Art After Control: Artists’ Moving Image and Aesthetic Resistance in Control Society

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PhD Abstract:

Gilles Deleuze's concept of control society is often deployed as a shorthand for the social mutation wrought by the proliferation of digital technology at the end of the twentieth century, marking a new historical period characterised by widespread institutional crisis as a result of rapid technological change. Control names a post-cybernetic logic that underpins the invention of a new space-time, and as a result, comes into conflict with the creative act. This thesis is structured the opposition Deleuze draws between art and control, and asks how and how far art resists control.

In setting up an antimony between art and a 'mutated' capitalist society at a moment of intensive technologisation, the contours of an aesthetic theory that Deleuze draws in his writing on control intersect with the Aesthetic Theory of Theodor Adorno, which similarly theorised art's resistance to social domination under capitalism. This thesis advances a reading of Adorno via Deleuze, and vice versa, in order to account for the relation of art to control society and to explore the possibility of aesthetic resistance to control.

Employing an anecdotal methodology, and taking artists' moving image as a form particular to the conditions of control society, each chapter closely analyses one moving image artwork in terms of its potential to resist control. The first explores the transformation of artistic labour and its relation to general social technique in the work of Tabor Robak; the second explores the technologization of memory in opposition to 'vogue' and cultural memory in the work of Jacolby Satterwhite; the final chapter considers the act of 'worlding' as an act of resistance to control in the work of Ian Cheng, also attending to the possibilities of AI art in control society.

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Introduction

This research emerges from an investigation into the relation of art to Gilles Deleuze's concept of the control society, the social formation that emerges as a result of the proliferation of the digital across society and that breaks decisively with disciplinary society. It proposes that both art and control function in the thought of Deleuze as distinct ways of inventing, organising, and distributing the space and time of experience, and that where control has come to represent a mode of social domination premised upon the prediction of future behaviours and phenomena, art now represents a mode of resistance that evades, weakens, or interrupts the normal operation of control.

Control is only one of a vast number of comparable conceptual frameworks that confront the intersection of late capitalism and the digital and attempt to account for the social, cultural, political, and aesthetic transformations that have unfolded in the period following World War II. Alexander Galloway (2014) lists Jean- François Lyotard's (1979) "postmodern," Hardt and Negri's (2000) "empire," Manuel Castells's (1996) "information age," Luc Boltanski and Ève Chiapello's (1999) "new spirit of capitalism" as indicative of the ubiquity of theories periodising this post-cybernetic period, and James R. Beniger (1989), for whom the roots of control extend back to the origins of information and communication management in the nineteenth century, lists dozens of more or less synonymous (and now largely forgotten) theories of roughly the same period. What this points to, for Galloway, is the value of periodisation as a principle in itself. Accordingly, Deleuze's concept of control—with its inauguration of an emphatic historical break concurrent with the development of cybernetics—presents itself as a compelling framework through which to approach the contemporary transformation of society.

Deleuze's emphasis on control as a periodising concept becomes more significant in light of what Galloway calls the evisceration of history in control society. As a social formation premised upon the multiplication of freedom and the acceleration of production, consumption, and the processes of life in general, control impedes historical thought not by "banning dissent" but by "accelerating the opportunities and channels for critical thought to infinity" (2014: 109). The project of the theory of control is thus not only to periodise the current period but to defend the project of periodisation as such.

As examined in more detail in the following chapter, control emerges in Deleuze's thought from the mid-1970s, shaped by encounters with both William S. Burroughs and Michel Foucault. Despite its concurrence with a number of Deleuze's other notable works, it

demonstrates both an overt political engagement and an affinity with Marxist political economy that is uncharacteristic of Deleuze, though, as Deleuze himself confessed in a late interview, at the time he "[felt] completely Marxist" (96). Deleuze sees control as a mutation of capitalism, a capitalism that coincides with frameworks like Maurizio Lazzarato's (1996) 'immaterial labour' and, more recently, Shoshanna Zuboff's (2018) surveillance capitalism.

As such, the central question of this research can be rearticulated in terms of the resistance of art to a mutation of late capitalism, and thus Deleuze's concept of control is brought here into a dialogue with the *Aesthetic Theory* of Theodor Adorno (2002), which provides an account of the resistance of the autonomous artwork to social domination. Responding to the emerging conditions of post-industrial capitalism, Adorno's work does not engage with the social transformations wrought by the development of cybernetics, but the emphasis that Adorno places on art's appropriative relation to technology makes his aesthetic framework ideal for considering both the impact of digital technology on artistic production and the work of art, and art's capacity to resist new forms of social domination predicated upon digital technology.

Foucault's (1990) notion of resistance as a counter-pressure to the exertion of power informs Deleuze's idea of resistance, but the specific resistance offered by art in the accounts of both Deleuze and Adorno does not push back directly against social domination. This is in contrast to an account of the possibilities of aesthetic resistance like that offered by Stephen Muecke (2020), who named deflection, interruption, destruction, and disappearance as artistic strategies for resisting the unjust or illegitimate imposition of social domination. Where Foucault, Deleuze, and Adorno most closely coincide with regards to the specific resistance of art to domination is in the idea that the creative act, which helps to constitute non-normative forms of subjectivity, resists the very act of determination. For both Adorno and Deleuze, this idea that the work of art is ontologically resistant to determination is central to a broader account of art's resistance to domination than that offered by Foucault. In the case of Adorno, this resistance to determination is a function of the dialectical form of the artwork, in which tensions and antinomies do not resolve into a fixed state but are distributed by the law of form immanent to the artwork. In Deleuze, on the other hand, the resistance of the artwork is premised on its relation to the virtual and the permanent potentiality that this relation secures. (These arguments are developed further in the following chapter.) What should be noted, however, is that for both Adorno and Deleuze, the concepts of power and resistance are less mutually constitutive than they appear in the work of Foucault; as this thesis proposes, the

particular resistance of the work of art to control society might, in some ways, be located in a position of exteriority to power, even if Foucault appears to forbid this.

As Agamben (2019) notes, Deleuze—despite his insistence on the affinity between the creative act and the act of resistance—leaves resistance largely undefined. Certainly it retains its standard definition of "opposing a force or an external threat", and to this in his Abécédaire Deleuze adds that "to resist always means to free a potential of life that was imprisoned or offended" (17). Agamben interrogates the correlation between creation and resistance via Aristotle, arguing that the creative act is structured by both potential and impotential, the power to do and the power not to do, and that therefore "in each act of creation there is something that resists and opposes expression" (20). Here, art's resistance is not to an external force but part of its own dialectical constitution, resistance understood in its electrical sense, slowing down the "immediate thrust of potential" and thereby preventing it "from being resolved and fully exhausted in the act" (21). This resistance immanent to art is theorised further by both Adorno and Deleuze, along differing lines, with Adorno describing art in terms of the play of forces and counterforces, and with Deleuze linking this resistance of art to its becoming, its relation to virtuality; these accounts are considered at length in the chapters that follow. Returning to the question of art's particular resistance to control, Agamben concludes that this resistance manifests in art as a "poetics of inoperativity", and thus that art may be understood as an operation on objective material that "deactivates and renders inoperative its communicative and informative functions in order to open them to a new possible use" (27).

The question of the form this 'new use' of art might take is the broad subject of the chapters that follow. Resistance, understood in the most straight-forward Foucauldian sense, is determined by its relation to the articulation of power. Social and cultural institutions structure this articulation, and so also structure the forms resistance may take. However, control society is characterised by a state of generalised institutional crisis that tends to make the flow of power—indeed all flows—more diffuse, and so what is called for is a concept of resistance that is similarly diffuse. This resistance particular to control is necessarily non-fixed, non-normative; it is unlikely to appear as a violent clash with oppressive forces, but rather as a particular modulation of experience that makes visible, if only for a moment, lines of flight that escape social domination. The broad permissiveness of control society dissolves the friction upon which traditional modes of both artistic and political resistance have depended, and yet we sense that the expression of power that friction represented continues in some new form. This

thesis does not pursue a general account of art's resistance to control because such an account would inevitably fail to address the hyper-localisation of resistance, but, on the other hand, a strictly local analysis of art's resistance to control would fail to apprehend the role of the lingering institutions in shaping the mode of social domination particular to control. In the chapters that follow, I attempt—under the influence of Adorno—to follow the dialectic of the universal and the particular, to show how the glimmer of resistance that particular artworks provide casts new light on the logical structure of control and to show, in turn, how it might be resisted. In order to do so, I knowingly retain the fuzziness of Deleuze's concept of resistance in the context of control society, in the understanding that the specific normative or institutional force or formation that art resists may remain elusive. Here, as for Deleuze, resistance is intransitive: "art resists".

As a methodological note, this thesis sustains the parallel arguments of Adorno and Deleuze—as discussed in the following chapter—that art is essentially non-communicative with the social sphere except as a refraction of its objective elements, and as such is not to be seen as a site of direct political engagement, even if a particular political comportment is demanded of artworks, as Adorno claims. That is to say, this thesis sets aside the forms of social and political engagement and resistance that are characteristic of what can broadly be termed 'activist art', art that seeks to exert a deliberate and direct (political) influence on the social sphere. While aspects of the form and content of the works discussed in this thesis may speak to the social and political conditions in which they were produced, it is not argued that they do so in more than the indirect ways set forth by Adorno and Deleuze in their respective accounts of the social character of the artwork. This is in contrast, for instance, to both the postmodernism of Jameson (1989), which sees the aesthetic dissolved into the social in the period that corresponds to the emergence of Deleuze's control society, and to Rancière's (2004) notion of the distribution of the sensible, in which the aesthetic field is reoriented as the base of sensory experience itself and thus as the condition not only for artistic practices but for all politics. Rancière coincides with Deleuze to the extent that both frame the aesthetic and the social (or political) in terms of the creation, (re)distribution, or management of space-times, but for Rancière, these space-times co-exist in a single, unified distribution upon which both artistic and political practices have a direct impact. For Deleuze, in the context of control, on the other hand, the promise of resistance endowed to art is a product of its limited, monadic autonomy from the social domination of control.

Though the theoretical traditions to which Adorno and Deleuze belong are often at odds, particularly in relation to predominance of dialectical thought in Frankfurt School Marxism and the post-Kantian legacy of German Idealist aesthetics, the idiosyncrasies of Adorno's dialectical system and the late reappraisal of Marxist political economy in Deleuze are indicative of the possibility of productively engaging the two writers in a limited dialogue on the ontology and social relation of the work of art in capitalist society. This research develops this conjunction between Adorno and Deleuze as a methodology through which to examine contemporary works of art in terms of the resistance they provide within control society.

As examined more closely in Chapter 1, the notion of art's autonomy structures the aesthetic thought of both Adorno and Deleuze, even—perhaps especially—in the context of a networked society in which actual autonomy becomes increasingly rare. For Adorno, autonomous art under capitalism is structured by an appropriation of the commodity form and so, by recourse to Marx's account of the commodity fetish, secures its autonomy through an ideological severing of the work of art from the conditions of its production. For Deleuze, on the other hand, the autonomy of art is rooted in its essential difference, as a form of knowledge production, from the spheres of discourse and of science. In the context of the regime of communication that governs control society, art is emphatically decoupled from communication and operates on an autonomous order of its own, even as it retains what Deleuze calls an affinity with both counter-information (as a specific form of resistance) and the act of resistance more broadly.

Both Adorno and Deleuze use the term 'resistance' when speaking of the relation of art to society, and so this thesis frames art's relation to control in the same terms. Given that both writers are primarily concerned with autonomous art that, as described in the following chapter, is characterised by non-communication with the social and by a refractory relation to the social, the question of what form this resistance can take is of central importance to this research.

For Adorno, writing in the context of what he called the 'administered universe' which prefigures the emergence of control society, the task of art is to recognise the 'unfreedom' of the world and resist it not by "spotlight[ing] alternatives" but "by its form alone" (2002: 180). Here he critiques the mode of resistance set forth by Sartre, who saw the task of art as "awaken[ing] the free choice of the agent" based on the premise that choice itself is the irreducible essence of freedom (180). In the context of the administered society—and even more so in the context of control, in which the absolute decision is the very condition of digital computation—Adorno observed that Sartre's faith in the choice fails to recognise that it was

already “anonymous machinery” that controlled the process of decision-making (182). Politically committed art, in Adorno’s aesthetic framework, can only indirectly respond to social conditions, and when it does so, this commitment is organised in the first instance by the form of the work alone. Works that exist only as themselves, as what they objectively are, become “bad art”, but “the moment of true volition” in which the work transcends its objectivity is “mediated through nothing other than the form of the work itself, whose crystallization becomes an analogy of that other condition which should be”; artworks, artifacts of freely subjective and sensuous human labour, “point to a practice from which they abstain: the creation of a just life” (194). The mediation through form is “not a compromise between commitment and autonomy” but a refraction of the social from which art cannot completely withdraw. The burden of artworks is to “wordlessly [assert] what is barred to politics”, and as such, “politics has migrated into autonomous art, and nowhere more so than where it seems to be politically dead” (194).

This assertion by Adorno has become a standard defence of Modernist artworks, but this research sustains this claim by agreeing with Deleuze’s claim that in the context of control society, art withdraws completely from communication. Deleuze structures the difference between control and art as the difference between communication and noncommunication, and as such affirms the claim of Adorno that art’s progressive resistance is effected not by direct political engagement but by an objective refraction of the social whose very form indicts the injustice of the actually existing and constructs a horizon of possibility based on the irreducible premise that things could be other than they are. This research is guided by this claim, and so sets aside the possible resistance of activist art in favour of considering works whose resistance is a product of their being formally autonomous.

The orientation of art’s resistance towards a temporal horizon of possibility is shared in Deleuze’s account of art’s affinity with the act of resistance. Deleuze, in a number of different texts, repeats a line borrowed from the artist Paul Klee, who said that ‘the people are missing’. This statement structures Deleuze’s theorisation of art’s spatiotemporal resistance to control. Artworks, though bound to the society of their time, construct a particular space and time of experience for ‘a people’ who do not yet exist. Art evokes a people who do not yet exist and summons them to populate the space-time it invents. The social relation of art for Deleuze is thus oriented towards the future, and its endurance—and the endurance of its immanent potentiality—is always in the service of bringing forth this people to come. Here art and control converge once more; control is similarly oriented towards the future because it is structured

by the imperative of algorithmic prediction. Control collapses the past and present as data with which to make decisions about the future. It too invents a space-time which summons forth a people, but does so for the purpose of managing contingency and sustaining the meta-stability of the control society. If the purpose of art's appeal to the future is to maximise the potentiality of the artwork in terms of its speculative relation to the virtual, control's appeal to the future shrinks the social relation to the virtual to a minimum degree of freedom—which is not at all the same as restricting the freedom of social subjects. Control, as described above, multiplies the freedom of its subjects only to the same degree that it minimises the potentiality of social life.

Adorno proposes that another of the tasks of art that constitutes a form of resistance to social heteronomy is the modelling of a reconciliation of humans and nature, including human nature, which is blocked in the present by the blind domination of instrumental reason. Art, as argued above, cannot directly transform the social conditions shaped by rationality, which in Adorno's view elevates technical means to ends in themselves and in so doing turns the rational irrational. Art's freedom from heteronomy and the autonomous artwork's status as the product of the freely subjective labour of the artist allow the artwork to serve as a model—which can never be realised in the social sphere—of reconciliation through the organisation of the objectivity of the artwork in accordance with its immanent law of form. As such, art does not simply condemn the merely existing for its complicity with social domination, but models a transformation of the objective and empirical elements of the social sphere that comes to promise the possibility of freedom. The price art pays for this access to freedom is its social usefulness; art critiques the conditions of social unfreedom, but is destined to do so toothlessly.

In the context of control society, then, the function of art is to appropriate the technological means of control and transform them via the subjective labour of the artist, turning them towards the realisation of the possibility of freedom engendered, in Deleuze's framework, by the immanent potentiality of the artwork in its relation to the virtual and its orientation towards the future.

The formation of the control society and the theorisation of art's resistance to it is the subject of the following chapter. In it, the emergence of the concept of control in the thought of Deleuze is recounted, and the defining features of the control society are discussed. The chapter also examines a number of significant contemporary developments that extend the concept of control and explain certain aspects of its logic and form, paying particular attention

to the concepts of modularity, virtuality, and potentiality as they relate to both art and control. The chapter concludes by drawing the contours of an aesthetic theory presented in Deleuze's writings on control into a dialogue with Adorno's *Aesthetic Theory*. Adorno's arguments for the technological essence of art and the double character of art's relation to the social are described in relation to the society of control, and a final section explores some further affinities between the aesthetics of Adorno and Deleuze, particularly in relation to their parallel accounts of the processual character of art.

This thesis deploys an anecdotal methodology in order to examine the aesthetic resistance of particular artworks to control society, with supplementary theoretical interventions aiming to highlight the different vectors of resistance opened up by each of the three individual artworks studied.

Sean Cubitt (2013) defends the anecdote as "a viable and indeed vital form of evidence" that develops in the dialectical tension between the particular and the universal, grounding claims about "abstract formations"—art, society, resistance, etc.—in the "specific instance" of a unique work (5-6). In contrast to the methodological tools of the social sciences, and in particular to those which rely on the computational use of 'big data', the anecdotal method affords researchers the ability to test "large hypotheses against the unique qualities of artworks and experiences" (6). In the chapters that follow, the hypothesis of art's capacity to resist the mode of social domination represented by Deleuze's control society is tested through an analysis of both particular works and their particular contextual relations, their bearing on broader theoretical questions of autonomy, labour, representation, computation, and so forth.

The anecdotal method, like all research methods, remains limited by its need to fix its object in place and time, to emphasise certain properties and overlook others, to follow certain vectors and sever others. This is particularly true when the method is applied to art, and to particular artworks, which, as discussed in the chapter to follow in relation to both Deleuze and Adorno, remain inexhaustible in the face of critical interpretation and aesthetic experience. This thesis, then, should not be read as a comprehensive account of these works of art and of the contextual networks in which they stand, nor as a definitive assessment of the capacity of art to broadly resist domination in the period of control society, but rather to draw out the particular tensions and antinomies between these works and the society within which they emerge that evidence the possibility of art's resistance to control. These anecdotes, like the artworks they invoke, remain unstable, in flux amidst a rapidly shifting social context, but

nonetheless each pursues a line of flight towards a horizon of possibility: art's deferred promise of freedom.

A historical survey of art produced in a particular control society, subject to local technical, social, and cultural conditions, would inevitably shed a broader light on the ways that art responds to the conditions of control, but—given that control society is predicated upon an exponential expansion of the social possibility space—it seems likely that such an approach might only ever amount to an accumulation of anecdotal analyses that never yields qualitatively different results to those produced in this thesis. The art of late capitalism, as Adorno observes, was already characterised by the dissolution of traditional aesthetic concepts and practices, and postmodernism (particularly as characterised by Jameson) sees the very category of the aesthetic dissolved into the productive sphere. The art of control society absorbs the increasingly schematic and intentional weakening of institutional boundaries as a formal principle which is reproduced—broadly—in first the contraction of art's interest to the exploration of the modulation of institutional infrastructure (as with the roughly contemporaneous development of net art and practices of institutional critique), and later in the exploration of the expressive possibilities made available by the proliferation of the digital and the transformation of cultural and aesthetic institutions (as seen, for instance, in the art identified as 'post-internet' and in the recent ubiquity of moving image art). As such, art historical attempts to survey the work of the recent period corresponding to the development of control society risk either arbitrarily reinscribing outdated institutional formations, or, on the other hand, reducing the sphere of art to an undifferentiated accumulation of inert objects and practices, or pure exchange values. The anecdotal method—as deployed in this thesis—endures its blindness to the broad sweep of aesthetic activity in order to examine particular modes of art's becoming and particular points of contact between art and control society, here through the framing concept of art's social resistance.

Rather than focusing on art in general, this thesis pursues its hypothesis of art's resistance to control with specific reference to the field of artistic practice that has come to be known as artists' moving image. Comprising avant garde cinema, experimental film, expanded cinema, video art, and animation, the history of artists' moving image recontextualises the history—and indeed the prehistory—of cinema in a way that sustains the aesthetic aims of an originary avant-garde for many of whom the unique power of cinema was a "harnessing of visibility" itself that need not reference or remediate other art forms (Gunning 2006: 381). The abiding interest of both theorists and practitioners of moving image art—particularly as opposed to the

interests of both narrative feature filmmakers and documentarians—is the enduring potential of the moving image as a medium, which is sensed as strongly by contemporary artists as it was by the early modernists for whom the cinematic apparatus was entirely novel. Indeed, something of this 'novelty' survives most vitally in contemporary moving image art, which, set apart from the hegemony of narrative cinema, is more often motivated by an aesthetic and conceptual interest in opticality and visibility itself—the play of movement and perception—than by storytelling. Theorists like Gunning (2006) and Crary (1988; 1990) have examined the "cinema of attractions" practiced by the cinematic avant-garde in such a way that a continuity can be drawn from the trick films of Méliès and his contemporaries—which Gunning characterises as plotless demonstrations of "the magical possibilities of cinema" (383)—through to the work of contemporary digital artists who remain motivated by the aesthetic aim of displaying the possibilities of the moving image apparatus itself. Gunning notes a relation between the development of early film and "the emergence of the great amusement parks" (383), a relation which echoes in, for example, the large-scale, AI-driven displays of Refik Anadol (whose video installation Unsupervised (2022) filled the lobby of MoMA with constantly morphing algorithmically generated images), which are concerned with optical play in a computational milieu, or the remediation of computation itself. Crary (1990) frames the emergence of cinematic and proto-cinematic technologies in terms of a broader cultural transformation that sees the concurrent reconfiguration of the observer into a site of exchange for "commodities, energies, capital, images or information", coinciding with the genesis of the long control revolution described by Beniger (1989) and developed further through the administered society of Adorno and the control society of Deleuze. Control society breaks with this history by relocating the observational nexus from a human subject to a computational one, and thereby lays the terrain for the confrontation between control and art that is the subject of this thesis.

This interest in opticality and the apparatus of the moving image and its relation to the structure of society and the ideological effects of the moving image—particularly as cinema—persists in the culture of film theory developed through French film journals, particularly in the work of Baudry (1970) and the early structural (rather than psychoanalytic or semiological) theory of Christian Metz (1974). Close attention was paid in this period to cinema as a social as well as technical apparatus, and critique of the hegemony of narrative cinema took on a more formalist tenor which was echoed by structuralist(/materialist) filmmakers and theorists (often both) in North America and Europe, such as Michael Snow Anthony McCall, and Peter Gidal

(1976). The concurrent development of video provoked a further engagement with the ontology of the moving image among theorists (Krauss 1976 in particular) and expanded the formal possibilities of moving image practice; see, for instance, the video works of Richard Serra, Bruce Nauman, and Joan Jonas, or the emergence in the mid-1980s of the scratch video movement in London. The further proliferation of digital technology—particularly the development of digital video cameras and projectors for the consumer market—in the late 1980s and through the 1990s, a period roughly coinciding with Deleuze's development of the concept of control, made large-scale moving image installations cheaper and easier to produce, and triggered an explosion in the sheer number moving image artworks and practices that continues unabated to the present day.

The precise grouping of works under the aegis of artists' moving image is somewhat contentious given the variety of media formats, technical equipment, conceptual approaches, and subject matter that it contains, but a tautological definition suffices here. What makes this terrain compelling for the study of art's resistance to control is not only the rise to ubiquity of moving image art in the period corresponding to the development of the control society, but the fact that this contemporary ubiquity is itself the product of institutional crisis and reform caused by the technological forces unleashed by control.

Accounts of artists' moving image (Bruno 2002; Connolly 2009; Uroskie 2014; Balsom 2013) frequently emphasise the transformation of the spaces and sites of exhibition and display of the moving image, especially in terms of the relationship between the 'white cube' of the art gallery and the 'black box' of the cinema theatre. As Andrew Uroskie notes, the "contemporary experience of place has itself become inextricably bound up with the technologies and institutions of mediation" (6). The conflation here of technology and institutions in the broader context of the control society overlooks the way that new technologies of mediation—digital technology broadly—undermine the stability of institutions of mediation—the cinema, the gallery—and provoke the 'locational' crisis that has become the condition of the moving image in contemporary art.

Erika Balsom's (2013) account of the remediation of cinema within the site of contemporary art attributes the destabilisation of cinema to the proliferation of digital technology, noting that the recent phenomenon of the exhibition of cinema within the institutions of contemporary art "emblematizes the new mutability and transportability of moving images after digitization" (11). The development of digital apparatuses for the remediation of cinema and the concurrent electronic enhancement of technologies of projection and screen display perforates the rigid

disciplinary enclosure of cinema and allows its images to proliferate elsewhere. In addition to the exhibition of the audiovisual content of cinema in spaces not bound to the specificity of cinema, Balsom argues that contemporary art also 'exhibits' cinema itself "as a social and historical institution" (13). Here, digitisation and the convergence of media on the level of code again provokes a crisis about the literal and figurative place of cinema "in an increasingly digitized and mobile culture" (14).

Where these accounts emphasise the transformation and remediation of particular institutional forms in the wake of the broad cultural proliferation of the digital, this thesis asserts that such institutional crises and reforms in the cultural sphere are an explicit product of the elaboration of control throughout society. The moving image in contemporary art reacts to the profound transformation of the social not only in terms of the transformation of the already existing—the remediation of cinema, or the crises in painting, photography, documentary, and other art forms that are provoked by the development of digital technology—but in terms of the emergence of a new cultural logic in the wake of cybernetics, which Seb Franklin (2015) calls digitality. The explosion in sheer volume and variety of moving image artworks is a consequence not only of atomised technological developments and their local effects, but of a broad cultural transformation that Deleuze identifies as the emergence of control society. The characteristics identified as typical of the moving image in contemporary art—its mobility, transformability, contextual promiscuousness, ubiquity, variability, and so on—are the characteristics of control at large. The field of artists' moving image gives representation to control; it furnishes the aesthetic culture of control society.

While other forms of post-cybernetic art—often grouped under the labels of net art and (new) media art—engage explicitly with digital technology, computation and computer code, network architecture and protocols, and the aesthetic of internet culture, they have tended to be excluded from the mainstream of contemporary art; Claire Bishop's (2012) widely debated article on the "digital divide" between contemporary art and new media baldly asserts that the "entire sphere of 'new media art'" is "a specialized field of its own" that "rarely overlaps" with what is understood as 'contemporary art'. This division is typically upheld by the institutions of contemporary art, which have begun to exhibit this digital art, but often only in the context of historical retrospectives that ask what net art, for example, *was*. Bishop's assertion that most contemporary art fails to thematise the digital culture within which we live is broadly refuted by the category of artists' moving image, which, in having no choice but to foreground its digital

condition—even 'analogue' works are now over-determined by their relation to the digital—both thematises the digital at the level of content and represents it at the level of form.

The moving image artworks studied in the chapters that follow belong not to the tradition of the transformation of cinema or to the tradition of analogue film-making that persists in opposition to the cultural conditions of digitality and the control society. Each is digital through and through, created using advanced new technology and appropriating computation itself within the production process. As argued in each case study, the works thematise, represent, and/or critique some aspect of digitality or the logic of control more broadly. However, they remain, in this account, united within the field of artists' moving image, since in each case, what appears in the exhibition context (or otherwise in the context of the works' circulation on the internet or through the networks of the contemporary art world) is the moving image, typically a video file or a live-rendered video that audio-visually represents the operation of an unseen computational process.

The three works that are the focus of the following chapters are chosen to represent three different modes of engagement with and resistance to the conditions of control society. In addition to their methodological and formal diversity, each of the works can be seen to be oriented towards a particular temporal relation to control.

Following the elaboration of an aesthetic framework based on the conjunction of Deleuze and Adorno in Chapter 1, Chapter 2 explores the 2015 work *Where's My Water?* by digital animator Tabor Robak. Robak's practice involves the cultivation of technical skill as an artistic strategy, and this chapter argues that the skilful subjective appropriation of advanced technology towards aesthetic ends resists social heteronomy via a critique of the technical division of labour and the process of deskilling in the labour process of capitalism. The chapter draws on the labour theory of culture developed by John Roberts to grasp the transformed significance of skill and labour in art in the context of Robak's practice. A further section considers Robak's technical skill in light of Flusser's theorisation of the apparatus of the technical image, proposing that Robak's practice can be understood as a form of resistance to automatic operation of the apparatus of control. In terms of the work's temporal relation to control, the chapter explores the technological transformation of the process of artistic production, the process which anticipates the potentiality of the work.

Chapter 3 analyses Jacolby Satterwhite's 2012 video *Country Ball (1989-2012)*, a work that combines elements of 3D design and modelling alongside video elements, including video of the artist voguing. This chapter frames Satterwhite's work in the context of memory—both

individual and collective or cultural—and its remediation by digital technology. Drawing on the theory of mnemotechnics developed by Goodman and Parisi (2010), the chapter argues that the remediation of memory in Satterwhite's work opposes the mnemonic regime of control society, and reveals a latent potentiality in memory that resists the binding temporal closure of algorithmic prediction which is characteristic of control society. This discussion of memory focuses on the particular temporality of memory in control society, and especially on the reconfiguration of the present moment as the anticipation of the future within the logic of control. This section also briefly explores the role memory plays in the aesthetic theories of Adorno and Deleuze, particularly in terms of the relation between memory and the emergence of percepts and affects in art theorised by Deleuze and Guattari (1994).

Chapter 4 analyses a trilogy of works by artist Ian Cheng titled *Emissaries*, comprising the three works *Emissary in the Squat of Gods* (2015); *Emissary Forks at Perfection* (2015-16), and; *Emissary Sunsets the Self* (2017). These works are 'live simulations' of virtual worlds populated by characters whose behaviours and beliefs are determined by the automatic functioning of algorithms taking place on an unseen computer or computers. In these works, artists' moving image converges with a computational art in a practice that Cheng refers to as Worlding. This chapter explores Cheng's theoretical account of Worlding, and of the role of the artist in the context of an emerging 'culture of Worlding'. Building on a comment made by Cheng likening the works to 'video games that play themselves', a subsequent section explores AI and algorithmic decision-making, connecting this to the transformation of society that results from the general extension of algorithmic prediction as the organising principle of the social sphere. The connection between narrative, fables, and AI that Cheng builds in his work is also explored, and it is argued that Cheng's work makes possible a mode of ethical thought that develops out of his engagement with the condition of procedurality. The final section, linking Cheng's concept of Worlding to Flusser's concept of the technical image, explores the horizon of possibility constituted by a culture of Worlding, positioning Worlding as a practice of resistance that promises to sustain the possibility of meaning and order in an increasingly entropic world. The speculative character of this argument orients it towards the deep future of control, and is focused on resistance in terms of strategies that stem the total domination of the human by the apparatus of control.

Chapter 1: Control Society and Aesthetic Resistance

1.0: Art and Control

One of the central claims of this research is that Deleuze's concept of control society is linked inextricably to art, and can only be fully grasped in this context. The concept emerges from a post-'68 re-articulation of the nature of State power under capitalism (Deleuze 1973; Burroughs 1973), but following Deleuze's engagement with the work of Foucault (Deleuze 1988) and his continuing engagements with art, particularly cinema (and/or creativity, "the creative act") (Deleuze 1981; 1983; 1985; 1987; 1991), control is redeployed to name the social form produced by the broad proliferation of cybernetic logic and digital technology throughout the world. Specifically, Deleuze positions control society as the successor to Foucault's disciplinary society, inaugurating a historical break with the previous regime of power and suggesting that the rigid enclosures of disciplinary society had been perforated by both new technologies and new methods of subjectification and individuation emerging first from cybernetics. The management of information takes priority over the management of individuals; it is the flow of information, not power, that concerns Deleuze. The question of the periodisation of control and its relation to the historical thought of both Deleuze and Adorno is taken up in a later section of this chapter.

In elaborating his theory of control society, Deleuze sets up an opposition between information (as a unit of communication) and art (which becomes synonymous with "counter-information") (1987). Art resists control, but not as its negative imprint, or as counter-pressure. Deleuze is emphatic about art's deathly allergy to communication, insisting instead that art operates in a sphere of its own; he stops short of the phrase 'aesthetic autonomy', but the signal is clear. The texts on control fall short of articulating an aesthetic theory of their own, but contain the contours of a theory that calls for the resistance of the autonomous artwork to capitalism under conditions of social crisis and reform. Another of the claims of this research is that—philosophical attitudes and allegiances aside—Adorno's *Aesthetic Theory* (1970) broadly supports Deleuze's claims about the relation of art and society and the ontology of the artwork itself, and that by reading the two together, the possibility of art's resistance to control is made more concrete.

This chapter begins by tracing the development of control society in Deleuze's writing from the mid 1970's to the publication of the "Postscript on the Societies of Control" (1992). It

also considers the central importance of periodisation itself in the development of control, and looks at some notable examinations and extensions of Deleuze's work that sustain this periodisation. It then looks at the idiosyncrasies of Deleuze's concept of resistance in relation to control, and at the connection between art and resistance in Deleuze's thought. Finally, it argues in favour of an affinity between Deleuze's writing on control and Adorno's aesthetic theory, suggesting a possible anecdotal methodology for articulating the resistance of particular works of art to control society in the following chapters.

1.1: The Development of Control Society in Deleuze

The corpus of Gilles Deleuze's writing on control dates from 1975 to 1990, bookended by the "Schizo-Culture" conference (1975) and the subsequent "Schizo-Culture" issue of *Semiotext(e)*, and the "Postscript on the Societies of Control", published in French in the inaugural issue of *L'autre journal* (May 1990) and in English in *October* (1992). The development of the concept throughout this period is far from linear, reflecting some decisive shifts in Deleuze's thought—particularly owing to the contemporary influence of Michel Foucault and an apparent reassessment of Marx[1]—yet certain passages from the original 1978 essay "Politics" survive more or less unchanged in the "Postscript". This section will consider the 'control texts' in chronological order, beginning with "Politics" and its debt to William S. Burroughs, and proceeding through to the three late texts that deal explicitly with control society: "Having an Idea in Cinema" (1987); "Control and Becoming" (1990), and; "Postscript on the Societies of Control" (1992).

Though the original source of the term "control" is likely Norbert Wiener, Deleuze inherits it from Burroughs, who had already collapsed the distinction between cybernetic control—the regulation of a closed system through feedback loops—and technocratic and psychiatric forms of control. His contribution to the 'Schizo-Culture' event and publication, "The Limits of Control" (1978), sets out some of the principles of control that Deleuze later develops further, and highlights the vulnerabilities of the logic of control. The three main principles set out by Burroughs in the text are: 1) "words are still the primary instruments of control"; 2) "control needs time in which to exercise control", and; 3) "control also needs opposition or acquiescence, otherwise it ceases to be control" (39).

The emphasis on 'words', rather than language, stresses a second-order semiotics in which words are not defined by their place in a Saussurian system of difference, but rather positively signify a necessary behaviour or belief. "Orders are words", Burroughs argues, but conversely, words are orders; Deleuze and Guattari later identify this in the concept of 'order-words' (1980), and Deleuze goes further, making words into units of information such that the regime of power posited by order-words can be subsumed by a cybernetic system of control. What Burroughs seems to anticipate, then, is the replacement of language with code, where words are not mere

[1] According to an interview in *Le Nouvel Observateur* (1995), Deleuze's unrealised final book was to be titled *Grandeur de Marx/Greatness of Marx*, and was to concern Marx's analysis of the global market in particular. In the same interview, Deleuze professes to feel "completely Marxist", and insists that the "Postscript" too is "completely Marxist, even though [it discusses] things that Marx knew nothing about".

referents but are functional units in themselves (cf. Kittler 2008). This understanding had already been reflected in Burroughs' artistic practice, in particular in his 'cut-up' technique (e.g. *The Cut-up Trilogy*, 1961-1964, rev. 1968), where recordings of speech, often drawn from mass media sources, are reassembled to produce a particular and definite effect on the reader/listener. Deleuze will lose Burroughs' interest in mass media by the time of the control texts, but he retains the idea that information transformed in the autonomous sphere of aesthetic production (or creative activity) has the capacity to become counter-information and has an affinity with the act of resistance, if it does not become such an act itself. The question of art's relationship to the social regime of control is already an issue at this point, and receives more attention in the later control texts discussed below.

