the variety generated by System One. Syntegration, in order to be viable, must be able to self-manage its own variety. For this, the geometric balancing of the *Team Syntegrity* protocol is key. Participants' multiple roles, not just as critics but also as members of one other group, do

not just ensure that information is efficiently distributed across the system, it also means that channels connecting parts are the participants themselves. There is no chance that a channel can be overwhelmed or unable to 'transduce' the information from one group to another. Because of the equal distribution of information, intended to prevent the emergence of a single System Three role that can observe, command or intervene in every System One sub-group, the function of absorbing variety must be distributed to every participant. Groups are equally matched on a 1:1 scale by critics, but they are also matched by the participants' membership of other groups.

The 'Three-Four-Five' part of a viable system is seen by Beer as logically superior to, rather than more important than, the system 'One-Two-Three' just described. It is a *metasystem,* managing things are undecidable at the lower level because connections and interactions are not visible or comprehensible. Explicitly eliminating a logically superior position in the system for any individual, the question becomes whether *Team Syntegrity* is able to produce its own metasystem as a group. In my view, this is precisely the goal of syntegration, the synergy that 'reverberates' around the network, made possible by the non-hierarchical closure of the three-dimensional shape in which the network is structured (Beer, 1994a, p.14). The capacity for a metasystem, or higher-order organisation, to emerge from the interconnection of the lower-order systems is dependent on the recursive nature of the VSM. System One—in the case of *Team Syntegrity* the 12 groups discussing and developing statements—must themselves be independent, viable systems, performing all the functions thus far described. These subgroups are, of course, made up of people, inherently viable in themselves. The subgroups all have connections to the environment, the context in which their discussion is taking place. The network structure of a syntegration allows these

separated environmental connections—themselves drawn from the connections of each participant—to be aggregated into a whole that produces System Four.

In the VSM, System Four contains the model of the system in relation to its environment that allows for critical self-reflection. In *Team Syntegrity* this model cannot be contained in one place because no position in the network allows a full, external view. Instead, the model must be distributed across the network, again operating at a 1:1 scale, with exactly the result described in section 3.2.4, the model becomes a simulation, where actions in the system and actions in its representation are not separable. This, I will argue later in this chapter, was evident in my own experiments working the group *Reading and Thinging*. Through the process of discussion and critical reflection, a more coherent sense of the groups institutional and social context—previously fragmented and held by specific individuals— emerged, evening out some of the power imbalances that had existed, almost unnoticed, in the group before.

System Five emerges with the group identity that is, in some ways, the whole purpose of the syntegration process. Beer describes how the authoritarian character of a system can be determined by the extent to which the purpose of the system is determined top-down, by System Five, or bottom-up, by System One. *Team Syntegrity*—envisioned as a perfect democracy—must therefore aim to be entirely bottom-up. The group's purpose must come from the topics chosen and defined by the subgroups, with the purpose not pre-defined or guided, but emerging through a process of autopoiesis. It is the recognition of this purpose as being one's own purpose that allows for the emergence of group identity. As I will argue towards the end of this chapter, the final, collective performance of the collaborative project

How to build a platform expressed a common purpose that was recognised by participants as being their own, both individually and as a group, with ownership being held in common.

4.2 — *openDemocracy* syntegration

The *openDemocracy* syntegration that took place in Barcelona, Spain over four days in June 2017, addressed the question "In the context of several major interconnected global crises, how can civil society help to renew our democracies to rise to the challenge?" (Team Syntegrity, 2017) The event brought together thirty participants made up of academics, elected politicians, poets, theatre-makers and community organisers from across Europe, as well as New Zealand, Canada and Chile, who discussed topics ranging across religion, the environment, education, communication and parenting (Bechler and Sakalis, 2017). In this section, I will examine the openDemocracy event, in order to identify the processes and mechanisms that suggest *Team Syntegrity* to provided the basis for an institutional form. To do this I will draw on extensive published documentation of the event: an observer's report produced following the event (Milesi, 2017); an organiser's diary written during it (Bechler, 2017); thirteen filmed interviews with participants during the event and four reflective essays published after (Pedro-Carañana, 2017; Purdy, 2017; Wiśniewska, 2017; Ishkanian, 2018).

This appraisal firstly looks at the responses of participants, observers and organisers to the operation of the *Team Syntegrity* protocol, showing that it was seen as particularly relevant to a society shaped by technologically mediated communication. It will then assess whether it is an effective process for learning the skills needed to successfully participate, arguing that

these skills are also needed for a viable institutional form that can serve as an alternative to the platform. Finally, it will detail aspects of the process that are less obviously foregrounded in the existing literature on the use of *Team Syntegrity*—namely its affective dimension—and draw upon participant criticisms for lessons that might be applied to viable institutional forms.

Figure 5. *openDemocracy syntegration day 1*, Bechler (2017). Barcelona 2017.

4.2.1 — Effectiveness

There were overwhelmingly positive responses by participants to the *Team Syntegrity* process and the outcomes that the meeting produced. Joan Pedro-Carañana regards the protocol as allowing for "constructive and efficient dialogue and decision-making". He describes the process as foregrounding "the principles of cooperation, mutual trust and support, free sharing and empathy" but also competition "that allowed us to question, criticise and contrast ideas" within and between groups, an demonstration of the 'compressive' and 'tensile' forces that Beer describes. The structure of the group membership made it possible "to integrate bilateral learnings", moving ideas from one group to another (Pedro-Carañana, 2017). Rather than ensuring "agreement, decision-making and implementation" Cecilia Milesi sees the process as having "stimulated the joint creation of invisible and incremental results" and considers that the observed openness of participants to changing their positions could have been encouraged "by the fact that there was no agenda or pre-conceived objectives imposed upon them". For her, the "methodological freedom was central to avoiding resistance, decreasing confrontation and multiplying the opportunities for innovation" (Milesi, 2017). David Stefanoski praises the way the structure "let the participants create the process" with facilitators only regulating time and technical matters (Stefanoski 1, 2017). Milesi suggests that the hands-off facilitation, while initially disorientating for participants, resulted in a shared responsibility for processes and empowered participants and groups to set their own rules about how discussions and communication can be organised. This, she felt, made groups more assertive, a view that organiser Rosemary Bechler and participant Rebecca Fitzgerald agree with (Bechler, 2017; Milesi, 2017; Fitzgerald 1, 2017). For Kate Farrell and Magdalena Malińska, the process

helped people to think collectively about things that are impossible to think through individually (Farrell 1, 2017; Magda 1, 2017).

Bechler's reflections on the process suggest that participants in the 2017 syntegration seemed more individualistic and "less used to collective decision-making" than was her experience when working with the protocol in the 1990s. Milesi sees value in creating the space and time for participants to practice self-organising, which she understands as working against the situation where lives as "monitored, censored, controlled, surveilled, manipulated, structured, serialised and thoroughly determined" by external and 'distant' institutions (Milesi, 2017). Farrell notes how often the internet came up in discussions and how the internet is changing people's relationships to the public and their understanding of the public and political subjectivity (Farrell 1, 2017). For this reason, Milesi sees the process as "a tool, among many others, helpful to reinvigorate citizens' ability to maintain rich, necessary and difficult conversations" in opposition to "technology-mediated participation and/or off-line mobilisations with limited objectives". She sees balancing objective based activity and higher levels of general engagement as important to re-invigorating democracies and organisation, suggesting that "people have become more alert to their need for rapid and comprehensive meaning formation, but much less sure that it is possible, and correspondingly more delighted to welcome every bit of evidence to the contrary, and moreover to celebrate their own contribution to this effect". The result was that "everyone enjoyed sharing responsibility for the joint outputs and everyone felt a powerful co-creator of the final outputs and lessons gained together" (Milesi, 2017). I would argue that these responses show evidence that the syntegration acts as a process of group learning and self-organisation which allows for collective and subjective meaning-making and the emergence of a group purpose that flows from, and is organised by, the participants themselves, rather than from top-down,

authoritarian control. This is exactly what Rouvroy identifies as missing from the technologically-mediated interactions of the platform detailed in section 2.2.1.