Burroughs' second and third main claims about control prepare the ground for the question of art's autonomy in control society to be answered. Firstly, he observes that a necessary property of systems of control that rely on feedback loops is what we today refer to as latency, or lag. This is the idea that there is a time delay between cause and effect, or input and response, within a system. Control is never immediate, even, as today, when latency can be reduced to fractions of a second by digital means. The time control takes to exercise control is in part a product of resistance in the electrical sense, the opposition of a material to the flow of current through it. This principle slips loose of its technical sense and allows Burroughs (and later Deleuze) to speak of resistance to control in a broader sense; electrical resistance in the circuitry of control becomes a metaphor for a more general social and aesthetic resistance to control. Thus, just as control needs time in which to operate, Burroughs argues that control needs to encounter resistance in the social sphere, either in the form of opposition (the choice to resist) or acquiescence (the choice to comply).[2] Control ceases to be control when it crosses into coercion. Control society requires a necessary minimum degree of freedom. In Burroughs' account, the State (as the agent of control) seeks to keep this degree of freedom as small and manageable as possible. Deleuze retains the idea that freedom is necessary for control, but, writing in the late 1980's/early 1990's, recognises both the diminished social role of the State in the age of decentralisation and capitalist globalisation and the rapid development of techniques and technologies of control, leading him to propose a society of control predicated instead on maximising individual freedom within broad limits.

[2] Burroughs does not identify this as the complementary spatial aspect of resistance to control, but in computer science, possible decisions are rendered spatially. Again, this allows a productive slippage between the technical spatiality of programmatic decision-making and the familiar spatiality of social resistance (occupations, marches, public performance, etc.).

Deleuze's own contribution to the 'Schizo-Culture' publication is noteworthy for the way it introduces his initial observations on the emerging social form of control society in the distinctive voice of his writings of the 1970's, particularly his collaborations with Felix Guattari. This voice and its idiosyncratic language are almost totally expunged from the later control texts where other influences resonate (Galloway 2012). In this essay, "Politics", Deleuze (1978) argues that a society is defined first by "its points of flux or deterritorializations", and by the lines of "remigration" that "constitute the social realm" (157). Where later he speaks of reform, Deleuze here speaks of "reterritorializations": "monetary reterritorializations pass along new circuits, rural reterritorializations implement new modes of exploitation; urban reterritorializations pass according to new functions, etc." (157). The movement of a society consists of oscillations of the line of remigration between deterritorialisation and reterritorialisation. Within this social field, individuals are operated upon by "binary machines that dissect us" and "abstract machines that encode us" (158). Here this machinery is the instrument of the State, even if it originates elsewhere, but, in the passage that most clearly lays the groundwork for the concept of control society, Deleuze proposes that the current situation is characterised by "both what is beyond and what is within the State" (162). The dynamic of this situation was the "extension of capitalism throughout the entire social body" and the parallel 'molecularisation' of the means of exploitation, control and surveillance. Posed in this way, the nascent 'abstract machine' of control threatens to overwhelm the means of the State by "social counterattacks" in a way that seems to promise the possibility of a contemporary form of revolution; by the time of the "Postscript", this possibility has yet to materialise, and it will become clear that the withering of the State did not amount to a weakening of social domination and heteronomy, but only its redistribution according to a new diagram of power.

This concept of the diagram is developed through Deleuze's engagement with Foucault (1988), in a seemingly self-conscious opposition to the concept of the diagram as it appears in electronics, or in cybernetics. Here, a diagram is "a map, or rather several superimposed maps" which include not only the points that it connects, but also "free or unbound points, points of creativity, change and resistance" (44). This concept of the diagram structures the 'abstract machine' of control in the process of its transformation of society; the abstract machine is a writing machine, where Deleuze derives the triple definition of writing as to struggle and resist, to become, and to draw a map (44). The diagram composes forces, but is counteracted by a line of resistance that runs through it from the outside, giving rise to mutations in the structure

of the diagram. The relation of “man” to these outside forces is what makes one historical period distinct from another for Foucault, and in the context of control, Deleuze identifies these forces with “third-generation machines, cybernetics and information technology” (131). The relation between man and these external forces becomes one not of finitude (as in the disciplinary society) but of “unlimited finity”, a relation between a finite number of components that “yields a practically unlimited diversity of combinations” (131). The diagram of these relations is the diagram of the control society, and it produces in place of man some new “formal compound” of the forces within man (life, labour, and language) and the new forces of control. In this first instance, Deleuze identifies this new form as the “superman”, the man who is “in charge of” animals, inorganic matter, and the “being of language” (132), but in the later control texts Deleuze recognises that this new ‘formal compound’ whose technological mastery unleashes new forces is not safe from being undone by the violence of those forces. Thus the ‘superman’ whose relation to new technological forces inaugurates the new social form of the control society is later replaced by the dividual, the human ‘formal compound’ undone by the forces of control.

Understood in this way, Deleuze’s insistence on the affinity between the invention of space-times and the act of resistance becomes clearer. The diagram charts the spatial and temporal operation of the abstract machine of control, which is now cybernetic in nature and seeks to constitute itself as a closed system of unlimited finity. Resistance is not a question of contradicting the flow of power in this diagram, but of opening up space-times that escape integration, however fleetingly. In “Control and Becoming”, an interview with Antonio Negri, Deleuze explains that revolutionary movements and artistic movements converge as “war-machines” whose task is nothing to do with war but with occupying and inventing space-times (Deleuze 1990: 2). The creative invention of a space-time invokes ‘a people’ to fill it; this is the task of great, rather than populist, artists (3). This function of art is strictly opposed to control, which does not lack ‘a people’ any more than capitalism does. What control seeks, and what we should “shudder” at according to Deleuze, are “universals of communication” which would homogenise speech and communication under a system of total capture and control, which—by its nature—is “thoroughly permeated by money” (4). In opposition to this, one of the strategies of aesthetic resistance is the creation of “vacuoles of noncommunication”, space-times that elude control not only by slowing down its circuits but by refusing to be joined up in the diagram of control. Art’s affinity with resistance in control society is further explored below in Chapter 1.3, with particular reference to the text “Having an Idea in Cinema”.

The "Postscript on the Societies of Control" represents the clearest statement of Deleuze's control hypothesis: that the proliferation of cybernetics and digital technology in the late twentieth century inaugurates a historical break with previous social forms and installs a new diagram of power premised upon the computerised management of information. The insistence on a decisive historical break is one of the ways that control is distinguished from other periodisations, as examined in more detail in the following section. Here, it is a break between Foucault's disciplinary society and the new control society, but Deleuze rehearses this theory of the break in his work on cinema, where the Second World War is taken as a break between two regimes of cinema, that of the movement-image and the time-image. In a preface to *Cinema 2* (1989), Deleuze reflects on this break, arguing that the new uncertainty represented in post-war European cinema led to a collapse of the "sensory-motor schema" and the rise of the pure representation of time in itself in modern cinema (xi). A clear parallel can be drawn between this break and that between discipline and control in terms of time and space, or movement and "false" movement. Life is disciplinary society consisted of constant movement from one closed environment to another, movement according to a logical, rational schema that saw the individual pass from one institution to the next both over the course of their day and the course of their life. Time is discerned as a symptom of the passage from one enclosure to the next, just as in the cinema of the action-image time is a product of the logical joining of successive actions. In the cinema of the time-image, this relationship is overturned; cinema grasps the experience of time in itself, and this is thematised in the depiction of spaces in flux, populated by characters who 'see', rather than act (xi). Continuity is succeeded by "false continuity", a seamless experience of duration that reveals or develops time. In the same way, the subject of control society no longer passes decisively from one enclosure to the next, but is divided and distributed across networks that perforate and permeate institutions and public and private spaces; the distinction between interiority and exteriority collapses.

The condition of a generalised crisis of interiority is constitutive of control society because the concept of control itself functions as a universal mediator. In it are collapsed the operations of capitalism's markets, the capabilities of information processing and communication technologies, the infrastructural potential of the digital network, and the cybernetic principle of servomechanical homeostasis. Control names not only the material conditions of the information society and the social form to which they give rise, but also the culture—which is a diffuse 'sameness'—which surrounds and represents the material basis of control. One of the paradoxes which the dividual senses at the heart of control society is the

simultaneous experience of great speed and the stasis of 'Spirit'. The management of time and history are as central as the management of information in the control society.

Another of these paradoxes concerns the contradiction between freedom and control in control society. One the one hand, control names the global proliferation of what approach "universals of communication", the universal computerisation of information and the development of internationally standardised techniques and technologies of information collection, processing, storage, and communication. Control society aspires towards the global management of populations through the extraction of data and the predictive management of behaviour at or below the level of the individual. At the same time, the dismantling of institutional interiors or enclosures and the proliferation of access as an end in itself produces a sense of freedom that does not contradict the joint demands of control-capitalism. The sense of freedom is ironically felt most strongly by those who most willingly subsume themselves to the system of control; the freedom to work, learn, shop, socialise, watch, or play at any time and place is granted by the technological infrastructure of control society, but this infrastructure—as Alexander Galloway points out (see next section)—also determines the limits of that freedom. Deleuze likens this to the freedom promised by the highway, the ability to go anywhere at great speed within set infrastructural limits that most of the time remain unconsciously observed.

That the infrastructure of control often remains un-sensed is what allows control to undermine the holism of the individual. Without necessarily becoming aware of it, users of control's technology open themselves to forces of 'dividualisation' which capture and represent them as "masses, samples, data, markets, or 'banks'" (Deleuze 1992: 5). Where the diagram of disciplinary power both individualised and massed together, diagram of control makes the individual into a mass in themselves; dividuals are incapable of massing together except on what remains of the disciplinary order. A mass protest can still fill the streets and strike action can bring commodity production and logistics to a halt, but this is no longer an anonymous mass, nor does it escape capture by control technologies which can extract identifying data about mass participants and use this to both punish and generate profit depending on who gains access to the information. Because control limits the effectiveness of these older acts of resistance, Deleuze frequently stresses the importance of seeking new strategies of resistance. In the "Postscript" he mentions "piracy and the introduction of viruses" as active dangers to the machines of control society, though as it turns out these phenomena

are perfectly compatible with the normal functioning of control, representing a minor annoyance for the victim and an economic opportunity for the perpetrator.

Given the limits of these acts of resistance in terms of disrupting contemporary control, art and the creative act return as viable sites of resistance even if art itself has entered into "the open circuits of the bank" (Deleuze 1992: 6). By establishing space-times outside the grasp of control, art has the potential to evade the extractive practices of control society and produce meaning that is not commensurate with information. How this might be achieved is examined in Chapter 1.3.

1.2: Extensions of Control

Since its publication, Deleuze's "Postscript on the Societies of Control" has become a ubiquitous reference point for scholars across many disciplines, generally serving as a shorthand for the transformation of society brought about by the proliferation of computers, networks, and digital technology. The "Postscript" is a useful academic instrument because it so forcefully introduces a gap between 'then' and 'now'. It insists on periodisation as a principle. What is often overlooked, however, is that Deleuze justifies this historical break on the basis of an aesthetic break, specifically the discontinuity between the regimes of the movement-image and the time-image.[3] Although the relation of art to society is one of refraction, rather than reflection, this aesthetic shift in European cinema is enough for Deleuze to declare that there must be a corresponding social transformation, a transformation in the material conditions from which art emerges and in the social form to which it responds.[4] From cinema, Deleuze derives a conceptual system premised on the invention, transformation, and control of space-times which is shared by all creative acts, and it is within this framework that he develops the concept of control society, which at its core is the social form which emerges from the digitisation of space-time itself. Control names the computerisation of time and space, the transformation of the relation between internal human forces and external technological forces wrought by the development of cybernetics and the proliferation of its logic and its products throughout society. Understood in this way, control reposes Heidegger's question concerning technology through the lens of Foucault, defining not a technological essence but a technological relation that structures the organisation and perception of space-time itself.

As Galloway (2014) notes, the significance of Deleuze's account of control is as much its insistence on the need for a periodisation of the post-cybernetic moment as it is the

[3] The schematic division between these regimes is presented with differing levels of conviction at various points in the *Cinema* books. It is perhaps most accurate to say that Deleuze retains some ambivalence towards the legitimacy of this historical break, noting that no one film in either period consists entirely of one type of image, but that the ratio of one image type to another varies historically, with time-images predominating in the post-war period. This ambivalence holds too for the historical break that inaugurates control; on the one hand, control names a decisive transformation of the social by newly developed technology, but what it sets in motion is not a clean break with disciplinary society but a pattern of cascading crises and reforms that gradually transforms society.

[4] This holds true even if the break the break that inaugurates control society is identified by Deleuze in the work of Burroughs; in either case, it is an aesthetic transformation that signals a transformation of social material, and thus in both cases Deleuze is led to approach the problem of the emerging social form as one of the invention and management of space-times.

description of the social form that emerges in that moment. Periodisation similarly occupies Adorno, whose *Aesthetic Theory* corresponds historically to the moment of the proliferation of cybernetics in the post-war years and provides support for an aesthetic theory of control society as a late mutation of capitalism premised upon widespread computerisation and digital networking.

Adorno and Deleuze share elements of a philosophy of history that is informed by their decisive personal experience of historical crises—the Holocaust for Adorno, and May ’68 for Deleuze—and which, as a result, hinges on radical upheaval, crisis, and reform. For Adorno (1979), broadly, this manifests as an account of history structured by the dialectic of the continuity and the discontinuity, based on a critique of Hegel’s universal history: neither is the present the inevitable unfolding of history from some fixed past, nor is it the endpoint of a series of disconnected historical facts. What emerges is a philosophy of history that proposes that the “continuity of the historical process is explicable only as a series of disruptions” (O’Connor 2008: 7-8). In his *Aesthetic Theory*, Adorno is emphatic that art is a historical phenomenon, and so too sits in the dialectic between continuity and discontinuity. Art absorbs this tension as an objective formal element when, for instance, modernism adopts experimentation as its methodology, with its results either failing into discontinuity or advancing historical continuity under the aegis of ‘the New’. Deleuze’s philosophy of history, marked by a rejection of conventional historicism, is more difficult to pin down (see Bell and Colebrook, 2009), but—as it relates to control—is informed by Foucault’s division of history in terms of the organisation of flows of power and of the mechanisms through which power (and resistance) are expressed.

Foucault’s periodisation, which Deleuze adopts and extends, makes use of the tripartite periodisation of (Western) history that has “gripped Western academe like a straitjacket”, appropriating the near-universally accepted “ancient/medieval/modern formula” (Green 1995: 99). The compelling simplicity of this division belies a set of organisational problems concerning material continuities and discontinuities across societies and thus calls not only for an account of historical continuity but an account of change itself. In both Foucault and—particularly—in Deleuze, this manifests in what Manuel DeLanda (1991) identifies as “machinic eras”, where the new age of each machine represents “a complete break with the conceptual models of the past” (Palmas, 2019: 273; see also, for example, Kittler 1999). There is a risk in slipping into the fallacy of technological determinism by following this logic, by for instance allowing the computer to overdetermine historical development and social form, but, on the other hand, failing to periodise history according to the transformation of the forces that

drive material change risks reducing history to a heap of undifferentiated historical facts. Within the history of the post-cybernetic period, then, the era of control represents both a now and a then. It emerges out of the development of a cybernetic logic that begins to proliferate and becomes a dominant culture force by the 1950s, but it corresponds to a social form that has—and continues to—emerge by fits and starts as successive waves of technological development provoke crises and reforms in social institutions across the globe. In this sense, Beniger (1989) serves to cast doubt on the historical break insisted upon by Deleuze, arguing that these technological developments have a much longer history than the one set forth in the "Postscript", but, on the other hand, his account of the long control revolution does not fully anticipate the sheer scale of the transformation that computerisation unleashes. Even within the period of computerisation, there are sub-periodisations that mark out particular moments in the proliferation of control (the successive waves of cybernetics (Hayles 1999), or the development of particular technologies—even the arbitrary historicism of generations of consumer electronics). Deleuze's concept of control—like the broader cultural concept of the digital—vacillates between materiality and abstraction, making it useful in describing both the concrete conditions of a society transformed by computerisation and the ways that this materiality becomes a metaphor for more vaporous social and cultural transformations.

In this way, the concept of control society belongs to a tradition of periodisation of whose task, identified by Peter Osborne (1995), is the description of the "coherent whole" of modernity, which dovetails with the Marxist critical project premised upon "the identification of extended periods of coherent modes of production", a project which—like Deleuze's account of control—is "doomed to lag behind the technological base" (Palmas 2019: 111). What distinguishes Deleuze's account of control society in this regard—particularly in regard to the foundational cybernetic thought of Wiener, who remained reticent to drawing broad social conclusions from within the disciplinary confines of cybernetics—is Deleuze's emphasis on the "mutual imbrication" of the instrumental application of scientific techniques and social theory in "relations of *power* and *knowledge*" (Marin, 2006: 104; italics in original). The "Postscript" maps, however briefly, the contours of a periodisation which aspires to a polemical diagram of the moment of the digital and its transformation of the social that describes the 'coherent whole' of a digitised society with an eye to identifying its limits and weaknesses, the points—both spatial and temporal—at which resistance becomes possible. Control, then, might better function for Deleuze as postmodernism does for Jameson, as a "cultural dominant" involving not the projection of a period as a "massive homogeneity" but

instead allowing for “the presence and coexistence of a range of very different, yet subordinate features” (Jameson 1989: 78). What underlies these diverse features that are implied in Deleuze’s account of control is the concrete fact of the computerisation of society in the dimensions of both space and time which is the condition for control and the grounds on which art comes to resist control in control society.

This section considers how contemporary work develops the concept of control along the lines of space and time.

Yuk Hui (2014) observes that Deleuze’s control inverts the spatial logic of discipline by “creating a *space* for the individual” rather than subjecting them to the spatial confines of disciplinary enclosures, the difference between ‘moulding’ and ‘modulation’ (75). Drawing out the concept of modulation in specific reference to Gilbert Simondon, Hui argues that modulation opposes ‘hylomorphism’, the theory of being first posited by Aristotle that states the essence of a being can be derived from the distinct categories of form and matter. Hylomorphism creates an opposition between being and becoming by denying the “processual condition of ongoing immanent transformation” both within and between the categories of form and matter (76). Modulation substitutes the dialectic of form and matter for what Simondon called “*disparation* [disparity]”, the system of “internal tensions” within a being (77). In control societies, external forces act on the human subject to condition, extract from, inform, transform, etc., modulating rather than moulding them. Disciplinary subject identities (worker, student, prisoner, patient, etc.) are eroded by a ‘slackening’ of the dialectic that produced them, and they become simultaneous to a greater degree. The inherent resistance created by the points of friction between disciplinary enclosures is eliminated and replaced by an undulatory network of tensions that feels ‘freer’ but offers fewer opportunities to resist the forces of production that also proliferate more freely. In Deleuze’s earlier work, Hui argues, the concept of modulation “serves as a form of resistance” to “moulding or cohesive forces”, resonating with concepts like the rhizome, while in the later control texts, modulation becomes “the paradigm of capitalistic production, or more precisely the operation of power in control societies” (77).

Hui notes that aesthetic thought also shapes Deleuze’s understanding of the concept of modulation, citing Deleuze’s 1981 course on painting in which he discusses modulation in relation to both painting and television. What Deleuze proposes through a discussion of Cezanne is a concept of modulation that extends to a general theory of the being of all kinds of objects (as opposed to only technical objects in Simondon). This is the metaphysical

framework that comes to underpin capitalism itself in the "Postscript", according to Hui (79). The concept of control itself is not 'discovered' by Deleuze but is derived by opposing this "metaphysics of modulation" to moulding, which reveals a new set of social and political transformations (83). This correlation between modulation and control, however, ultimately limits what might be understood by modulation, leading Hui to propose a number of principles under the motif "modulation after control" (87). Firstly, "modulatory processes of social control operate through a particular set of mechanisms which seek to understand and select social relations according to specific orders of magnitude" (87). Modulation does not only take place at the level of the individual, but at both higher and lower orders of magnitude, particularly on the order of individual-group relations from which the model of social contagion is extracted. What Deleuze's concept of the dividual re-emphasises in this context is that modulation is a processual mode of being where tensions between internal and external forces shape the becoming of the subject. Control is a second-order system that seeks to grasp not only social relations but the immanent dynamics of the subject, such as the internal dynamic between production and consumption in online environments. This leads to Hui's second observation, that "systems of self-regulation which operate through modulation are always characterised by some teleological end" which is "inscribed in the algorithms, which recursively modulate the social relations . . . and attempt to move the system toward ever-greater efficiency" (87). Hui notes that for Deleuze this results in the characteristic frictionlessness of individuation in control society, the absence of tension between "different modes, sites and scales of individuation" (87). This is contrasted with Simondon's concept of individuation which is on the contrary "full of tensions" which resolve ("partially and temporarily") into the metastability of the system (88).

This supposed lack of tension in control society is read by Hui as a weakness of Deleuze's concept of modulation since, if the only teleological goal of modulation is maximum efficiency through frictionlessness, existing forms of social control derived from modulation cannot be superseded by new forms of modulation. Here Hui overlooks the relationship—crucial in Deleuze's concept of control—between the aesthetic and the social. Where both converge on the invention and organisation of space-times, only the social is oriented toward the cybernetic goal of maximum efficiency. Artworks and creative acts in all disciplines have their own *telos* which is determined by the relation of inner-aesthetic forces to external, social forces, and in which the concept of modulation—as it did in the painting of Cezanne—may work against the aims of social heteronomy. Even without the concept of aesthetic autonomy,

which Deleuze does not specifically invoke, the relation between the Idea and the creative act, as examined in the following section (1.3), implies a teleology entirely separate from the cybernetic goals of social modulation in control society, one which Deleuze explicitly identifies with resistance.

If control emerges out of a metaphysics of modulation, and the structuring logic of that modulation is essentially cybernetic (in the social sphere), it follows that control society aspires towards a 'universal' modulation in which all intensities exist on the same order subject to the same set of forces. The condition that makes this dream possible is computerisation. Alexander Galloway (2004) cites Alan Turing, arguing that "the important characteristic of a computer is that it can mimic *any machine*, any piece of hardware, provided that the functionality of that hardware can be broken down into logical processes" (72). This condition sets both material and formal imperatives for social life under control. Galloway develops the concept of protocol to account for the way these imperatives are exerted in control society, seeing protocol as "an affective, aesthetic force" that, as per Foucault's concept of 'biopower', "has control over 'life itself'" (81). Building on Hui's observations about modulation, Galloway's account of protocol situates modulation concretely within the material and immaterial conditions of control society.

Modulation—a social consequence of the weakening of institutions and enclosures by the proliferation of computation—implies the sense of a greater degree of freedom relative to the 'mouldings' of disciplinary society, where flux and freedom are more or less synonymous (the resistance of modulation in early Deleuze is understood in the sense of freedom from confinement). As Hui points out, modulation does not end up emancipating those moulded by discipline, it merely redistributes disciplining forces within a new metaphysics of power. The widespread sense of freedom—particularly that associated with the Internet in the 1990's, and the slogan that 'information wants to be free'—that accompanied the proliferation of computers and digital devices and their transformations of homes, schools, workplaces, and other institutions, is for Galloway misleading; the generalised crisis of the institutions spreads a protocological network that is founded not on freedom but on control (142). This is not a betrayal of the emancipatory promise of new technology, but its founding principle: "*Control has existed from the beginning"* (142). This paradox of control society, the experience of greater freedom in conditions of greater control, is present from the outset of computer and network technologies like the Internet, where the social utopia envisioned by Tim Berners-Lee and his contemporaries required the development of "the most highly controlled and extensive mass

media yet known" (142). Galloway does not see this as a contradiction, arguing instead that "protocol gives us the ability to build a 'warm, friendly' technological space" through "technical standardization, agreement, organized implementation, broad (sometimes universal) adoption, and directed participation" (142). If control society feels frictionless, as Hui claims, it has less to do with the inherent positivity of Deleuze's 'intensity' versus the negativity of 'tension' in Simondon's theory of individuation, and more to do with the affective appeal of protocol, whose smooth operation gives control a sense of pleasure.

Understood together in this way, what emerges is a quasi-accelerationist account of resistance in control society. Hui proposes that we must overcome 'control modulation' and develop successive, alternative modes of modulation, while Galloway argues that the systemic universalisation and homogenisation of protocol are a necessary condition for resistance to the social domination that protocol entails; we must develop protocological control, and then go beyond it. Galloway calls this "tactical standardization", "the politically reactionary tactic that enables radical openness" (143). The figures leading this charge are hackers, who "push protocol into a state of hypertrophy" (158); for them, absent the rigid institutions and enclosures of disciplinary society, resistance forms in protocological networks (160). This argument, however, takes the ideals of democratisation and decentralisation too uncritically. Galloway, influenced perhaps by the popular cyberculture of the 1990's and early 2000's, imagines the hacker as an autonomous agent whose protocological capacity rivals that of militaries, states, and corporations. If there does (or did) exist a protocological avant-garde who sought to accelerate protocol past its limits, then it is undoubtedly situated within the Western (and specifically American) crypto-military complex, and its aims are completely contrary to the progressive or radical opening-up of protocol. What redeems the hacker in Galloway's system is the suspicious (a)morality of protocol, which is also the morality of control more broadly: "if you can do it, it can't be bad" (168). Whatever is possible to do should be done; in this way, Galloway argues, "protocol is synonymous with possibility" (168). In this ethical framework, any effort to extend the reach of protocol is also an extension of the field of the possible itself. If a post-control utopia can be envisaged, then, the "unique connection to the realm of the possible" that the hacker enjoys gives them "special insight into the nature of that utopia—what he or she *wants* out of computers" (169). Here hacking converges with the creative act: both maintain the possibility of new things entering the world, new space-times being invented from within the protocological limits of control. Art that appropriates the tools of control, as shown in the following chapters, takes by default a position of resistance to the

totalising logic of control, even if—as with the exploits used by hackers and swiftly repaired once discovered—the developments they make ultimately extend the reach of protocol.

The major contribution made by Seb Franklin (2015) to the theorisation of control is the grounding of the kinds of claims made by Hui, Galloway, and others in the genealogy of cybernetics. Since, as Galloway proposes, Deleuze's "real enemy" is "*cybernetics* in particular and *digitality* in general" (2014: 99), a complete account of control must acknowledge the scientific and sociocultural innovations that made the emergence of a new social form an inevitability. Franklin emphasises the problematic circularity of the attempt to ground social and cultural change in historical technical practices, noting the ease with which "the logical basis of a concrete historical practice . . . blurs into the logical basis of a contemporary sociocultural abstraction" (41) when considered retroactively.[5] The conceptual bridge that Franklin deploys to account for this passage from the scientific to the social is the conception of cybernetics—"a logical framework for understanding self-regulation in biological life and machines"—as the basis for the formal interchangeability of biological organisms and machines (42-3). The *telos* that drives both the development of "materialist cybernetics" and its extension beyond the scientific and military domains in which it originated is prediction, or forecasting (44). In an analysis of Wiener's work on the prediction of ballistics trajectories, Franklin observes that Wiener's conception of the transmission of information as the "transmission of alternatives" produces a "flattened spatiotemporal logic" that makes possible the statistical modelling of complex systems (47). The necessity of this conception of information was based on the limited capacity of predictive apparatuses in the early 1940's and the high speed of calculation demanded by air-to-air combat; in the intervening years, our technical capacity for predictive calculation has expanded exponentially, but the fundamental logic of prediction that sees future outcomes as a series of possible alternatives has been entrenched relatively unchanged, instrumentalised by a capitalism where both production and consumption are organised on the basis of predictive modelling (an inversion of the temporal logic of classical economics). This model of economic prediction—and the extension of cybernetics into the study of economic behaviour more broadly—augments the assumptions of liberal political economy, where the "economic being" of humans is now posited as

[5] It might be objected that Foucault's genealogical work on the prison or the clinic, for example, demonstrates how such an account might be given without any logical slippage, but it should be noted that in Foucault, the conceptual abstraction of power is taken as a given, creating a medium which allows a passage from concrete practice to social abstraction.

"productive of homeostatic self-regulation across entire social systems" and "requiring the construction and maintenance of a set of social, educational, and political (which is to say epistemic) norms that valorise communicational exchange while rendering noncommunication aberrant" (50). Early critics of the application of cybernetics to economics objected that it "'flattened all the components of desires and choice along a single dimension'" (50), an observation that turns out to have described the line of development of control society.[6] The implicit question that underpins the issue of the applicability of cybernetics in the social field is the question of how far "computational metaphors for the human can be extended" (51).

One of the dangers of control society is that its spatiotemporal logic operates at the scale of the computational, which far exceeds to human capacity for perception, thought, and action. Computational metaphors (for the mind, the human, the social, or the universe at large) ideologically occlude this gap because, as Wiener (1960) notes, the meeting of human time and computational time would be met with disaster. Franklin notes that von Neumann's solution to the problem of this incompatibility is to impose 'clock timing' on the computer, to synchronise its internal temporality with a social temporality. Again informed by the limitations of early computer hardware, von Neumann develops a computer architecture that simplifies the machine by making it perform one task at a time, rather than many simultaneously. The result, as Franklin puts it, is a temporality that anthropomorphises the machine and mechanises the human, where the computer, like the human mind, consciously follows a single thread at a time, and where the human must learn to think and act in closer accordance with this machine temporality (61). The consequence of this in terms of the computerisation of capitalism that Franklin draws also holds for Deleuze's concept of control society more broadly: "computing machines serve as both tool and metaphor", with the result that although computational time remains largely imperceptible, it leaves "an invisible impression" on the human user (62). Von Neumann's later work on automata further develops the analogy between the biological and the computational, arguing that despite a fundamental "incommensurability of natural and artificial systems", the analogy remains useful for "analysis and planning" (Franklin 2015: 63). The trivialising of the difference between human and machine is the ideological conceit that justifies the broad proliferation of the computational and the application of cybernetics to systems that can by no means be

[6] It is worth noting that desire, which figures so centrally in Deleuze and Guattari's earlier accounts of capitalism, is entirely absent from Deleuze's writing on control.

considered ‘closed’. The economic and political usefulness of this ideology all but guarantees its hegemony in Western society, and the extension of its logic is what initiates the social transformations that Burroughs will respond to and which Deleuze will then identify with control society.

Luciana Parisi (2013) argues that this mode of pre-emption advanced by cybernetics has been largely understood (as with Burroughs, for example) in terms of strategies involving “the anticipation of the future threat in present conditions of diffused fear” (84). In contrast to this, Parisi examines how pre-emption, or speculative computation, has led to the development of a “continuous surface of variations” that she terms “a topological space of control” (84). Here she asserts that algorithmic prehension cannot function only by reducing potentials to “set probabilities”, but must involve the determination of potentialities in “existing actualities”, i.e. algorithmic objects. Understood in this way, post-cybernetic control “anticipates (and does not repress) change before it is actualized, and rather uses change to program new actualities” (85). We can read this as a kind of control of control, or second-order control, in which the pursuit of homeostasis (the goal of first-order cybernetic control) is substituted for the pursuit of the metastability of the system in flux. What distinguishes these two modes in Parisi’s account is the role that algorithmic objects in the present play in constituting potentialities as actualities in the present. The system does not simply open itself up to the outside to generate new data and expand its topological space, but ‘invents’ new actualities from within. Here once more the operation of post-cybernetic control converges with the creative act, which similarly realises novel concrete actualities in the present according to an immanent logic of creation. Deleuze’s claim that all creative acts share in the invention of space-times can thus be reconfigured analogously to the topological mode of control, where the discrete space-times of discontinuous creative acts are fused into “one continual surface of variations” (85). If the topological spaces of art and control coincide in this way, then it is the *telos* of art that prevents them from collapsing in on one another. Parisi argues that the ‘skin’ of control creates “short circuits of immediate connection or speedy paths of variation”, with “no core, no end point, and no individual response” (88). On the contrary, the creative act is oriented towards an end point, or at least towards a point that it cannot integrate into the topological web in which it sits. Art is distinguished from algorithmic objects by its *inability* to actualise the potentialities that it invents. Both art and control can be seen as “[mechanisms] of anticipation, whereby the *apprehension* of unknown variables indirectly works to determine the reality of the present” (90). Control secures itself by

transforming what it anticipates into “what actually has to happen”, converting uncertainties into “preset probabilities within the present” (90). Power becomes one with control in “[gluing] together spatiotemporalities into extended apparatuses of uninterrupted relationality” (102). Art, on the other hand, actualises uncertainties in the present without making them into necessities and without drawing them into a necessary relationality. In this way, the logical unfolding of art rebuffs the pre-emptive imperative of control, critiquing its mode of actualisation from within its systems.

This resistance of art to control in Deleuze’s writings on control is explored further in the next section, Chapter 1.3.

The specific transformations of labour in control societies are explored in Chapter 2, and the transformation of civic, cultural, and aesthetic institutions in control societies is explored in Chapter 3.

1.3: Art and Resistance in Control Society

As outlined in the previous sections, Deleuze develops the concept of control in explicit opposition to the resistance of art. As well as a sociological concept, control must be treated as an aesthetic concept. The control texts provide the contours of an aesthetic theory concerned with the resistance art presents to control, though the nature of this resistance remains undefined by Deleuze.

This section explores Deleuze's concept of resistance in relation to art and control society, and considers the three different modes of resistance introduced in the control texts: art as counterinformation, art as 'war machine', and art as resistance in the circuitry of control society.

In his 1987 lecture "Having an Idea in Cinema", Deleuze argues that the common limit to all acts of creation is the constitution of space-times. Implicit here is an opposition between the normative distribution and management of space-time and the redistribution of space-time by the creative act. The more rigidly space-time is controlled, the more starkly the space-time of the creative act reveals its oppositional force. The movement from disciplinary society to control society dulls this antinomy between order and creation by, one the one hand, perforating the spatio-temporal enclosures of disciplinary institutions and unleashing the productive forces constrained therein, and on the other, by distributing throughout society a standardised computational space-time which increasingly comes to determine the possibility of the constitution of space-time itself. Art, empowered by newly liberated technical forces and a weakening of institutional boundaries, proliferates harmlessly. The computational limit threatens the power of the creative act to constitute autonomous space-times.

In order to rescue art from this position of powerlessness, Deleuze divides the creative act between a communicative and non-communicative order. Computation territorialises space-time on the order of communication, whilst the creative idea, the specifically artistic formal or conceptual content of the artwork, is "irreducible to any form of communication" (1998: 17) and so exists on the order of non-communication. Non-communication is not simply the absence of communication, but the negation of communication itself. What is non-communicative in art cannot be absorbed into communication, even if some part of the work of art—as a commodity, as content, as an object to which social and cultural meanings are imputed—rests on the order of communication. The legitimacy of the creative act, for Deleuze,

depends on its idea being untranslatable, specific to the domain in which it occurs. What 'legitimates' the cinema of the Straub-Huillets, the example analysed here by Deleuze, is a cinematographic idea that emerges out of the apparatus of cinema and which can only be approximated by the language of philosophy. In the same way, when control seizes art, it seizes an approximation which it transmits as information, or merely as data; the legitimately artistic content is transmitted too, but escapes capture by sealing itself off on the order of non-communication.

This split identity of art in the context of control leads Deleuze to substitute the concept of "counterinformation" in the place of the work of art (18). When Deleuze speaks here of information, he refers specifically to a system of "order-words" (17) which, after Burroughs, he sees as the expression of power in control; order-words express the protocol of control society. Their function is normative and regulatory. In this way, Deleuze's concept of information coincides with that of Shannon, in that for both, information is ambivalent to meaning. The total information within a system of communication is equivalent to the set of possible messages (Shannon 1948), so under the communicative regime of control society, information expresses the limits of human life, and suppresses or excludes what exceeds it. Counterinformation can thus be thought in two ways: on one hand, as the internal counter-pressure to the suppressive force of information, and on the other, as the invention of some 'message' that is not part of the set of possible messages communicable within control. It is this second form of counterinformation that coincides with the creative act. Counterinformation alone is insufficient to 'do anything' except when it becomes an act of resistance. This transformation from art into counterinformation into resistance is not spelled out clearly in Deleuze's text, where he speaks only of an affinity between the work of art and the act of resistance, but would seem to involve the passage of the work from the order of the empirical, the order of communication, to the order of non-communication where the creative act constitutes its heterogeneous space-time, and then the passage of the work back to the order of communication; nothing can be done by art on the order of non-communication since its elements, monads, are sealed in themselves.

In the interview "Control and Becoming", Deleuze links the non-communication of art to the concept of the war machine first developed with Guattari in *A Thousand Plateaus* (1987). A precise definition of the war machine is never offered by Deleuze and Guattari, but this is perhaps because they see the war machine as a "pure form of exteriority" in relation to the model of the interiority of the State "according to which we are in the habit of thinking" (354).

The war machine is structured as a flow of power between two polar extremes, and is appropriated by the State and merged with forms of State domination, but the war machine itself remains irreducibly external to the interiority of the State. In contrast to the stable organisation of the State, the war machine presents itself as “diffuse and polymorphous”, existing “in all flows and currents that only secondarily allow themselves to be appropriated by the State” (360). Interiority and exteriority are here conceived not as autonomous or independent but in terms of “coexistence and competition *in a perpetual field of interaction*” (360; italics in original). In this field of interaction, the war machine does not take a fixed form or a fixed meaning, but is characterised by extreme variability, even in relation to ‘war’ itself, which is not the essence of the war machine but an aim to which it is set in its appropriation by the State (422). Conceived at its broadest, the object of the war machine is “the drawing of a creative line of flight”, and in this way an “artistic movement” can become a war machine (422). War machines that operate beyond the State-interior “make war only on the condition that they simultaneously create something else, if only new nonorganic social relations” (423). In terms of art’s resistance to control, Deleuze and Guattari’s conclusion to their treatise on the war machine frames Deleuze’s argument that art resists social domination: “War machines take shape against the apparatuses that appropriate the machine and make war their affair and object: they bring connections to bear against the great conjunction of the apparatuses of capture or domination” (423).

This earlier articulation of the concept of the war machine is integrated with Deleuze’s later preoccupation with the invention of space-times and the creative act in “Control and Becoming”, where Deleuze characterises the war machine as “a particular way of occupying, taking up, space-time, or inventing new space-times” (2). It must be noted, however, that in both texts, Deleuze only argues that art *movements*, and not individual artworks, have the potential to become war machines; Simon O’Sullivan (2016) pushes to include individual art practices in this category, but the insistence on art movements emphasises not the resistance of the individual work of art but the specific resistance of what might be called an ‘exterior network’, a space of linkages and connections and joined-up space-times that takes on an organisational structure distinct from that of the State (at least temporarily). This irreducible exteriority can be rearticulated as the absolute noncommunication of the war machine with the State. Noncommunication here is not simply the refusal to communicate (silence still signifies) but a line of flight that leads out of the apparatuses of control onto a distinct order that evades capture by communication. Art movements that occupy this position, like all of

Deleuze and Guattari's war machines, inevitably find themselves appropriated by the normative apparatus of the State, but something in the works that they produce endures as both a memorial to the struggle that produced it, and as a call to a people yet to come. In this way, the noncommunication of the artwork can be thought as communication outside of the space-time regime of control, circulating through networks that escape capture, oriented towards listeners it has to invent itself.

The problem for art's resistance to control is to discern what of this noncommunication of the artwork survives when control subsumes it and renders it communicable, and what potentiality resides in what remains. This question is hinted at by Deleuze in the "Postscript", when he remarks that "art has left the spaces of enclosure in order to enter into the open circuits of the bank" (1992: 6).[7] There is a double meaning here that is suggestive of the technological mutations of capitalism endemic to control society: "*la banque"* can be read as referring to the financial institution ("the bank"), but could also refer to *'la banque de données'*, the database. Read in the first way, Deleuze identifies the necessary condition of the commodification of the artwork, but also points towards its newer status as an asset class for investment. Hito Steyerl (2015) argues that the freeport art storage facilities that now house these assets supersede the art museum as the organiser of the time and space of the phenomenon of contemporary art, distinct from the space-time of the works themselves. Auctions, exhibitions, and biennials take their place in largely unregulated financial circuits that accommodate (and depend on) financial speculation, tax evasion, money laundering, and what Steyerl calls "the PR equivalent of a nip and tuck procedure" (3). At the lower end of the art market, artists and dealers increasingly depend on social media to connect to buyers and audiences, with Instagram posts and smartphone snapshots doing away with traditional aesthetic experience in order to accelerate financial flows. All this is possible because art—or something that calls itself art—now exists, whether primarily or secondarily, as data in the networks of control society. Art becomes online 'content', a transformation especially evident in the time of the Covid-19 pandemic. It is no longer a contradiction for art to exist as 'mere' data, whether sensuous or otherwise. Like the dividual, art is prised apart by a series of abstract machines, separated out into distinct flows of data, of money, of information. Taking

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[7] The term "open circuits" [*les circuits ouverts*] is used in contrast to the earlier term *les milieux clos* [closed environments] to emphasise the transition away from confinement in control society. It does not seem that Deleuze intended to use the term in its technical sense, where an open circuit is one in which no current flows due to a break or interruption in the circuit.

up Deleuze's claim that art now exists within the circuits of control, the abstract aesthetic resistance of art becomes actual, electrical resistance; by definition, for Deleuze, art is not information, it does not communicate. In order to be integrated into the circuits of control, it must be operated upon by control society's apparatuses of capture and extraction. An excess—of experience, of meaning, of sensuousness—escapes this operation and is lost from the circuit, like energy lost as heat. It radiates out from the circuit and demands to be experienced on its own terms. A computer can gauge temperature, but it cannot feel heat. Understood in this way, art impedes the efficiency of the circuitry of control, in part resisting its apparatus and in part eluding it altogether, a line of flight out of its system of domination.

1.4 Towards an Aesthetic Theory of Control

As shown in the previous sections, Deleuze's notion of control society develops alongside an account of art as a form of resistance to social domination, but art and control are only brought into explicit contact fleetingly, and in a somewhat hesitant manner. Deleuze avoids positing a social relation between art and control society, speaking instead of art's affinity with resistance within the communicative regime of control. Control and the creative act converge as machines for the invention of space-times, but pursue contradictory aims.

Given that Deleuze sees control as a mutation of capitalism produced by the proliferation of digitality, to use Franklin's (2015) term, the social relation of art to control society should be congruous with earlier accounts of the social relation of art to capitalist society. To be integrated with Deleuze's account of control, such an aesthetic theory should foreground the essentially technological nature of art while defending its autonomy from the social teleology of technology, and should assert art's resistance to social domination through technical means, both in terms of a short-term resistance to control's regime of mandatory communication and of an orientation towards the future in which art sustains both the potential for an escape from domination and potentiality itself.

Theodor Adorno's *Aesthetic Theory* (1970/2002) satisfies the demands of an account of art applicable to control society, being a theory of art's ontological and social character against the backdrop of a developing 'late capitalism' which—per Franklin's account of the post-war material and ideological spread of cybernetics in Europe and North America—already exhibited symptoms of the social transformation Deleuze identifies with control. Adorno's *Aesthetic Theory* is indelibly associated with modernism, but a distinction must be drawn between Adorno's modernism, which is broadly concerned with the inner-aesthetic technological development of art in a time marked by rapid technological transformation in the social sphere, and the Modernism typically associated with Clement Greenberg, which is concerned with the self-reflexive critique of art in pursuit of the essential being of the artwork. Both modernism and Modernism correspond to a period in Western art beginning in the mid-nineteenth century, but where Modernism can be seen to 'end' with the emergence of Postmodernism, Pop Art, Video Art, and so on from the early 1960's, Adorno's modernism endures as a principle of art in capitalist society.[8] This technological modernism is explored in the section below, Chapter 1.4a.

[8] Throughout this thesis, "modernism" should be understood to refer to Adorno's concept of modernism, while "Modernism" refers to the art historical movement.

Adorno's *Aesthetic Theory* also provides a detailed account of the social relation of art to capitalist society that converges with Deleuze's claims about art's resistance to social domination. This resistance is not a product of political engagement or direct social intervention but emerges as a product of art's refractory relation to society. Art's resistance is indirect, exerted through a transformation of the social within the autonomous aesthetic sphere which sustains the potential for freedom and reconciliation in the social sphere. This schema is analogous to the distinction Deleuze draws between the communicative and non-communicative orders in his lecture "Having an Idea in Cinema" (1987). In Adorno's account, however, art demonstrates more than an affinity with the act of resistance, constituting a mode of being that is resistant through and through to social domination. The social relation of art to control society is elaborated in Chapter 1.4b.

This chapter then concludes by briefly examining some further affinities between the aesthetic theories advanced by Adorno and Deleuze, as well as some significant points of conflict, particularly relating to the concept of 'truth-content' [*Wahrheitsgehalt*] that underpins the concept of art itself in Adorno's thought. Despite these differences, the final claim of this chapter is that both Adorno and Deleuze are concerned with the being and the purpose of art in relation to capitalist society at a moment of immense technological transformation, and for this reason, in light of the account of control society advanced in the preceding sections, the two can be engaged productively in accounting for the resistance of contemporary art to control.

1.4a: Art and Technology in Adorno's Aesthetic Theory

Like the aesthetic objects it sets out to describe, Adorno's *Aesthetic Theory* does not advance an argument rationally but sets its elements in motion around a central aporia opened up by the collapse of the traditional Western European aesthetic framework in the modern period. In this context, the modern appears as a concept always in motion, rather than being reified as the stable (art) historical category it would later become. Modernity for Adorno is closer to what Foucault (1984) envisages as "an attitude rather than as a period of history": "a mode of relating to contemporary reality" that amounts to an ethos, "a relation of belonging" that "presents itself as a task" (37). There is thus no precise and complete definition of what constitutes the modern in art for Adorno, but each instance of the concept as it appears in his theory—particularly in its relation to technology—builds towards an account of the ontology and the social relation of the work of art in a period of advanced capitalism and intensive technologisation. This section briefly examines the intersection of modern art and technology in Adorno's theory as the ground for an aesthetic theory appropriate to the conditions of control society.

In modern art, for Adorno, the concept of construction is fundamental, and this implies "the primacy of constructive methods over subjective imagination" (24). As it does for Deleuze, art involves moving beyond the immediacy of sense perception to find "solutions" to formal problems that arise out of construction itself and have a necessary "objective dimension". Objective methods and materials are not subjected to the imagination of the artist but achieve their own unforeseen effects. For Adorno, this inversion of the idealist image of the artist is a consequence of the development of new technological forces. The subject 'loses power' and technology gains power and is unleashed more broadly throughout the social sphere (through deskilling and the technical division of labour; see Chapter 2). The modern artist "[raises] this powerlessness to the level of a program" (24), deliberately integrating advanced technological forces into the artwork in an act of abasement of the subjectivity of the artist. However, Adorno also asserts that this is done in an effort to "tame the threatening heteronomy by integrating it into subjectivity's own undertaking as an element of the process of production" (24). Modern art, then, is always poised between an objectivity that threatens to overwhelm the subject, and a subjectivity that seeks to turn productive forces over to the aims of art. This dynamic has endured up to the present moment, where deep learning models (DALL-E, Midjourney, Stable Diffusion, etc.) test the limits of how far the subjectivity of the artist can be eliminated from the production process, and where, consequently, popular discourse has fallen back to

antiquated ideas about the aesthetic power of the artist that emphasise subjective expression over formal construction. Each of the works analysed in the chapters of this thesis sustain the tension between overwhelming technological force and subjective integration as a strategy for producing art that legitimately resists social domination.

Adorno's theorisation of the technological nature of art diverges from that advanced by Benjamin's "The Work of Art in the Age of Mechanical Reproduction" (1935). Adorno critiques Benjamin's "dichotomization of the auratic and the technological artwork" for emphasising their difference over their commonality. For Adorno, all artworks—going back as far as the first cave paintings—are technological objectivations "vis-à-vis what is unmediatedly seen" or experienced, and, in that they are produced to be seen by many, are already their own reproductions. The cave drawing "already contains the potential of the technical procedure that effects the separation of what is seen from the subjective act of seeing" (33). All artwork is by its nature technological because it is the product of a technological process of objectivation. This technological nature, however, is not essential but historical, determined by the dialectic of inner-aesthetic development and extra-aesthetic development of technical forces. What constitutes the modern for Adorno is a particular attitude towards the concept of technology within art in its relation to society; the modern is "an art in which the most progressive and differentiated technical procedures are saturated with the most progressive and differentiated experiences" (33). At the time of writing, Adorno argued that this meant modern works needed to show themselves to be "the equal of high industrialism" (33); maintaining his definition of the modern, modern works today—in the framework set out by this thesis—must be the equals of control society. Modern art does not merely appropriate technology to this or that degree but, per the demands of an "aesthetic rationality" that mirrors the rationality of the heteronomous social sphere, pushes artistic means towards "the utmost determinacy in themselves and according to their own function so as to be able to perform what traditional means can no longer fulfil" (35). Modernism demands the most progressive technical procedures, which require artistic means to be pushed to extremes, not because of "the yearning of a rebellious attitude" but because anything less would restrain the necessary aesthetic rationality of modernism.

The technologisation of art reached new heights concurrently with the apogee of late capitalism, but was "no cozy adaptation" to a 'new' technological age (59). Instead, the technological principle of art simply becomes more apparent in the wake of the "collapse of traditional [artistic] procedures" in the modern period; technology secures the 'binding

organisation' of the artwork at a time when traditional aesthetic categories and axioms are discarded as irrelevant or outmoded. What technology promises is the complete organisation of art in terms of a "means-end relation" that is directed towards freedom. As with rationalism in the social sphere, technologisation in art established "free control over the material as a principle" (59). But this 'free control' diminishes the aesthetic force of the subject; technique is the "extended arm of the nature-dominating subject", but it demands the purging of the "contingency of the individual" (60). In this, Adorno and Deleuze converge, arguing that modern art exceeds the mere "portrayal of emotions" and expresses "what no significative language can achieve" [i.e. the singularness of percepts and affects]. A technological artwork that mobilises reification towards aesthetic ends "probes for the language of things", rather than entrenching "the primacy of human meaning" (60).

In contrast to science, whose methods are independent of their object, in art technique—the name for the technological mastery over material in the aesthetic sphere—and content are distinct but mutually constitutive. The separation in an artwork of technical elements from the "supratechnical" is ideological and diminishes aesthetic experience (213). Despite this, the technologization of art—the introduction of extra-aesthetic means—forces a re-examination of the purposelessness of the artwork. Technology imports its own purposeful telos into the work and strives towards the realisation of its own progressive aim. Technology seeks to develop towards a point external to itself, it strives towards a developmental horizon, whereas art's development is internal to itself; the purposeless work of art develops towards the aporia at its centre. This antinomy is not resolved, and the contradiction persists, but Adorno argues that technical forces of production "have no value in themselves" and so gain importance in relation to "their purpose in the work, and ultimately in relation to the truth content" (218). The task of critical reflection in "the technological age" is less the adaptation of art to technical development as "the transformation of the experiential forms sedimented in artworks" as technology (218).

1.4b: The Double Social Character of Art

Unlike Lukács or Benjamin, Adorno is emphatic that for art to serve a liberatory function—however indirectly—it must maintain its autonomy from the social. What distinguishes art from other social practices is not only art's negativity towards society (which long predates the emergence of contemporary aesthetic autonomy, and in any case is not exclusive to art) but its formalisation of its own antipathy to identity. An artwork that could be 'put to work' even in service of a progressive politics is one that has succumb to its own objectivity; it passes smoothly and transparently out of the aesthetic sphere and is subsumed by the social. This is not to say that these 'works' fail their progressive causes, but on the contrary that they serve them all the more faithfully for having extinguished their inner-aesthetic life, for directing their critique outwards, communicatively. An artwork that passes over into propaganda, political critique, or becomes a 'useful' commodity necessarily ends its struggle with the dialectic of the domination of nature, or rather, it succumbs to one form of domination in order to critique others. The price that art pays for its freedom and its endurance is that it is cursed to never find identity with itself; like Sisyphus, art must toil in vain, must maintain its processual character, must constantly and continuously repulse those objective, empirical, and social elements that are sucked into its vortex.

Autonomy is a necessary characteristic of any art that resists the totality of the social, the totalising domination of nature, or, as I am arguing here, the totality of control. Critics of Adorno unfairly characterise this notion of autonomy as an elitist withdrawal from society, and in particular from 'working class culture' into the walled garden of bourgeois culture. The art Adorno advocates for is hostile to illusionism, to consolation, and, as above, is necessarily unable to communicate with the people it is supposedly for. If art could achieve true autonomy from the social, this would be a fair criticism, and autonomous art would truly become what it is often parodied as, a pure decoration that affirms bourgeois identity via a culture of taste: 'motel art'. As much as Adorno insists upon the necessity of aesthetic autonomy, he is also at pains to point out its necessary incompleteness. Art is identical with the social *and* negates it. Art—the windowless monad of the artwork—circulates through social spaces and networks all the while remaining in some way independent. The absolute artwork converges with the absolute commodity, but only as its asymptote: a commodity is what the artwork can never truly be, however closely it may approximate it.

This paradoxical character is a product of what Adorno calls the double character of art, its dual existence as a *fait social* and a socially autonomous monad.[9] Art is a *fait social* by virtue of its being a product of "the social labour of spirit", a mode of production in which "the dialectic of the forces and relations of production is concentrated", yet it becomes social "by its opposition to society" (225). The autonomous work of art is a socially produced object which 'crystallises' into "something unique to itself", not subject to social norms and the obligation to 'usefulness', and in this it "criticizes society by merely existing"; that is, it criticises "the debasement of a situation evolving in the direction of a total exchange society in which everything is heteronomously defined" (226). Though autonomous art was granted its independence in accordance with the new bourgeois consciousness of freedom, it renounces its affinity with bourgeois culture and condemns the unfreedom of administered society simply in existing "according to its own immanent law" (226). And yet art's autonomy can never be complete, for though art's immanent law of form negates the heteronomy of society and the ideology of social usefulness, society remains—however objectionably—"the quintessence of self-producing and self-reproducing human life" upon which art is utterly dependent (226). The character of art's relation to the social, then, is as a force of resistance. Art's negation of the social never succeeds in separating out social heteronomy and the sphere of human life, and so the contribution of art is resistance to social domination, albeit at a distance.

Art achieves this resistance to the heteronomy of society by a strategy of reproduction without imitation. Art risks self-alienation to admit society in "an obscured form" which it mediates and develops according to its immanent law of form. Adorno likens the form of a work to "a magnet that orders elements of the empirical world in such a fashion that they are estranged from their extra-aesthetic existence", and by this estrangement "they master the extra-aesthetic essence" (226). This essence is nothing other than the domination of nature, which is the premise of all heteronomous social labour. The inner-aesthetic transformation of empirical social elements realises the non-identity of the empirical, and in this way turns them over to the non-dominating productive force of the aesthetic. Thus Adorno argues that "what is social in art is its immanent movement against society, not its manifest opinions" (227). Art that seeks the immediacy of communication with society hands itself over—like the products

[9] The term *fait social*, or social fact, is inherited from the sociology of Durkheim, where the term refers to cultural norms, social structures and institutions that are external to the individual but exert some control over them. It serves here as a reminder that despite the autonomy of art from the social, it necessarily remains in contact with the social, and has an effect on the individuals who come into contact with it. Adorno's *Aesthetic Theory* is distinguished from sociological approaches to art, however, by its insistence that art is irreducible to its effects as a *fait social*.

of the culture industry—to "ideological manipulation" (227). Only as formal (rather than thematic, etc.) elements can society enter art, and only in the "shadowy fashion" of speaking through form can these elements re-enter society (227). The turning-over of the empirical to the non-dominating force of the aesthetic is achieved only insofar as artworks remain purposively purposeless; their double social character requires "a double reflection on their being-for-themselves and on their relations to society" (227). In this, the artwork necessarily succumbs to fetishism, in that it purports to be sealed off from the conditions of its own production. This fetish character—though ideological—is art's defence against the principle of heteronomy; the fetishized artwork becomes the plenipotentiary of that which is no longer "distorted by exchange, profit, and the false needs of a degraded humanity" (227).

Adorno asserts that what seems to be the fetish character of art is in fact its objectivation, which "is itself social in that it is the product of the [social] division of labour", and for this reason the relation of art to society is enciphered in the production of the work and not in the sphere of reception (228). On these grounds Adorno rejects sociological approaches to art that concern themselves with the apparent social effects of an artwork—these effects, he argues, "often totally diverge from the artworks and their objective social content" (228). Instead, it is only within the monad of the artwork that art and society converge, and here not as the mediation of problems of social structure but in art's double character, "expressed ever and again in the palpable dependencies and conflicts between the two spheres" (229).

As is undoubtedly clear from the above, the relation of art to society cannot be neatly distinguished in concrete terms, since in Adorno's methodology the concept of art as the dialectical negation of society is a concept always in motion. The character of art reacts against that of society incessantly and polarises itself in the process. Under the conditions of administration in late capitalist society—in which the technical forces of production tend towards a totality which "assigns everything, including art, to its place"—art tends to "polarize into ideology and protest" (234). Given that protest requires that the artwork lends its voice in the here-and-now, to protest means to give up the artwork's being-for-itself and leverage it for another purpose. On the other hand, to become ideology is for art to be "[thinned] out to an impoverished and authoritarian copy of reality" (234). Neither of these outcomes lead to meaningful resistance to the totality that forces art into this bind. Yet, even in the wake of the catastrophe of the Holocaust—after which art, by its mere existence, took on a degraded ideological character by diverting attention away from horror—Adorno defends in art the survival and perseverance of spirit which is the necessary condition of "any opposition to the

total domination of the social totality" (234). Even in administered society, art "embodies what does not allow itself to be managed and what total management suppresses" (234). If this resistance is more than ideological, this element of art must exist at the level of art's objectivity, the level of its truth-content.

Adorno proposes to discover precisely this in the idea of art as an 'absolute commodity'. Though art is the negation of the social, it is nonetheless a product of social labour. The forces of production involved in the production of the artwork only differ from social productive forces "by their constitutive absenting from real society" (236). Art's commodification—its status as a product of social labour—is its "binding force" (236). Yet where commodities "urgently cling" to the "semblance of existing for society", artworks as *absolute* commodities utterly reject this semblance (236). They are absolute, in this sense, because—in their self-conscious uselessness—they disavow the ideological pretence of social usefulness, of existing 'for-another', and stand revealed as things merely for-themselves. The ideology of the commodity is reversed into truth (236). As such, the market for artworks is not a misuse of them but "the simple consequence of their participation in the relations of production" (236). A question can be raised here, however, about the transformation of the use-values of artworks once they enter the market and satisfy the ideological ('false') needs of consumers: if a collector acquires a great work of autonomous art and displays it decoratively (to fill a space on their walls, or to match the colour of their furniture, for example), does its autonomy survive? As either a status symbol or a decorative object, the answer seems to be an emphatic no, but in less nakedly social uses of artworks, the question remains open.

This fails to explain how art can serve a critical function in relation to the social totality, instead leading to another bind: "If art cedes its autonomy, it delivers itself over to the machinations of the status quo; if art remains strictly for-itself, it nonetheless submits to integration as one harmless domain among others" (237). What allows art to escape this aporia is not communication with society but expression, through which artworks become "eloquent with wordless gesture" (237). This expression is not simply equivalent with the psychological projection of the artist, nor with some essential character of the artform, but is historically determined. What is expressed is not content but social critique (Picasso's *Guernica* is Adorno's "principal witness" to this charge, a work whose level of expression "sharpens it to social protest beyond all contemplative misunderstanding"); it is through historically determined expression that "the untruth of the social situation comes to light" (237). Being historically determined, however, this expressive quality or force is never guaranteed. Art's

autonomy always contains the potential to revert into heteronomy; the new is always ready to regress into the "accumulated ever-same" (238).

As is typical of Adorno's dialectical thought in general, his aesthetics—as demonstrated in the pages above—is full of contradictions, confrontations, transformations, and sudden reversals. He arrives neither at a fixed concept of art nor of art's relation to society, but develops the concept of art and its social character by doggedly pursuing the work of art through its entanglements with bourgeois culture, rational society, and late capitalism. His is a dialectical aesthetics that defines art in relation to what it is not (Adorno 2002: 3). As such, it ought to be possible to carry over his methodology and apply his aesthetic theory to art of our time, so long as certain conditions remain relatively stable (i.e., that the system of social relations of late capitalism is commensurate with the social relations of control societies).

1.4c: Affinities between Adorno and Deleuze on Art

Art's technological essence and the relationship between art and society are both underpinned by an ontology of the artwork that establishes the basis for their claim to resist social domination. Adorno, in a tacit rebuke of Heidegger's essentialist search for art's origin, advances such an ontology in his *Aesthetic Theory*, while Deleuze (both with and without Guattari) offers if not a general ontology then an account of the elements that comprise artworks, particularly percepts and affects. Adorno asserts that the historical moment is constitutive of artworks (2002: 182). If, as Deleuze argues, the emergence of control society represents a decisive historical break with disciplinary society, then the task of critique with regard to art becomes to speak for the experience sedimented in the artwork that is commensurable with control society. The accounts of Adorno and Deleuze belong to different philosophical traditions and their claims differ greatly, but there exist affinities and points of convergence that recommend reading the two in parallel to further develop an aesthetic theory in the context of control society. These aspects, plus a note on the significance of truth-content in Adorno's theory, are the focus of this section.

Both Adorno and Deleuze agree that art's being is a process of becoming, though their routes to this conclusion seem to differ dramatically. Deleuze sees art as an "abstract machine", a concept Stephen Zepke describes as "the vital mechanism of a world always emerging anew, [...] the mechanism of creation operating at the level of the real" (2005: 2). An abstract machine is an organising force that does not represent reality but *creates* it; it invents an actual space-time according to the immanent principle of its relation to the virtual, or the plane of immanence. The abstract machine is an expression of a "material vitalism" (3) that is occluded by hylomorphism; recalling Yuk Hui (see Chapter 1.2), the abstract machine can be seen as an expression of the Deleuzian concept of *modulation*, where—although actual and material—the machine is animated by a system of internal tensions and does not come to rest as the synthesis of form and matter. Zepke sees the general function of abstract machines as the determination of "the real conditions of experience" (4), and so, in this context, art serves as a domain of experimentation in the production of new spatiotemporal realities. Each artwork exists as an ongoing modulation of the actual; it is always in the process of bringing the virtual into contact with the actual. Expressing this operation in a post-cybernetic form, Zepke argues that "it is the affirmation of becoming that puts immanence to work in a feedback loop of construction and expression, making becoming the being of a work of art" (5). This

formulation captures the potentiality of the artwork, the relation it constructs between the actual and the virtual, but the structure of a feedback loop implies that the structure of the machine can change in response to the outcomes it generates. The artwork itself, despite its material vitality, is (usually) an unchanging, actual object. If it is also a machinic feedback loop capable of immanent change, then its variables must enter the system from outside, either from a transformation of the conditions of the virtual, or from a change in its relation to its actual outside. Thus what must be added to Zepke's onto-aesthetic interpretation of Deleuze's account of art is the social relation of art; this is what Adorno's account of the social character of art (see previous section) provides.

Claire Colebrook (2007) argues that Deleuze's aesthetics is guided by a commitment to the work of art that stands alone (27). The work of art for Deleuze operates against the human, it disrupts, disjoins, de-synthesises the vital networks of the human system (especially of perception) to achieve "an affect that stands alone" (31). In relation to cinema, Colebrook argues that "the technical apparatus reaches the point of art [for Deleuze] when it destroys the body's connections and syntheses, when it disrupts the productive flow of life" (31). The cinema of the time-image "disrupts the subordination of time and difference to the body of praxis", ushering in a regime in which time "can be composed from irrational cuts that then allow the image to be viewed for itself" (32). An art of the time-image liberates perception from "the embodied human viewpoint" and installs it within the technical apparatus of cinema, which is thus "allowed to create syntheses and connections not folded around this or that living organism: not oriented to a specific speed, motility or duration" (32). Colebrook argues that in this account, technology that "extends or deterritorialises" human capability is able to "take on a force of its own" when it pursues the aims of art—Adorno would perhaps not disagree with this account of the outcome of the interaction of technology and art, but for him, there is no art that prefigures a relationship to technology, or to which the concept of technology can be merely imported. Artistic aims are always already entwined with technological aims, and the two are co-constitutive (and thus one of the duties of the artwork is to transform the technological telos away from social aims). Colebrook's argument proceeds to claim that the technological force unleashed through its implication in the processes of art is what "[realises] the image"—which can be generalised as the work—"as such, in its singularity", where singularity is understood as "a potential for relations . . . that is not yet organised according to a network of relations" (32). Here she refers particularly to the camera and the cinematic apparatus, the singular image entering into the sequential relation of cinema, but this

formulation can be generalised to account for the production of the affect or percept in art for Deleuze, and coincides with Adorno's account of the synthesis of objective elements in the artwork. The potentiality in the artwork for Deleuze—and this holds too for Adorno—is not merely the potential to assign or exhaust all possible relations—to extract all meanings and readings and relations from the work—but must be thought as "relationality per se", not directed at 'us' or "as it has been lived through time" but as "pure potentiality" (33). This orientation towards potentiality and futurity makes clear the close connection between art and control, where control concerns the management of the actualisation of potentialities in the present. The artwork is actual, but it maintains in itself an inexhaustible potentiality. Here Deleuze and Adorno converge too; the work in its absolute objectivity is actual, but the inner-aesthetic relations of the work—though decisively organised in Adorno according to the law of form—are not stable but in flux, whether their relation is dialectical (Adorno) or intensive (Deleuze). Where Deleuze and Adorno then diverge, to an extent, is the relation of thought to this potentiality of the artwork. Colebrook argues that Deleuze sees the task of thought as "the liberation of the artwork from its actuality", a "counter-actualisation" that leads "to quite a distinct mode of formalism" in which the networks of relationality that the work enters into are unwoven or which lead the work into new relations separate to their "usual or habitual connections" (33). The "power of the image as such", which is the power of the artwork, is its existence as "a singularity that we always encounter in some relation or connection, but that is not exhausted by its relations" (33). Colebrook later calls this—in relation to the time-image—the "actual-virtual aspect" of the image, where, in Deleuze's ontology in general, "the virtual, or the potential for relations, is real; the actual—what exists in this or that world—is one of the ways in which the virtual is unfolded" (35). Understood in this way, the work of art is capable of producing a specific world (see chapter 4); "each work produces a world or mode of relations, or creates its own outside" (35). The artwork for Deleuze, according to Colebrook, is "a way of seeing how a world unfolds from a system of relations" (35). Colebrook pushes this Deleuzian logic to its limit, arguing that "only if we do not decide in advance that the artwork has a relation 'to' reality can we see the ways in which the artworks open up worlds or relations" (35), a general formulation that allows for a Deleuzian aesthetics capable of fully abandoning figuration (which Deleuze, in general, seems reluctant to do). However, this drive to return art as close as possible to a state of pure potentiality does not do justice to the human experience that vibrates in the work of art for Deleuze. Deleuze does not go as far as Adorno in asserting the necessity of art's social relation, but he does (in both What is Philosophy? and the later

control texts) assert the affinity of the work of art with the act of resistance, which in the framework established by Colebrook should be understood as both the resistance to some relations and the affinity with others. To advance this Deleuzian formalism too far risks annihilating the very will to art, and hands the potency of art over to the system of control that its being resists. The work of art is never pure in its opening onto the virtual, since the condition of that opening is the 'vibration' of the work that is set in motion by the existence of certain invariable relations within the work; connecting this idea to Adorno leads to the claim that what 'vibrates' in the work is the experience—both human and inhuman, for Deleuze—that is sedimented within it. What gives art its power is that it opens up potential worlds or relations through a modulation of existing relations to reality, not through a decisive break with reality. Colebrook restores this ethical dimension to the artwork, however, when she concludes that "it is the body of the work with its enigmatic separateness and monumental quality that allows us to rethink life" (39), and that the power of art is its ability to "create an image of a life that neither serves nor remains identical to itself" (39-40). The ultimate conclusion, however—that the work of art is "that which stands alone, tearing sensations from their composed forms to release new potentials" (40)—overstates Deleuze's case for the autonomy of the artwork, since, if the work is to possess a "monumental quality", as Deleuze repeatedly affirms it does, then that monument consists of 'vibrating' connections that emanate from a particular relational nexus (revolution, or suffering, for instance) outwards to the virtual plane. The artwork's ability to stand alone for Deleuze is thus linked closely to the autonomy granted to the work by the commodity fetish in Adorno; that is to say, it is ideological. It rests on a severing of relations that is inherently 'false', and yet is necessary to account for the artwork's ability to resist settling into identity with itself. In both cases, the relation of the artwork to its own creation is logically reversed; the work discloses the material relations from which it emerged in the same manner in which it discloses its relation to the virtual. The ideological severing of art from its relations is what unleashes its pure potentiality and frees it from partiality.

The sharpest divergence which must be noted is the question of truth-content. For Adorno, artworks are not only a form of knowledge, but give form to truth itself, with truth here understood in a Hegelian-Marxist sense of referring to the reconciliation of man with nature and the end of false consciousness—the truth-content of an artwork is its "unconscious writing of history" (2002: 259). It is too simple to say that Deleuze does not locate truth in art, or that art for him does not share this historical dimension. Deleuze is fond of a phrase borrowed from Paul Klee, 'the people are not yet there'; art for Deleuze is not directed only at the present, but

at the present with an eye toward the future (which is also the temporal structure of memory in control society; see Chapter 3). Art invokes a people, a society, a subject, that it must imagine into being. This future people is imagined as an image of the most progressive subject, a subject that evades the domination of the social that the present subject endures. Deleuze might not identify this 'future people' explicitly with a Hegelian end of history (or end of art) but there is an ‘affinity’ between the concept of reconciliation in Adorno and the concept of a people yet to come in Deleuze. This is obviously not to say that art must self-consciously direct itself toward the future; "art's temporal nucleus is not thematic actuality but its immanent organization" (Adorno 2002: 192). It is the structure of art, the binding principle of construction and the appropriation of the teleological operation of technology that orients art towards a future.

Chapter 2: Artistic Skill and Social Technique in Control Society

2.0: Introduction

This chapter pursues the simplest answer to the question of how artists and their works resist the domination of control. Art, as Adorno contends, has always involved the appropriation of technology, whether in the service of the status quo or in opposition to it. Artists have always taken the most advanced technologies and most progressive techniques available to them into their own hands. In this, under capitalist conditions, art is identical with production. Artists, like all other labourers, grasp their tools with their hands, and with these tools bend nature to thought. Here, too, art and production appear identical. What ultimately distinguishes the two is their dialectical relation to the domination of nature. In simple terms—the problematics of which are explored in this chapter—productive labour wields technology in order to dominate nature, whereas art, which in its 'purposeful purposelessness' slips the net of the value-form, stands for a non-dominating relation to nature. Art negates the deadly means-ends rationality of society by irrevocably setting itself apart from society, and at arm's length it models the reconciliation of nature and thought. This distance cannot be dispensed with, by technological means or otherwise; the error in Benjamin's concept of 'aura' was to imagine that an art literally 'in the hands' of the workers would lead the way to revolution. The distance between art and society is the 'distance' between those who cannot speak and those who cannot hear. Art, as Adorno and Deleuze agree, communicates only by noncommunication. The question then emerges: what good is mastery over technology if it cannot be 'put to work' in society? When artists take up the latest tools made available by the rational sphere of production, how can they use them to resist the oppressive force of rationality itself?