Bechler notes the importance of the first stage of discussions in which the topics are defined because “Getting people used to the hard work of formulating a subject for discussion is a useful precursor to the skills involved in formulating their conclusions at each subsequent stage” (Bechler, 2017). Describing it as an "experiential-learning protocol” Milesi sees it as a way to teach and learn “collaborative leadership skills” (Milesi, 2017). Malińska notes how leadership emerges from the groups in different times and different ways (Magda 1, 2017). David Stefanoski recounts how discussions developed from ‘speeches’ to ‘conversation’ which allowed for more to be achieved, and sees this as proof of participants gaining knowledge as the process proceeds (Stefanoski 1, 2017). Pedro-Carañana sees the dialogue that the process allows for as not about persuasion but rather about giving everyone the tools and opportunities to express themselves. He notes that listening is “something we’re not really trained to do” but that instead it was a skill that improved through the process with the help of facilitators (Pedro 1, 2017). Milesi also observed critics learning to be critics, which she characterises as “taking care of the conversation" rather than participating in it. Bechler and Allenna Leonard both noted that the critics were unsure of their role at the beginning of the session but Bechler recounts that Leonard suggested a cautious approach to directing participants, in order to allow for precisely this learning process (Bechler, 2017).

Participant reflections show they experience *Team Syntegrity* as a process of learning the skills that are needed to make that process successful. This is further evidence for its embedded characteristics around which the process self-organises and suggests it would be valuable for a bottom-up process of institution building. Ishkanian wonders if it would be

possible to “sustain the discussions, connections, and momentum” beyond such organised events and conferences and asks how we can have “co-produced, collaborative projects or meeting points and connections in our real/daily lives” (Ishkanian, 2018) making the case for the need for exactly the kind of persistent institution this research aims to develop. Evidence that this is possible comes from the participants’ reflections. For Milesi "the methodology was an exercise in learning what democracy may look like if we focus on caring for groups’ and peoples’ needs, using basic dialogical skills as the pre-condition to creating a people-centred political project" (Milesi, 2017) while for Pedro-Carañana the result was “a real demonstration that other forms of life and sociability are not only desirable but also possible” (Pedro-Carañana, 2017).

4.2.2 — Criticisms

There were a number of criticisms of the use of an automated, algorithmic process of assigning group membership. Milesi questions the use of the algorithm to make decisions about group formation and instead suggests using random allocation to “ensure the creation of groups which promote mutual learning and collaborative thinking” (Milesi, 2017). While there might be some time efficiency in the delegation of the sorting to technology[20], it seems to run counter to the power of *Team Syntegrity* as a tool for learning how to self-organise. Milesi’s suggestion of a random allocation, though itself a form of algocratic organisation, has the benefit of being fully transparent. Bechler notes that the algorithmic allocations should have been better supervised by the organisers, correcting problems early on that could

[20] While analysis by Josephine Hancock suggests improved satisfaction from the use of the algorithm she designed to allocate members to groups (Hancock, 1994), the impossibility of a direct comparison with different methods on the same group makes this difficult to evidence without very large datasets.

have prevented a number of participant frustrations. While Bechler's suggestion—'human on-the-loop' oversight of the automated process as described in section 2.1.2—could correct the observed problems, the discursive process of grouping participants outlined by Beer in the early chapters of *Beyond Dispute* (1994a), called the 'topic auction', might in fact be more appropriate if syntegrity is viewed as a learning process rather than an out being outcome-focused.

Criticisms were also made that the process encouraged too broad a range of topics (Birgitta 1, 2017; Stefanoski 1, 2017; Valenta 1, 2017; Weatherhead 1, 2017). While Morris praised the range of topics, backgrounds, knowledge and experiences in the group, he questions how deep it was possible to get into these broadly defined topics in the limited time available (Morris 1, 2017) while Richard Bartlett was critical of the protocol's demand for a "premature convergence" (Bartlett 1, 2017). I would argue that participants' criticism of the predetermined time-limit is further evidence for *Team Syntegrity's* suitability for structuring an ongoing, institutional process rather than simply a fixed-duration event. Valenta also felt there was a tension between the democratic nature of the discussions and the undemocratic way that the rules of the protocol were not up for discussion, particularly as there were no mechanisms for criticisms of the process to be worked into the process itself. This incited resistance in some of the participants whose "commitment to democracy" was the reason for them being there (Valenta 1, 2017). Alongside this, she felt it was important to preserve the downtimes between discussions and that simply allowing discussions to eat into participants off-time world not improve the process.

Several participants noted the narrow range of the participants' backgrounds (Milesi, 2017; Farrell 1, 2017; Pedro 1, 2017), with overly abstract discussion and an emphasis on written

outcome excluding participants with less experience of formal written English. For Milesi, it was important that "groups were not divided by 'expertise' in one topic or the other" and no-one was categorised by their knowledge or experience. She noted that different approaches were taken to dealing with these experience gaps, from finding common ground, to working to understand the particularities of these differences building "the capacity to exchange ideas and commitments beyond differences allows for an inter-group/ideas exchange that re-humanizes and values 'multiple others'" (Milesi, 2017). This, I would suggest, is evidence that for the *Team Syntegrity* process to be successful, it must build epistemic communities through a process of inclusion of different types of knowledge and experience, actively working against the categorisation and segmentation that algocracy and the platform promote. These inclusive epistemic communities are then capable of conferring legitimacy on the decisions that result from the process (Bartlett 1, 2017; Ullah 1, 2017). However, as argued in section 1.2.4, legitimate decisions only become credible when combined with the power to act. Protocol alone is also not enough to eliminate pre-existing structural inequalities, a point already made by critics of Habermasian discursive democracy (Fraser, 1990; Mouffe, 1999; Dean, 2003). Other ways of preventing relationships of domination from emerging need to be employed in ways that are specific to the situation and circumstances of the participants, whether that be language barriers, care responsibilities or prior experience in the methods that the group is working with.

4.2.3 — Lessons

A key idea that emerges from participant feedback is the emotional and affective forms of communication that *Team Syntregrity* encourages and requires. White sees the process allowing participants to connect in a human, emotional and values-based way (White 1,

2017). Pedro-Carañana sees the process as allowing participants to use both rational and affective faculties (Pedro-Carañana, 2017). Weatherhead notes that it is not just an intellectual process but that participants were "trying to feel our way to a solution". For Aya Haidar, the process invited people to communicate intimate and personal information (Haidar 1, 2017) and Milesi sees the process as opening "an important space for sharing personal stories". While there will be greater discussion in the concluding chapter about the emergence of group identity through the syntegration process, the affective component of the *Team Syntegrity*—allowing participants to connect emotionally as well as intellectually—is, I would argue, a key part of its capacity for subjectivisation.

Valenta notes that off-time between discussions was not adequately protected in the Barcelona event (Valenta 1, 2017). Having a proportion of the group not active in discussion at any one time allows other important roles, for example childcare, to be shared. This happened in the Barcelona event, though it was spontaneous self-organisation, rather than planning, which allowed this to happen (Haidar 1, 2017). I would argue that thinking about different capacities to be fully and actively engaged for more than three days is necessary to allow the process to be more inclusive. This analysis of the *openDemocracy* syntegration, and participant responses to it, leads to the question of whether it would be possible to make the process itself more reflexive, so that there protocol itself is up for discussion, without the momentum and efficiency of the protocol being lost. Moments during the process to stop, reflect and intervene in the predefined and automated aspects of syntegrity might solve some of the problems identified by Bechler that lead to the greatest participant dissatisfaction. Milesi suggests building opportunities to reflect on the process and compares it to similar processes to encourage the further use of some of the techniques (Milesi, 2017). There is, however, a potential for these reflexive moments to undermine one of *Team Syntegrity's* key

strengths, the prevention of anyone taking up a central position. If the rules can be changed during the process, then the chances of more traditional power dynamics, the expression of gender, class, language or seniority, to influence the process in ways that are prevented, or at least discouraged, by the structure of the small groups and the guidance of critics.

I would argue that the *openDemocracy* Barcelona syntegration shows clear evidence that the *Team Syntegrity* protocol embeds characteristics around which the process self-organises which allow the emergence of epistemic communities that can generate legitimacy, and that this process of self-organisation is experienced by participants as a creative process. This creativity, both intellectual and emotional, is key to its capacity for subjectivisation and, as will be discussed in more detail in the final part of this thesis, the emergence of identity that is necessary for representativeness. These characteristics, I argue, mean that the *Team Syntegrity* protocol has the potential to inform the development of an institutional form that could replace the platform in institutions of contemporary art. The use of the strict *Team Syntegrity* protocol, particularly its time limit and certain aspects of its proctological fixity, mean that it is not necessarily sufficient to this task. The practice-based experiments with aspects of the *Team Syntegrity* protocol undertaken as part of this research will be discussed in the next section, arguing that through institutional practice, the legitimacy and representativeness that emerges from the syntegration process can be transformed, through action, into credibility.

4.3 — Experimental practice

While the analysis of the *openDemocracy syntegration* showed its potential for the legitimation of decisions and subjectivising creativity, collaborative art-making will be argue to be key to the kind of common world-building that forms the basis for institution which allows legitimate decisions to be transformed into credible actions. Over the course of this practice based research, four of my own experiments in the use of aspects of the *Team Syntegrity* protocol were made between 2016 and 2019, in different contexts and at different scales, emphasising different aspects of Beer's original process. The first and last experiments took place within existing groups. The first was a discussion group—*Reading and Thinging*—of which I was a member from late 2015 until early 2017 based at FACT, Liverpool and initiated by FACT PhD researchers, Alex Pearl and Sam Skinner, and FACTLab residents, Thiago Hersan and Radamés Ajna (Reading & Thinging #8, 2016). The syntegration took place in the context of a series of monthly meetings where a changing group of participants organised around a reading and an accompanying activity. The final experiment was on the invitation of the alternative artists' education and studio project *Conditions*, Croydon—founded by artist and educator Matthew Noel-Tod and artist David Panos (Conditions, 2019)—to run a two-day workshop for their members in early 2019. The two other experiments were in the context of initiating new groups. The first, and largest, project that took place as part of this research was a residency within Šaloun, the Studio of the Visiting Artist at the Academy of Fine Arts (AVU), Prague, working with 14 fine art students for an initial period of four months in Spring 2017 on the project *How to build a platform*. The second was as a launch event for *FavourBank*, developed by myself and artist Lou-Atessa Marcellin, as part of the Broadcast series of her research project *Diaspores*. In

this section I will look at the *Team Syntegrity* protocol's practicality as a tool for institution building and artistic collaboration.

4.3.1 — Reading and Thinging: On Syntegrity and FavourBank: Meeting0

Figure 6. *Building a group structure model*, Reading & Thinging #8 (2016). Liverpool, 2016.

Reading and Thinging had been running for 12 months when I initiated the 8th session, *On Syntegrity,* in December 2016. The group was not fixed, but there were several regular attendees, including myself and the group's founders. The group's meetings all took place within FACT but the group itself had an ambiguous relationship to the institution, and while the group's meetings were open, they were never part of FACT's public activities and were not publicly promoted but publicised through word of mouth. The group drew from the

community of artists, technologists and researchers that formed around FACT's institutional activity but was not itself part of the institution (OLF's R&T + Ob_ & Ob_, 2015). The group's focus on collaborative learning and interdisciplinary exchange made it ideal for an initial experiment with the *Team Syntegrity* protocol. While I took a lead role in the meeting, leading the group through the protocol as outlined in *Beyond Dispute* (Beer, 1994a), as my first experiment with *Team Syntegrity,* I was not in an authoritative position or in possession of superior knowledge. This was, therefore, a collaborative learning exercise with the whole group. The group size and time constraints did not, of course, allow for a full running of the protocol.

The session started, as do standard *Team Syntegrity* meetings, with the building of an icosahedron (Bechler, 2017). Unlike the method used by Beer, and continued by Malik Management in commercial applications of *Team Syntegrity,* I proposed that the group make a single, large structure rather than individual, smaller ones. This making was a key part of bringing *Team Syntegrity* to the *Reading and Thinging* format, with the collective making prompting the group to communicate and think together about practical as well as intellectual problems. As one participant noted, there is a felt dimension to our relationship with geometry that is often overlooked (Reading & Thinging #8 (recording), 2016) and so the building may also help prepare participants for a more emotionally engaged discussion as well. *Reading and Thinging*, which in some ways had struggled to see itself prior to its final meeting, ended the syntegrition session with a much better self-understanding and shared feeling for what it was: an ongoing, multivocal, critical and supportive conversation on a shifting set of related topics. This was true across each of its 10 meetings throughout its year-long duration, and the crystallisation of this—using the *Team Syntegrity* protocol in the final meeting—served as a model of the group in which it recognised itself, an idealised form of

open, non-hierarchical discussion. While follow-up conversations were very positive about the continuation of the project and at least one more use of the protocol in a public setting, the factors that made the group possible—participants from across the UK being able to regularly meet in Liverpool—came to an end in 2017. *On Syntegrity* was the eighth and final meeting of the group with several attempts to reconvene being unsuccessful. While the *Team Syntegrity* protocol successfully functioned to give the group a representation of itself that it recognised, it is important to note both the contingent and material constraints on self-organising that a protocol alone cannot overcome.

The second experiment with the *Team Syntegrity* protocol was as part of a half-day event that aimed to initiate a peer-to-peer skillshare and timebanking network called FavourBank. While the idea had been conceptualised by myself with artist Lou-Atessa Marcellin, the *Meeting0* event held in September 2017 was an opportunity to share the ideas that underpinned *FavourBank* as well as broaden the inputs into the design and practical operations of the project. The event was roughly split between a workshop[21] and implementation of the *Team Syntegrity* protocol. The decision to have an introductory workshop was made in order to comply with Elinor Ostrom's conception of real agreement as requiring both shared understanding and mutual trust (Ostrom and Hess, 2000).

[21] The workshop introducing ideas of the commons and shared resource drawn from the ideas Elinor Ostrom (1990), gift-giving and power relations through the ideas of David Graeber (2011) and game theory through simple examples of the Prisoner's Dilemma and related cost-benefit analysis of volunteering. See Vol. 2 Experiment 3.

Figure 7. *FavourBank: Meeting0 presentation*, Favour Bank - diaspore (2017). London, 2017.

The second part followed a similar process to the use of Team Syntegrity with the *Reading & Thinging* group. A full sized icosahedron was constructed, then a smaller one made to match the shape of the attendant group. Again, the small number of participants and limited time meant the protocol had to be adapted. Seven participants made for an awkward group shape. Notably, in order to increase the amount of time for discussion, and so that two groups could meet simultaneously, critical roles were not allocated. Instead, groups followed their discussions with a short summary of its contents to the whole group. While this allowed for information sharing, having participants who were observing but not participating in a

discussion meant feedback could not be nearly as rich, and was only able to engage with outcomes, not the process. Still, the structure of the discussion, where every participant is a member of two subgroups, did allow for rich information to be shared around the participants and, due to the in-depth introduction, there was a clear, shared purpose—elaborating and specifying key aspects of how *FavourBank* could operate.

The event was, however, open and publicly advertised and was not connected to an existing community, which at the time did not exist around Marcellin's *Diaspores* project. Though most of the participants had been invited, the *Team Syntegrity* protocol was being relied upon to do many things in a very short amount of time. While some of the participants knew each other prior to the meeting, none was familiar with the project. Participants were being asked to provide practical proposals for specific design problems for *FavourBank* while at the same time building a shared sense of investment in the outcomes. As the review of *openDemocracy*'s Barcelona syntegrity event above shows, investment, at least in the process itself, is vital to success. While the groups were asked to define the specific areas of discussion during the problem jostle, the first half of the session meant the topics discussed were overprescribed and the freedom of participants to set their own agenda—a vital part of *Team Syntegrity*—was restricted. To use Beer's own language, in this instance the protocol for being used on the wrong side of the equation, with participants being asked to find solutions rather than define the problems. In this sense it was a misuse of *Team Syntegrity*. With *Reading and Thinging* the protocol allowed the existing group to reflect on its own workings and, to some extent, solidify its identity, its use with *FavourBank* did not allow sufficient ownership of any aspect of the process for sub-group or whole group identity to form.