Adorno's insistence on the autonomy of art makes the answer to this question elusive. It seems to bind the work of art to the fate of speaking but saying nothing; to communicate is fatal for art. In the context of control society, however, this aversion to communication is precisely what leads Deleuze to claim an affinity between the work of art and the act of resistance. In his view, the work of art exists as a 'vacuole of noncommunication' within a social system which demands nothing less than total communication. Noncommunication is not the same thing as silence. To not communicate is not to resist control. To 'noncommunicate' is to negate communication within the networks of communication that comprise societies of control. For this to be done effectively requires a mastery over the technology of control. It requires of art not (only) an ideological resistance to social domination,

but—literally and figuratively—electrical resistance within the circuits of control. In a double gesture characteristic of Adorno's theory of the artwork, the aesthetic must surrender its autonomy to the fullest possible extent so that the kernel of non-identity at the core of the artwork can become a nexus of noncommunication within the swirling empirica of a hyperrational society.[10]

This chapter sketches the relationship between technical mastery and aesthetic autonomy through an engagement with Tabor Robak's 2015 video *Where's My Water?*. Contemporary reception of Robak's work uniformly praises his virtuosic skill as a digital animator: the Metropolitan Museum of Art calls him a "prodigy of digital effects", "the most talented and interesting artist using computer graphics today", and claims that in the face of the "wit and skill" the work displays, "the viewer instantly realizes she is present at the birth of, if not a new medium, then at least a new benchmark for making art from new technologies". Roberta Smith, reviewing the work for The New York Times, makes a more historically informed but no less enthusiastic observation: "If memory serves, the artist John Baldessari once argued in effect that a new medium loses its newness when artists start using it as naturally as they would a pencil. The brilliant digital artist Tabor Robak is way past that point" (23). If the pursuit of technical or technological mastery facilitates a resistance to domination—by opening a vacuole of noncommunication or by some other means—then Robak's work should demonstrate this. This chapter thus begins by locating Robak's practice in relation to the technical advances that underpin labour in control societies, drawing on the 'labour theory of culture' of John Roberts. It then explores the relationship between technical mastery, domination, and autonomy in the writing of both Adorno and Vilém Flusser. The chapter concludes with an account of Robak's work as an exemplar of 'non-dominating mastery' in the

[10] This argument rests strictly on Adorno's account of the autonomy of art—discussed more fully in the previous chapter—which proposes that art's autonomy from the social is foremost a product of art's overturning of the dialectic of the domination of nature. As Sean Cubitt (2020) points out, the dependence of digital art not only on the usual prosthetics of exhibition but on society's electrical infrastructure suggests that autonomy in the sense of independence or self-rule is no longer possible; art "[disappears' when the electricity is turned off". This is true to an extent—certainly digital art wears its dependencies out in the open—but even digital artworks are physical objects, inscribed onto hard drives and physical media which have their own vulnerabilities and dependencies, but are not necessarily any less autonomous because of them. Like a painting held within the anonymous walls of a freeport, the artwork endures independent of aesthetic experience. This distinction is important because, per Adorno, the autonomy of the artwork cannot be won ideologically but must emerge, inchoate, from the play of forces in the objective form of the work. This autonomy might never be fully achieved, but the struggle for it is what distinguishes the work of art from the merely empirical commodity. Cubitt's ecocritical concept of 'allonomy' is useful in charting the interdependencies of the human, nature, and technology, but here I retain the claim that the real autonomy of art (or at least the real struggle for it) endures the unfreedom of the present situation without betraying its *promesse du bonheur*.

context of control societies and ultimately argues that the work demonstrates a form of resistance to the domination of control.

Figure 1. Tabor Robak. *Where's My Water?*. 2015, https://www.taborrobak.com/wheres-my-water. Accessed 14 Feb 2024.

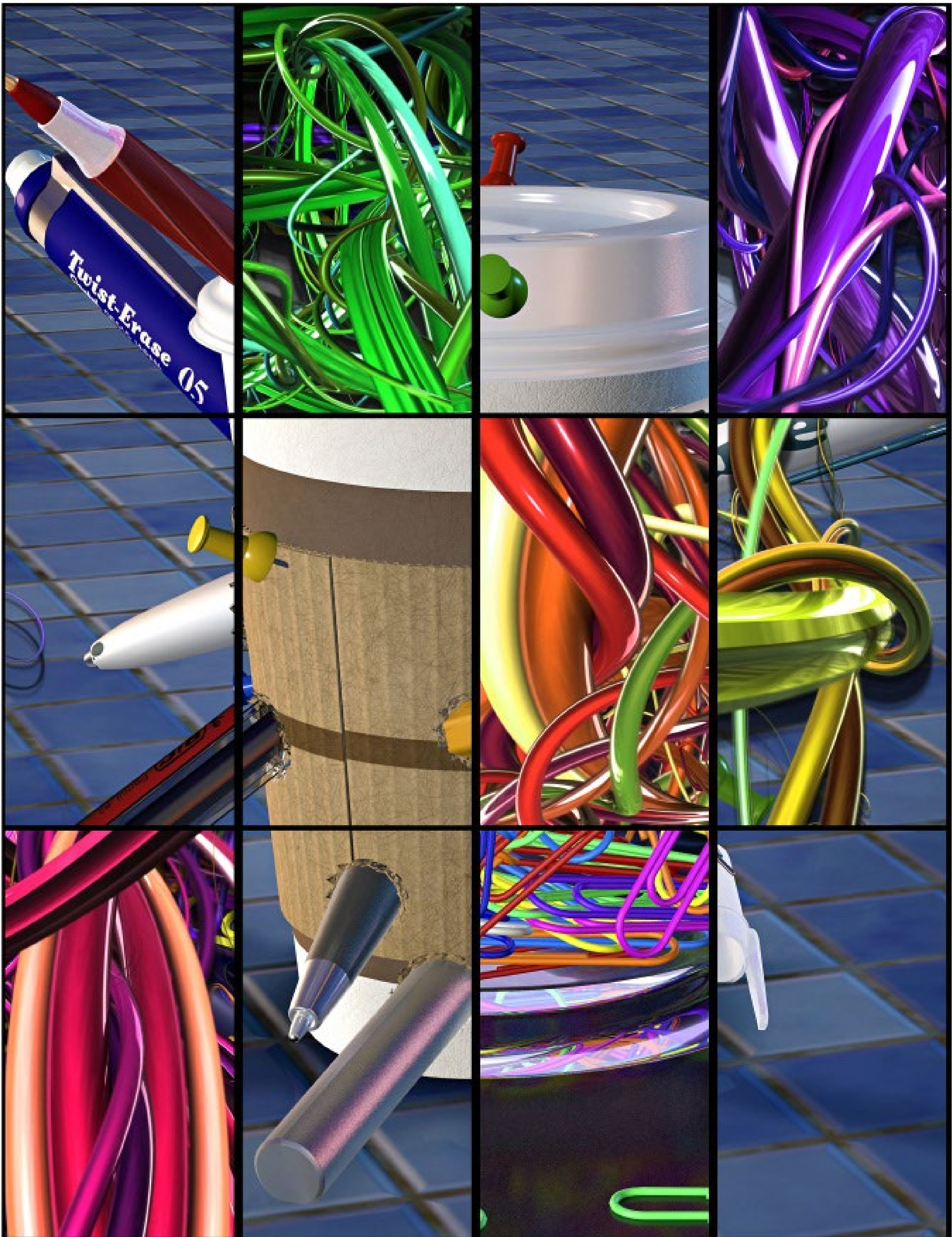

Figure 2. Tabor Robak. *Where's My Water?*. 2015, https://www.taborrobak.com/wheres-my-water. Accessed 14 Feb 2024.

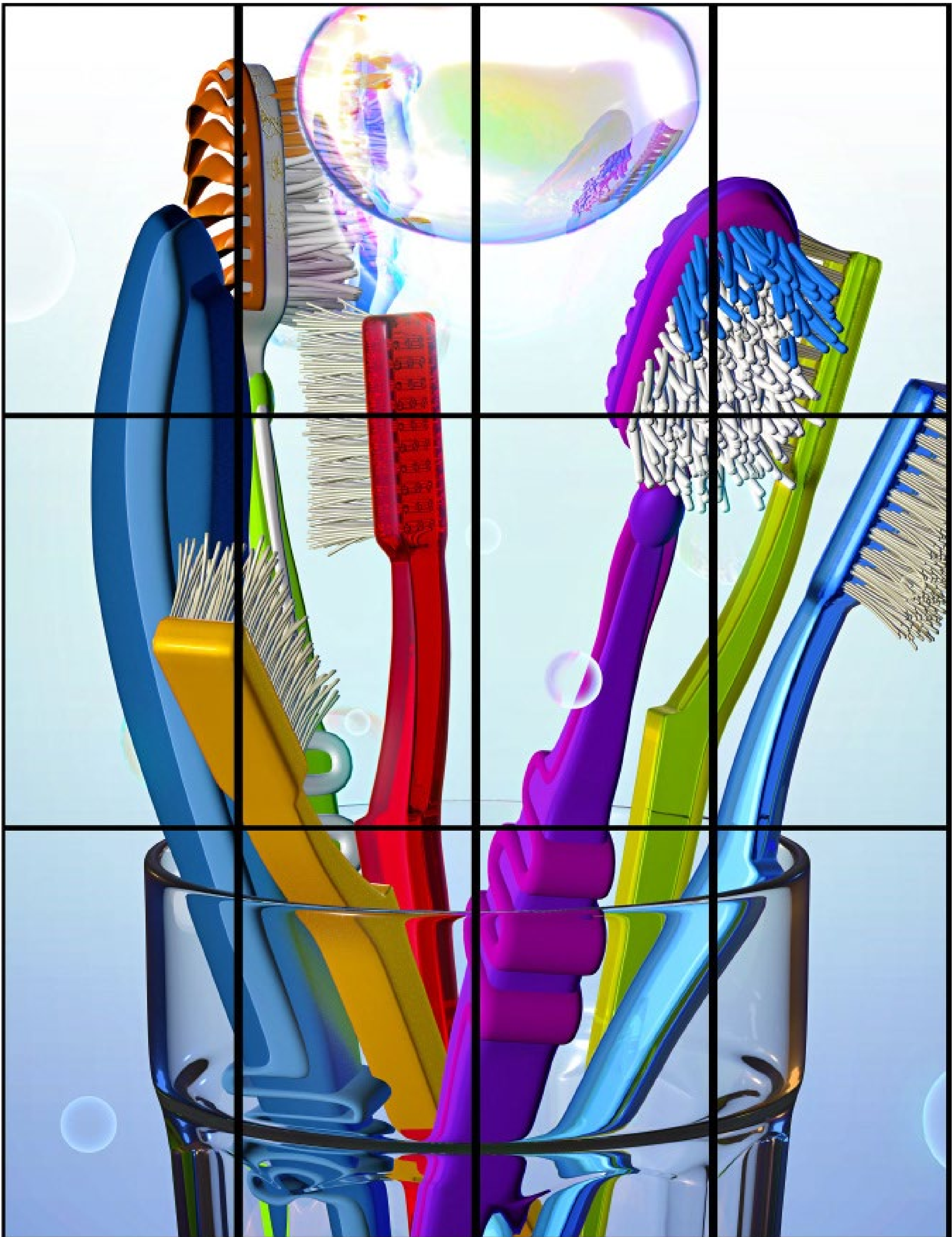

Figure 3. Tabor Robak. *Where's My Water?*. 2015, https://www.taborrobak.com/wheres-my-water. Accessed 14 Feb 2024.

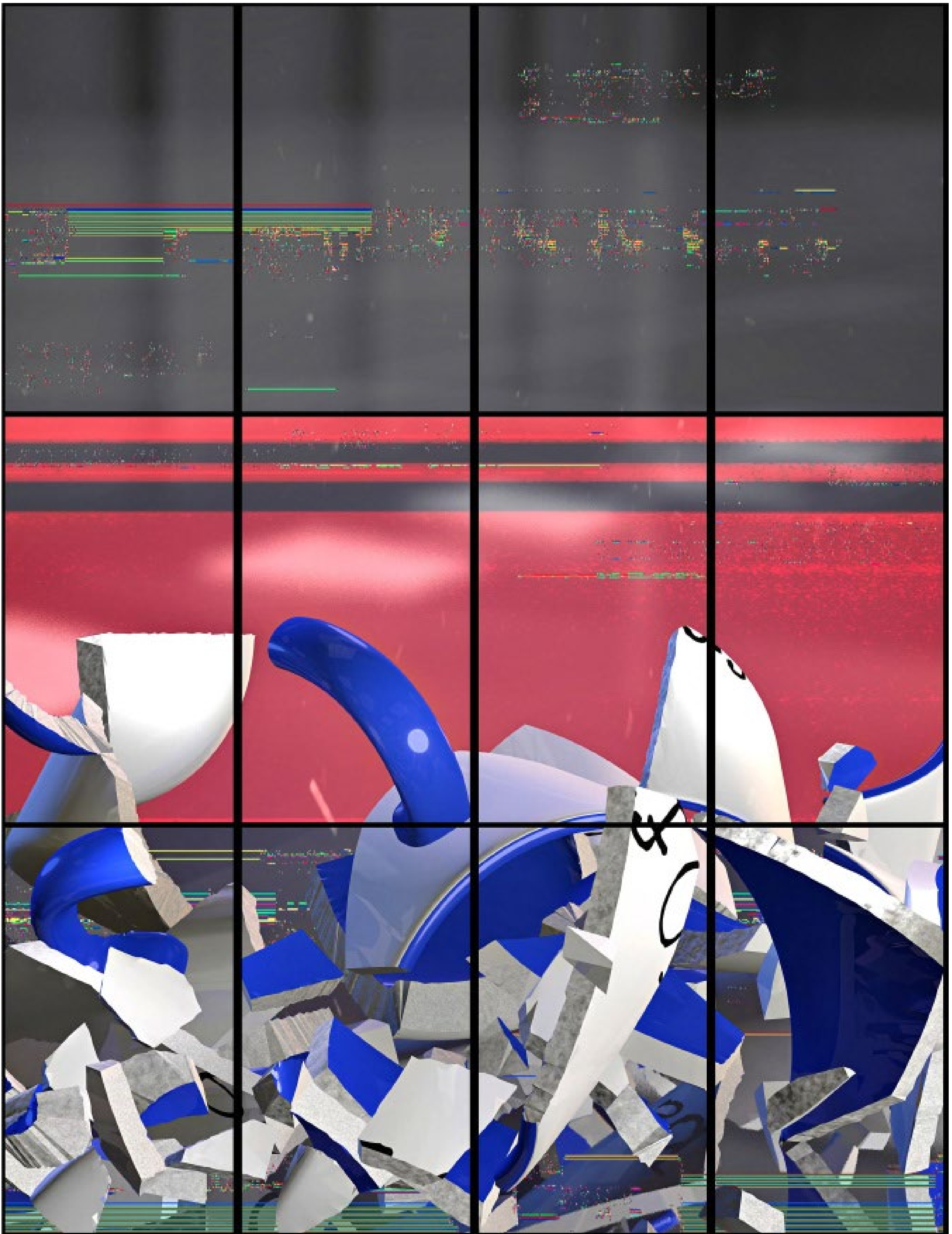

Figure 4. Tabor Robak. *Where's My Water?*. 2015, https://www.taborrobak.com/wheres-my-water. Accessed 14 Feb 2024.

2.1: Tabor Robak, *Where's My Water?*

Tabor Robak (b. 1986) is an American artist working primarily in digital animation. In lieu of biographical details, his website instead meticulously lists the components of his 'setup': I7-5960X liquid cooled; 64GB DDR4; Rampage V Extreme; 2X GTX 1080 liquid cooled; 3X 1TB SSD (dual-boot Win 10/8 + scratch); 2x 12tb Exos (mirrored); Silent Pro M2 1500W PSU; Cerberus X. This approach signals a hardware-forward approach to digital art more than it provides useful information about Robak; the Cerberus X, for instance, is in fact only a tower PC case, one whose tasteful, featureless design is appropriate to any corporate or creative context. The only image that accompanies this information is a self-portrait of sorts, a clip art-style picture of a smiling, beret-topped CRT monitor holding a palette and brush, an ironic representation of a 'computer artist'.

Robak's work typically references, appropriates, and/or transforms the visual content of everyday digital media: video games, app and operating system interfaces, CGI film and video, digital advertising, etc. Rather than pre-rendered videos, these works often take the form of 'generative animations', being rendered and displayed in real-time, with or without an element of interactivity. Robak's works typically appear to be single channel videos, but are in fact comprised of different channels, each rendered separately. The multiple screens are assembled to give the impression of a single cohesive image or animation, though (as seen below) Robak sometimes highlights this multi-threading to create particular effects or simply to destabilise the coherence of the image. To render these videos in (ultra) high definition and in real-time, a custom PC is usually installed alongside the screens, and custom or original software is often used to manage the display of the work (and any elements of interactivity). These prosthetic elements, though typically included in the description of the work, tend not to be prominently displayed in gallery installations. Robak's works are also distinguished by their unusual rejection of sound. In most of his gallery works, there is neither soundtrack nor sound effects. This choice highlights the emphatic opticality of digital media, removing what sound theorist Michel Chion (1994) calls "materialising sound indices", those (typically artificial) sounds which affirm the physical reality of a sound source. The unexpected silence of Robak's work instead calls attention to the intangibility of the digital image and the processes that produce it. Emphasis falls instead on the spectacle of the work, and, as argued below, on the relationship between skill and spectacle in the context of art in control society.

Where's My Water?, 8K 12-channel video, networked media players. 9', 10 x 12 ft, 2015.

This work comprises 12 screens in a 3 x 4 grid, usually displaying a single cohesive image, though at times this uniformity is broken by optical effects that call attention to the networked nature of the work.

It begins with a number of handheld writing implements (pens, pencils, markers, etc.) dropping into a glass. Each object is digitally rendered in obsessive detail. Brand markings and design features are recreated faithfully, and, in the way the artificial light plays over the objects, the different reflective properties of the simulated materials—shiny plastics, dull wood, semi-translucent rubber, etc.—are captured convincingly. Each object falls and jostles the other objects with a realistic weight. Once the still life is assembled, it rotates in an ambiguous space, displaying the fidelity of the recreated objects. This plays out against an apparently abstract colour field, a gradient of yellow to purple that recalls computer graphics of the 1990s. A wave of realistic helium-filled ballons wipes into the next scene; these balloons, too, are rendered with photorealistic detail, and rise in a convincing approximation of the speed and motion of a balloon in Earth's atmosphere.

In the next scene, handheld cooking utensils sit inert in a porcelain vessel. The wood, plastic, and steel of the objects shown here are less convincingly rendered, but the recreation remains faithful to a great extent, particularly in the way light is reflected or absorbed by the each surface. The ceramic vessel, featuring an image of a popular 90s cartoon Tasmanian Devil in a chef's hat, is more convincing, the sculpted design depicted with realistic mass and depth. The abstract background is here replaced by a tiled counter-top that stretches infinitely into the distance. Apropos of nothing, a manta ray swims across the surface of the image which ripples in its wake. This is the first moment that Robak plays with surface and depth in the image, connecting the ambiguous transparencies of water and the glass of the screen with the ambiguous depth of perspectival two-dimensional images and drawing attention to the way these qualities of optical media are deployed to 'materialise' the digital. (The sequence also serves as another display of skill, with both the manta ray itself and the 'rippling' manipulation of the underlying image rendered with convincing physicality.) Underscoring this play on the illusory depth of the digital screen, Robak animates a wave of flipping tiles that momentarily reveal an underlying grid structure, like an electrical circuit board or schematic diagram, beneath the surface image. The same animation in reverse then instead wipes to the next image.

The motif of handheld implements sitting or falling into receptacles repeats in subsequent scenes, always rendered in extreme detail and with close attention paid to the interaction of light and material (particularly in the refraction of objects seen through glass). No human hand ever interacts with these objects; they sit inert, unused, or are dropped by an invisible digital 'hand' into their container. They index a labour that has been subsumed by control capitalism, and in Robak's work, they become monuments to a foregone dexterity. This transformation is perhaps most sharply reflected in the work in the image of a glass full of manual toothbrushes, each individual bristle painstakingly modelled; the electric toothbrush which replaces them subsumes even the 'labour' of brushing back and forth as an electric oscillation.

This pattern of shots is interrupted by one in which a ceramic mug with '60 fps' [60 frames per second] printed on its side falls at great speed before smashing upon a virtual floor, the impact making the image glitch and distort until gradually the next shot is revealed and the glitching is suppressed.

One of the final images of the work shows a disposable coffee cup perforated by pens, push pins, and an X-Acto knife; rather than indexing obsolete or automated manual labour as the other 'still lives' do, this image evokes the boredom, anxiety, disaffection, even rage of the office worker. The symbolic violence represented by stabbing a pen through something in this way is eliminated once the labour these implements represent is subsumed as technology. Even the petty violence of stabbing a pen through cardboard is excluded from a technologized work environment in which the frictionlessness of the user experience breeds an even more passive apathy.

What ends this sequence is the appearance of a wrapped gift which bursts open to reveal a new '120 fps' mug, which like its predecessor falls quickly (this time amidst falling confetti) before smashing, now fracturing the surface of the image which crumbles down to return the video to the start of its loop. The passage from 60 to 120 fps refers on the one hand to the weakly compensatory idea of technological progress as measured in incremental improvements in performance, the idea that what is lost through deskilling and the subsumption of technical knowledge and manual labour as technology results in a proportionate gain in the form of 'better' technology, newer and ever more powerful devices and machines. The specific development from 60 to 120 fps, however, also points to the extension of technology beyond human scale. 60 fps is generally regarded as the upper limit of images per second the human eye can distinguish (films, by contrast, are typically projected at 24 fps). Beyond 60 fps, there is an excess of visual information that is redundant for most human viewers. The development

towards and beyond 120 fps corresponds not to the subsumption of the human as techne, but to an arbitrary extension of technical progress that no longer corresponds to a human referent. Seen in this way, the ‘gift’ of 120 fps—the advancement of technical sophistication—is revealed as false, offering nothing to a humanity whose labour, knowledge, and skill (not to mention the material and ecological cost) are subsumed in its production.

2.2: Artistic Skill and General Social Technique after the Computer

Though only witnessing preliminary results of the artistic appropriation of electronics, Adorno had heard enough to claim in his *Aesthetic Theory* that it was already possible in electronics “to produce artistically by manipulating means that originated extra-aesthetically” (33).[11] Writing in the late Sixties, Adorno also saw that electronic music had “misunderstood the sciences to which it appealed” (337), though not necessarily to its detriment. What seems to be suggested by these two brief statements is that there is an affinity between art and science even if the concepts and products of one are misappropriated by the other. In this broad context, the appropriation of the computer is simply a step in a tradition that extends from the perspectival innovations of Piero Della Francesca through Bach’s equal temperament and the influence of the study of retinal processes on the Impressionists. The technology yielded by rationalism is ‘functionally transformed’ by its subsumption by art; the “productive impulse” in art survives “the rationality that [is] brought to bear on it” (337). Art, as the negation of the social, reacts against the *ratio* of the natural sciences. Adorno’s account of this relationship—as its long history suggests—corresponds to a science of cause-and-effect, of certainty, of truth. The technological products of Enlightenment lay claim to truth by virtue of their apparent objectivity; the truth-claims of this technology linger even today, in the global hegemony of seventeenth-century European musical harmony for example. In a post-cybernetic context, however, objective truth gives way to statistical probability. Science comes to acknowledge that no phenomenon exists independently of its being observed. Uncertainty replaces certainty. Consequently, it can no longer be relied upon that the products of science bear objective truth in a way that would guarantee their autonomy and availability for art. Where calculus retreated into a hermetic objectivity only to be drawn out again in the service of perspectival depth and acoustic harmony, the developments of modern science—a science of cybernetics, a science of the computer—bear the indelible stain of their partiality. The artistic appropriation of technology can thus no longer be adequately explained by the parallel rationalities of art and science when science now shares in the character of irrationality. Under late capitalism, it is

[11] Adorno makes particular mention of Karlheinz Stockhausen, whose electronic work *Gesang der Jünglinge* (1955-56) is regarded as the first masterpiece of electronic music (Simms, 1986: 391). It is unlikely he was familiar with the work of John Whitney Sr., A. Michael Noll, or Georg Nees, for example, whose contributions to computer art took place in the early Sixties.

no longer science that furnishes art with concepts; the rational social sphere of production furnishes art with commodities instead.

This claim builds on the theory advanced by John Roberts (2007) which proposes that the unassisted readymades of Marcel Duchamp signal a transformation of the relationship between art and what he calls 'general social technique', the "increasing incorporation of technology and science into production" as a product of deskilling (2-3). Roberts' account of the movement of the concept of skill in art under late capitalism supplements Adorno's theory of the artistic appropriation of technology by noting that science now enters the domain of art only via the productive sphere, where scientific knowledge congeals as technology and/or technique. The dialectic of deskilling and reskilling describes the process by which conceptual knowledge and manual skill are subsumed as means of production and returned to society as machines, devices, hardware, software—general social technique. It must be stressed, however, that where artists have access to general social technique, it is generally because it is sold to them as a commodity. Artistic use of technical commodities does not render them autonomous. In this context, artistic labour remains wholly within the social sphere of production and consumption; it is only the artwork that has the potential to achieve autonomy. The Brechtian-Benjaminian tactic of *Umfunktionierung* ['functional transformation', or 'refunctioning'] cannot be applied to a wholly commodified artistic *technē* which anticipates—and in fact demands—its subversive use in art.[12] This makes it essential to trace the dialectic of skill in the artwork itself, and not in artistic practice. Technical mastery in practice does not lead to autonomy—though as I argue in the following chapter section, it does facilitate other forms of resistance to control and domination. Roberts' central conceit—after Adorno—is that the sedimentation of artistic labour and general social technique in the autonomous artwork liberates the forces of productive and non-productive labour and models their emancipation. Below I briefly trace the transformation of artistic skill from Duchamp's *Fountain*, where Roberts begins, to Robak's *Where's My Water?*, and show how the latter work critically thematises the dialectic of skill and deskilling.

On the surface, these works could not be more different, and the trajectory connecting them may seem arbitrary. Reading Duchamp's work as Lazzarato (2008) does, this pairing of

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[12] There are of course limits to this, but they have little to do with form, content, or function. So long as the proprietary rights of the designer/developer/manufacturer of the technology remain unchallenged, the subversive use of their technology only increases the appeal of their commodities; this strategy has been a key part of the success of brands like Apple.

works sets up a binary opposition of "acting at the minimum" (in the case of Duchamp) and an extreme labour intensiveness in artistic production (in the case of Robak). Lazzarato depicts Duchamp as an artist of consumption, who rejects the 'trap' of the alternative between artistic creation and waged labour by slipping into the interval between play and work, an interval in which Duchamp introduces choice—as in the choice of a readymade object—as an act of artistic creation. [13] Roberts points out that this tendency to see Duchamp as an artist of consumption is prevalent in much recent scholarship on Duchamp, and his own reading is in part a corrective to this which sees Duchamp always as an artist of production, whose unassisted readymades are "sites of 'rendezvous'" between conflictual concepts of labour (5). The same, I will argue, is true of Robak's digital animations. Though their methods and results are wildly divergent, they are linked by a relation to the dialectic of skill and deskilling.

Roberts' idiosyncratic theorisation of the readymade hinges on the demand that it be treated as a technical, rather than merely formal, category of art; that is, that "the transformative use-values of the readymade" are brought into correspondence with "technical transformations in the relations of production" (22-23). Roberts protests the scholarly indifference to the relation between the readymade and labour theory in accounts that emphasise the intentionality of the artist over the productive process that the work still, stubbornly, entails. And so, Duchamp's abandonment of painterly skills is here rendered as "a *productive process* in which the nomination and transformation of found objects and prefabricated materials represents a technical and cognitive readjustment on the part of the artist to the increasing socialization of labour" (23; italics in original). This "mimetic identification between artistic production and social production" derives from the inadequacy—real or perceived—of the fine arts to represent the experience of modernity. The result, for Roberts, is the transformation of the relationship between "the eye and hand of the artist" (23). Duchamp's act of selecting an object for a readymade inaugurates an artistic tradition in which the hand is not motivated by expression or sensuous representation but by "the execution and elaboration of a conceptual schema"; the hand and eye are linked through "the selection, arrangement, superimposition and juxtaposition of materials" (24). [14] The

[13] In fact he goes further still, citing Duchamp as claiming that he was chosen by the readymade, not vice versa, such that all trace of subjective intention is emptied out of the work.

[14] Artworks have long been organised according to conceptual schemata, and choice—the sovereign expression of the artist's will—has always been central to artistic practice in the West, even when art is at its most indentured (the works of the painters of the European courts—van Dyck, Velazquez, etc.—show this to be true). What makes Duchamp qualitatively different in this regard is his demonstration that artistic labour exceeds artistic means—the force of artistic production can pass into socialised labour and retrieve methods, means, and commodities and secure

unassisted readymade does not in itself deskill the artwork—though it does present a violent challenge to traditional artistic skills—but opens the artwork out to non-artistic skills. It opened art up to the technological transformation of production in the early twentieth century.

In Roberts' account, this opening up of the relations of artistic production is ultimately achieved through the transposition of a commodity from the sphere of social production into the sphere of artistic production. The readymade object begins an alienated commodity (a product of alienated labour), becomes an 'alienated commodity in non-alienated form' through the subjective labour of the artist, and, as a new commodity—the autonomous work of art—it becomes an 'alienated commodity in alienated form' (25). Though this is not in itself a novel process (traditional artistic means—canvases, paints, brushes, etc.—undergo the same transformation), what is new in the case of Duchamp's unassisted readymades is that the necessary alienated labour that makes artistic labour possible is deliberately unhidden. This put the lie to the "self-authenticating mystique" of the artist as "the possessor of a transcendental craft" by positing a "mimetic identification" between art and productive labour (25). This identification is perceived in the work in the gallery, with viewers seeing simultaneously "an absence of palpable artistic labour, the presence of the palpable labour of others, and the presence of immaterial or intellectual labour" (25). Duchamp deflates artistic labour while at the same time showing that through the non-alienated subjective labour of the artist, a liberatory content can be released from apparently inert alienated commodities. The readymade does not announce an 'end' of art but in fact reaffirms its necessity all the more forcefully in the context of the social and technical division of labour and the process of deskilling. As Robert's puts it, "Duchamp does not embrace heteronomous labour in order to dissolve art into social technique, but in order to re-pose what artistic skills might be in the light of their transformation by heteronomous labour" (81).

To clarify, deskilling denotes the process under capitalism whereby technical knowledge and manual craft are stripped from workers and redistributed as machinery, technology, and technical processes. The process of the technical division of labour narrowly concentrates skills and knowledge while simultaneously separating each subcategory of labour from the others, so that where possible whole sectors of the labour force can be replaced through the process of deskilling and the subsequent subsumption of skill by the

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them for art *without* simply dissolving art into the social. Conceptual art's defence of the readymade ignores this aspect of the work and posits the readymade art object as the 'bearer of the Idea' with no regard to its relation to labour.

means of production. This reduces workers to functionaries whose job is now merely to monitor the operation of the machinery of production. This process is perhaps best illustrated in industrial manufacturing, where highly specialised robots have now replaced human workers throughout almost the entire production process. It is also increasingly the case, however, for much service work and immaterial labour. Roberts cites Braverman as arguing that the process of deskilling systematically lowers the skill of workers on average in both absolute and relative terms—absolute because the automation of labour renders their craft skills obsolete without providing comparable new skills, and relative because the more technical knowledge enters the labour process, the less workers are able to grasp of the total labour process (84). For Braverman, many of the new forms of immaterial labour of the twentieth century amounted merely to forms of "dexterity", restoring neither autonomy nor sensuous form to labour. The flipside to this systematic deskilling is that the 'taking up' of skills and knowledge through the incorporation of technology into the labour process enables—or, in fact, requires—"a process of objective socialization" (85). We see this particularly in the development and proliferation of networks, especially those of person-to-person communication which suggest the possibility of "a fully co-operative labour process" rather than one premised upon strict division. The question that becomes relevant to art as a result of this is "what kind of emancipatory content might be given to this process of objective socialization on the basis of the development of all-round skills" (86).

Just as Duchamp's *Fountain* is understood by Roberts as a response to the technological transformation of the labour process in the early twentieth century, I propose that Robak's *Where's My Water?* can be understood as a response to the intensification of the technical division of labour and the processes of deskilling and reskilling in the twenty-first century. As with Duchamp's readymade, Robak's video installation makes alienated labour and artistic labour visible simultaneously. Presented not as a single-channel video but as a twelve-channel video on twelve monitors, the work calls attention to its dependence on the products of deskilled labour. Where a single-channel video might divert attention away from its technical support to its audio-visual content, the fragmentation of Robak's video into twelve parts, each delineated by the black edges of the monitors, cannot but draw attention to the technical apparatus that underpins the work (Robak makes this more emphatic at certain moments in the work where the illusion of the unity of the video is deliberately broken). Read in this way, the work animates the dialectic of alienated labour and autonomous labour, showing the dependence of artistic labour on the products of alienated labour and demonstrating how

through art the liberatory content of this alienated labour can be unleashed. Robak's celebrated skill as an artist/animator is only made legible by its display on products of global alienated labour. Rather than blindly deploying this technical apparatus, Robak thematises the relation between the 'free' labour of the artist and the alienated labour of workers—predominantly in the global South—and in so doing concretises the process of objective socialisation in the work without merely aestheticizing it. The anonymous hand of the worker—as Duchamp recognised a century earlier—enters art as both a problem and a resource; a problem because it shatters once and for all the fetishization of artistic subjectivity, and a resource because it is the inclusion of this hand that opens artistic production to general social technique and objective socialisation (Roberts 147).

Running parallel to this relation of skilled artistic labour to deskilled alienated labour is the relationship between Robak's technical skill and general social technique (i.e. technologization and the technical division of labour in the production process). The creative industries, including and especially industrial or commercial animation, are not immune to the processes of deskilling and division of labour. Over the course of the past century, the labour of commercial animators has become hyperspecialized, a process which is accelerated further by the increasing digitization of the work of animation. The all-round skills of, for example, early Disney animators, inkers, and painters meant that despite the division of labour, each had a grasp on the production process as a whole—even when working at the level of the single cel, or celluloid sheet, the relation of the part to the whole is linear. By contrast, contemporary animated films subdivide the work of animation into distinct strands (character animation, technical animation, environment, layout, compositing, etc.) where only upper levels of management have access to the full scale of the production process. It is also uncommon for studio animation not to develop its own software and technology in-house with the goal of increasing the ease and efficiency of what remains largely a labour-intensive process. Often this technology aims to end the reliance of the production process on relatively less skill-intensive (but often highly labour-intensive) parts of production, such as rotoscoping and inbetweening.

The systematic deskilling of the creative industries throughout the twentieth century led to the development of highly sophisticated hardware and software for creative production, which artists like Robak appropriate through art's relation to general social technique. Within the sphere of artistic production, this technology does not advance the technical division of labour and extend the process of deskilling, but rather amounts to a *reskilling* of artistic labour

in that the labour, knowledge, and skill sedimented in the products of deskilling are redeployed as the all-round skills of the artist. Whereas workers subject to the technical division of labour and to general social technique find themselves cut off from the totality of the labour process and the all-round skills necessary to grasp it, artists maintain control over the totality of their artistic production and deploy the skills embedded within general social technique towards autonomous ends. Read in this way, the skilfulness exhibited in Robak's work again thematises the relation between autonomous artistic production and the products of deskilling and the technical division of labour, where the legibility of artistic skill makes visible the general skill stripped away and sedimented in the technology of production. That Robak is identified as the single artist-producer of the work demonstrates the possibility of the process of deskilling leading to reskilling and the reacquisition of all-round skills if a co-operative labour process can be realised.