Though the use of the process was helpful to me to clarify some of my own ideas, both about *FavourBank* and the utility of the *Team Syntegrity* protocol, the tightly defined parameters meant it was an ungenerous process which did not let participants to take ownership of the process or the outcomes. It is unsurprising, then, that none of the participants felt compelled to continue engagement with the project which, due to other priorities of myself and Marcellin, has yet to be developed any further. The *Team Syntegrity* protocol was being used for organising but not self-organising, undermining what I would argue is the most powerful aspect of the process. The algocratic aspects of the process—rules which organise how people interact—dominated, meaning that the structures that emerged were not viable, instead needing to be put together from the outside. Participation could not be action in Arendt's sense of an act of leadership with others and common authorship of outcomes. The next experimental syntegration, taking place over a much longer period, allowed opportunities for the distribution of leadership, and therefore authorship and ownership, to be distributed.

4.3.2 — How to build a platform

The largest and longest-term experiment in the use of the *Team Syntegrity* protocol was the basis for a semester-long collaborative project I led in Šaloun, The Studio of the Visiting AVU, Prague in spring 2017 titled *How to build a platform*. Working with 14 students on a twice weekly basis, the *Team Syntegrity* structure was used to plan and execute six student-led collaborative projects. Students from three BA and MA level art schools in the Czech Republic, as well as international exchange students from the UK, Australia and China, applied to take part following at initial open call and public introductory presentation where the themes of collaboration and the politics of platforms were outlined, as well as the ideas

about alternative institutional forms based on the Platform Cooperative model (Scholz and Schneider, 2017). The initial stated aims of the project were the building of a platform for the making and showing of collaborative artwork which didn't simply follow existing, online platform models but instead co-devised a new model through conversation and experimentation. This project was an experiment with the use of the *Team Syntegrity* protocol not as a way to structure discussion but as a way to structure artistic collaboration. The project was to be implemented throughout the entire 18 week project, rather than at just a one, two or even three-day meetings. As such, it was an experiment in the use of *Team Syntegrity* as an organisational, curatorial and institutional model.

Figure 8. *Icosahedron at Šaloun*, Džadoň et al. (2020). Prague, 2017.

Mindful of the need to distribute not just information but also the functions required to make project viable, I hoped to be able to do what Laurence Rassel—director of école de recherche graphique, Brussels—drawing on Jean Oury's institutional psychotherapy, describes as the separation of 'role' and 'function' (Rassel, 2018). The role of the studio leader was mine but the leader's function could be distributed using the *Team Syntegrity* protocol, allowing for action by participants that was not present in the *FavourBank* syntegration.

The *Team Syntegrity* protocol was used at the very first meeting of the group to very quickly establish six topics and arrange members in six overlapping sub-groups. At this point it was noted by participants that this was a very effective and rapid process, following which there would be a high degree of understanding of and commitment to the process, and satisfaction with the group assignments. While these topics were collectively devised and agreed upon, this was in a context clearly defined by my introduction and call to participation. Participants used the protocol to independently produce the six topics, but from the start there was a coherence built into the process through defined boundaries and self-selection of participants, rather than coherence being solely a product of the protocol. Unlike with *FavourBank,* however, the goal and context I had established—to build a platform—was open enough that the group were able to interpret and define it themselves. Over the following 18 weeks, meeting roughly a day and a half a week, the six groups worked to develop projects that would act as platforms for the making and showing of their work.

As was to be expected, there was a large variation within the group of levels of commitment and experience of collaborative and cooperative working. This extensive, long-duration and largely unsupervised use of the *Team Syntegrity* was difficult. Groups of four or five found it hard to independently arrange times to meet and finding a time in which additional critics

could also attend proved too challenging. As a result, much of the information sharing happened in whole group meetings chaired by myself, which limited the possibility of substantive critical feedback that a better implementation of the *Team Syntegrity* protocol allows. As noted earlier, critics who have observed a discussion, rather than just the summary of its results, can give far richer and more informed feedback. As my discussion of the *openDemocarcy* syntegration shows, critics, when used properly, feedback on process as much as outcomes. Therefore, the pastoral role, guiding the social dynamics and intervening at points where things looked likely to break down, was retained centrally by me far more than I had hoped for. In this way, my leadership role and function took on an authoritarian characteristic as defined by Beer, with regulation coming from a central command rather than self-organisation.

There were, however, strong and rich informational links due to the key structural feature of the *Team Syntegrity* protocol; each participant is a member of two groups—the five members of a group are each a member of one of the five other groups—and therefore each group should know exactly what each other is doing without the need for centralised co-ordination. These links were far from perfect, with absences and uneven commitments, but were successful, I believe, in ensuring that two projects didn't become incompatible, either by being too different or too similar. Here it can be seen that the effect of the protocol in co-ordinating action so that the activity of different groups is not destabilising, rather than information exchange leading to consensus as Beer's framing of the process suggests.

The project culminated in a public exhibition titled *Beyond Dispute*, through which each group's work was refined into a single, hour-long performance enacted three times over one week in June 2017. Each group created a number of five minute actions that were then shared

and swapped between all the participants. The performance was presented alongside video, audio and sculptural works that the groups had produced. This final process of producing a public presentation was fast and happened with a very good level of agreement, in part because its platform structure allowed each participant the opportunity to exhibit what was important to them within the exhibition and performance framework. This was also, however, where I took the most direct, authorial control. As I wrote in the text to accompany the archival online presentation that was published the following year[22], the pressure to take on a leadership role is built into many of the existing structures, with the *arché,* and hierarchy, exerting a strong pull. Some decisions, such as the title of the exhibition, were taken by me alone because time was short and the group had not been able to agree. As stated already, the parameters of the project were already highly constrained, both by my framing and by the institution that the project sat within, a state university with legal responsibilities including the requirement to give students grades at the end of each semester. It should be remembered, however, that this was not an experiment that aimed to teach or rather, provide opportunities to learn how to be democratic in the way that was emphasised in the discussion of the *openDemocarcy* syntegration, nor was it an experiment in the use of the *Team Syntegrity* protocol to make decisions and reach agreement. It was an experiment that aimed to investigate how its use could structure the making of art. While this necessitates the use and development of some similar discursive skills, the making and showing of art, even collaboratively, is not discussion. Collaborative art practice can, and perhaps should, hold tensions unresolved and meanings still contested. This is its key strength and not the weakness that it might be in a purely discursive context.

[22] See Vol. 2, Experiment 2.

Two aspects of the *Team Syntegrity* protocol need to be emphasised here. One is that it provides a structure not for leaderlessness—anarchy—but distributed leadership. To maintain the tension that keeps the structure strong, each group, each participant, should be pulling, or leading, in a different direction. The result of this, however, needs to be a sense of common investment and ownership or a project that does not just have the potential to be, but actually is, led by everybody into becoming a thing that is *for* everybody. *How to build a platform* was an experiment with using the *Team Syntegrity* protocol to learn how to distribute leadership, or rather, to learn how to lead together. The success of the experiment can therefore be assessed by how much ownership or authorship participants took over the outcomes. While authorship over the project as a whole remained mine, at least at the institutional level, the structure of the project allowed participants to lead and own individual and collective aspects that fed into the final, co-authored result.

The aspect of the protocol which allows multiple opportunities for leadership is much more clear when it is used to structure action and not just discussion. I would argue that this means creative projects like *How to build a platform* are much more relevant to questions of institution-building than a purely discursive implementation of the *Team Syntegrity* protocol. Institutions require leadership and in an alternative institutional form this must be, as much as possible, distributed and not centralised. While the platform model of an institution discussed in section 1.3.2 does allow multiple projects with different leaders, platforms necessarily put limits on this through their capacity to enclose and exclude. As I have already argued, what syntegration provides is a way of coordinating multiple projects without relying on centralised, authoritarian decision making. While, on reflection, far more of the functions of leadership, such as assessment, could have been shared, this would have required a project design that put much greater emphasis on the institution building rather than creative outputs.

The final experiment, which took place in early 2019, gave me the opportunity to do exactly this.

4.3.3 — Conditions

The final experiment with the *Team Syntegrity* protocol took place in over two days in February 2019 following an invitation to run a workshop for Conditions—an artist-led studio programme in Croydon, England—involving the six of the studio artists and one of the artist-founders. This iteration attempted to test, and get detailed feedback on, the use of the protocol for structuring both discussion and artistic collaboration and its potential as the basis for an institutional form. It was an attempt to refine the process I had developed using conclusions drawn from previous experiments and a detailed study of the *openDemocarcy* syntegration. Working with an existing group, which had formed through an open call and selection process six months prior to the workshop, made this a good opportunity to look at some practical organisation questions specific to the group itself, an approach that was proposed to and accepted by the programme coordinator. My key question in this experiment was therefore how the *Team Syntegrity* protocol could be used, over both shorter and longer terms, to structure both artistic practice and the running of an institution that could support that practice. The Conditions programme was itself not based on collaboration, with artists-members each pursuing independent artistic practices alongside seminar sessions led by visiting artists of the type I was invited to run, though they had previously collaborated on exhibition projects. Being external to this group—rather than either a member of it or an instigator as I had been in previous experiments—put me in the position of being an expert on the process that participants were being asked to use but not knowledgeable about or invested in the content of the discussion and collaboration. This external position, purely in

the role of a facilitator of the process, allowed me to better observe and reflect on that process.

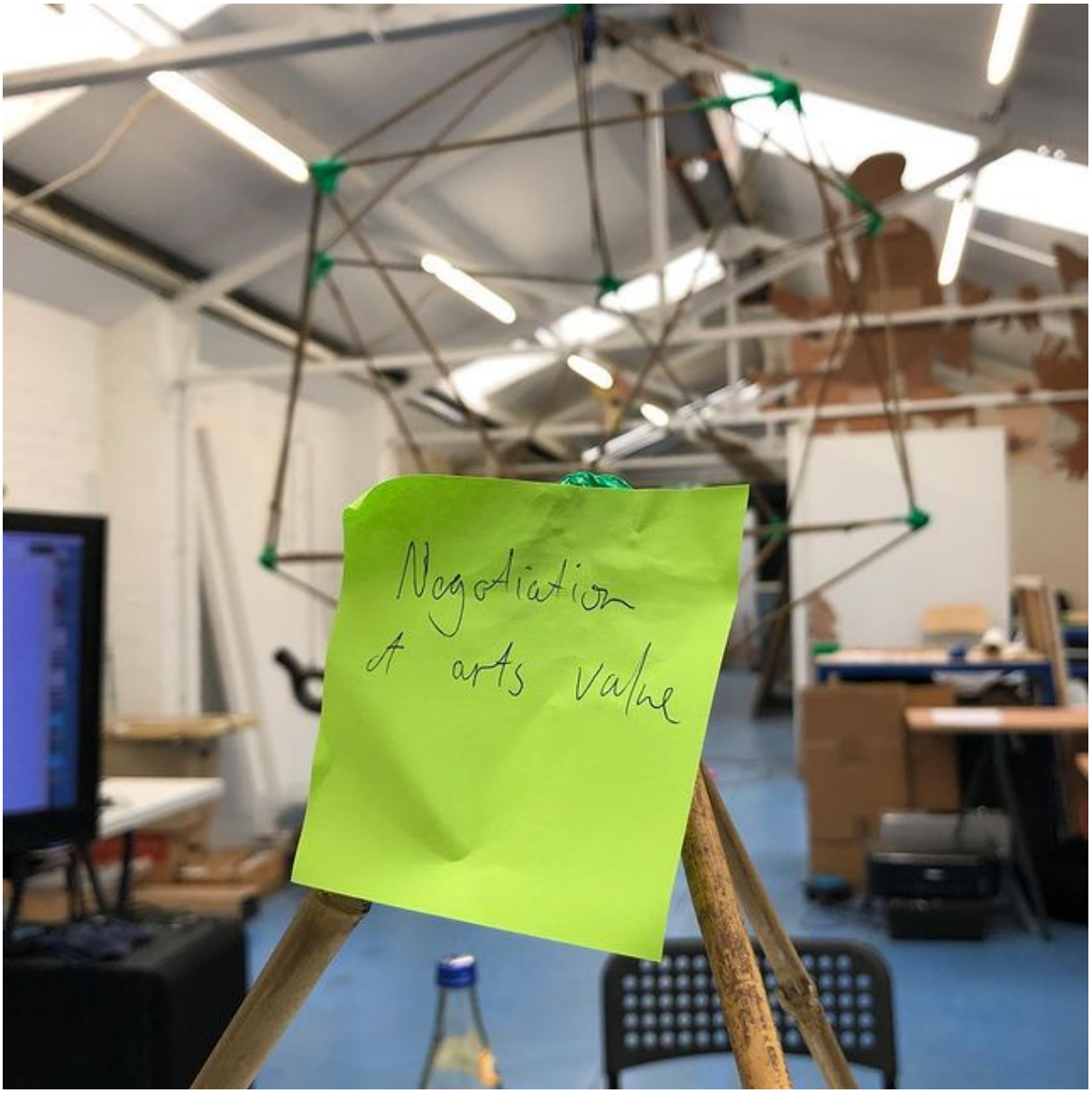

Figure 9. *Images from @jhpdf John Hill's recent workshop with Conditions*, Conditions on Instagram (2019). Croydon, 2019.

Observation of the *Team Syntegrity* process suggests that the first round of discussion is often where the common terms are defined, the second round where details of disagreement are explored and the third round where the need for an outcome forces creative solutions that overcome these disagreements (Bechler, 2017). The time constraints of the conditions

syntegration, allowing for only two rounds, meant that groups tended to reach the stage of disagreement, but not overcome it, something that was acknowledged in the feedback sessions at the end. This was especially the case when groups were approaching more theoretical problems where they struggled to come to a shared definition, or questions about arts value that are inherently unanswerable and that are often central to artistic practice, which each of the participants pursued separately. I had underestimated quite how skilled the group would be in discussion and how comfortable they would be with each other, the product, I would assume, of their previous art educations and several months of structured and unstructured contact through the studio programme. As such, this was less of a learning experience in discussion for participants than I had expected and the group should have perhaps been guided to more practical topics, rather than the largely abstract ones that were chosen, though I was reluctant to do this after the experience with the *FavourBank* experiment. Topics were not required to be in the form of 'contestable claims'—those for which an opposite position exists and is arguable (Beer, 1994a, p.23)—but emphasis could have been placed on finding real world examples with and against which positions can be tested. This is especially important if the protocol is being put to use as part of a longer-term process with a view to artistic or institutional practice. Another innovation in this discussion was the timetabling of an opportunity to feed back on and alter the protocol itself, again suggested at the *openDemocracy* syntegration. In this case the group suggested that one of the critics in each group should take on the more defined role of notetaker. This role would be played by the facilitators in a full scale and fully resourced Syntegration, which were absent here. The group was, however, not aware of this and this was an innovation that came from them. Drawing facilitators from the groups itself is, I believe, a very valuable addition to the protocol, though ideally it would leave more than one participant remaining in the role of critic.

The cross-pollination of ideas occurred frequently throughout the making session on the second day, aspects of which were likely a result of the format of collaboration and presentation, such as a prevalence of interactivity and participation. My observation was that groups who had managed to agree more often throughout day one also worked better together during day two. However, because each participant was engaged in two groups, being in one group that experienced difficulties did not undermine the whole process, and by the end of the second round of collaborative making each group had produced something and it felt like a natural conclusion rather than a premature curtailment of an ongoing process. While it is perhaps the case that the artistic making moves more rapidly to an outcome than discussion, it should be emphasised that making was a continuation of two rounds of discussion the previous day and was not starting afresh.