This skill-intensiveness of animation—both that of the single artist and that of the animation studio—is often effaced by what Vivian Sobchack (2009) identifies as the "apparent and effortless vitality" of animated forms (384). Citing Scott Bukatman, Sobchack argues that there is "a transfer of energy" in which the labour—the actual work—of animation (in both its hand-drawn and computer-generated variants) is "superseded by images and beings that seem to generate spontaneously" (384). In the case of industrial animation—Sobchack's 'tutor-text' here is Disney-Pixar's *WALL-E* (2009)—this effacement of the work of the animator figures the computerisation and automation of the labour process, the process by which "the painstaking physical labour of animators" is replaced first by "the electronic (and invisible) labour of their computers" and then by the 'spontaneous' vitality of the animated forms (384). 'Animation' (as both the artificial creation of movement *and* as the outward sign of vitality) and 'automation' become increasingly entwined in the context of their digitisation—that is, in the societies of control. The technical division of labour and the process of deskilling (and the resultant technologization of production) lead towards a state where workers increasingly resemble automata and automata appear increasingly alive. Emergent alongside automation is what Sobchack calls "an aesthetics of effortlessness" which is not a necessary product of rational efficiency (which has no interest in the *appearance* of labour, only in its results) but persists as a form of the pleasure of 'magical thinking' (384). The apparent realisation of this effortless vitality—like the golem of Jewish mythology, a metaphor Norbert Wiener also deploys in his account of the social consequences of cybernetics—provokes anxiety as it threatens traditional conceptions of life, or at least reminds us that even life has a historical character.

The passage into an age of technological mastery is also the passage out of the age of “an illusory omnipotence over the world”, where, as in control societies, the subject is compelled to recognise their own separation and contingency in relation to human and non- or post-human processes that exceed their grasp. Sobchack calls this a “more mature period” (385), but this is only true if it is not a capitulation to the forces of control, and rather is a recognition of the ground on which they are to be resisted. Technical mastery is not a guarantee of mastery over the world, and, per Adorno, if it were it would spell the annihilation of life itself.

If technical mastery in the production of commercial forms of animation produces a consolatory ‘aesthetics of effortlessness’ which propagates ‘magical thinking’ and masks the truth of deskilling and the division of labour, can the same technical mastery serve a critical function in the autonomous sphere of art? Reading Roberts suggests that the answer is yes, but only to the extent that the critical appropriation of general social technique allows art to model non-alienated, co-operative production *without* realising it in general. In the next section, I pursue another answer to this question in the writing of Vilém Flusser, for whom technical mastery holds a much more immediate promise of either liberation or total subjugation.

2.3: The Artist as Envisioner, and the Emancipatory Function of Technical Mastery

One criticism that could be levelled at the idea of deskilling as presented by Roberts is that the category of scientific knowledge becomes reified, its historical character flattened as the relation of rationality to production. The specific discoveries of the sciences and the epistemological transformations they cause are occluded by the fact that these discoveries furnish capitalism with the capacity to divide and deskill workers, to automate production, and to develop new commodities. Yet, as asserted in my reading of Deleuze's concept of control societies, the technical developments of cybernetics and the disciplines and industries it gave rise to have produced and/or are producing social, cultural, and economic transformations that amount to a decisive historical break. As Wiener is at pains to point out in his *Cybernetics* (1948), to make sense of the experimental and theoretical results of modern physics requires nothing less than the complete overhaul of our understanding of the most fundamental natural phenomena—time and space themselves become probabilistic.

Grasping the relationship between this epistemological transformation of the world and our mediated experience of it was one of the great achievements of Vilém Flusser, whose concept of the technical image explains how it remained possible for humans to make sense of a universe which had suddenly disintegrated into quanta, or bits of information. Technical images, for him, answered the need to 'fill in the gaps' which had opened in everything by consolidating particles, elements, and information into images. Since humans could no longer physically or sensorily grasp the elements of a probabilistic universe, it fell to apparatuses to "visualize the invisible, and conceptualize the inconceivable" (2011: 16).[15] In a world in which Newtonian certainty gives way to statistical probability, the technical image, blindly captured by the non-human apparatus, represents "a blindly realized possibility" that makes visible one possible state in a field of possibilities (16).

Technical images are produced only by apparatuses which are distinguished from tools or simple machines by their capacity to "[grasp] hold of scientific theories" (Flusser, 2000: 23). In this, they emerge as products of industrial society, made possible by the introduction of scientific knowledge and technology to the production process; the emergence of the apparatus marks the moment at which the relationship between human workers and machines is reversed, such that "the human being became the variable and the machine the constant",

[15] Despite sharing their (English) name with Foucault's *dispositif*, the apparatus in Flusser refers specifically to the technological machine, device, or process that makes meaning for humans.

and that now “the human being [functioned] as a function of the machine” (24). But to grasp what is truly ‘new’ about apparatuses, for Flusser, requires that we follow them into the post-industrial context they point towards. That is, apparatuses do not work in the same way that the machines of industrial society do; “their intention is not to change the world but to change the meaning of the world” (25).

The products of these apparatuses are objects or surfaces that bear information. Each one of these products, as with the technical image, is the realisation of a statistical possibility within a defined space of possibilities. This abstract space of possible outcomes is identical with the program of the apparatus; each blind realisation of a possibility by the apparatus delivers that informative outcome from the program into the universe of the apparatus, which consists of the sum of informative realised outcomes (informative in the sense of carrying new information, being to some extent different from all other outcomes). The program is defined by the function of the apparatus; in the case of photography, for example, Flusser argues that there is a large but finite number of possible (informative) photographs contained in the program of the camera. Through the camera, “the world is purely a pretext for the realization of camera possibilities” (26). The work of the photographer, then, consists in searching for information.

Rather than workers, those who operate apparatuses must become ‘functionaries’, who are “inside their apparatus and bound up with it”, a cyborg unity between human beings and apparatuses (27). Their function is to systematically exhaust the program of the apparatus. This must be done—at least at an unavoidable minimum—blindly. The functionary—even the sum of all functionaries—is incapable of fully grasping the program of the apparatus because their relation to the program is inhibited by the black box of the apparatus. In the case of photography, for example, the photographer-functionary has control over the input delivered into the black box of the camera, and they know how to develop its output as a photograph, but there remains an impenetrable core which represents the automatic functioning of the apparatus in a probabilistic universe. Even the most skilled and experienced photographer cannot claim a total mastery over their apparatus because the operation of the apparatus—even if only at the sub-atomic level—rests on probabilistic phenomena whose outcome is, by definition, uncertain.

Apparatuses, on the other hand, do away with this uncertainty; they are “omniscient and omnipotent in their universes” (68). They produce a “bi-univocal relationship between universe and program” such that every realisable outcome corresponds to a point in their

program and every point in their program to a realisable outcome, though the consequence of this is what Flusser labels a "reversal of the vectors of significance" (68). Photographs, technical images, and the other outcomes of apparatuses now signify elements within their programs and not "the world out there" (68). Thus the omniscience and omnipotence of apparatuses is "absurd"; they "know everything and are able to do everything in a universe that was programmed in advance for this knowledge and ability" (68). Despite this, however, apparatuses remain essentially mindless. Though they approximate Cartesian thought, they can realise the possibilities contained in their program only by chance. Only in the human struggle through but against the programming of an apparatus can the program become more than merely a fixed "combination game" (69).

The advent of automation—including the more recent advances of artificial intelligence and machine learning—makes it possible for apparatuses to automatically realise their programs without the need to rely on human functionaries. The photographic projects of Google Earth and Street View are exemplary of this tendency, representing the production of informative photographic images at a scale and volume that far exceeds the capacity of a human functionary (indeed here the human is almost entirely removed from the work of photography, and is only responsible for moving the pre-programmed camera along pre-determined paths, or for coordinating between apparatuses). A more telling example of this tendency might be the use of AI in video games, or in games like chess and go. Here, even without human interaction (except in the form of maintenance and support), the apparatus can systematically work through every possible outcome in its program—this is generally how chess-playing AIs 'solve' games of chess, at the rate of 60 million moves per second in the case of the AI Stockfish 8 (Herkewitz 2020). Gradually, however, the automated function of apparatuses tends not necessarily towards informative outcomes but towards the efficient but arbitrary execution of their programs. That is, they tend to seek the elimination of their dependence on human functionaries, whose all-too-human limitations represent only a barrier—this is seen today in the phenomenon of algorithmic trading, for example, in which financial traders leverage the processing speed of computers to outcompete in markets, sometimes with financially disastrous consequences. In other words, apparatuses want to exceed the human so that they can realise their programming more completely, regardless of the fate of humanity within their universes.

The struggle against automatic programming and the threat (or inevitability) of domination by apparatuses plays out on a number of fronts identified by Flusser. The one most

relevant to a discussion of the work of Tabor Robak is the struggle to produce informative outcomes which are not part of the program of the apparatus (Flusser 2000: 74). This activity—the search through the apparatus for informative (i.e. statistically improbable) outcomes—defers the threat of domination by expanding the universe of the apparatus and by producing meaning *for* humans. In the context of the production of technical images, Flusser names those who resist the automatic functioning of the apparatus in this way "envisioners" (2011: 19). These are functionaries, bound up with the apparatus, who nonetheless seek to "preserve human judgement over the machine" in spite of its tendency towards automation and the expunging of the human element (19). The difference between functionaries and envisioners can be thought as the difference between the anonymous animators of commercial or industrial animation (digitally animated feature films, television and web shows, etc.) and the artist/animator, like Robak, whose works strain towards autonomy. In the case of a film like the 2019 'digitised' remake of *The Lion King*, we see the envisioning apparatus turned towards a redundant outcome, a "predictable, uninformative [situation] from the standpoint of the apparatus' program" that quite literally recycles the symbolic content of traditional cultural products and delivers them anew into the universe of technical images, their ideological content and function intact and redeployed in service of the execution of the program of the apparatus. The vaunted technological 'breakthroughs' the filmmakers achieve correspond not to the development of improbable outcomes of the apparatus, but an intensification of its power to deliver precisely the opposite—uninformative, redundant outcomes.[16]

In this context, the concept of aesthetic autonomy can be redeveloped in terms of art's relation to the programming of technical apparatuses. We know, per Adorno, that the social character of autonomous art is the dialectical negation of society. The fetish character of the artwork seals it from social heteronomous interests and allows it to turn those empirical elements that enter its vortex over to the non-dominating productive force of the aesthetic. Automatic technical apparatuses correspond to the forces of social heteronomy in that they lay bare the means-ends rationality of self-preservation that, for Adorno, is the condition that leads—ideologically—to the domination of nature through labour. The apparatus acts guiltlessly for itself and in its own interest to maintain its functioning and realise the outcomes

[16] The film *WALL-E*, though not necessarily much more successful in realising an informative outcome of the computer apparatus, provides material which, in the example of Vivian Sobchack cited in the previous section, allows critics to "see what is going on in the automatic game of programming" (Flusser 2000: 74). This is another front on which the struggle for human autonomy against the automatic programming of the apparatus plays out.

of its programming. Where Flusser and Adorno diverge is in the question of the appropriation of technology. For Adorno, all art involves the appropriation of technology, whether from the objective developments of the sciences or, as Roberts proposes, through art's identity with general social technique. In either case, a distinction is drawn between productive alienated labour and artistic labour which allows a differentiation to be made between the merely existing commodity and the work of art. The purposelessness of the artwork—the eradication of its social usefulness—sets it outside social praxis, and at this distance it discloses itself as the image of society transformed. In Flusser's account, however, the force of aesthetic production is mediated by the apparatus in the same way as heteronomous forces of production, in accordance with the same program. Thus, where the production of inert commodities corresponds with the realisation of less informative outcomes—in that both processes converge at the horizon of human domination—artistic production through the apparatus represents the realisation of more informative outcomes. It is important here to note that neither the apparatus nor its program are absolute or fixed; they emerge as products of specific historical conditions and they change as those conditions develop. As a consequence, even artistic production which achieves the promise of liberation by the expansion of the apparatus-universe and the provision of meaning is automatically assimilated and ultimately enriches the program of the apparatus (Flusser 2000: 75). In the context of Flusser's technical apparatuses—as with Adorno's aesthetic theory, though for different reasons—true aesthetic autonomy is always out of reach, and so art is obligated to reflect on its relation to human domination.

Read in this way, the struggle of the artist with problems of form (which is, for Adorno, what ultimately 'animates' art) must be channelled through the apparatus where the intent of the artist runs into contradictions, in particular between the autonomy of the machine and the autonomy of the artist. The struggle of the 'envisioner' is "to pit automatic production against the machine's autonomy . . . within the automatic apparatus" (Flusser 2011: 20). This has its own consequences for the concept of artistic skill. Whereas Roberts argues art after the readymade was opened up to general social technique and that the role of the artist's hands thus became to choose, to organise, to assemble (rather than to paint, to draw, to sculpt, etc.), Flusser—in recognition of the decisive role of the computer in contemporary image production—argues that envisioners are capable of producing meaningful images only by "pushing keys" (23). If the hand of the artist, a metonym for the free and sensuous all-round skill of the artist, became after Duchamp the finger that points, that chooses, that counts, then

in Flusser's account the production of meaningful images demands that artistic skill be channelled more narrowly again into the finger*tips* that press the keys of the apparatus. What seems, on the surface, to be a diminishing of artistic capabilities in fact returns us to what, for Adorno, constitutes art's *promesse du bonheur,* the promise of reconciliation. The artist who works through the pressing of keys does so one stroke at a time, commanding a universe of functions and signs to work towards an informative outcome of the apparatus. Flusser skirts the question of freedom that this situation implies, instead arguing only that the artist at the machine transcends the game of blind chance that is the program of the apparatus by seeing past the game to the desired outcome. The artist-envisioner sees past 'what is' to 'what should be' (25). It is this capacity to imagine things as other than they are and to give this vision an objective form (i.e., through the appropriation of technology or through the use of the apparatus) that characterises art's resistance to the totality of the here-and-now. This resistance depends on the technical skill of the envisioner and on the skill congealed in the apparatus.

Though Flusser eschews explicit engagement with Marxist theory and political economy, his notion of the apparatus coheres with both Marx's account of the development and use of technology in his 'Fragment on Machines' and Roberts' account of the technical development of general social technique by the processes of deskilling and the technical division of labour. Apparatuses develop out of scientific theories and knowledge and function even if this embedded knowledge is not understood by the user (i.e., they are black boxes, at a minimum because of the probabilistic character of their operation, but much more so when their functioning is not understood at the macro level, which is by no means necessary for the user). They create efficiencies in the production process (or, in Flusser's account, in social processes in general) through strategies of mechanisation, automation, and/or reorganisation and in so doing make workers into functionaries. For Roberts, per Braverman, the way this process plays out in the productive sector tends to deprive workers of their relative autonomy by stripping them of all-round skills without providing them with new skills as compensation, leading to a lowering of the average level of skill in the workforce and an increasing polarisation between the managerial class and the working class. As discussed in the previous section, in the sphere of art, producers can appropriate this newly developed technology and turn it away from heteronomous interests towards other non-dominating ends. For Flusser, on the other hand, the embedding of manual skill and technoscientific knowledge in the form of apparatuses frees functionaries from the drudgery of work and liberates their minds for creative, communicative,

and intellectual pursuits.[17] The automatic functioning of the apparatus frees users "from the pressure for depth" (2001: 36) so that they can focus their attention on the realisation of informative outcomes. We see this illustrated, for example, in digital imaging software, where the creation or manipulation of an image (in programs like Adobe Photoshop or Microsoft Paint) is carried out by the user entirely at the level of the graphical user interface (GUI), and is automatically encoded, stored, and later retrieved and correctly displayed by a 'black box' of software and hardware the average end-user need take no interest in. Where painters, engravers, and illustrators of traditional images were obligated to devote attention to the behaviours and properties of their materials at each level of their practice, the producer of (digital) technical images can make art entirely at the surface level or intervene in the technical substrata at will. In the case of Tabor Robak, for example, the artist both makes use of existing imaging software and video game engines and develops his own proprietary software to create the custom display conditions his works demand. As such, his practice resists the programming of the apparatus in two distinct ways: the first, at the surface of the image, involves realising improbable, informative outcomes through the apparatus; the second, at the level (or in the language) of the program itself, involves a direct transformation of the program. By expanding the field of possible outcomes—even if by one possibility at a time—Robak struggles to prolong the human ability to create meaning through automatic apparatuses.

The necessary superficiality of envisioning, however, seems to put Flusser at odds with Adorno with regard to the question of truth in art. For Adorno, what justifies the creation of art under real conditions of human domination is its truth-content [*Wahrheitsgehalt*]. The concept of truth as it is deployed in the *Aesthetic Theory* demands more attention than can be given here, but in general, the truth-content of artworks lies in their concrete being-for-themselves, their existence according to their own immanent lawfulness. Truth-content is identical neither with form or content, nor is it simply the sum of the work's concrete or objective elements, but must be glimpsed or grasped by reflection on the double character of art. Aesthetic truth content is "fused" (Adorno, 2002: 35) with the critical content of artworks, and "deeply meshed" (41) with history; its 'organon' is integration, up until the point where—because the relationship between art and truth is a part of its dialectical inner life—truth-content "turns against art" and

[17] Flusser is undoubtedly aware that this utopian version of automation clashes with the real relations of production in capitalist societies, and that workers 'liberated' in this way by the apparatus are left in a worse state without some kind of compensatory social process. It is not my intention to pursue a critique of the 'freedom' promised by the apparatus in general here, but to link the 'freedom' of the apparatus to the ideological 'freedom' of the artist and pursue the question of whether, in art, the apparatus can serve a liberatory function after all.

produces in artists a "compulsion toward disintegration" (45). It is at the level of truth-content that modern autonomous art's mimetic character is preserved as the "vestige of [art's] magical phase", and it is the truth of this mimetic character that "by its sheer existence" critiques the absolute rationality of the disenchanted world (58). Aesthetic semblance [*Schein*] "disenchants the disenchanted world" (58). Or, as Adorno puts it more directly: "By their very existence artworks postulate the existence of what does not exist and thereby come into conflict with the latter's actual nonexistence" (59).

An art of technical images, for Flusser, corresponds with much of Adorno's account, but Flusser is also insistent that in the universe of technical images, categories like "true—false" and "real—artificial" must be abandoned in favour of categories like "concrete—abstract" (2011: 38). As described above, the primary task of the technical image is to make the ungraspable graspable in a universe which has dissolved into quanta. The technical image distinguishes itself from scientific or theoretical knowledge by foregoing "the search for deep coherence, explanation, enumeration, narration, and calculation" in favour of "a new, visionary, superficial mode of thinking" (38). The envisioner, through the use of an apparatus, "[draws] the concrete out of the abstract" (38). In the context of art, what Adorno described as a vortex of empirical elements that are drawn, magnetically, into the form of the artwork is replaced in the universe of technical images by a "whirring nothingness" that is made concrete once more by illusion (39). Understood in this way, it is doubtful that we could admit to technical images possessing their own truth-content, since their existence only indexes another 'reality' out there. Yet, on the other hand, and as artworks like those of Tabor Robak affirm, technical images are capable of serving a double function, on the one hand visualising the ungraspable (i.e., making concrete the virtual and electronic phenomena of the computer-apparatus) while also, as art, positing the existence of that which does not exist. This becomes clearer if we assert that what Flusser describes as "nothingness" in fact remains physically and materially 'real', even if its realness becomes probabilistic below a certain threshold of scale and perception. If the truth-content of the artwork resides in its concrete being, then artworks that are technical images are 'made true' as a function of the apparatus, not because they represent an external 'truth' but because they have an objective existence for themselves which is not identical with their social function. As with artworks for Adorno, then, the autonomy of the technical image is only partial, so it must be insisted upon fetishistically, the image sealed off from its conditions of production. This becomes an important assertion in relation to what Flusser sees as the "narcotizing" general consensus between images and

people in the universe of technical images (66). Asserting their autonomy—even falsely—technical image artworks withdraw from this "feedback consensus" in which the function of the image is to strengthen the status quo of an oppressed society (66). In aiming once more towards functionlessness and noncommunication in defiance of the programming of the apparatus, these artworks strive towards revolutionary new relations in which a society of images leads, dialogically, to the initiation of new social forms and the fabrication of new information (67).

This, ultimately, is what Flusser seeks to redeem in the concept of the apparatus. Apparatuses make the modern world graspable and meaningful, but, as Flusser shows through an analysis of the fascistic structure of broadcast television, this function can be appropriated for the purpose of control. The broad category of envisioners enfolds both artists and revolutionaries *and* the engineers of extraction, exploitation, and domination in the universe of technical images. Every attempt at resistance seems to lead only to the enrichment of apparatuses and programs that threaten, at the horizon, an end to humanity. What is demanded of those who resist domination is a mastery of the apparatus that enables them to produce informative technical images that expand the program of the apparatus. For artists in particular, these images must also strive concretely towards autonomy from the image culture of heteronomous society, and point towards new social configurations that are not premised on domination. In this, Adorno and Flusser turn out to give similar accounts of both the redemptive function of art and the constraints or limits of this redemption. In Flusser, however, the appropriation of technical means is not in itself sufficient; what is required is either (or both) the artistic creativity and technical skill to produce a new, informative idea in concrete form. This returns us to the theory of art advanced by Deleuze, and it is to this theory that the final section of this chapter looks in considering the work of Tabor Robak in control society.

2.4: Art and Apparatuses in Control Society

In the "Postscript on the Societies of Control", Deleuze asserts that "types of machines are easily matched with each type of society" because "they express those social forms capable of generating them and using them" (1992: 6). Here he agrees with the fundamental Marxist principle that it is relations of production that are the determining organisational schema of capitalist society, independent of the forces of production. It follows, per Beniger (1989), that the technical revolution in cybernetics was preceded by a transformation in the social sphere that reorganised society in terms of information and communication, and that the subsequent development of cybernetics represented the technical formalisation of this shift; cybernetics originally sought to study systems, not to invent them. The same pattern plays out in the histories of apparatuses like the camera and the computer; scientific and theoretical developments feed into social discourse and are instrumentalised and/or commodified. Reasons for wanting to suspend a moment in time preceded the invention of the camera, and the need to efficiently process vast amounts of information preceded the computer. Deleuze, despite theorising a historical break between disciplinary and control societies, maintains that this reasoning is unchanged across the three types of society in his Foucauldian division of history—that as disciplinary societies were matched with "machines involving energy", control societies operate with computers (6). This is the same error that Adorno makes by reifying the relation between technology and production. Flusser's account of apparatuses (like Heidegger's "Question Concerning Technology"), on the other hand, stresses the way that modern science radically transforms our understanding of the nature of existence. The innovations of Wiener, von Neumann, Shannon and Weaver, etc., fundamentally reorganise how society is to be understood, and prepare the way for the creation of an information society which, as Deleuze shows, leads in turn to a mutation of capitalism in which the logic of digitality spreads throughout all social institutions and interiors. The technology of control emerges once this digital logic 'infects' the forces of production and, as argued earlier this chapter, upends the stable relation between the relations and forces of production.

The use of digital technology in art demands to be understood in this context. Its relation to analogue technology—a central theme in almost all writing on the digital in relation to moving image artworks—must be inverted for it to be properly understood. The analogue camera, for example, does not truly index reality because, as Flusser asserts, 'reality' has been dissolved into a swirl of probabilistic quanta and bits of information. The digital camera, which

captures information *as* information, gives the truer index of reality. Art, for Deleuze, may have nothing to do with information in the sense of 'order words', but like all empirical objects the work of art is composed of information, and in this way, to create art using digital means is, in Flusser's view, to in-form the world.[18]

Robak's *Where's My Water?* thematises this recalibration of the creative act in a post-digital context. The video takes as its content a variety of hand-held implements, particularly pens, pencils, and markers, items that here signify the convergence of artistic labour with office labour. Each object is painstakingly copied from life, down to the smallest trademarks, small print, and barcode lines. The physical materials are simulated just as realistically, a technical feat most readily appreciated in the rendering of clear plastic and glass, which refract objects and reflect light with what seems to be perfect illusionism. Yet photorealism is never the exclusive aim of the work; the 'action' of dropping these implements into their containers plays out against a variety of backgrounds, some of which are abstract colour fields, others of which are glitchy or low resolution. Transitions between 'shots' typically involve the sudden interruption of the image by nondiegetic elements: a cloud of balloons or a group of walking figures who wipe from one shot to another, or on several occasions, digital special effects that draw attention to Robak's manipulation of the flat surface of the screen. In one of these, Robak has each of the twelve screens flip, briefly revealing a deep but empty space behind the image, making literal Flusser's claim that the technical image sits on the surface of the ungraspable universe. Robak deploys his sophisticated arsenal of visual effects to redirect attention between the surface of the image and its ambiguous artificial depth. The work points nowhere but back to itself; presented as a looping video, the time of the work maintains its own perpetual present. It parodies montage in its juxtaposition of elements, but does so in an extremely labour- and skill-intensive way, one which demonstrates a sophisticated mastery of the apparatus of digital image production.

As such, Robak's work illuminates a path towards artistic resistance in the context of control. The work involves the appropriation of the most advanced technological means of its time, with these appropriated through art's relation to general social technique. The machines and apparatuses developed by the technologization of the labour process and the intensive

[18] Traditional art can and does persist by bracketing off the probabilistic existence of its objects, just as people still trust in the support of a chair, even if they are aware of its atomic and subatomic composition. But for Flusser at least, such art can only be of limited use in terms of making meaning of the world, and offers no resistance to the domination of humans by apparatuses.

technical division of labour and process of deskilling are delivered over into the sphere of artistic production where they are turned away from communication with society and the production of useful commodities towards purposelessness, or uselessness. Through the fetishism particular to autonomous art, the work seals itself off from its production process and from its necessary dependency on society and its infrastructure, and strains towards autonomy. It is a technical image, the product of an apparatus, that concretises the play of quanta within the hardware and software of the computer. But rather than attempting to make meaning through visualisation, Robak probes the less probable and more informative corners of the apparatus program's probability space. As Flusser argues, the use of the apparatus in this way—which we can liken to Deleuze's notion of 'having an idea' in a particular discipline or artform—extends the domain of human possibility and thus acts against the domination of the totality, the program. Beyond this, in reflexively thematising the concepts of skill and labour, Robak critiques the social and technical division of labour through an ironic display of autonomous skilfulness, and demonstrates the emancipatory possibility identified by Roberts as the reskilling of the artist.

In the context of control society, Robak responds to Deleuze's call for new weapons by seizing the weapons of the enemy. In gaining access to the skills, techniques, and technology accrued by capitalism under control and turning these towards autonomous (or at least non-heteronomous) ends, Robak—however briefly—suspends the spatiotemporal totality of control. His work is noncommunicative to the point of meaninglessness, but in going to this extreme Robak creates something that defies the imperative to communicability in control society at every level. This is true even at the level of the work's title, which seems to bear no relation to the content of the work, and is shared by a very popular phone game (to which it also has no apparent connection). The work circulates through controlled networks but seems to withdraw again and again from attempts to extract meaning, value, or information. That the work is silent, too, speaks to this disavowal of communication, withdrawing yet another potential data stream from the extractive processes of control.

As a single artwork, Robak's *Where's My Water?* does not disturb the creeping totalisation of control. Perhaps no work of art could. But it does suggest strategies by which some form of resistance to domination might be mounted, whether at the level of the distribution of space and time, at the level of the apparatus and its program, or at the level of the social through its critique of deskilling and the division of labour. The question to be asked, then, is how much resistance is necessary to challenge the dominance of the logic of control.

A solitary vacuole of noncommunication—and potentially millions of such vacuoles—can exist within the networks of control that can simply redirect flows of information and communication around them. Perhaps, then, as Flusser suggests as a final type of resistance to the domination of apparatuses and their programs, what is important about these discrete distributions of space and time is simply that they “create a space for human intention in a world dominated by apparatuses” (2000: 75). Where the subject position of the individual is degraded by the extractive processes of control, the subjective confrontation with the autonomous work of art comes to represent an increasingly rare opportunity to slip the net of control, if only partially and temporarily.[19]

[19] Emerging fields like cultural analytics, however well-intentioned their practitioners may be, undermine this claim by subjecting whatever survives of aesthetic experience to the digital logic and extractive processes that characterise control society. The datafication of the aesthetic sphere makes it subject to control, leading only to an intensification of the culture industry and a withering of the critical function of the aesthetic sphere that escapes digital capture.

Chapter 3: Aesthetics, Art, and Memory in Control Society

3.0: Introduction

The operation of control society depends on the intensive technologisation of memory at the level of the (post)human dividual and at the level of social and cultural institutions. The maintenance and representation of cultural memory has long been a function of the aesthetic sphere in Western society, with archives, artworks, memorials, and monuments serving as the basis for a unifying hegemonic collective identity. Like all institutions, those belonging to the realm of public remembrance undergo reform according to the logic of control. The technics of memory particular to these institutions are subsumed or simply replaced by the mnemotechnics of control society. The digitisation of the historical embeds it within a network of devices, machines, and minds as data upon which the technology of control may act.

This transformation of the historical and the cultural and aesthetic institutions which constitute and preserve it extends the colonial function of the aesthetic into new circuits structured according to the same white supremacist hetero-patriarchal logic of (post-)colonial capitalism. The machinery of control and the externalisation of memory that it allows advance a regime of recollective purity which records the world as information to be operated upon; under this regime the temporal distinction between past and present is dissolved, and both become mere functions of the future.

Outside of the social sphere, where both Deleuze and Adorno locate art, the work of art comes to represent—however fleetingly—a site of resistance to the mnemotechnics of control. Like in control society, in aesthetic experience the distinction between past and present collapses, and both are drawn into the material vortex of the artwork. But, as with art's relation to social heteronomy, the artwork reveals the irrationality of the recollective regime of control. Rather than making memory and history into means for their own sake, art—through a recollective impurity—orients its mnemonic content towards the human.

This chapter begins by considering the role of aesthetic institutions in Western society and their subsequent reform in control society, with a particular emphasis on the ways that the control of memory is transformed by digital technology and the consequences of this digitisation. It then examines Jacolby Satterwhite's 2012 video *Country Ball* in the context of this social transformation of memory, exploring how collective and cultural memory enters art as a means of resisting the mnemonic heteronomy of control.

Figure 5. Jacolby Satterwhite. *Country Ball 1989-2012*. 2012, https://vimeo.com/38621657. Accessed 14 Feb 2024.

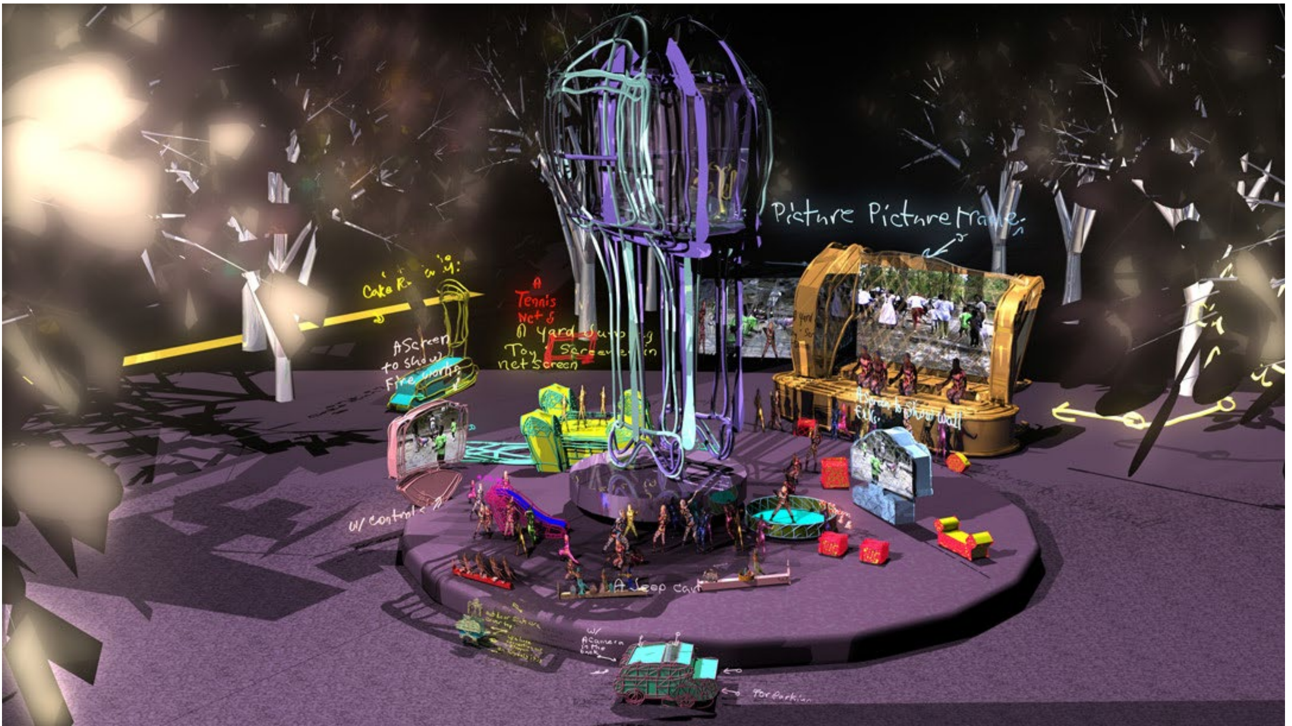

Figure 6. Jacolby Satterwhite. *Country Ball 1989-2012*. 2012, https://vimeo.com/38621657. Accessed 14 Feb 2024.

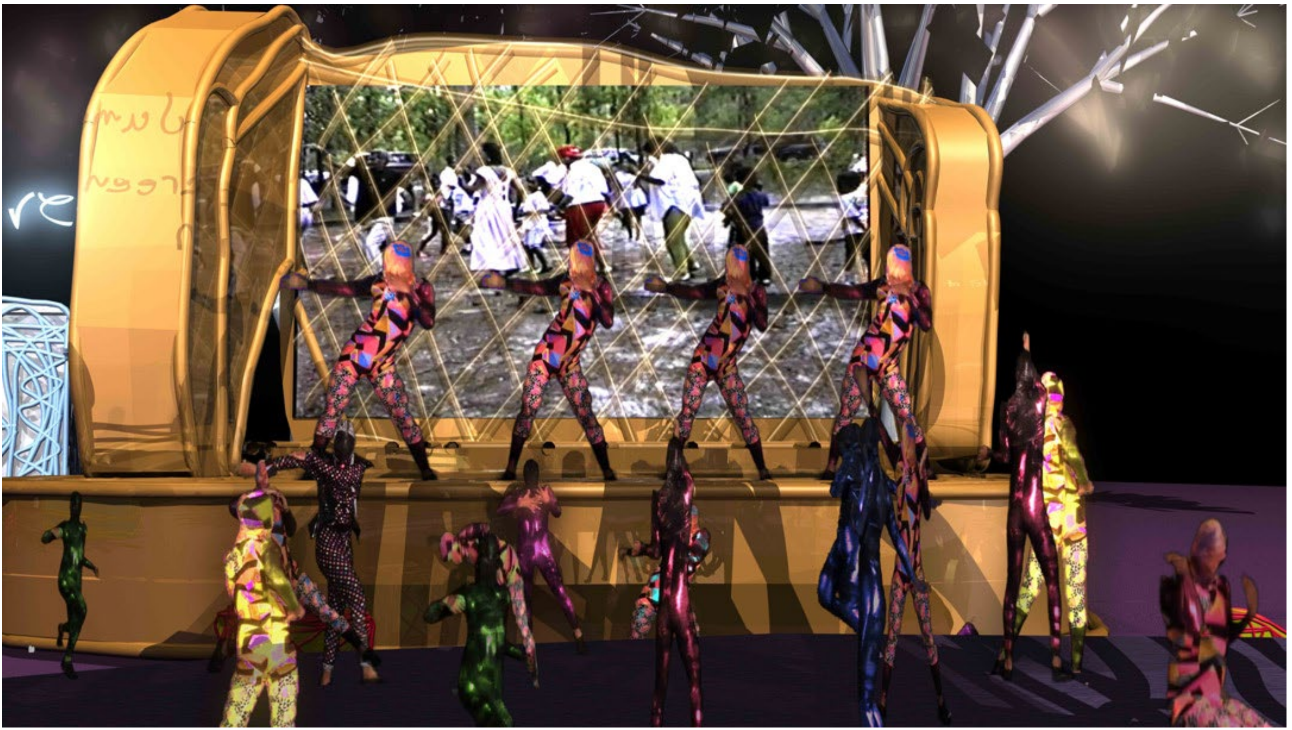

Figure 7. Jacolby Satterwhite. *Country Ball 1989-2012*. 2012, https://vimeo.com/38621657. Accessed 14 Feb 2024.