4.4 — Group identity and subjectivisation

The case study and experimentation in this chapter show that *Team Syntegrity* has embedded characteristics that allow it to structure not just democratic, non-hierarchical discussion, but also viable institutions that conform to Stafford Beer's VSM. Furthermore, the type of institution that emerges from syntegration is resistant to the centralising dynamics of the platform and the effects of algocracy detailed in Chapter 2. Group self-identification, a key part of the VSM's System Four, is aided by having a readily available and easily comprehensible model of the group structure in the icosahedron, or whatever shape the group takes. During *How to build a platform* the physical model of the group-shape constructed in the first session was referred to as a diagram of the relationships between groups and

participants, and came to be a symbol of the group itself. The model is addressed to the group and the group comes to recognise itself in that model. The process also works to produce identity in another way. Identification with the group, and as a member of the group, comes from shared goals and outcomes, whether in discussion or art practice, but also through affective processes. These then multiply across the network to produce synergy, a sense of whole-group identity and whole-group feeling. While in *Conditions*, the group already had a strong sense of identity and did not necessarily recognise itself in the model that was built during the workshop—though there was strong identification with some of the co-produced artworks which were themselves models of sorts—*Reading and Thinging* ended the syntegrition session with a much better sense of its identity. This identity was felt, in part, through the 'emotional dimension of geometry' that one participant described, rather than a clearly articulated or defined purpose.

While the *Team Syntegrity* protocol does impact on who can directly address who within the network it creates—making only some kinds of connections and interactions impossible—unlike algocracy it does not redirect address in the way described in section 2.1.5. Instead the ptotocol facilitates statements or actions by sub-groups being addressed to the group as a whole, who may or may not recognise it as part of the synergy of the whole group's emergent identity. While the groups and roles that participants choose or are assigned are their environment for the duration of the process, with very limited control over them once they are set, the initial stages of the *Team Syntegrity* protocol—the problem jostle and topic auction—are precisely opportunities for participants to make and respond to indirect addresses and therefore provide the opportunities for both leadership and subjectivisation that algocracy denies. As has been seen, particularly in *How to build a platform* but also in the *openDemocracy* syntegration, the process encourages a sense of identification with these

groups. In this way the *Team Syntegrity* protocol can be seen as not just producing epistemic communities of experts but micro-publics, both at the level of the subgroups and at the level of the whole group. While these groups are able to produce norms, and the process allows for norms to proliferate across the network, it could also be thought of as the 'world-making' that Warner describes as being the task of subaltern counterpublics. While, in section 1.2.4, I criticised Warner's approach as being too based in language and too reliant on the idea of a universal public sphere, to which subaltern public act as counter, I would argue that syntegration offers an opportunity for world building beyond simply norms or identities but at the level of institutions.

While I think it is clear from the studies, experiments and arguments so far made that the *Team Syntegrity* protocol does have the potential to act as a model for a sustainable, non-hierarchical institution building which self-organises around embedded characteristics of the process, I feel it is necessary to put this potential into a broader institutional context. The examples and experiments analysed have each been enacted within specific settings that made them both possible whilst also limiting their potential. This was true in the case of *Reading & Thinging*, which was functionally independent but still reliant on FACT both as a physical meeting place, an attractor around which the network of participants emerged and in some ways as an legitimator of the group's activities, lending the group some authority and some trust that made it easier, or less risky, for participants to join a discussion. However, the group's self-recognition, as opposed to more formal recognition from its host institution, meant that a sudden, major shift in membership, or structure, undermined the group's viability.

How to build a platform was a fixed-term project that existed as a temporary addition to the existing system of the Academy of Fine Arts, Prague. As such, demands and conditions were placed on the project that determined its possible outcomes. While the *Team Syntegrity* protocol provided a non-hierarchical framework of interaction for the students, there remained a hierarchy in their relationship to me as an invited, and paid, educator. While there are, of course, benefits to this division—students are able to concentrate on making work rather than administering their programme of study—the power dynamic of student-teacher that was introduced from the institution, as well as the set, one-semester time limit, did place constraints on what was possible. While Laurence Rassel's ideas on the separation of role and function is again useful—and I regret reverting to the institutional default of giving students grades and feedback, rather than distributing this task and having them grade and evaluate each other—she makes clear that there are limits, often set by law, to how much roles and function can be seperated (Rassel, 2018). As I state in the text that accompanied the online presentation of Šaloun's outcome, the temporary transfer of the power to lead is not enough. Only by creating a situation that results in "not knowing whether they will allow you to have that power back" (Hill, 2018) can result in a true break with hierarchy.

Chapter 5 - Conclusions

5.1 — Syntegrations and Platforms

Chapter 1 showed that the power of platforms as an organisational form results from the combination of several related properties. A platform's modularity means it can easily grow and the network effect means that this growth can cause exponential increases in the platform's utility such that "the more people who use them, the more useful they are to more people" (Tufekci, 2017, p.20). The platform's intensification of sharing between its users leads to the phenomenon that Alex Williams identifies as 'generative entrenchment'. It becomes increasingly costly to leave a platform owing to the fact that the surplus value created by sharing is inseparable from the platform on which it is shared. As a result, reputation—the evaluation of future actions based on past usage or behaviour—becomes non-transferably tied to the platform that holds the record of that behaviour. Chapter 1 showed that these platform-like properties are not only apparent in web platforms but also in institutions of contemporary art that have adopted platform logic. I conclude that a platform's power resides in its ability to authorise, both in the sense of attributing authorship (Szreder, 2013) and the power to grant or deny access to or permissions within the platform. This is why many see in the platform a return to older forms of absolutist sovereignty (Hu, 2015; Zuboff, 2015; Bratton, 2016).

Sharing is central to the production of platform surplus and relies on a logic of financialisation, requiring an ongoing relationship between platform and user. This platform-user relation can be understood as a debt relation—utility and the surplus it generates lent to the user, secured against the anticipated future value of their behaviour—with the

decentralisation of risk to the user and the centralisation of return to the platform. This bidirectional move—controlling what is centralised and what is decentralised—is, I conclude, key to the operation of power within a networked and financialised system. While the platform can be beneficial to users by facilitating sharing and granting access to the networks in which the shared material can be evaluated and reputations built, it strips power from the user through centralised decision-making. The purpose of a platform—which Beer would define as "what the system does" (Beer, 1985, p.102)—is defined by the platform, not the user, rendering the platform-user relation authoritarian. Attempts by users to re-purpose and platform, becomes misuse (Lialina, 2012; Wright, 2013), resulting in the user being excluded.

The argument of this thesis is that while the *Team Syntegrity* protocol can harness some of the same properties that makes the platform so effective, it possesses embedded characteristics that prevent the debt-like dynamic of financialised sharing and the authoritarianism that arising from a platform's exclusive authority over authorisation and the definition of purpose. From experience of using the *Team Syntegrity* protocol to structure collaboration, described in Chapter 4, I conclude that syntegration does display a certain platform logic, bringing multiple different projects into mutually supportive relationships. Like a platform, the *Team Syntegrity* protocol facilitates sharing, connecting people so that the power and value of individual knowledge, thinking and feeling can be put to work with shared outcomes. Further, it has the capacity to organise this sharing into higher-order formations—the metasystem that emerges during the process—creating a surplus which, as with a platform, can be shared with all participants. The *Team Syntegrity* protocol is also platform-like in its modularity. It employs standard forms—fixed group sizes, with specified roles, meeting for set amounts of time—that are able to operate in a way that is content agnostic, an open form that can be filled by whatever material the users of the process wish.

It would be possible, in theory, to swap a group from one syntegration into another, provided the groups were of the same size, and indeed a switching of participants between days one and two of the *Conditions* syntegration was easily accommodated.

There are, however, key differences between the structure and types of relationships that the *Team Syntegrity* protocol allows for and the platform-user relation that appear in the platform models of online and offline organisation that have been analysed in the previous chapters. Most important is that the *Team Syntegrity* protocol works against the regimes of opacity and visibility, prediction and categorisation made possible by the platform's centralising dynamics. By denying a single position from which all information is available—instead using a mesh of multiple, indirect connections—*Team Syntegrity* denies a privileged position within the network of relationships it structures. No participant is able to effectively operate as a gatekeeper because information can be communicated along multiple paths. *Team Syntegrity's* defence against centralisation is also aided by the assignment of multiple roles to each participant. By requiring participants to operate as both discussants, critics and observers—and additionally as facilitators in the protocol developed by the participants during the *Conditions* syntegration—all privileges, such as the right to speak or reply, are equally distributed and held only temporarily, so cannot entrench themselves in one person. These roles, their visibility and their functions are embedded in the protocol and emerge from its use rather than, as in the algocratic or bureaucratic institution, having to be authorised centrally. I conclude that emergence of these roles from the protocol's operation means that they are both legitimated by the process itself and secure against being used as a reward for normative or predictable behaviour, which would constrain creativity.

5.2 — Network effects

The question of whether the network effect applies to the *Team Syntegrity* protocol is an interesting one, and Beer's original conception of it as ideally a 30-person meeting, suggests it might not. The *Team Syntegrity* protocol is, compared to an online platform, much more closed. It is not designed to be open to and able to absorb everything, instead setting strict limits on the number of participants and the amount of information it can process. While larger Syntegrations are certainly possible—both Beer (1993) and Malik (Malik SuperSyntegration (MSS), 2018) have described processes in which multiple syntegrations can be linked together—it might not be the case that more participants leads to greater value or utility for the individual, as is the case with the network effect. Interconnections between syntegrations would seem more likely to have the stabilising effect that Beer sees as key to societal stability but not, I conclude, the exponential increase in connectedness and utility that are seen in communication networks like the internet. *Team Syntegrity's* protocol explicitly limits the number of direct connections that can be made, favouring intensive over extensive interactions. This is also the case when assessing whether the *Team Syntegrity* protocol displays generative entrenchment. While evidence from the *openDemocarcy* syntegration and *How to build a platform* shows that the process facilitates learning—how to act democratically and how to work collaboratively—very effectively, this learning can be understood to be kept by the participants, not the platform, and is transferable to other projects, institutions and situations. Reputation is not a criteria for participation and, because action by individual participants is not visible to the whole group, individualised reputation becomes less important than the group's collective output. The preservation of autonomy at the lowest level means that it is cost-free to leave a syntegration, one of the most important qualities for avoiding the traps of platform logic. The ownership of outcome or products of

the process may be collective—and the clearly defined roles that the *Team Syntergrity* protocol gives participants reduces the likelihood that individual members will be ascribed authorship of collective work—but access to them is not mediated through the syntegration process. Due to the recursive properties of syntegrity as a viable system, each component remains independently viable, or autonomous, and the autonomy of components is maximised at all times. Any one group could leave one syntegration to act independently or, because of modularity, join another.

5.3 — Opacity and visibility

The opacity of algocracy's decision-making—producing only outcomes with no access to the reason or reasoning behind then—is one of the ways that the power imbalance is created in the platform-user relation. *Team Syntegrity* is, I conclude, a much more transparent process. The protocol for a syntegration is clear and comprehensible. As I have argued, transparent processes for arranging participants into their groups are available and preferable to the potentially more efficient and effective algorithmic method used in the commercial application of the *Team Syntegrity* protocol. Decision-making within subgroups is visible and contestable. This is one way in which the connections made by the critic role are vital, no group can make a decision that is not fully visible to at least one member of most or all other groups[23]. There is, however, some opacity designed into the *Team Syntegrity* protocol. Not every participant has direct access to every group's decision-making. This is important for two reasons. Firstly, it reduces the quantity of information that each participant is expected to receive and process and secondly, it prevents the VSM's System Three role of direct audit

[23] In a 30-person syntegration it is all other groups bar one.

and intervention being concentrated in one person, forcing the role and function to be distributed. This, I conclude, is also the case for how visibility functions in a syntegration. While, as with algocratic systems, visibility of participants to each other is mediated by protocol, it is not flexible in a way that allows visibility to be used as a reward or punishment. What a group chooses to make most visible of their discussions or outcomes will affect the environment and therefore the potential actions of other groups, but this is not a centralised decision and cannot be centrally co-ordinated. The openness of discussion and decision-making, with the clearly defined but equitable roles of group members and critics, allows for democratic processes to be observed, trialled and learned by participants through the multiple rounds of meeting that the protocol structures. The way syntegration employs transparency and equitable distribution of information, without making all aspects fully visible to everyone, not only disrupts the centralising tendencies of the platform but also serves to legitimate decisions made through the creation of transparent, epistemic communities.

5.4 — Predictability creativity, categorisation and identity

As has been argued, algocracy, when compared to other forms of governance, creates a different relationship between identity and norms. Beer suggests that *Team Syntegrity* can be used for establishing norms (Beer and Editors, 2000) while Rouvroy (2018) sees algocracy as able to govern without them. The *Team Syntegrity* protocol enables and encourages self-identification at both the level of the participant and of the group. Section 2.2.2 argued that identity resulted from a process of relations with others. While Beer may be correct that the types of discussions and relations syntegration encourages can develop norms which might, as the title of his book suggests, place certain things ‘beyond dispute’, a syntegration’s non-

hierarchical configuration is intended to de-emphasise external, pre-existing norms, generating and legitimating new ones through the relations it structures. Importantly, this is a recursive process, with identity formation happening at the level of the whole group, sub-groups and individual participants. The direct, unmediated and affective relations that the intensive connections of syntegration makes possible are what gives it the capacity to produce self-identification at the level of the participant, with the network forming a metasystem that allows critical reflection on the self in relation to others.

The *Team Syntegrity* protocol is intended to stimulate unexpected interactions and unpredictable outcomes and, as Beer often emphasises, maximise human freedom. Membership of two subgroups multiplies the opportunities for participants to take on leadership roles, while preventing any one person from assuming leadership of the whole group. Constraints are imposed not to limit what can happen but to ensure the equality of access to information that Beer saw as vital to *Team Syntegrity's* democratic nature. These constraints also prevent, as much as possible, pre-existing forms of organising—namely hierarchies, whether they be of expertise, class or gender—from asserting themselves and limiting the potentials of participants to interact. Resistance to hierarchies is a key way in which syntegration promotes the creativity which is suppressed in the regime of predictability that algorcracy administers and the limits the platform puts on behaviour with its ability to filter, hide and exclude. As the experiments conducted for this research have shown, creativity and the ownership of its outcomes are key to building viable, sustainable institutions that are able to operate autonomously from surrounding institutions. I conclude that creativity is embedded into the process and emerges through the enactment of leadership that syntegration requires, with unexpected action, understood through Arendt, being key to the freedom that Beer's process aimed to maximise.

5.5 — Syntegration as institutional form

Team Syntegrity, I have argued, creates a very specific kind of platform which counters many of the properties of platforms that this research has identified. It is self-organising and bottom-up, built from autonomous component parts guided by the embedded characteristics of the protocol, rather than the components built upon and dependent on the platform. These components are, however, still enhanced by what emerges from their connection: a unification of purpose and sense of identity that creates mutual support between autonomous parts. Credibility, understood as the ability to "make promises and be believed" (Ascher, 2016), is also distributed by the *Team Syntegrity* protocol when it is used to structure collaborative action as well as collaborative decision-making, allowing its emergent legitimacy to be combined with the ability to act. The power to make with others something that is new, lasting and public was, for Hannah Arendt, the key expression of *arché*, leadership or *power-to* (Balibar, 2007). To be free we have to be able to make things for ourselves and for each other in politically organised "common public space" in which people can speak and act (Arendt, 1961, p.148). This is precisely the reason, I conclude, that institutions of contemporary art are especially suited to re-imagining and re-organising through syntegration. For syntergration to move beyond a discussion and decision-making requires an environment that can be acted in and upon, where promises can be enacted as changes in the common world of things. The self-organisation that syntegration structures enhances the capacity for each component to act, and to lead, through supportive and critical (compressive and tensile) relations. In the fullest implementation of syntegration as the basis for institution building within this research—the work done with 14 artists over the four month of *How to build a platform*—this is what happened. The *Team Syntegrity* protocol was used to structure a collaboration where we made things ourselves, for ourselves, with each

other and for each other. While I retained the *role* of leader, the leadership *function* was distributed to the subgroups so that each was able to lead their own, independent activity that was then integrated into a coherent whole for public presentation. Though the organisation was temporary and no longer exists, the products of that time do, as artworks, archive and documentation, but also as the relationships that persist and knowledge that was made and shared in the process.