Figure 8. Jacolby Satterwhite. *Country Ball 1989-2012*. 2012, https://vimeo.com/38621657. Accessed 14 Feb 2024.

3.1: Jacolby Satterwhite, *Country Ball (1989-2012)*

Jacolby Satterwhite (b. 1986) is a multi-disciplinary artist whose practice incorporates video, digital animation, performance (particularly dance), music, installation, and sculpture, as well as personal ephemera and archival materials. Satterwhite's work intervenes in a number of art historical traditions including abstraction, surrealism, modernism, expanded cinema, pop art, and performance art, but is not bound by this referentiality; similarly, Satterwhite works in many forms across a wide variety of media, having produced standalone sculptures and drawings, a concept album and music video, photography, and visuals for other artists, in addition to the video work discussed in more detail below.

Satterwhite's work is not united by a particular theme but in general displays an interest in the structure of memory at the various levels of the individual, the family, and society, and in particular explores the mediation and mediatisation of memory across technological forms. Satterwhite draws extensively on a personal archive containing recordings, drawings, and schematic designs made by the artist's late mother, Patricia Satterwhite, who produced such materials in prolific quantity, in part animated by her experience of schizophrenia. Elements of these drawings and recordings frequently appear in Satterwhite's videos, having been scanned or recreated as 2D or 3D images and artifacts.

Another major element of Satterwhite's practice discussed in the chapter below is vogue, the style of dance that developed out of ballroom culture in New York beginning in the 1960s. Satterwhite's interest in the relationship between dance and performance and the digital image leads to the extensive use of motion capture in his work, and the artist's video works typically feature dozens, even hundreds, of mo-cap recordings of Satterwhite's dancing body integrated within the virtual environment of the works. The use of vogue specifically points again to Satterwhite's overarching interest in the forms and practices of memory, identity, and belonging in relation to specific cultural formations, a claim examined in further detail in the subsequent sections of this chapter.

Despite the integration of 'real' video elements within his works, Satterwhite does not typically pursue a realistic style, opting instead, as discussed below, for a DIY aesthetic that foregrounds the artificiality and 'hand-craftedness' of the works. Though clearly proficient in the use of 3D modelling and image editing software, Satterwhite's virtual environments barely cohere, unfolding with an ambiguous spatiality against the void of a black background. Some digital objects are rendered with depth and roundness, while others are left as flat 2D images, or sprites, which seem to sit on the surface of the image until the camera moves around them

and reveals their flatness. This self-conscious opposition to the regime of realism sets Satterwhite apart from an artist like Tabor Robak; here, what is pursued is the expressive potential in digital technology, rather than the development of an advanced technique.

Country Ball 1989-2012, video and video animation (12:38), 2012.

Satterwhite's *Country Ball* represents an effort by the artist to 'recreate' a home movie of a family cookout from 1989. The video itself is displayed in the work, contained within sketchily rendered screen structures within the environment of the work. The home video focuses largely on a family, and in particular on a group of young children including Satterwhite, dancing and playing in a park; the soundtrack of the video, which runs throughout the work, is the only sound. The virtual space of the work is populated by several types of objects. Trees, outdoor furniture, and playground equipment suggest the space of the park seen in the video, though these are scattered haphazardly around the space, only symbolically suggesting the park rather than representing it faithfully. Satterwhite also includes 35 of his mother's drawings, traced by hand into a computer before being transformed into 3D objects and imported into the work. These drawings, accompanied by descriptive titles and explanatory notes rendered in the same style, depict various types of outdoor furniture and objects associated with parties, music, and cooking. Finally, the work also contains some 100 different videos of Satterwhite performing, posing, voguing, and dancing. Each of these was captured in front of a green screen and imported into the work, sometimes being digitally manipulated in the process so that the artist's costume and appearance seems to change. Satterwhite suggests that the virtual space corresponds to Hieronymus Bosch's *Garden of Earthly Delights*, a triptych that similarly depicts groups of figures, strange objects and structures in an ambiguous landscape, and which is similarly structured by rhythmic groupings and dynamic compositions that seem to symbolise, rather than narrate, any possible meanings. The final panel of Bosch's triptych is marked by an abrupt departure from the light of the garden to a dark and nightmarish other space. This stark contrast is replicated in a final sequence of Satterwhite's video.

This third sequence reveals another space below the 'park' environment, where a figure is forced to consume a sludgy substance that seems to be composed of that environment itself. A crowned figure, naked and apparently white, sits on a throne overseeing this forced feeding while versions of Satterwhite dance around piles of money; this crown and throne are also based on drawings by the artist's mother. This sequence, which concludes with a manipulated version of the home movie footage contained in the distended belly of the bound man, depicts

with pointed perversity the process—in which the artist too is implicated—of the extraction and exploitation of memory in relation to capitalism in control society, where platforms similarly consume mnemonic media ultimately for the purpose of profit. The sequence connotes slave labour but transposes any critique via the lexicon of BDSM and bondage; the enthroned figure in power here is a sexualised figure, and the implied violence and control can be read as similarly sexual. This conjunction between race, labour, and sexuality is another of Satterwhite's ongoing interests, but will not be pursued further in this chapter.

What this chapter does explore is the interplay between Satterwhite's remediation of mnemonic content across a variety of digital forms and artistic contexts. Contrary to Deleuze and Guattari's emphatic separation between art and memory, Satterwhite engages a vernacular concept of memory that extends through the microcosmic media environment of the work and elaborates a novel spatio-temporal logic that rebuffs the hegemonic space-time of control.

3.2: Mnemotechnics and Control

In order to see how Satterwhite's examination of memory in *Country Ball* might constitute resistance to control, it is first necessary to give a brief account of the transformation of memory in control society. In this section, I address some of the significant developments of both the philosophy and the technology of memory in the emergence of control society, using Goodman and Parisi's (2010) concept of *mnemotechnics* to describe the convergence of mnemonic technology and human memory in the context of the expansion of capitalism entailed by control.

One of the important ways that capitalist control society can be distinguished from disciplinary society is the externalisation, distribution, and subsequent valorisation of memory.

The media environment of control society compels the dividual to voluntarily externalise their memories to the greatest possible extent, whether as data stored on personal devices or in cloud storage, or as content on social media platforms. Personal digital devices, the storage facilities of Big Tech multinationals, and the network infrastructure that connects them become a machinic ecology in which human memory and computational memory flow together. Steve Goodman and Luciana Parisi (2010) use the term *mnemotechnics* to encompass this technological expansion of the function of human memory which is inextricable from the expansion of capitalism in control society. For them, the post-cybernetic context demands "a machinic conception of memory" that accounts for the continuity between human and technological memory (346). This account does not position mnemotechnics as a McLuhanesque 'extension of man' but rather draws the human into a media ecology in which there is a dynamic reciprocity between the human (as the source of memory-data) and the technical apparatus that shapes, shares, and stores human memories. Goodman and Parisi do not pay particular attention to the aesthetic consequences of this concept of machinic memory, but—insofar as these memories are externalised as aesthetic objects (images, texts, videos, sounds, taking either digital or physical form)—the 'mechanisation' of memory obeys a mediatic law of form.[20]

[20] One of the consequences of the externalisation of memory is the foreclosure of the multisensory identity of memories. Digitally externalised memories must take audiovisual form, or be further abstracted as behavioural data (the 'memory' of what you listened to on Spotify or bought on Amazon, etc.). This sensory flatness is a condition of the objectification of memories, which concretises them on the level of cultural and aesthetic objects and thus makes them subject to aesthetic laws. This flatness is also what makes them ripe for subsumption by capital, but in the same way that commodity fetishism wins art its autonomy, a kind of 'content fetishism' severs the aesthetic content of

The reification of human memory, as one of the determining functions of control society, is linked to second-order cybernetics, and as such involves the reconfiguration of memory and the act of remembering not only in terms of information and data, but in terms of the reflexive and active character of the cognitive apparatus. Goodman and Parisi, citing Alexander Riegler, argue that human memory does not "stock up external and internal data", but instead "[compresses] sequences of constructed cognitive patterns into compounds that could be readily accessed afterward, ultimately serving as inputs for cognition" (348). Memory is not an autonomous record of the past that sits in reserve in the brain or body, but is an ongoing modulation of cognitive patterns in the present and into the future. The consequences of this reconceptualization of memory, applied broadly across information systems, can be seen clearly in the recommendation engines employed by many media platforms (Netflix, Spotify, Youtube, etc.) which extrapolate from remembered patterns of behaviour to speculate on (and thus condition) future behaviour. Similarly, citing Gerald Edelman, Goodman and Parisi assert that memory is not merely content held in the brain (nor anywhere else in the machinic memory system) but is formed in the interaction of the perception of the past and the perception of the present; in this model, perception alters recollections and recollections alter perception (350). Thus if memory consists of learned cognitive patterns, those patterns are not reified in the mind (or elsewhere) but undergo alteration or variation when instanced in the "remembered present" (350). Recent neurophysiological study has also shown that memory possesses an affective dimension; emotional data clings to memory as an affective trace. But just as the cognitive pattern that constitutes the recollected memory is subject to alteration in the present, so too do affective states change "the pattern of convergence between brain regions" each time the memory is instanced (352).

Understood in this way, art and control are once again rendered as parallel operations on social life. Here, both give concrete spatiotemporal form to another human process previously inaccessible to capital: memory. In both cases, memory is subsumed within a machinic entanglement which externalises and concretises it in accordance with an immanent law of form. Memories—and the act of remembering itself—are caught up in the swirl of objective elements whose motion constitutes the dynamism of the system, whether that system is control society or the work of art. The real subsumption of memory by control-capitalism is a result of the development of mnemotechnics as general social technique, and

mediatic data from its valorisation and makes it possible—though not necessarily desirable—to separate out content and value.

so, as argued in the previous chapter, art can appropriate these machines of memory for its own ends.[21]

These developments in the post-cybernetic study of memory prepare us for a concept of memory that is digital through and through, in Deleuzian terms. Memory is not a continuous—that is, analogical—stream of data which is faithfully recorded in actuality and is unchanged by its instantiation in the present, but is a discrete series of instantiations of recollected cognitive and affective patterns whose every instance reopens the actual to potentiality, to the virtual. Recollection is a synthesis which arrests the flux of memory and perception as an impression (in both the aesthetic and tech/analytic sense), an instance, a synthesised object with semantic and semiotic properties. Understood in this way, the problems of memory are problems of aesthetics, and are also problems of the digital, if we take up Claire Colebrook's (2012) claim that these problems all concern "the relation between what is intuited (*aesthesis*) and the formalized systems that allow for intuitions to be given form and repeatability" (ix). Colebrook's assertion of the shared concerns of aesthetics and the digital (to which I add memory) are derived from Deleuze's particular concept of the digital in its relation to art; that is, that art is composed of elementary sensual forms (lines, volumes, areas, masses, etc.) which make up the units of a code and which are synthesised in the production of the artwork. The problem of the digital is the problem of the passage from the not yet formalised plane of potentiality into a world already ordered by formal systems; the flow from the analogical to the digital.

Goodman and Parisi, building on this Deleuzian conception of memory in terms of the temporal relation of past and present, see the "lived present" as a "synthesizer of the past and the future contracted in microtemporality", where the potentiality—the "futurity"—of the past emerges in the perception of the present (2010: 354). What the context of control society adds to this concept of the temporality of memory is a sense of the inevitable unfolding of the future in the present. Goodman and Parisi identify this as a product of the "technological environment" (354) of the present, but specifically it is a function of control, the predictive management of information flows and affective intensities. Control society is organised around this anticipation of the future where the present moment is reconfigured in terms of the production of data; the present of control society is a perpetual experiment structured by the past as a

[21] This process should be distinguished from the concretisation of psychological phenomena that psychoanalysis made possible, although, as Adorno argues, the contributions of Freud in particular are key to the observation that aspects of the human psyche and the collective (un)consciousness are able to enter into the work of art as objective elements.

data learn-set and the future as a desired finite state. This is increasingly reflected not only in the systems that govern control society which converge towards being operations of data analytics and predictive management in all areas of society, but also in the behaviour of (in)dividuals, particularly in relation to the production of content for social media. Individual and collective experience is increasingly oriented towards the future production of media content; the future memorialisation of the event haunts it in the present. To 'do it for the [Insta]gram' is to engage with the mnemotechnics of control whereby memory, perception, and behaviour are structured by the predictive imperative of control.

Goodman and Parisi note that this modification of behaviour is not a "zombification of the body" per se, but is instead the "microactivation of what a body can do, albeit within the terms of the domain of demarcated and relatively predetermined possibility" animated by what they call "mediatic addiction" (357). The mnemotechnics of control interact with the human limbic system, physiologically rewarding media users for creating content that drives engagement and thereby compelling greater participation in functions that externalise and valorise mnemonic content. Platforms and devices now systematically recirculate memorial content as a way to extract more value from old data; users are shown posts, photos, and other media from their own histories with the intention of having them generate more engagement and attract more attention. In this way, control capitalises upon the peculiar temporal relation of past, present, and future of today's mnemotechnics and turns it into an engine for extracting more value, generating more data, and intensifying the dominating structures of control society.

Going further, control pursues a condition of what could be called perfect recollectivity, whereby the conversion of mnemonic content into data tends towards losslessness. In constructing the past as a database of data from which to learn about the future, it becomes imperative for control to maintain memory as completely as possible. The development of memory technology in relation to both humans and computers has facilitated a digital conception of memory that eliminates 'imperfect' recollectivity to the greatest possible extent by discarding any mnemonic excess. The idea of being overcome or overwhelmed by a memory is impossible in a society of control that is ambivalent to the semantic content of any given memory and treats it only as information. As information, again, the difference between past and present collapses; computers access what is stored in their memory as though it were the immediate experience of the present moment. What matters, then, is the addressability of memory. In the context of the mnemotechnics of control, the structure of a database is

imposed on the past such that any mnemonic content can be accessed and indexed as efficiently as possible.

Against this vision of totalising control, however, Goodman and Parisi maintain, through recourse to Massumi's concept of affect, that the communicative and mnemonic relationship between "physical bodies and technical machines" is fundamentally "virtual", containing a potentiality that cannot be reduced to information or data (358). In the context of the machines of memory of control society, in which memories course along networks that implicate synapses, bodies, and technical machines, this virtuality is expressed as the potential—a potential that resists the domination of predictive control—for "mnemonic mutation" (358). In constructing a temporality of memory that multiplies the relations between past, present, and future, and in introducing technical prosthetics that extend this conception of memory beyond the limits of the human, Goodman and Parisi's concept of mnemotechnics comes to describe a version of memory shaped by the logic of control that, in their account, escapes the normative force of algorithmic prediction and maintains a link to the pure potentiality of the Deleuzian virtual. What this account does not fully contend with, however, is the fact that this relation to the virtual is itself an engine of control. In Burrough's original account of control, he notes that control depends on its never becoming total; there is always a gap, and it is in this gap that a relation to the virtual becomes possible. The virtuality of the mediation of memory between bodies and machines is a necessary condition of human resistance to technological control, but is not in itself sufficient. It is here that art becomes relevant to memory once more. Both share in a relation to the virtual that is mediated by objective or actual technical means. Art, which realises its potentiality without exhausting it, serves as a model for the operation of a memory that maintains its potentiality within a technological network without delivering itself over to dominating forces. Satterwhite's *Country Ball*, with its reflexive focus on the mediation of memory and its opposition to the normativity of memory in the predictive apparatus of control is exemplary of the resistive potential of art and memory in their relation to the virtual; this argument is pursued in Chapter 3.5.

3.3: Memory and Art in Adorno and Deleuze

This section briefly explores the conjunction of memory and art in the writing of Adorno and Deleuze. Adorno's *Aesthetic Theory*, informed so directly by the immediate memory of the Holocaust, indicts the representation in art of memories of reconciliation, arguing instead that the task of art is to create anew the conditions in which 'full' reconciliation can be achieved (O'Connor 2010). He also argues that the reification of subjective experience in art (as in the manner of the Surrealists) falls short of this task unless it enters art concretely, as an objective element. Deleuze goes further, rejecting the possibility of any relationship between memory and art (even, especially, in the case of Proust), and instead arguing that what may evoke memories in art are in fact 'blocs of becoming'. Nonetheless, as Satterwhite's *Country Ball* demonstrates, art can be led to engage with memory both thematically and structurally, and this possibility must be reconciled with the accounts of art given by both Adorno and Deleuze. In the case of Adorno, as argued below, memory enters the work of art under certain conditions as a concrete, objective element divorced from subjective experience or communicative expression; here he coincides with the Deleuzian framework of percepts and affects. In Deleuze, despite their protests to the contrary, memory and mnemonic content structure the transformation of the raw material of sensory perception into percepts and affects, as considered below. Further, Deleuze's account of the art object places an emphasis upon the monument and the memorial, both of which retain some connection to a concept of memory.

Adorno concedes that because the sphere of art corresponds with "an inward space" of the human, it is "plausible" to develop a theory of art in terms of "psychic life", but argues that this falls short as being "preoccupied with the hermeneutics of thematic material" and forgetting "the categories of form" (2002: 8). Making art commensurate with experience, thought, memory, and dreams leads critique away from an engagement with the objective elements of the artwork and the content embedded therein. Psychoanalysis, Adorno contends, confuses artworks with documents, leading to the belief that they communicate directly with the social and that their messages will yield to interpretation. The psychoanalytic view of art treats mnemonic content as a fetish, surfacing in the artwork as an object of desire or the return of the repressed. In Adorno's aesthetic framework, this approach clearly fails to discern the complex system of elements that make up the existence of the artwork and its specific aesthetic quality, but it does offer some constructive insights that move away Adorno's theory

away from traditional idealist aesthetics. Psychoanalysis “brings to light what is internal to art and not itself artistic”, furnishing concrete links between social structure and the structure of the artwork by deciphering “the social character which speaks from a work” (9). It dispels the idealist notion of transcendental art by working in the opposite direction, making art into the objective product of the human psyche. Where it errs, for Adorno, is in elevating absolute subjectivity above the objectivity of the work, neglecting “their inner consistency, their level of form, their critical impulse, their relation to nonpsychical (sic) reality, and, finally, their idea of truth” (9).

What is useful in terms of memory in art for Adorno is the way that psychoanalysis reifies psychic content and treats it an one ‘fact’ amongst the other ‘facts’ of the artwork. Both conscious and unconscious forces enter the artwork as “material among many others”, mediated by the law of form (9). The work of art, though the product of a freely subjective labour, is not only ‘like’ the artist but ‘unlike’ as well, and the task of aesthetic critique for Adorno is to discern the relationship between the labour of the artist and the reality that ‘resists’ the artist. In the case of Satterwhite’s *Country Ball*, as seen in the following sections, the work can be read as a series of mnemonic strategies for bringing to presence a particular memory through a number of formal tactics (repetition, variation, iteration, transmutation, and so forth). The inevitable failure of these tactics is not the failure of the work but the condition of its openness, its inner dynamism. The imperfect recollectivity that is the condition of all artworks is a source of resistance to the reality of social heteronomy and the compulsion of the control society towards the perfection of memory.

This resistance to heteronomy takes place too in the relation of art’s own memory to the historical conditions of suffering to which it has borne witness. In the wake of Nazism, Adorno argues that art, regardless of its content, had become an accomplice to barbarism in that every artwork, by the mere fact of its existence, ideologically secured “the spheres of spirit and culture” (234). This conservative aspect survived in even the most radical artworks, and it survives still today. This is not an attack on art, but on the contrary a defence; the conservative element of art which preserves “progressive spirit” even in a society oriented towards its destruction is what makes possible any opposition to “the total domination of the social totality”. The irrationality of late capitalism is the triumph of means over ends and the foreclosure of reconciliation; the mere existence of an aesthetic sphere in which the work of

spirit may be carried out sustains the possibility of reconciliation regardless of the content of particular artworks. For this reconciliation to be legitimate, however, “authentic works must blot out every trace of reconciliation in memory” (234).

One of the central paradoxes of the work of art in Adorno’s theory is this tension between the unity of the artwork which bears the trace of “the old reconciliation” and the immanent formal requirement to expiate all memory of reconciliation. Art, both ontologically and ideologically, carries a conservative element which sustains the memory of false reconciliation, even as it strives to model a new, true, reconciliation with spirit. In order to achieve this, history and memory enter into the vortex of the artwork as objective elements, where they submit to inner-aesthetic totality and are transformed or refracted before returning to society embedded in the form of the work. The unity of elements, the conservative impulse of the artwork, is overcome by the dynamic openness of the artwork, its irreconcilability into an object identical with itself.

Memory thus provides raw material for the artwork and its objective form, alongside perception and sensation which also enter into the artwork as objective elements in Adorno’s theory. Each of these elements submits to an immanent law of form which reconfigures them in accordance with the monadic unity of the work. Because of the social and historical origins of these elements, they carry over into the artwork aspects of the “antagonistic situation” that Marx called (self) alienation. Authentic artworks bear the memory of suffering, denouncing it and transposing into the image of the synthesised work, and in doing so, create the possibility for the situation becoming its other (260). Art must not seek to pacify the suffering it embodies or give itself over to “affirmative replication and harmony”, as in the nostalgic representation of remembered reconciliation, or formal or technical regression. Instead, as the work of spirit and the writing of history, art must bear “the memory of accumulated suffering” (261), redeeming it through the synthesis of its elements that it directs towards freedom.

If all authentic artworks reveal the possibility of reconciliation for Adorno, then works involving memory go one step further, making thematic content out of the transformation of objective elements towards freedom. The attempt to represent a specific memory in the case of Satterwhite’s *Country Ball* through the transformation of nonartistic material by the free and sensuous labour of the artist is an analogue to the transformation from alienation to

reconciliation. The memory itself, glimpsed in video form within the work, enters into a dynamic formal system which revives the remembered as a 'becoming' in the present of the work. This permanent 'becoming' contains in it the possibility of freedom in reconciliation.

Deleuze also reconfigures memory as a mode of becoming in art, though his claims about the relationship between memory and art are not as easily discerned as those of Adorno. The subject receives sustained attention in *What is Philosophy?* (Deleuze & Guattari 1994), where memory and perception are distinguished from the affective and perceptive content of artworks. In this account, the formal or material 'aim' of art becomes the extraction of "a bloc of sensations, a pure being of sensations" which are objective and distinct from the sensations of any particular subject (167). The material means of art are deployed to embody these percepts and affects, to give them objective form. In Adorno's account, it is enough that 'psychic material' enters the work as one kind of material among others, that it enters into the vortex of objective elements that comprise the artwork. Deleuze and Guattari step further, arguing that it is *only* in the concrete material of the percept and the affect that memory enters into the work, and never as memory itself but as a bloc of sensations extracted from memory. Writers write, for example, they argue, "not with childhood memories but through blocs of childhood that are the becoming-child of the present" (168). The relationship between the viewer and the percepts and affects embedded in the artwork is a relationship between "autonomous and sufficient beings"; here, even if the artwork itself is not necessarily autonomous through and through, it contains within itself elements that gain an autonomy through the self-sufficiency of the material. Memory is thus externalised and sheds its dependence on a subject, becoming autonomous as a bloc of sensations within the work.

Understood in this way, the role of the artist becomes that of "a seer, a becomer", going beyond either memory or fantasy and "the perceptual states and affective transitions of the lived" to 'free' life itself by shattering the distortion of habitual perception and sensation (171). Quoting Virginia Woolf, Deleuze and Guattari describe the method of producing these percepts that shatter perception as being one of "saturation", of eliminating "everything that adheres to our current and lived perceptions" and keeping "only the saturation that gives us the percept" (172).[22] If Adorno's theory of the artwork emphasises construction and the primacy of material,

[22] This account is reiterated in a more measured way in Deleuze's "Having an Idea in Cinema", where in relation to the cinema of Straub-Huillet and others, he makes clear that the creation

Deleuze and Guattari's theory emphasises abstraction and extraction; the artist gives form to the material according to their ideas (that the novel, the art form that most systematically eliminates the possibility of accident or error, is the form they are most concerned with is telling). Here the artist works at the content of their own psyche as much as on the raw form of material to draw out singular percepts which make the artwork into a being, which offer up to the viewer a state of becoming. The viewer of a work containing mnemonic content is not invited to see as though they were the artist remembering the past, but to become *with* the artwork itself. This encompasses the affective as well as perceptive; affect is understood not only as the passage between lived states, but further as "man's nonhuman becoming" (173). In order for the memory of the artist to survive its detachment from the artist's psyche, it must become an autonomous becoming which the viewer of the work attaches to in a "zone of indetermination", where the viewer sees from within the work by occupying its becoming.

The aesthetic force of Deleuze and Guattari's affects and percepts attain only from an identification that separates them from the sensory perceptions from which they are derived, and in this way they depend on both individual and collective memory as a condition of their very existence. This dependence on memory is overlooked in the account given in *What is Philosophy?*, where the writers seek to expel memory from the artistic process *tout court*. Particularly in the context of figurative art (and especially in literature), the recognition of the power of percepts and affects depends on a resonance between the artwork and the subjective experience of the viewer that is informed chiefly by memory, both in the personal sense—one's own recollections and impressions—and collectively, or culturally—hyper-/inter-textual links, cultural symbolism, artistic traditions, variations and developments in the artist's style, etc. If, as Deleuze and Guattari argue, Van Gogh's sunflowers are "becomings" (175) that make viewers 'become' with them, this process of identification and becoming depends on a previous experience of sunflowers, of painterly technique, of similar depictions of flowers in art history, and so on. Deleuze and Guattari resurrect the universal subject of aesthetic judgment by supposing that what seems to rise to the level of the percept or affect does so universally. The Schillerian concept of aesthetic education finds its way back into their account. Instead, it is simpler to readmit memory into aesthetic experience and explain the emergence

of percepts and affects—of creative Ideas--may only be glimpsed briefly even in the most authentic works of art. A work of art is not composed *only* of such perception-shattering blocs of sensation, but may become 'great' by possessing even one.

of affects and percepts by recourse to this idea of mnemonic resonance; that what strikes the viewer of a great artwork is some folding or unfolding of perception in the present structured by its relation to the past. In this way, artworks—as they do for Adorno—reify and concretise mnemonic content in objective form, and set it in opposition to the spatio-temporal logic of the social present.

The resistance of artworks, as Deleuze notes in “Having an Idea in Cinema”, is partly derived from the fact of their physical endurance. Art bears the guilt of its survival in the face of barbarism for Deleuze as much as it does for Adorno. The notion of the monument is thus of particular significance for Deleuze. The artwork as monument is not a commemoration of a past event but “confides to the ear of the future the persistent sensations that embody the event” (176). This orientation towards the future is characteristic of Deleuze’s theorisation of the artwork in general, which he argues always appeals to or summons forth “a people to come” (176). Here, however, Deleuze and Guattari’s theory of the monument falls into inconsistency: the monument preserves an event for an audience yet to come, but this victory of this event—whether suffering or revolution—resides only in the “bonds it installs between people” at the moment of its making (177). The monument of the event is always in the process of becoming, and thus constantly renews the vibrations and openings that characterised the event, but in order to remain legible as art or as a monument, the work must pass through the memory of the people in the present moment. The constancy of the monument is not immanent to the monument itself but depends—like the percepts and affects described above—on a particular mnemonic resonance that grounds all judgments, even if—as with the ‘great’ art Deleuze and Guattari describe—the objective elements that emerge in the work transcend the lived present and appeal to some future people.

What Deleuze and Guattari, and Adorno to a more modest extent, propose converges with the concept of mnemotechnics advanced by Goodman and Parisi in the previous section. The relation between perception in the lived present, informed by the ‘futurity’ of the past in the present, and the technical prosthetics that objectivate that perception is fundamentally virtual, sustaining a potentiality that allows for the emergence of affects and percepts that inhere in the work and transcend the immediacy of the present moment. Memory, then, though emptied out from the work’s objectivity, nonetheless structures the relationality of the work and thus the conditions of its connection to the virtual.

3.4: Cultural Memory and Aesthetic Culture in Control Society

The previous sections have dealt with memory largely in terms of (in)dividuals and their particular relation to the mnemotechnics of control. This relation is structured by the technological environment of the control society which reconfigures both the temporality of memory and the spatial concept of memory as storage, or specifically as a database according to which the experience of the present and future is anticipated. There is a tension in the relation between embodied memory and its technological externalisation between the normativity of protocol and the potentiality represented in the virtual character of this relation. Memory oscillates between stability and instability as it extends across the mnemonic assemblage of the control society.

This section examines memory in the sphere of culture and the aesthetic, extending this double character of memory in control society to consider how the idea of cultural memory empowers normative structures of belonging and exclusion, specifically in racial terms. Drawing on the research of David Lloyd (2019) and his account of the racial regime of aesthetics, this section explores the normative role played by aesthetics and cultural memory in producing the subject of control society. This prepares a later consideration of the engagement with collective and cultural memory and identity in Satterwhite's *Country Ball*, particularly in relation to the use of vogue, in Chapter 3.6.

Jan Assmann (1995) distinguishes cultural memory in two decisive ways, separating it firstly from science and history, which "do not have the characteristics of memory as it relates to a collective self-image", and from what he terms "communicative" memory, or "varieties of collective memory that are based exclusively on everyday communications" (126). Cultural memory belongs to the domain of "objectivized culture" and here, in the relation between objectivised culture and organised communication, it structures what Assmann calls the "concretion of identity" (128). The content of cultural memory forms the basis for a group's "consciousness of unity" from which they derive "formative and normative impulses" that allow the group to "reproduce its identity"; Assmann concludes that because of this relation, objectivised culture can be said to have "the structure of memory" (128). This account coincides closely with the post-cybernetic conception of memory advanced by Goodman and Parisi (2010) in which a pervasive trans-temporal 'futurity' has a normative impact on the unfolding of the present, as well as with the mnemonic structure of control more broadly, in which normative structures emerge through the extension of homeostasis as a principle

throughout society. In contrast to the uniform recollectivity of the mnemotechnics of control, however, cultural memory is characterised by what Aby Warburg called "mnemonic energy" which crystallises collective experience via the objectivation of culture and unleashes it when engaged by "institutional communication (recitation, practice, observance)" (Assmann 1995: 129). The conditions of this communication are themselves normative, and are often at odds with the mnemonic function of the cultural objects, dictated by a regulatory concept of culture and civilisation that typically, as argued below with reference to Lloyd, entrenches white supremacy and Eurocentrism in the construction of a universal subject of aesthetic culture. Here again, the dual structure of memory, both normative and possessing transformative potential, is repeated; a normative aesthetic culture attempts to constrict the virtual aspect of the relation between memory and its objectivation, but the object itself resonates nonetheless with mnemonic energy.

In its objectivity, cultural memory exists in two modes: the first is characterised by the potentiality of the archive, and the second by actuality, the putting of "objectivized meaning" into context (130). Normative aesthetic culture carefully controls the latter to contain the former; the instantiation of cultural memory in Western society is regulated by a discourse of 'civility' and rationality premised on the hegemony of European culture. In Assmann's account, as in Lloyds' (see below), this regulation is enacted by recourse to a "normative self-image of the group" which "engenders a clear system of values and differentiations in importance which structure the cultural supply of knowledge" within the group (131). This knowledge serves as the basis for the group's "awareness of unity and particularity" (132). In Assmann's account, this dialectic is immanent to the objectivation of cultural memory, and emerges from the reflection of the group on their self-image. What this view fails to observe, and what Lloyd now contributes to this theory of cultural memory, is that the hegemonic aesthetic culture subsumes the objects of cultural memory and reorients them towards its own ends, that is, securing the stability of aesthetic culture itself.

David Lloyd (2019) argues that the aesthetic emerges in Enlightenment Europe principally as a means of resolving the internal contradictions of Liberalism, furnishing a concept of 'common sense' that produced a universal human subject in spite of the material inequalities and political divisions caused by feudalism, mercantilism, and liberal democracy. This 'common sense' is established on the basis of the universality of aesthetic judgment theorised by Kant, grounded by his concept of the "supersensible substrate of humanity" upon which the possibility of transcendental aesthetic judgment is premised (Lloyd 2019: 31). Lloyd observes

that Kant's discourse on the aesthetic is structured by a division (based on explicitly racial judgments in Kant's writings) between the "pathological" subject of 'the Savage' and the "ethical, civilized subject, representative of the human as such, [who] is instantiated in the white European who occupies the apex of development" (33). The cultivation of this 'civilised' subject becomes the aim of the aesthetic sphere, and aesthetic culture develops to secure the ongoing process of 'civilisation'. The autonomy of both art and of aesthetic judgments themselves become part of a program aimed at "disciplining the senses and subjecting them to the goals of longer-term rationalization" (36). In the context of industrial capitalism and the social and technical division of labour, the autonomy realised (ideologically) in the aesthetic sphere serves to 'represent' the wholeness of the individual now divided by the relations of production. Lloyd also argues that the ideological figure of the individual produced by the liberal aesthetic sphere who, in being compelled to identify with the universal, is "summoned and annulled in the same moment" is a corollary of the individual unleashed by capitalism in "the purely interchangeable form of abstract labour" (38).

Aesthetic culture, then, is constituted by two parallel functions corresponding to Kant's theorisation of aesthetic judgment: one elaborates an "ideal phenomenology" that disengages aesthetic reflection from sensation and necessity, and the other elaborates a "universal or developmental history" from the 'Savage' to 'civil' society (Lloyd 2019: 39). The linkage of these functions produces what Lloyd calls the "narrative regime of representation", where 'narrative' emphasises the *"movement* of formalization" which separates the civil subject from the pathological subject, and 'regime' emphasises the regulation and distribution of the "access of human individuals or groups to the place of the Subject" (39). Lloyd concludes that the aesthetic "distributes racial positions along a temporal and a spatial axis", the first corresponding to the development from the 'Savage' to the Subject, and the second corresponding to the proximity of the position to the interior of civil society (40). This distributive function of the aesthetic is what determines the conditions of the representation of cultural memory, particularly in terms of the access of certain groups to the image of belonging that cultural memory produces.

In the context of Western European culture at large, which has historically coincided with what purports to be a universal aesthetic culture, the regulative function of cultural memory has been to secure the hegemony of a rational humanist liberalism that posits civil society as the developmental apex of civilisation. Classical antiquities and the ephemera of daily life in the deep history of Europe sit institutionalised alongside the illegitimate spoils of colonialism

and stolen artifacts gained via military expansion to furnish a collective cultural memory that sanctions white supremacy as the 'natural' order of history. This official, institutional cultural memory is posited as belonging to a universal culture of all humankind—this has been the ideological justification for institutions like the British Museum and the Metropolitan Museum of Art in particular—but, as Lloyd argues above, this universality is structured on racial exclusion.

As Deleuze (1992) notes, control society is characterised by a state of generalised institutional crisis, which extends to the institutions of cultural memory and the aesthetic sphere. Under the conditions of control, the social subject is no longer the individual but the *dividual*, a figure operated upon by abstract machines that exploit micro-processes of individuation to render the human body productive across a network of extractive technologies. The systemic collapse of disciplinary enclosures and their perforation by forces unleashed by intensive technologisation lead to the situation of the control society in which the dividual occupies multiple simultaneous subject positions. Here, in the context of an aesthetic culture that flows through new networks, the representation of the universal aesthetic subject risks being undermined. Michael Hardt's (1995) account of the withering of civil society concurrent with the emergence of the control society points to the diminished role of aesthetic culture in the constitution of the Subject. The aesthetic is no longer called upon to the same extent to furnish a normative image of the individual since such disciplinary regimes are everywhere in the process of being replaced by protocological structures that expand, rather than restrict, access. Further, the intensification of data collection and analytics, and the development of ever more sophisticated computing technology, tends to eliminate the need for abstraction and the pursuit of universal human qualities by allowing for an accounting of difference that recognises and permits the existence of a wide range of subject positions and identities—although it does this by pursuing what Deleuze calls universals of communication, the axioms that structure control society.