While the power and effectiveness of the *Team Syntegrity* protocol for both discussion and collaborative making is evidenced by the experiments that form the basis for this thesis, the question remains of whether it is useful as an organisational tool for institutions that can also resist both older forms of bureaucracy and newer forms of centralisation and extraction found in the platform and the types of control employed by algocracy. One of the properties that recommends the *Team Syntegrity* protocol as a basis for sustained as well as temporary organising is the modularity that has already been described, which can be understood through Maturana's distinction between organisation and structure, detailed in section 3.1.4. As well the modularity of groups, there is also a modularity of individuals. In a thirty-person syntegration, a person has four clearly defined roles: a member of two groups and a critic of two others. When considering the long-term sustainability of using a syntegration structure, allowances have to be made for members leaving and needing to be replaced, as happened in the *Conditions* workshop. As roles are clearly defined and the small groups allow for very good information sharing, the replacement of a single member should not cause destabilising disruption to the organisation, even though the structure has changed. Equally, because of the multiple links the protocol creates between groups, giving a high degree of redundancy for information exchange, temporary or sustained absences of a single member do not cause insurmountable disruptions to information flow as indirect links persist. The non-hierarchical

organisation that evenly distributes constructive and critical roles with an emphasis on information sharing and mutually reinforcing support—the tensile and compressive forces that Beer took from Buckminster Fuller—are, I conclude, an important basis on which a sustainable or viable institution can self-organise.

Their remains the question of who gets to decide on participation and therefore how an institutional form based on syntegration deals with representation. This, in Beer's language, is a metasystemic question, undecidable at the level of the syntegration itself. Unlike the platform or the ideal public sphere, a syntegration is and must be a closed system. While *openDemocracy* used invited participants, the experiments I undertook as part of this research relied on open calls. While open calls are clearly a form of indirect address, they should be understood as having a potential reach already somewhat defined by organisational, infrastructural and linguistic limits. The *Conditions, Reading and Thinging* and *How to build a platform* syntegrations were open calls within existing groups or institutional settings, with more or less formal criteria for inclusion. *FavourBank* suffered from the call being far too open, with too few people identifying with the project strongly enough to commit themselves to the process. As we have seen in the discussion of platforms, there is a huge power in being able to define the boundary of a group or constituency. Group identity and self-representation are, however, emergent from the syntegration process due to its embedded characteristics. Questions of how a group should define its environment or wider community are, therefore, precisely the type of meta-question that the group should be able to deal with successfully. If a viable institution's purpose is its own maintenance, then in order to be viable it must deal with problems of connection to, support between and representation of its environment. The setting of the boundary between a system and its environment is the role of the observer, precisely the critical self-reflection that I have argued emerges from syntegration and results

in group identity and subjectivisation. As a result the syntegration process can reset its boundaries, becoming more open or more closed to its environment, through the act of critical reflection on its identity and viability.

Viewing syntegration as the basis for a new institutional form indicates an answer to the question of how micro- or counter-publics relate to a wider public sphere. While a syntegration is a logically closed system, understanding its subgroups as System One of the VSM, with their own independent relations to the external environment, means that the norms, identities and 'worlds' that a syntegration generates are always in multiple connections to other individuals and organisations. These connections are not just discursive, but are objects, actions and transformations of matter, energy and information, public things that, like Arendt's table described in section 2.2.2, connect and separate, affecting the world not just through discourse but also materially. Following Jodi Dean's insight that conflict over the configuration of networks is "at the same time a conflict over the configuration of the world" (2002, p.168) we must see that the types of relations that an institutional syntegration enters into with its environment are equally as important as those it enters into internally. I conclude that the closed, self-referential and identity-generating relations internal to the syntegration allow more autonomous and less authoritarian relations with the other individuals and organisations in the external environment. With successful syntegration, the micro-niches of each subgroup become a shared, common environment for the whole group as a result of the shared interpretation of information at the level of syntegration's metasystem, as well as an enhanced ability to act on an in that environment. It is this autopoietic emergence of a common relation to and separation from the environment that prevent components' absorption into allopoietic—or exploitative—relations with other organisations and networks.

It is important to remember, however, the distinction made in the third chapter between the viable system which can maintain itself and true autopoiesis which must be self-making from first principles. This thesis has argued that while *Team Syntegrity* has the potential to structure self-organisation that harness some of the power of platforms without replicating the authoritarianism of algocracy's platform-user relation: remaining legitimately democratic at the lowest level; maximising creativity and freedom; credible in its ability to act and facilitating critical identity formation. It is difficult to do this, however, without working within existing material and institutional frameworks. A new kind of viable, self-organising and non-hierarchical institution is necessary, desirable and possible, if supported with the kind of resources that institutions can provide—space, time, money and expertise—but also access to existing networks and reputation that makes calls for participation successful. That these existing institutions are increasingly governed by platform logic causes a clear tension. Beer's call "to set up experimental institutions, deliberately antithetic to the existing ones-and with their full support" (Beer, 1974, p.97) then seems like the necessary way forward. I conclude that in order to make systemic, or metasystemic change, these new institutional forms must first be implemented at the lowest level. The systemic change of the institutions of contemporary art must begin with changes at the level of the production of art itself, employing processes and structures that maximise creative freedom, have credible capacities for action and where identities emerge through the formation of common environments. Viable autonomy at the lowest level of an institution allows it to resist extractive or exploitative relations from logically superior structures. Platform-like systems of control—which require centralised authorisation and boundary setting dependent on asymmetrical visibility, predictability and external categorisation—are ineffective on syntegrations due to the way that opacity, unpredictable creativity and emergent subjectivity are facilitated by the

protocol, while the necessary internal control functions are distributed across the system. In order to accommodate syntegration as a protocol of production—the 'what it does' of the institution—higher level institutional structures must adapt to facilitate decentralised co-ordination rather than centralised control, with purpose and identity flowing upwards through the institution from the lowest level.

5.6 — Questions and further research

This research has, I believe, shown that syntegrity is a highly effective method for structuring artistic collaboration that allows participants to have control over how its outcomes are authorised and whether and how those outcomes are made public. It has also argued that the syntegration process has the potential to affect change in the systems and organisations that it exists in and interacts with. The question of which conditions are necessary to make this possible requires further consideration, and this project was constrained in many ways by the paucity of opportunities for its hypotheses to be tested. As argued above, institutional support of a very specific kind is necessary to initiated this process. A truly *autopoietic* syntegration—one that can organise itself without needing to be 'put together' by an existing organisation—may be ideal, but much more work would need to be done to establish if it is possible. Institutional support allows for, at the very least, the initial assembly of participants through the transmission of an open call. The key question for future research is about the kinds of relationship between the institution and the syntegration that allow for both its independent existence from the institution and a continued influence on it. In my experience of initiating syntegrations, both within and beyond the experiments that form part of this project, the easiest context in which to initiate a syntegration is within higher education.

Academies are, however, incredibly resistant to systemic change from below. Much more research into how syntegration can structure teaching—or rather learning together—would be very fruitful, but it would need to be much more aware than I was in this research about the limitations of this context and the necessity to negotiate conflicts between a syntegration and the academy that do not undermine the principles of syntegrity. Institutions of contemporary art, especially smaller ones, are in my experience much more flexible in how they are organised and operate, however long-term, large-scale, high-commitment projects with entirely unspecified outcomes—as syntegration requires—are high risk prospects for institutions. For these reasons, Conditions might be the ideal context for syntegration to take place, sitting as it does between an educational and art institution. I remain an associate of the programme and hope to continue to work with them in the future.

While this research has argued that syntegration is resistant to platformisation, it is interesting to consider how it could be a direct replacement for online digital platforms of the type discussed and critiqued in this thesis. What aspects of syntegration could be delegated to the algorithm and how could its principles be embedded into networks and their protocols? Further, how could this be done in a way that was functional—and better than existing alternatives—rather than simply aesthetic or proof of concept? Decentralisation is currently an vibrant area of artistic as well as technological research that I hope that this project is both a meaningful contribution and a basis for future research by both myself and others.

Figures

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