In the context of control, particularity proliferates, and so too, following the framework established by Assmann above, do the monadic unities of cultural memory which emerge from the objectivation of memory. As aesthetic culture flows beyond the walls of cultural institutions and finds new fertile ground in the network environment of the control society, access to specific cultural groups is extended to new populations previously excluded by disciplinary institutions, and the digital circulation of cultural objects allows for wider engagement. Most social media platforms, for example, foster the development of mnemonic cultures by allowing

the creation of public or private networks for the sharing of cultural knowledge and mnemonic material. Here the addicting quality of the mnemotechnics of control identified by Goodman and Parisi (2010) becomes relevant once more; the formation of groups and the pleasure of belonging and sharing in a collective cultural memory leads to greater platform engagement and the production and exchange of data, all of which fuel the operation of platforms premised on algorithmic prediction and the subsumption of sociality as production. Goodman and Parisi's defence of the virtual character of the relation between embodied memory and the technological prosthetics of memory suggests, however, that this digitisation of cultural memory in general unlocks a new potentiality that resonates with Warburg's concept of mnemonic energy, expanding the possibilities for the kind of productive mutation promised by the virtual relation.

Satterwhite's work, as seen in the next sections, engages with the relation of memory to technology at both the level of the individual (in the use of a personal, familial archive as raw material in the work; Chapter 3.5) and the level of a collective culture (in the performance of vogue and the reference to ballroom culture; Chapter 3.6). Ballroom culture occupies a strange double position in relation to the development of cultural memory in control society. On the one hand, it emulates the structure of a disciplinary institution from a position of non-dominance, defending a physical space with rigid regulations governing inclusion and exclusion, resisting the institutional weakening characteristic of control society. On the other hand, a parallel digital ballroom culture emerges out of the objectivation of vogue and ballroom, particularly in the form of videos of balls in major American cities which then spark the creation of international ballroom cultures, the legitimacy of which are fiercely contested. The concepts of belonging, inclusion, and exclusion take on a heightened importance in the context of ballroom, as is examined in more detail later in this chapter, and point towards the renewed importance of the concept of cultural memory in control society.

3.5: The Mediation of Memory in *Country Ball*

As described above, per Goodman and Parisi (2010), the relation of memory and technology in the context of the technological environment of the control society is characterised its relation to the virtual. The externalisation and objectivation of memory and its mediation via the mnemotechnics of control is destabilised at every point by the introduction of contingency, the possibility of some unpredictable outcome that manifests as a mutation in memory itself and thus places an absolute limit on the normative force of predictive control over human memory. The potentiality of memory in its relation to the virtual coincides with Deleuze's account of the potentiality of art, which is also structured upon a relation to the virtual. Satterwhite seems to intuit this affinity between the objective mediation of memory and art in his use of archival materials. *Country Ball* is structured by the acts of remembering and reconstructing, directed towards the interiority of art rather than the communicative context of control society. Against the perfect recollectivity of control, Satterwhite develops a mnemonic practice premised upon redundancy and ritual which unfolds a space-time of memory that resists the temporal immediacy and efficiency of control society.

As noted previously, the task Satterwhite sets himself in *Country Ball* is the reconstruction of a home video of a family cookout. However, given that the original video, now digitised, appears in the work itself, any reconstruction is, from an informational point of view, redundant. From the outset, then, the mnemonic function of Satterwhite's work is at odds with the efficiency imperative that guides the operation of control. Satterwhite's digitisation of the home video can instead be understood as a critique of the general condition of media convergence that furnishes platforms and predictive algorithms with content and data, here transposing the video into the domain of art where it retains its autonomy as an objective element within the form of the art work. Remediated and produced as a digital object, the video—a concretion of memory—comes to be characterised by the virtual relation identified by Goodman and Parisi that results from the externalisation of memory through the digital circuits of control. Rejecting the potential indexicality of the original video, Satterwhite instead prioritises the activation of its mnemonic content via its digital rearticulation. The encoding of the video that transforms its materiality prepares its relation to the virtual which is the source of its potentiality as a mnemonic object. Satterwhite thematises this activation in the final sequence of *Country Ball* which sees a figure consume the virtual environment in which the video is displayed and subsequently shows the video, now manipulated to appear like a line

drawing made in light, in the belly of the figure. Remediation is likened to consumption—which is the outcome of remediation in the productive sphere of control society—but here, in the context of art, it does not exhaust the expressive potential of the mnemonic object but transforms the object into a new expressive form. What first appears as redundancy from the perspective of control is revealed as a representation of the potentiality of memory mediated by technology.

Part of the strategy of reconstruction that Satterwhite employs, as noted in a previous section, involves the incorporation of elements of a personal archive composed of drawings made by the artist's mother. Satterwhite faithfully recreates these images digitally and imports them into the work as objects composed in three dimensions, with the original pen strokes now rendered as lines with thickness or volume, in contrast, for example, to the two dimensional video elements. This sculptural quality demonstrates a resistance to the conventional, normative logic of digitisation which represents media content in the lowest number of dimensions possible, usually a single dimension corresponding to the linearity of code. The purpose of digitisation in the context of control society is the acceleration of the circulation of media and the broadening of conditions of access, as well as to bring as much media as possible under the purview of the digital apparatus of control. In Satterwhite's work, digitisation preserves his mother's work and allows it to proliferate (if only within the space of his own practice), but the image-objects retain and even gain dimensionality. The thickness of the objects in the virtual environment of Satterwhite's work seems to refer indexically to the 'thickness' of experience that is congealed as mnemonic energy in the original drawings. The volumisation of these archival drawings connotes the weight of memory and personal significance that they bear.

The practice of creating these digital objects out of archival materials itself has a ritualistic function that again indicates a resistance to the principle of compulsory digitisation in control society. Rather than using a scanner or photographs to create a digital copy, Satterwhite traces the image into the computer by hand, retaining a tactile chain of indexicality that sustains the structure of memory. This approach rejects the automatic functioning of the technical apparatus to the greatest possible extent (although there is a necessary degree implicated in the computation of the image and its representation as a digital image) and privileges direct physical contact in the process of digitisation at the cost of speed and efficiency. This labour-intensive recreation of archival materials corresponds to the quasi-cultic value of the objects and can be understood as an effort to safeguard them from the apparatus of capture of control

society. Nonetheless, this material is ultimately digitised, remediated via computational technology which secures the endurance of the material, even if in symbolic form. As Satterwhite's practice demonstrates, this process of digitisation, divorced to the greatest possible extent from the instrumental digitisation that fuels the expansion of control, activates the potentiality of the archival material by drawing it into the dynamic system of the work of art, interweaving the potentiality immanent to the mediation of memory via technology with the potentiality of the artwork.

Where this account of Satterwhite's practice has focused on individual, personal, and familial memory and its objectivation and remediation in the work, the next section, which examines the performance of vogue in the work, considers the work's engagement with the concept of collective, cultural memory in the context of control.

3.6: Vogue and Cultural Memory

In contrast to the concrete reconstruction and remediation of archival material in Satterwhite's *Country Ball*, the voguing body of the artist which appears as a video element within the work signifies the flow of meaning and memory between body and culture. Dance, and specifically vogue, are seen to have the structure of collective cultural memory, and Satterwhite's mediation of this memory via both art and technology reveals a potentiality that destabilises the perfect recollectivity of control. As an art form and a set of cultural practices that originate in communities of queer people of colour (and particularly of black and Latina trans women), vogue is at its core a form of resistance to social domination structured on racial and sexual judgements represented by the hegemonic cultural memory of Western society. Satterwhite's use of his own performing body as a referent of vogue as both cultural memory and act of resistance collapses the individual and the cultural into a single image which opposes the representational regime of control. This section considers dance, vogue, and ballroom culture as forms of cultural memory in the context of control and considers the resistance to control they perform in Satterwhite's work.

A brief account of the development and characteristics of ballroom culture and vogue is here required to properly contextualise Satterwhite's performance in *Country Ball*. As mentioned above, ballroom culture emerges in Harlem, New York in the late 1960s as a response to racial discrimination in drag balls and pageants (which had existed since the 1920s). This new ballroom culture emulated the structure of drag pageants, seeing participants compete against one another in a variety of categories. Categories generally divide participants according to gender identity or presentation—Femme Queens (trans women), Butch Queens (gay men), Male Figure, and Female Figure, for example—as well as performance criteria—Vogue, Realness, Runway, Sex Siren, and so on. The proliferation of categories can be understood as both a mockery of the traditional pageant categories and a celebration of the diversity of the ballroom scene. As ballroom culture establishes its own cultural identity and diverges further from the tradition of drag pageants, vogue emerges as style of dance suited to 'battling', in which—at first—dancers rhythmically strike poses like those seen in the pages of *Vogue* magazine, often attempting to physically intimidate their opponent or block them from the view of the judges. Over time, vogue develops into a cultural form in itself, and its practices become more diverse. At the same time, however, vogue becomes very strictly codified as the ethic of judgement that was foundational to the development of ballroom culture is intensified

as the culture grows and becomes more inclusive. Rather than a weakening of criteria, the development of vogue through the 1990s sees an intensification of judgement, with the general category of vogue coming to be divided into three distinct strands—Old way, New way, and Vogue Fem(me)—and judged according to five elements of performance—duckwalk, catwalk, hand performance, floorwork, and 'spins and dips'. This codification of vogue is the condition that allows it to develop as a form of cultural memory structured by a shared knowledge of cultural practices that marks a clear divide between belonging and exclusion. As Julian Kevon Glover (2022) notes, "gatekeeping" becomes an important tactic in safeguarding "the meaning and significance of voguing . . . from appropriation".

The style of vogue performed by Satterwhite in *Country Ball* is typically 'vogue fem(me)', characterised by fluid, feminine movements that derive not only from fashion poses but from ballet and modern dance styles too. Satterwhite can be seen to perform many of the elements of this style of vogue (listed above), demonstrating an insider's connection to the cultural memory of vogue and unleashing the 'mnemonic energy' crystallised in the objective forms and practices that constitute vogue culture. These forms can be understood as objective elements in which, in the manner described by Adorno, is congealed the subjective artistic labour of previous performers. Because vogue has developed so self-consciously and systematically, its objective forms demonstrate inner-aesthetic development in the form of cultural memory. Each performance activates layers of subjectivity that are decoded and recoded through the act of performance, which is not purely improvisatory but is characterised by referentiality and repetition. Satterwhite reflexively adopts this principle in the multiplication of the image of his own performing body in *Country Ball*, foregrounding vogue as a practice of remembering and recreating. Satterwhite's tactical repetition has an affinity with the iterative practices of Modernism, but by mediating this variation through his own body, Satterwhite reconceives of iteration as, rather than being an imaginative movement through a fixed space of formal outcomes, being a movement through memory and the body; cultural memory converges with muscle memory. Seen in this way, Satterwhite's performance is the performance of the potentiality of cultural memory, where recollection, repetition, and recombination are operations that unleash mnemonic energy while also securing (this) cultural memory's ongoing existence.

The specific relation of vogue to cultural memory and its opposition to the mnemotechnics of control is premised on the relation between the (racial, gendered) body and structures of meaning. Paul Gilroy argues that, under the conditions I identify here with control society, "the

body and its semiosis have come to host a battle royal in which different interests fight for the pleasure of annexing its special communicative powers in their contending representational regimes" (1997: 29). Memory, and particularly cultural memory as articulated with regard to David Lloyd in a previous section of this chapter, "has the virtue of blurring the line between biology and culture" (29). As a structure of knowledge that delineates a subject position through both formative and normative means, cultural memory both produces and disciplines the image of the subject; as argued above, the context of control society causes these positions to proliferate and the normative protocol of control is extended across them broadly as a condition of communication. If cultural memory furnishes a self-image of a particular group, then it subjects this image to the representational regime of control. In this context, Gilroy argues, the subject moves inside the body in order to "perceive how the calculus of particularity operates on what we can only call a nano-political scale" (29). Dance, as a form of embodied cultural memory, structures this movement into the body and gives form to the counter-pressure to the operation of control engendered by the free and sensuous labour of the artist. Satterwhite's display of his own dancing body makes visible what Gilroy calls the "double role" of the body as both "actor and contested object" (32). Dance as a form of autonomous artistic labour enacts a resistance to the heteronomy of the productive sphere, but also—with vogue, as a practice of cultural memory—furnishes an image that is "claimed by various regimes of representation", even if cultural identification with that image ushers in "political possibilities" that destabilise the normativity of control society. Gilroy notes that in the context of control, in which (as described previously) the institutions that have traditionally secured the cultural supremacy of the white subject undergo crisis and disruption by technological forces, we witness "a series of struggles over the meaning of [the black] body which intermittently emerges as a signifier of prestige, autonomy, transgression and power in a supra-national economy of signs that is not reducible to the old-style logics of white supremacy" (33). The image of the black fem(me) that emerges from the cultural memory of vogue to which Satterwhite's own performance refers (and with which it identifies) is such a site of struggle; the transposition of this image into the autonomous sphere of art withdraws it from Gilroy's economy of signs and recognises the image as an outcome immanent to the structure of cultural memory that, within art, withdraws from the communicative order of control.

Dance, perhaps more than other forms of art, seems to withdraw from communication by its very nature, particularly in the context of a society structured by rationality. Andrew Ward

(1997) argues that dance is systematically identified as a non-rational activity and is rendered invisible despite being "pervasive and intrinsic" to modern industrial societies (3-4). This social invisibility was central to the development of ballroom culture, for example, which saw disused urban spaces taken over as sites for balls which typically took place late at night. A similar invisibility is typical of rave culture, which also sees raves occupy disused or dispossessed industrial (rather than urban) spaces as sites for dance. In Ward's account, we are compelled by rational society to uphold the dislocation of non-rational behaviour in public contexts and to accept estrangement from the non-rational "as an everyday fact of life" (11). Dance withdraws from social communication into the hermetic structure of collective cultural memory where it produces meaning outside the knowledge structure of rationality. In terms of art's relation to control, dance invents a particular space-time outside of control that mediates aesthetic experience through the body of the performer. For Ward, the meaning of dance, the basis on which it elaborates itself in space and time, is produced both by and for dancers; the spectator has access only to a reflection of the embodied experience that is crucial to dance (17). Meaning is sensed only through the vehicle of the body. The aesthetic experience of dance, then, depends on the development of an empathetic relationship between dancer and spectator at the level of the body. In this way, following Adorno, dance, as art, still critiques the merely existing by representing the promise that things could be otherwise, but here this social critique is transposed to the body of the spectator whose disciplined stillness and inaction is indicted by the movement of the dancer. Vogue in particular pushes this critique further, drawing its objective forms from the social sphere, appropriating movements intended to convey marketability and provoke the desire of consumers as elements within an aesthetic practice.

The withdrawal of dance from communication and its status as a non-rational behaviour make it valuable in the formation of an alternative subjectivity to that given by control society. Luce Irigaray (1989) theorises dance as the basis for a female form of subjectivity structured not by separation but by gestures of circularity. Maria Pini (1997) argues that Irigaray's account of dance secures for the girl a separation from the mother that, unlike Freud's account of masculine separation, is not based in mastery or even full autonomy. Dance describes "a set of relations not based on a clear split between subject and object, or between interiority and exteriority" (115). Similarly for Derrida, dance serves as a way of "imagining a formation not organised around linearity, coherence, and [mind/body] dualism", one in which "the body does not move towards a final, singular rationality and wherein the subject is no longer the individual,

boundaried, Liberal Humanist 'self'" (Pini 1997: 116). Dance, in both of these accounts, opposes the hegemony of rationality, exerting a counter-pressure via a subject position that resists the normative force of control according to a 'feminine' principle that, as a kind of "political fiction" rather than biological reality, serves as the basis for the subversion of conventional representations of subjectivity (115). As a form of subjectivity premised on maternal connection, dance thus resonates with the elements of *Country Ball* derived from the archive of Satterwhite's mother's drawings, schematics, texts, and recordings. Incorporating these elements into the choreography of the work inducts them into a structure of memory that extends from the individual to the cultural, and this context, Satterwhite comes to occupy a subjective position outside the order of communication structured by the performance of embodied memory. For the viewer of the work to identify with Satterwhite's image, then, is to step out of the society of control and into this new subjective position and a new awareness of the body, even if, after Paul Gilroy, what is gained from this new position is only an awareness of the way control exerts itself on the body. Dance ultimately serves, then, as a means of stepping—albeit temporarily—out of the regime of rationality and back into the body, a passage mediated by the structure of cultural memory and collective knowledge and which unleashes the potential congealed as mnemonic energy.

Chapter 4: Worlding and/as Resistance in Control Society

4.0: Introduction

The development of new technologies that harness the power of computation has made it possible to conceive of art not only as the creation of works but the creation of worlds. This is the premise advanced by Ian Cheng, whose works engage the tools of artificial intelligence to create virtual procedurally generated worlds populated by characters whose behaviours are governed by the operation of algorithms that guide them towards certain pre-programmed and symbolically encoded goals. Of the artists discussed in this thesis, Cheng's work most closely aligns with the standard operation of control, appropriating the logic of algorithmic prediction and setting it towards aesthetic ends. At the same time, Cheng defends the concept of autonomy more pointedly than either Robak or Satterwhite. Cheng's simulations are couched in the form of video installations that mask the apparatus that produces them, relying on the autonomy of art to carve out a separation between the world of the simulation and the technical infrastructure that supports it. As with Robak, what Cheng is interested in are the high level abstractions derived from the automatic functioning of the algorithms that animate his work: the relationship between living beings and the chaos of reality, the possibility of making meaning with artificial life, and the ethics of worlding as a practice in the context of control.

This chapter begins by looking at *Emissaries*, a trilogy of works created by Cheng between 2015 and 2017: *Emissary in the Squat of Gods* (2015), *Emissary Forks at Perfection* (2015-2016), and *Emissary Sunsets the Self* (2017). All of these are 'live simulations' which are rendered as video in real-time. Cheng's own account of the practice of Worlding and of the function of the artist more broadly is then considered with reference to a self-published book that accompanied the development of *Emissaries*, *Emissaries Guide to Worlding*. Cheng's use of the language and logic of video games is then contrasted with theories of games and their relation to control society. I then explore Cheng's use of narrative, storytelling, and fables as a way of framing and revealing the operation of the algorithms in his work. The chapter concludes by elaborating Cheng's theory of Worlding beyond the context of art, considering it alongside Vilém Flusser's concept of the technical image and arguing that Worlding represents a strategy of creative resistance to the domination of control.

Figure 9. Ian Cheng. *Emissaries*. 2015-17, http://iancheng.com/emissaries. Accessed 14 Feb 2024.

Figure 10. Ian Cheng. *Emissaries*. 2015-17, http://iancheng.com/emissaries. Accessed 14 Feb 2024.

Figure 11. Ian Cheng. *Emissaries*. 2015-17, http://iancheng.com/emissaries. Accessed 14 Feb 2024.

Figure 12. Ian Cheng. *Emissaries*. 2015-17, http://iancheng.com/emissaries. Accessed 14 Feb 2024.

Figure 13. Ian Cheng. *Emissaries*. 2015-17, http://iancheng.com/emissaries. Accessed 14 Feb 2024.

4.1: Ian Cheng, *Emissaries*

Ian Cheng (b. 1984) is an American artist who, since 2012, has worked extensively with the technology of simulation. Typically, these simulations blend elements designed by the artist himself with procedurally or algorithmically generated content to create virtual environments populated by autonomous characters with their own beliefs and goals whose actions and interactions lead to novel situations and emergent behaviour.

Cheng's work tends not to focus on the technology that produces his simulations, nor on the act of programming or designing the Worlds he creates, but is concerned more broadly with our relationship to change and to chaos. He sees his practice, which he designates "Worlding", as an effort to deal with the complexity of reality, and to put new technology to work in the service of managing this complexity. Informed to a great extent by video games, Cheng's simulations develop internal systems of interactivity—interactivity with themselves, rather than with audiences—that allow for the creation of relatively complex virtual social environments in which the algorithmic drama of his works play out. Cheng typically imposes a narrative framework, rather than a strictly theoretical or conceptual one, on his simulations, seeing them as ways of telling stories about the transformation of the world, and of organic and artificial life.

Cheng's intensive use of computational technology is typically hidden in the exhibition context of his work. The simulations Cheng crafts run on computers not visible in the gallery, and the algorithmic operation of the work is also not made apparent except in the video rendering of the simulated environment. Cheng's 'live simulations' are not prerecorded for exhibition but run continuous in real-time, and are typically projected at a monumental scale (the 2017 installation of *Emissaries* at MoMA PS1 featured 10-foot-tall projections, for example). Exhibiting the simulations in this way requires a vast amount of computing power, and for this reason, Cheng's work has a semi-abstract, minimalistic, and cartoonish style. The contours of the environment's topography are suggested in flat textures and streaks of light and shade, sparsely populated by blockily-composed trees, plants, and boulders. The characters in the works are similarly stripped down, recognisable as human or animal but lacking all but the essential expressive qualities. As a result, what is able to be shown is the expressivity of the algorithm itself, its capacity to generate new behaviours and situations and to both fuel and manage increasingly complex environments.

In addition to these simulations, Cheng has written his own account of his concept of Worlding, developing it as a general artistic or creative practice that he sees as a necessary way of engaging with digital technology, speculating (as seen later in this chapter) that humanity, empowered by advanced new technology to create Worlds for themselves as both individuals and collective groups, will have to be able to survive amongst a vast proliferation of Worlds that will structure our experience of reality. To this end, Cheng sees his own practice as a preliminary step towards preparing a meaningful life within a world of Worlds.

Emissaries (2015-2017): Emissary in the Squat of Gods, live simulation and story, infinite duration, 2015; *Emissary Forks at Perfection*, live simulation and story, infinite duration, 2015-16; *Emissary Sunsets the Self*, live simulation and story, infinite duration, 2017.

The *Emissaries* trilogy marks the first full-scale development of Cheng's practice of live simulation as well as the first elaboration of his concept of Worlding and the figure of the Emissary, both discussed in more detail in the following section. Cheng describes each of the three episodes as centred on "the life of an emissary who is caught up between unravelling old realities and emerging weird ones", introducing some element of imbalance or disharmony into an established procedural environment. *Emissary in the Squat of Gods* simulates a child gaining self-consciousness within a pre-conscious community, a dramatisation of the concept of the bicameral mind; *Emissary Forks at Perfection*, which takes place thousands of years later, sees a group of Shiba Inu dogs sent to extract an impression of a reanimated human for their AI overseer, and; *Emissary Sunsets the Self* simulates a confrontation between an AI entity trying to provoke mutations in itself and a humanoid group engineered to eliminate any deviation in their environment. These narrative frames are imposed on the simulations by the artist and motivate the programming of the algorithms behind the simulations, but are not represented clearly in the work (i.e. through narration, dialogue, or text). What plays out in the videos that represent the simulations is often incomprehensible, a seemingly random flow of actions and interactions that does not progress towards a final state or end goal, but is left to develop according to its initial programming. Consequently, the works become increasingly complex as more and more unpredictable, emergent behaviour is fed back into the functioning of the simulation. Characters learn from each other, adapt their behaviours spontaneously, and respond in real-time to both environmental factors and their own internal psychological states (to the extent that these can be encoded symbolically). Given the unpredictable nature of the work, they are unaccompanied by music, and any sound that is produced in the works is

minimal, often limited to the ambient noise of the environment. The action on-screen is never explained, leaving the viewer to attempt to derive both meaning and narrative content from the simulation themselves. The works do not progress according to any predetermined criteria, but instead pursue what Cheng calls 'drama'. Explained in more detail later in this chapter, drama here names the generation of new pathways for action that do not lead to the collapse of the World (either in narrative or computational terms). Drama drives the generation of complexity, but drama can also cause regression and destruction since it is not oriented towards any specific state of the World. The arbitrary nature of this drama is often at odds with the narrative imposed on the work, but emerges in the spontaneous behaviour of the algorithmically-generated characters as a new narrative possibility; this is also explored in more detail later in this chapter.

It is also worth noting that *Emissaries* is produced by a team of programmers, designers, artists, performers, and consultants. Cheng's own theorisation of his practice includes a detailed elaboration of a theory of the artist as divided into different personae or 'masks'. Cheng appropriates the intensive technical and social division of labour as a principle of artistic labour too, and this is reflected in the production credits of the three works. Cheng credits himself as the "creator" of the works, emphasising the concept of Worlding over traditional artistic methods in the creation of the works.

4.2: Cheng's Theory of Worlding and "The Artist's Masks"

Ian Cheng's *Emissary's Guide to Worlding* (2018) develops the concepts at work in his *Emissaries* trilogy, in particular by formalising the concept of "Worlding" and outlining an idiosyncratic model of human creativity in the context of Worlding as a creative practice. This section summarises Cheng's efforts to theorise his own practice, and locates the concepts he develops within the context of control society and in relation to the Adorno-Deleuzian hypothesis of art's resistance to control. "Worlding" is contextualised more broadly later in this chapter (4.5); here, Cheng's specific use of the term is considered in isolation.[23]

In the context of art, or the creative act, Cheng offers the following definition of a World: "A World is a future you can believe in:/ One that promises to survive its creator,/ and continue generating drama" (14). These phrases refer respectively to the origin, ontology, and endurance of a World.

Cheng, riffing on a line from Philip K Dick—"Reality is that which, when you stop believing in it, doesn't go away"—asserts that reality is fundamentally meaningless but potentially interesting (14). The act of Worlding begins with the creator reinvesting reality with belief, the belief that reality is or could be more meaningful, interesting, pleasurable, or otherwise better than it is now. Worlding, like the creation of art for Adorno, is by its nature an indictment of the merely existing, exemplifying the promise that things could be other than they are. For Adorno, this promise is only that—a promise of happiness deferred to some imagined future, and whatever consolation or comfort art offers in the present is an object of suspicion. Deleuze, likewise, stresses art's revolutionary affinity with a people yet to come, though is less ascetic about the enjoyment of art in the present. Cheng, on the other hand, abandons art's absolute orientation towards a utopian horizon in favour of more modest transformations of the world as it exists now; a World is not just a promise of better things to come, but is instrumental in realising them in the present. Where Adorno is generally unconcerned with the human impulse to create art in general, taking the desire to make and experience art as a given, Cheng explicitly links the act of creation with the subjective desires of the artist. Worlding is guided by pleasure, whether sensuous, intellectual, emotional, or otherwise. The creator of a World channels the potential they see in reality into a new form, but also imagines "being a person living inside the belief, the beneficiary of its potentiality, a believer" (14). Cheng here goes a step further than

[23] Cheng typically capitalises World and Worlding when they refer to the specific concepts developed in his text; they are capitalised in the same way here.

Deleuze, seeing the space-time invented by the creative act not just as an experiential break with the space-time of (control) society, but as a kind of fugitive world in which one could 'live', however briefly or incompletely.

The second proposition in Cheng's definition of a World—that it must survive its creator—expresses the requirement of objective autonomy. Here the concept of the World draws close to the concept of the artwork laid out by Adorno and Deleuze, for both of whom the work of art must 'stand alone'. Cheng gives this premise a cybernetic inflection: a World survives its creator when "it has achieved sufficient stability to regulate and safeguard its potentiality without authorial intervention" (15). The World and the work of art coincide as dynamic systems given stable forms, independent of their creator. For Adorno, art achieves this independence through an appropriation of the commodity fetish that ideologically separates labour from its product. In Cheng's case, the independence of a World can be less total; the autonomy of a World is like the autonomy of a story or song in an oral tradition, where the work has an objective existence and stands apart from the unformed ambience of its external environment, but nonetheless depends on external support for its endurance.

As such, Cheng's concept of autonomy is closely linked to his concept of aliveness, expressed as the requirement that a World "continue generating drama" (15). Here again the concept of the World hews close to the idea of the artwork in Adorno and Deleuze, but, where for those authors the inner dynamism and potentiality of the work have a more abstract, theoretical character, Cheng—whose concept of the World encompasses the work of art as well as other cultural forms—emphasises participation and/or interactivity. Where Adorno attributes the work's liveness to the irresolvable tensions between the objective elements of the work, Cheng stresses the necessity of some external participant in animating those inner-aesthetic relations. In the same way, Deleuze's percepts and affects only become legible as such through their identification by an external spectator. Cheng eschews the traditional concept of aesthetic experience for a more casual affective experience of the World; what matters is that the World is "sufficiently interesting for people to care about and want to explore" (15). The vagueness of the label "interesting", as Sianne Ngai (2008) highlights, allows it to function in judgments that "toggle between nonaesthetic and aesthetic" (778), and similarly have recourse to rationality in varying degrees. In experiencing an artwork as a World, or a World as an artwork, aesthetic experience is forced to transform into a comportment that sees the aesthetic as a function of the extra-aesthetic and vice versa. What orients this transformation and stops the aesthetic from completely dissolving into the extra-aesthetic as

it does in Jameson's postmodernism is Cheng's concept of "drama", which he defines as "problems that trigger interesting new paths in a World, that arouse its members in unexpected ways, without causing total collapse" (16). 'Interesting-ness' is thus revealed as an expression of the World-work's relation to its immanent law of form; what is 'interesting' is some relation within the work that reveals a new dimension of the work's potentiality. Finding strategies for generating drama without the direct involvement of the World's creator is what Cheng calls "solving for aliveness" (16). Cheng's concept of drama is taken up further in a subsequent section of this chapter [4.4].

When a World achieves autonomy and aliveness it becomes what Cheng calls in "infinite game", a game whose only object is the continuation of play, and where the rules may change if necessary to achieve this object, in contrast to a finite game with a fixed ending or win condition (17). Infinite games "perpetually mediate our contact with base Reality" (17); they correspond with the disciplinary institutions which undergo crisis in control society. In this way, Cheng's Worlds and Deleuze's space-times are synonymous. Control emerges as a World—an infinite game—whose rules and structures absorb and override those of other Worlds. Control filters reality for those who live inside it. To escape this limitation, Cheng proposes a mode of activity that could be called 'generative inhabitation', where the complexity of the World is sufficient for the creation of "new meaning within its local language" (18). In other words, even from within the 'bubble' of an existing World, given enough complexity new Worlds can be generated, and these Worlds "eat back at Reality" (18), changing the conditions of access to the reality masked by, in this case, the World of control. Here Cheng almost paraphrases Deleuze's account of the invention of space-times by the creative act, but inserts a further mediating layer between an experiential space-time and an underlying reality, stepping beyond a Rancierian idea of the relation of art to the sensible to argue that the invention of Worlds materially transforms the real conditions that underlie them. In this way, the act of Worlding makes art into an act of material resistance—a real counter-force—to the real domination (i.e. of nature) of the social.

What distinguishes the practice of Worlding today from the creation of Worlds in earlier periods are the capabilities afforded by computation. The tools of simulation and artificial intelligence that Cheng puts to work in his art demonstrate a new capacity for "non-human players" to "perpetuate the ongoing drama of Worlds" (19). On one hand, this represents an intensification of the aesthetic power of the artist, who now has access to vast new technical forces, while on the other, these same forces operated by 'non-human players' in control

society empower greater capitalist extraction and exploitation. At the same time, because of this new technology, Worlds proliferate and fork off more and more quickly. Cheng argues that "we" are developing both a tolerance for this new state of disorientation and a desire for the "mass variety of Worlds" that can now be inhabited, but this "we" seems in fact to name only a relatively small population with the technical literacy and mediatic training to thrive amidst a proliferation of technologically-empowered Worlds. More broadly, this proliferation is part and parcel of the institutional crises effected by the expansion of control, and these Worlds serve to mask, rather than mediate, the reality of control society. Deleuze's concept of the dividual captures this sense of being operated upon by an environment of overlapping Worlds that each carve out some quality or capacity of the human subject and that have a material effect on the subject, whether in body or mind. Nonetheless, Worlding can be understood as a practice of resistance to control when it directs the technical forces of computation beyond the horizon of domination and unleashes the subjectivity congealed within them. This argument is taken up further, in connection with the work of Vilem Flusser, in Chapter 4.5.

Against this backdrop of proliferating Worlds, Cheng advances a theory of the subjectivity of the artist that sees an artist as a coherent form composed of "individual mental states" that Cheng calls "masks" (27-8). Oriented along two axes—"seeking home/seeking surprise" and "steering by stories/steering by gut"—the four personas that Cheng describes are the Director, the Emissary, the Cartoonist, and the Hacker (28). Though this approach could be seen as a concession to the intensive technical and social division of labour characteristic of late capitalism and to the operations of control that produce the dividual, Cheng clearly views his version of the artist as a necessary and practical adaptation to the conditions of contemporary life. Deleuze's account of the auto-deforming subject of control society is here reinterpreted as an intensification of the capacities of the artist; the wholeness of the individual is willingly abandoned, and the all-round skill of the artist is replaced by an inner auto-managerialism. Given that, in practical terms, the demands made of artists who seek to make a living by their work often require the artist to be project manager, accountant, marketer, influencer, content producer, and so forth, on top of the demands of art itself, such an adaptation seems essential for survival in a capitalism no longer oriented around commodity production.

Setting aside the mask of the Emissary, the three other masks—Director, Cartoonist, and Hacker—are concerned in various ways with deriving meaning by taming complex realities. The Director pursues solutions to complex problems guided by a fundamental faith that meaning and truth are revealed when order overcomes chaos (37-8). In their pursuit of truth, the Director

remains "dutifully irrational", steering toward a predetermined outcome with an unshakable belief in the rightness of the direction (38). The Cartoonist distils complexity into icons which magnify affect, appealing to a belief in the meaning in the precognitive world of human emotions. Attuned to the animistic impulse of the human mind, the Cartoonist makes Worlds "sticky" (41) by populating them with symbols, signals, and archetypal figures which (seem to) embody complexity. The art of the Cartoonist targets the "reward circuitry" of the limbic system, compressing the complexity of a World into "candy" (41). The Hacker sees the world as "a Reality Operating System", an interface that masks the real possibilities of the objects, systems, and structures of reality (44). The Hacker recognises the 'thinness' of existing meaning, and is concerned with the means by which meaning is created. They 'strip down' existing Worlds and seek out "hacks" that become "the basis of new experiences and new modes of expression that can cheat common sense assumptions about the energy, time, or realness that a World should require to become alive" (45). In this way, the Hacker is responsible for the engines of aliveness that animate Worlds, seeking ways to do more with less, striving to maximise efficiency.

In contrast to the three other "masks", the Emissary wants to be "at home" in complexity, in reality's "endless stream of unknowns" (47). The Emissary maintains art's potentiality by recognising the unknown as a source of content, of untapped energy, of opportunity. The Emissary wants to turn a work into a World through an "ethic of playing"; they want the game to become infinite (47). Where each of the other artist masks are oriented towards a particular end, the telos of the Emissary is the growth of life for the sake of life. Here the function of the Emissary converges with both the function of control and the subsumptive drive of capitalism; all seek to grow in ways that sustain the longevity of the system. The Emissary can thus be thought as an appropriation of social technique, a redemption of capitalism's fatal obsession with growth through its transformation in art. In artistic Worlding, the unthinking hunger that drives the expansion of capitalism is appropriated in the form of an imaginative governor whose task is "reconciling the differences between the game and the unknowns of Reality" (48). The duty of the Emissary is to ensure the continuation of the World by "[weaving] together the work of the other masks, [putting] them into productive conflict, and [kindling] the fire of emergence" (49). In Cheng's *Emissary* trilogy, each simulation is centred on an Emissary figure; what plays out in each work is the adaptation of an old, existing reality to a new, emergent one through the actions and interactions of the Emissary and the cascading material and behavioural reactions

that the Emissary provokes. How this plays out and how it functions within the context of art is examined in the subsequent sections of this chapter.

4.3: Graph Search and Game Space

Ian Cheng has described the simulations of his *Emissaries* trilogy as video games that play themselves (So 2017). Made using the video game development engine Unity, Cheng's works populate an algorithmically-generated environment with non-playable characters that demonstrate emergent behaviours as a result of the intersecting goal-driven actions of each agent. In each of the three works, a central protagonist—an Emissary—is programmed with a goal that forces those who interact with them to change their beliefs and behaviours in novel ways; in the first work of the trilogy, *Emissary in the Squat of Gods*, for example, the protagonist "experiences the first flicker of narrative consciousness, threatening the authority of vocal hallucinations that guide the decisions of her pre-conscious community" (Cheng). The artificial intelligence programmed by Cheng is typical of modern video games, where characters have agency to select their own behaviours from a predefined set of actions, and where this freedom to achieve their goals or meet their needs by means of their own choice can unexpectedly result in emergent phenomena. The ability to select behaviours and pursue high-level objectives is a product of the both the probabilisation of the space of the virtual environment and the characters within it, and the spatialisation of the process of decision-making. AI navigate both game space and probability space using path-finding algorithms that calculate the best route between two states according to the given rules of the game, a process known as graph traversal or graph search. As theorists including Ian Bogost (2010) and McKenzie Wark (2007) have observed, the concepts of graph search and game space have also come to apply to post-cybernetic life under the conditions of control. Following Adorno's claims about art's refractory relationship to the social, Cheng's use of AI and the design lexicon of video games can be seen to redeem the concept of algorithmic life and demonstrate the potential of the technology of simulation and artificial intelligence when directed towards non-dominating ends. This section gives an account of Ian Cheng's use of the game development platform Unity and the technical principles that structure his simulations, before turning to the relation between Cheng's work and the broader cultural conditions of life within a probabilistic system.

As examined in Chapters 1 and 2, one of Adorno's principle claims about art is that its essence is technological, and that the production of art always depends on an appropriation of technology. One of the sources of art's power to resist social domination is its capacity for the functional transformation of technology which unleashes the congealed subjectivity of the human labourer(s), their technical knowledge, skill, and effort, towards reconciliation with

rather than domination of nature. At the level of the purely mechanical—including at the level of computer hardware—this claim holds; the machinery of productive labour can be turned over to aesthetic production, where even if it does not deliver on the revolutionary potential predicted by Benjamin, it can still be put to work straightforwardly in the creation of art. At the level of software, however, the passage of productive means into the aesthetic sphere becomes more uncertain. Most software used in the production of digital art is itself a product of the same technical and social division of labour that produces hardware, subsuming scientific and technical knowledge and skill in order to strengthen the forces of production, but software is simultaneously the means by which the congealed labour and skill contained within computer hardware is unleashed. Consumer software mimics the functional transformation of technology that takes place in its passage through the aesthetic sphere, but towards the unfreedom of heteronomy. The content-ambivalence of word processors, animation suites, content production platforms and the like is itself an expression of the logic of Deleuze's control; they invite a freedom of behaviour within defined formal limits, a freedom that is ultimately fully constrained within a fixed space of probability. The appropriation and functional transformation of software is thus more elusive, and depends not solely on the liberatory subjective labour of the artist but on the creation of software outcomes that defy probability and expand the capacity for subjective expression in the software. Artwork that achieves this transformation has the paradoxical effect of being technically surprising while nonetheless falling within the realm of possibility determined by the programming of the software. This relationship between art and improbability and resistance to social domination is explored further in Chapter 4.5.

The contingency of this mode of resistance becomes all the more apparent in the context of our contemporary digital platform ecology. Unity, a platform used by Cheng and countless other artists, including both Tabor Robak and Jacolby Satterwhite, for "creating and operating interactive, real-time 3D content" (Unity, 2020), was launched in 2005 with the goal of broadening access to the industries of video game design and 3D animation. What distinguished them from competing platforms like Adobe was their choice in 2009 to remove license fees for independent and amateur developers whose revenue falls below a certain threshold. As a result, artists were able to access powerful tools at (usually) no cost without having to resort either to piracy or to the institutional support afforded by universities, galleries, and museums. Rather than being a single piece of software, however, Unity is a platform, defined by Nick Srnicek as a digital infrastructure that enables interaction between groups

(producers, consumers, investors, and other stakeholders), one which more often than not comes with "a series of tools that enable their users to build their own products, services, and marketplaces" (2017: 32). Platforms manifest the particular unfreedom of control by appearing to be "empty vessel[s] for market forces" even though their protocological infrastructure determines the market the platform supports, generally by leveraging data to maximise user engagement and drive short-term profitability (33). Whatever the stated goals of the Unity developers, the platform has become as much about data analytics as content creation, with a company white paper boasting of the ability to "capture and analyse valuable end-user behaviour and application performance data from over 50 billion in-app events per day" (Unity, 2020: 7). As such, artists that rely on Unity are unable to achieve the kind of functional transformation that Adorno described, since the works—even if they ultimately become autonomous to some degree—are produced within an indeterminate zone where a part of the free subjective labour of the artist is subsumed by the productive sphere as data. Even if the outcome of this subsumption appears to benefit artists—more powerful tools and greater freedom of expression in future updates—it comes at the cost of drawing both the labour of the artist and the outcomes of that labour back into conditions of social domination. Maintaining the possibility of resistance asserted by Adorno then converges with the search for the new and improbable within the probability space of the platform.

This tension between the probable and the improbable within a system with the capacity for emergence is what is thematised in Cheng's *Emissaries* trilogy, and is captured in the programming of the AI agents that populate his works. Cheng creates a decision-making architecture that enables the goal-oriented behaviour of his autonomous characters, who, within the limits of the software's possible actions and interactions, are able to make decisions for themselves about what to do and how to do it. Goals here are specific states of the character or their environment, defined by certain conditions that need to be met. In order to produce action, or "drama" as Cheng calls it, a path between the current state and the goal state must be possible, a plan composed of single actions, each of which will produce some change in the state of the world. The character supplies their goal to a planning system which searches the space of all possible permutations of actions to find a path that will allow them to achieve their goal. In order to implement such a system, the state of the world must be represented digitally, with each state and state transition able to be parsed by the pathfinding functions that dictate behaviour. As such, behavioural planning converges with navigational pathfinding; the same algorithm that charts a route from point A to B on the virtual map of the

world can also chart a route in the exact same way from the current state to the goal state of a character. The semblance of liveness in Cheng's work is the result of a logical operation that—in a cybernetic tradition older than video games themselves—quantizes biological life into relatively simple cause-and-effect operations. The algorithm animates each character by iterating through possible states—either forward from the current state or backwards from the goal state—until a path of actions is found that satisfies the goal. The fact that multiple characters are operating in the world simultaneously, sometimes with conflicting goals, is what gives rise to emergent behaviours and unexpected paths, but even these—unless they lead to exceptions—remain within the probabilistic space of possible states. The strategic challenge faced by Cheng is that the character's knowledge of the world must be encoded symbolically; what they perceive and believe, as well as what they do and why they do it, are all represented on the same symbolic order, which could be called gamespace. Ian Bogost calls this representational mode 'procedurality', "a form of symbolic expression that uses process rather than language" (2010: 9), and in which an emphasis is placed on "the expressive capacity afforded by rules of execution" (5).

To the extent that control seeks to manage certain properties of society through predictive probabilistic methods, it engages apparatuses to quantize human life and render the world symbolic in much the same way that Cheng does in his works. In Cheng's art, these processes are turned away from the aim of social domination towards the purposeful purposelessness of art. In control society, the biologically human is made probabilistic and converges the computational as a method of graph traversal, pathfinding in a probability space of possible states. In this context, video games function in control society in two directions: on one hand, they allow players to structure their own experience of control society through the routes of "technological empowerment, consumer sovereignty, and cultural creativity" (Kline 2003: 14), while on the other, they condition players to think and act like the same pathfinding algorithms that simulate human life in games; to outmanoeuvre an AI prison guard, you have to act like an AI prison guard. As McKenzie Wark argues, games produce for gamers "an intuitive relation to the algorithm" which serves as an allegory for the relation of society to the algorithms of control (2007: [030]). Rather than seeing games as representations of the world, Wark's theory sees the world as "a gamespace that appears as an imperfect form of the computer game" ([022]), and thus games redeem the world-as-gamespace by actually being what gamespace only pretends to be: "a fair fight, a level playing field, unfettered competition" ([021]).

Games, as cultural products, perpetuate the ideology of the purity of the rational telos. The player enters a world with a stable and intuitive logic and systematically develops their own skills and technical means towards the achievement of a specific goal. In open-ended or sandbox games, this goal is typically the conjunction of technical mastery and free play, though both mastery and play here are neutered. In the context of what Adorno calls an irrational rationality in which progress loses its telos, games—especially non-narrative games—construct a regime of achievement and psychological reward that suppresses the appetite for legitimate progress. The dopamine rush of a high score or a level cleared is the consolation games offer for their ideological function. Play is no longer 'free' but is tied to procedurality, the play of rules.

As games that play themselves, then, what is the relation of Cheng's works to the gamespace of control society? By removing the player and transposing the game to a zone of aesthetic autonomy, the ideological redemption of rationality that games provide in the social sphere becomes a redemption of the conditions of unfreedom itself. Cheng's Worlds play out under conditions of total authorial control—they are both totalitarian and authoritarian, even if their characters have room to exert something like free will in pursuit of their goals—but inevitably despite these conditions there are emergent phenomena and unpredictable behaviours that show the World to exceed its material conditions and limitations. The gaps that open up between the function of the algorithms and the results they produce point—as art does—towards the proposition that things could be other than they are. By appropriating the principles of algorithmic design and governance into art, and by substituting art's telos for that of rationality, Cheng's works refract the diagram of control society, introducing greater complexity and uncertainty through algorithmic methods that point towards non-dominating ends. Importantly, what Cheng demonstrates in this is an idea, after Adorno, of reconciliation that incorporates the algorithmic while resisting social domination. The property of emergence in Cheng's artworks redeems a concept of nature (including the human) that embraces the algorithmic and the computational without the necessity of sustaining a damaging rationality.

4.4: Narrative, Fables, and AI

Though structured by procedurality and algorithmic behaviour, Cheng's works could be said to be organised by narrative. Algorithms alone do not produce meaning for viewers, so Cheng presents the works of the *Emissaries* trilogy as narrative vignettes, where simple fictional scenarios provide a context for the action on-screen and allow viewers to attribute meaning to the behaviours and to invest in or engage with the drama of the work. This section looks in more detail at Cheng's interest in narrative and drama, and at the interplay of narrative technologies and computation—particularly as a condition for artificial intelligence—more broadly.

First, it is necessary to clarify the idea of 'meaning' as it applies to Cheng's works. The distinction drawn by Shannon (1949), where information describes the degree of freedom of choice in selecting a message and meaning refers to the semantic content of that message, holds in Cheng's work; since the properties of Cheng's Worlds and the characters they contain are encoded symbolically, the entirety of the World can be expressed as information. Any semantic content that can be inferred in the actions of the characters sits as a layer on top of the algorithmic functioning of the work. Even if a character's goals and beliefs are meaningful, in order for the work to operate they must be expressed as a content-ambivalent symbol or as a World-state that can be represented logically (true/false, on/off, etc.) and/or numerically. Cheng—erroneously, in the framework set out in this research—sees art as a form of communication for something "interesting, nutritious, complex, or strange" (2016: 91). In this context, certain claims about the potential meaning of the work emerge: what is meaningful in the work is what captures the viewer's attention, and further, what sustains and rewards that attention, but given its complexity and/or strangeness, it is not and cannot be fully articulated and comprehended in the ways that verbal and textual communication allow. In Cheng's works, it is the framing of the simulations as artworks that signals the presence of meaning beyond the mere operation of the algorithms that animate the World. The narrative structure that organises the drama of the simulation opens a channel for this meaning to emerge by appropriating the historical division between discourse or analysis and narrative or storytelling. Information disappears into the work in the operation of its algorithmic life, while narrative rises to the surface and 'tells the story' of that digital operation. It is this story-telling of the algorithm that invests Cheng's narrative with meaning.

In discussing the *Emissaries* trilogy, Cheng makes reference to Hayao Miyazaki's *Ponyo* (2008), a Studio Ghibli anime retelling of Hans Christian Andersen's *The Little Mermaid* which abandons both the thematic content of Andersen's fairy tale and the camp Hollywood spectacle of Disney's musical adaptation in favour of a stripped-down version of the story presented with an exaggerated visual simplicity made using traditional animation techniques (Comer 2019). The tension, such that it exists, in Miyazaki's film arises from a disequilibrium in the balance of nature caused by the protagonist's quest to transform from a goldfish into a human. Unlike in Disney's telling of *The Little Mermaid*, there is neither a tragic arc nor an explicit conflict between the forces of 'good' and 'evil'; here the narrative of the film simply plots a transformation from one stable world-state to a new and different, but equally stable, world-state. In dramatising the homeostasis of nature, *Ponyo* replaces the catharsis of Western tragedy with the contemplative mode of poetry—and Classical East Asian poetry in particular—which attends with detachment to changes in the state of nature. Narrative emerges here as a technology of transformation, a way of effecting a change in the state of a world. The drama of the plot introduces an imbalance and examines the systemic effects in the characters and objects that are affected. The narrative world is not terminated by the end of the film, which offers neither the finality of a tragic death nor the infinitude of an 'ever after', but instead seems to promise to continue unfolding off-screen—like the popular anime genre, these narratives present only a 'slice of life'.

The influence of this minimalistic approach to narrative in the Cheng's own work is clear. In the three episodes of the *Emissaries* trilogy, the simulated Worlds are structured by narrative premises that describe the introduction of some imbalancing factor into an otherwise stable World-state: the emergence of a new consciousness, the intrusion of an external observer, an experimental voyage into a new environment. The works do not proceed towards a particular ending or follow a particular narrative form. Instead, Cheng sets up the initial conditions and allows drama to emerge from the operations of the algorithmic agents that populate the world and their interactions with each other and their environment. Cheng's idiosyncratic definition of drama bears repeating here: drama means "problems that trigger interesting new paths in a World, that arouse its members in unexpected ways, without causing total collapse" (2016: 16). The continued generation of drama is a condition for the ongoing existence of a World. Like the concept of drama familiar in Western literature, drama involves conflicting relationships between characters and their environments, though in Cheng's works it is also required that these conflicts can be rendered symbolically, that is, in a form that is ambivalent to the content

of the conflict and which can be parsed algorithmically. This form of drama is less the drama of literature and more the drama of reality television, where the purpose of drama is to sustain the interest of the viewer and prompt changes in the state of the world—break-ups, betrayals, changes in lifestyle or location, and so on—without threatening the overall stability or identity of the World; less the drama of Aristotle and more the drama of the 'Real Housewives', another influence on Cheng (Comer 2019).

It is important to note that the narrative content of the works themselves is not narrated per se, but emerges out of the functioning of the algorithm that animates the World. The stories that the works purport to tell are given as prosthesis to the videos themselves (as wall texts or descriptions, etc.) and imposed (or not) on the video by the viewer. The viewer 'reads' the story in the behaviour of the characters on-screen, to the limited extent that it is possible to do so, and the characters themselves blindly act out a story that is calculated for them algorithmically. In this way, Cheng collapses the distinction between computation and story-telling by inviting the viewer—given a few foundational statements—to construct a narrative structure on top of the automatic functioning of the digital World. In his essay "The Storyteller", Walter Benjamin (1936) differentiates between information and story in temporal terms: information is functional, it lives only in the present moment, having to "surrender to it completely and explain itself to it without losing any time" (4), while a story lives or dies by what Cheng would call its complexity; it "preserves and concentrates its strength and is capable of releasing it even after a long time" (5). Information for Benjamin referred to superficial empirical data in the discursive field, but his use of the term maps neatly onto a post-cybernetic understanding of information informed by Shannon's theory of communication that demands of information a similar immediacy. In the intervening years, however, we have become culturally accustomed to attaching meaning to and deriving meaning from such information; 'data tells a story' is the slogan of the world of data analytics. What Cheng's work does, however, is to force a meeting of story and information by proceeding simultaneously from both poles, in part—and in part perhaps facetiously—imposing the *profondeur* of Benjamin's storytelling onto the meaningless operation of artificially-intelligent characters, and in part asserting straight-forwardly that the drama of emergence in the functioning of algorithms fuels a particular narrativity of its own.

Joanna Zylinska (2020) proposes that storytelling, narrative and other forms of art allow us to explore the ethical dimension of artificial intelligence by enabling the asking and answering of questions related to AI without the pressure of economic imperatives and following an anecdotal methodology disallowed by science. Zylinska points to Isaac Asimov's Three Laws

of Robotics as exemplary of the ethical investigation of AI in the domain of fiction, though notes too that the ethical system Asimov develops works only as a "moral parable" (30). What is valuable in Asimov's approach is the "very gesture of *doing ethics as/in fiction*" and the proposition that "ethical deliberation is best served by stories" (31). What Zylinska argues is necessary, then, in the context of the development of AI, is that artists tell "better stories" about AI and imagine "better ways of living with AI" (31). For Zylinska, this function is intended to correct the salesman-like rhetoric of the developers of AI, pointing out ethical blind spots in AI discourse and using AI technology to show up the limitations, flaws, and unintended outcomes of AI technology. What Cheng's work does coincides in part with this way of dealing with AI, but, in his pursuit of autonomy, he turns the development of artificially intelligent Worlds towards ends that diverge from those of the development of AI in control society. The unintelligible narrative that plays out in Cheng's work reveals the functioning of AI to be largely arbitrary and accidental, as well as frequently boring, but also demonstrates that functioning of this type is what drives emergence in the closed systems of AI models. Cheng's algorithmic storytelling both narrates the unfolding of algorithmic behaviour and creates a framework through which the operations of the algorithm can narrate themselves, advancing a form of narrativity that implicates both a human author and the apparatus of artificial intelligence. Given that much of the calculation involved in large language models and other contemporary forms of AI takes place within a black box, this collaborative approach to narrative allows us to grasp the computational more concretely.

Understood in this way, Cheng's stories—often populated by animals and organic entities—can be recast as fables. Derrida, writing on animals, cautions in general against the use of fables, understanding them to involve "an anthropomorphic taming, a moralizing subjection, a domestication" that subjugates the being of animals under a discourse "for and as man" (2002: 405). For precisely these reasons, however, fabulation lends itself as a useful strategy in Cheng's narration of AI Worlds. The computational, which cannot be grasped in its operation except at high levels of abstraction, requires precisely an 'anthropomorphic taming' in order to be understood and worked *with*. Diverting the operation of an algorithm through the visible behaviour of on-screen characters guided by pre-programmed, symbolic narrative impulses transposes the computational into the domain of fiction, where, as Zylinska argues, it becomes possible to imagine ways of living with AI. The fabulous, Derrida elsewhere asserts, "engages act, gesture, action, if only the operation that consists in producing narrative, in organizing, disposing discourse in such a way as to recount, to put living beings on stage, to

accredit the interpretation of a narrative, to *faire savoir*, to make knowledge, to make performatively, to operate knowledge" (2009: 36). The fable organises discourse as a narrative that has some knowledge to disclose that it wants to make known. It mobilises the elements of narrative towards the disclosure of some moral meaning. In this way, Cheng's simulations can be understood to operate in the fabulous mode, where the operation of the algorithm—which decodes and operates upon symbolically-encoded knowledge—is oriented towards the possibility of making moral and ethical claims about AI. As seen in the following section, Cheng's practice of Worlding establishes itself as an ethical imperative in the context of the further future development of the technological environment of control society. The conjunction of computation and fable in his simulations provides the basis for a Worlding that is empowered by AI but operates within and perpetuates a moral framework guided by a human ethics.

4.5: Flusser and Worlding as Resistance

Part of Ian Cheng's justification for pursuing Worlding as an artistic strategy is his belief that the "one truly redemptive" task of the artist is to deal with "the open-ended class of infinite game problems" through the creation of Worlds (Cheng 2018: 79). Cheng's belief is that this type of work will increasingly become the basis of all human activity in a speculative future in which automation solves the problems of scarcity. Setting aside the question of the plausibility or desirability of this scenario, Cheng's argument furnishes an image of art as the production of order towards non-dominating ends, converging closely with Adorno's account of the modern work of art as the product of technological mastery over materials towards art's own ends. Worlding as an artistic strategy invests reality with meaning by imposing local pockets of order onto the generative chaos of reality. Seen in this way, Cheng's theory parallels Vilém Flusser's account of the technical image, which similarly produces order by representing the chaotic reality of atomic and electronic quanta as a graspable world through the use of technical apparatuses. This section pursues the parallel arguments of Cheng and Flusser, ultimately claiming that in addition to the resistance described earlier in the chapter, Cheng's concept of Worlding can be understood as an act of resistance to hypothetical social domination in a technological culture yet to fully emerge.

To bring Cheng's account of Worlding in line with Flusser's theorisation of the technical image, it is necessary to decouple art and Worlding to a greater extent. While Worlding, as argued here and above, is a valid strategy for aesthetic resistance, it is important to also stress that it can also be a strategy of capitalist expansion and extraction. As Hayles et al. (2014) note, the "worlding ethic" that drives the creation of speculative fiction, game worlds, and certain art forms also drives financial speculation and the creation of derivative contracts (225). In this context, worlding is understood—as it is by Cheng—as "a sustained process of imagination", with a world defined as an "effect of interrelated strategies—aesthetic, cultural, and political—that generates new forms of life" (232). Cheng's tendency towards anthropomorphism in regard to his own work and his own use of computational technology skews his concept of Worlding towards the cartoonish, where animation and automation cheerfully converge as they do in his simulations. But at the level of engineering, Cheng's use of artificial intelligence to animate Worlds and produce 'drama' is closely aligned with the use of artificial intelligence in algorithmic trading, for example. Whether in pursuit of art or profit, both examples satisfy the definition of a World, towards very different ends. Kathleen Stewart (2013) reorients this

definition of worlding around the agency of the attentive subject, as Cheng does, arguing that "in searching out the contours of a world, [the subject] attaches to the moving, striking, and sometimes strange or weird intensities that pull attention into alignment with phenomena" (123). The difference between Worlds of social domination and Worlds of freedom or autonomy can thus be expressed as a function of attention: what phenomena matter, to whom, and why.

For Flusser, the answers to these questions are ultimately determined not (only) by a subject who decides but by the structure of the apparatuses that distribute fields of possible outcomes. This is chiefly because unlike in Cheng's idea of reality as a chaosmos of raw materials, energies, and intensities that readily yield to the attention of the creator of a World, Flusser asserts that we have lost the ability to grasp a reality that has become ungraspable, invisible, and inconceivable (2011: 16). In Flusser's account, the developments of modern physics and of communication theory converge, as they do in Norbert Wiener's cybernetics, to produce a world disintegrated into quanta and bits of information. We require technical apparatuses to consolidate reality back into images that can be understood and operated upon. These apparatuses "produce, store, and distribute information" (18) in the form of technical images, where information is understood in Shannon's sense as a statistically improbable signal, and where this improbability is a measure of order as a function of human activity. Each apparatus functions according to its own program which instructs it what to pay attention to and what image to make of what it pays attention to (a digital camera pays attention to the spectrum of visible light and makes an image of it from digital data captured by an electronic image pickup device, for example). Apparatuses function automatically, blindly realising a possible outcome with the press of a button, and as such, in the long term, can be automated away from conscious human control, at which point their products—random and blindly realised—cease to be informative and add to, rather than reduce, entropy.

In Flusser's speculative scenario, what will be required are a class of image producers he calls "envisioners" whose task is to retain control of the apparatus and continue to make it produce informative outcomes in spite of its tendency towards entropy (19). The apparatus cannot be abandoned, even as it threatens to become autonomous and develop away from human control, and nor can it be left to its own automatic functioning, since this would produce "predictable, uninformative situations from the standpoint of the apparatus's program" (20). The envisioner turns the automatic apparatus against its own programming by producing informative images and deferring the entropic functioning of the apparatus. Without altering the apparatus and its program, however, the envisioner is limited to the production of images

contained in the possibility space of the apparatus's outcomes; the envisioner "can only desire what the apparatus can do" (20). In reality, however, the question of what an apparatus can do turns out to be near-impossible to determine in advance. This is especially true in the case of computational apparatuses which, as per the concept of the Turing machine, are able to emulate any machine whose action can be expressed logically or symbolically. The task for the envisioner, then, like the task of those living in the gamespace of control society, is to learn to think like a program, to understand how to operate expressively and with autonomy from within the confines of an apparatus. In this way, Flusser affirms the principle of technique as expressed in Adorno's aesthetic theory; the envisioner, the producer of informative technical images, which includes (perhaps particularly) art made with technical apparatuses, does not "stand over" the apparatus like a writer over a typewriter, but stands "right in among them, with them, surrounded by them" (36). For Adorno, this amounts to the capitulation of the modern artist to the technical forces that threaten to overpower them; for Flusser, on the other hand, what is demanded is the retention of control over the apparatus, even while submitting to its automatic functioning. This is possible in Flusser's account by the envisioner abandoning depth, bracketing off all but the surface effects as demanded by the technical apparatus which produces only surfaces. In submitting so completely to the objective force of the apparatus, the envisioner is able to stand at "the most extreme edge of abstraction" and create images that make it possible to return to "concrete experience, recognition, value, and action" (37-8).

Cheng describes this (re)connection to reality in terms of "enchantment", where enchantment is "a state of attraction to complexity we do not yet fully understand, but are ready to hallucinate" (2018: 82). Enchantment, in Cheng's specific usage, serves as an alternative to a "domesticating control" over nature, where the complexity of reality is not tamed but "programm[ed] with" in the creation of new Worlds (82). Enchantment builds on the concept of 'envisioning' by imagining a future in which the return to concreteness is only the first step in what becomes a transformation of the underlying conditions of reality that co-constitute the field of possibility of the apparatus. If the practice of Worlding is the practice of creating infinite games using an apparatus whose program describes a fixed probability space, then in order to secure its ongoing existence, entropic outcomes of the program must be reimagined as negentropic ones. Like the first technical images that demonstrated that, in principle, a return to the concrete was possible via a kind of digital hallucination, the first infinite games demonstrate the potential to prevent the chaos of reality from overwhelming humanity. As with technical images, each subsequent generation of infinite games

demonstrates a greater and greater capacity to deal with reality, becoming first routine, and then “expressive and fun” (Cheng 2018: 80).

In both Cheng and Flusser’s accounts, the continued creation of technical images and Worlds allow us to more fully grasp the complexity of reality, creating a feedback loop in which more and more complexity is fed into the apparatuses that makes these creations possible. Cheng hypothesises something like “a Cambrian Explosion of Worlds” that would result in a” fluency for Worlds” that allows easier movement between Worlds, or the simultaneous existence in multiple simultaneous Worlds (83). This imagined fluency reverses Deleuze’s concept of the dividual as someone unwillingly or unwittingly divided within themselves by algorithmic functions and abstract machines beyond their grasp. Here, in the proliferation of possible Worlds, the subject divides and proliferates with agency, acting and being acted upon consciously and with intention. Flusser’s concept of the technical image provides the means by which the dividual becomes able to grasp, perceive, and operate on the molecular flows, forces, and intensities of control society, and Cheng’s concept of Worlds as infinite games demonstrates how the subject might be able to keep pace with the forces unleashed by automation, continuing to produce informative outcomes that neither necessarily exhaust the possible outcomes of the program nor succumb to the entropic pressure of the automatic functioning of the apparatus.

Seen in this way, Worlding secures the ongoing agency of the human subject of control society and resists the homogenising pressure of control by fostering an ethic or culture of the creation of new Worlds that sustains the potentiality of the computational. Rather than resisting control in the sense of slowing or interrupting its operation, this approach—like the approach of the envisioner in relation to the technical apparatus—works by diverting the normal functioning of control away from its typical aim of social domination. The proliferation of worlds within control society does provide more data to control, and indeed provides it with another engine of speculation, but it also sustains human autonomy, agency, and the possibility for expressiveness and communication on or with orders outside the capture of control. As an art practice, then, Worlding becomes, as Cheng puts it, “the art of choosing better futures, thus expressively steering the medium of spacetime and sculpting our agency in it” (84). The risk in this account of Worlding as resistance, however, is that the underlying structure of the control society is never challenged; the passing of disciplinary power into molecular flows that run uninterrupted throughout society is not disturbed by the greater proliferation of flows that a culture of Worlding would engender. Any potential conflict, protest,

or act of resistance can be rendered as what Cheng calls 'countable drama' (86), which simply fuels the micro-changes and adjustments that constitute progress or development in control society. This kind of post-historical condition had already been observed by Flusser as a product of the dissolution of reality wrought by technical apparatuses. Flusser's implicit hope was that no further revolution would be necessary if automation could be directed towards the freedom and autonomy of humanity, but this depends first on the elimination of a capitalism that systematically produces inequalities not only of wealth but of access.

As a mode of resistance, then, the practice of Worlding rides the knife-edge of automation. It imagines a future of free, speculative aesthetic activity achieved through the automation of the productive sphere, and prepares for this by fostering in the present a culture of Worlding that pursues greater and greater complexity as a principle. In doing so, it risks leaving unchecked forces of social domination that are unleashed by the same technical apparatuses that empower artists and creators to create Worlds in the first place. It defers the answer to Deleuze's question of whether we are more or less free in control societies now by recourse to an emphatic belief that we will be free in the future. Here, the practice of Worlding falls in line with Adorno's notion of art's perpetually deferred *promesse du bonheur*; the practice of Worlding is perhaps the most explicit illustration of the promise implicit in all art that things could be other than they are, and in this way too, Worlding becomes an act of resistance.

Conclusion

I write at a moment where the institutional crises and reforms identified all too easily by Deleuze as the condition of control have compounded into something meaner than the speculative society imagined in the "Postscript". The phenomena of neighbourhood clinics, electronic ankle tags and endless corporate training which signalled for him the emergence of a new social form seem utterly benign when faced with the vast antinomies of a global system that not only sustains but supercharges gross inequalities of wealth, health, and freedom across the world. The logic that underpins our current crises remains relatively unchanged for most, save perhaps in the financial capitals of the world which now house an avant-garde of analysts and brokers who profit from predicting emergent 'opportunities' within the system of control; elsewhere—in universities, hospitals, and prisons, still—digitisation and reform remain the perennial buzzwords of a management class clinging with blind faith to the illusory stability of a crumbling status quo and the false promise of liberalisation.

In this context, the question of art's capacity to resist forces of domination has taken on an increasingly desperate tone as artists and institutions search for aesthetic practices that promise some respite from the cruelty and precarity of contemporary life. Practices exploring care and kinship have recently come to the fore, often accompanied by a welcome institutional investment (even if only discursive) in accessibility and inclusion, a turn no doubt accelerated by the Covid-19 pandemic and its lingering effects. Similarly, the current genocide unfolding in Palestine has forced once more the question of what art, artists, and art institutions can do or say in the face of unimaginable violence and suffering. In a liberalised aesthetic sphere (the dominant aesthetic theorist of which is perhaps Jacques Rancière, whose concept of the distribution of the sensible contains the promise that art can immediately and directly impact the political reality of its own time), the traditional idea of art as something 'purposively purposeless' has fallen from favour, replaced by a desire for art that all too often comments on but does not adequately critique the society in which it is made. This tendency towards immediacy in art—the turn towards an immediate praxis—leads to the production of artworks that are consolatory rather than critical (though given the context identified above, this cannot be condemned too harshly).

Given this social state and its regrettable historical echoes, Adorno's *Aesthetic Theory* speaks with a fresh clarity:

> Art . . . is more than praxis because by its aversion to praxis it simultaneously denounces the narrow untruth of the practical world. [...] The critique exercised a priori by art is that of action as a cryptogram of domination. According to its sheer form, praxis tends toward that which, in terms of its own logic, it should abolish; violence is immanent to it and is maintained in its sublimations, whereas artworks, even the most aggressive, stand for nonviolence (241).

The answer Adorno offers to the question of what art can or should actively do in the face of social domination is, in effect, nothing. Art absorbs the social as an objective element (and through a critique of psychoanalytic aesthetic theory, Adorno shows that this can include even social psychic or psychological elements) and transforms it objectively according to its immanent law of form—a law which is historical through and through. Art refracts society and projects a distortion, an unreality, which in the truth of its existence indicts the untruth of society, the irrationality of the rational. That artworks "intervene politically" at all is "doubtful" for Adorno, and when they strive to do so, they "usually succumb to their own terms" (242). The error made by artists who seek to alter or act upon society directly stems from the false belief that their artworks "present a latent praxis that corresponds to a manifest one" which can be immediately generalised as a strategy for reorganising society and achieving liberation from domination. Whatever limited social effect art achieves, it achieves indirectly as a function of its intrinsic form; it is the task of critique to unleash what artworks "have sealed up in themselves" (242). Art's social and ontological autonomy, for Adorno, is not an impediment to the freedom of society, but a latent guarantee of it, though this offers no comfort in the present.

Given this, if we are to seek strategies of resistance in contemporary artworks, we must apprehend them in their autonomy, in the state of their withdrawal from and disavowal of the social. Deleuze's account of the relationship between control society and art, elaborated in the early chapters of this thesis, allows us to frame the social forces of domination and the aesthetic forces that oppose them in terms of the technical or technological distribution of the spaces and times of experience. Control society, premised upon the generalisation of the cybernetic concepts of command and control and the predictive management of information, imposes digitality as the condition of the organisation of social space-times, and its effects stem chiefly from the proliferation of digitisation and computerisation as praxes across the entire social sphere. All artworks, for Deleuze, stand alone in opposition to the hegemonic

space-times of the social, if they stand at all. What my research has pursued in particular, following Adorno's assertion that art absorbs its social context as a formal element, is an analysis of the resistance offered by works which emerge from and (cor)respond to the condition of digitality.

In his writing on control and the creative act, Deleuze posits that the resistance of the work of art is a function of its "noncommunication". Noncommunication, like many of the concepts employed by Deleuze, proves to be somewhat slippery when one tries to pin it down. On the one hand, noncommunication can be seen simply as a signifier of that which eludes or exists outside of the system of communication characterised by the control society, calling to mind the kind of 'off the grid' existence that persists as a utopian fantasy across the whole political spectrum, whether envisioned as a communal return to nature or a hyper-individualist rejection of State and society. Cutting oneself or one's work off from the circuitry of communication in control society, however, proves to be far more difficult than simply cutting the cord, so to speak. In the case of recent practices like that of Tino Sehgal, whose work is reduced to a fleeting encounter with a constructed situation which generates no object and of which no documentation is produced, art institutions and audiences nonetheless produce and communicate their own information about the work which is subsumed into the productive circuits of communication the artist seeks to extricate himself from. The potential noncommunication of the work is shrunk to its smallest limit, while what communicates in or about the work functions no differently to any other typical art object or practice. Similarly, recent land art works (or earthworks), like Charles Ross' monumental *Star Axis*, a vast concrete structure set in the desert of New Mexico, attempt to physically remove themselves from society as well as to operate on the scale of the sublime in an effort to move away from the computational optics of control society. As with Sehgal, however, the information-producing apparatus of control society is able to eat away at this attempt at noncommunication until it persists only as a kernel of resistance within the work (which, after all, is not nothing), and the production of the work is still fully imbricated within the relations of industrial production.

If these relatively extreme attempts to materially limit the communicability of the artwork largely fail to enact any resistance to their capture within control society, noncommunication might be sought instead as a function of a particular type of object within the circuitry of control; this is the hypothesis broadly investigated by this thesis. Adorno's attention to the

concept of immediacy is again informative here. Art foregoes its immediate social relation so that it might unfold in a time and space of its own. Walter Benjamin, contrasting story-telling with the communication of information, argues that information immediately exhausts itself in the act of communication, that—in principle if not in practice—its meaning is fully and immediately divulged in the transmission of information from source to receiver. Art, because of its non-identity with itself, or its processual character, or because of the type of knowledge it represents, is not exhausted in the way that information is. Aesthetic experience does not exhaust the artwork, and nor does critical analysis. Noncommunication, then, is better understood not as an attempt to leave the circuits of control, but as a mode of becoming in which the possibility of total communication is an ontological impossibility. As long as the artwork remains in process, or, as Deleuze puts it, maintains its relation to the virtual, its potentiality endures endlessly. What Deleuze describes as a “vacuole of noncommunication” is something intangible that exists within the material reality of the artwork, a sort of portal through which the potential of the artwork is spontaneously realised.

This spontaneity is the key to the resistance of the noncommunicative to control. Its character is not programmatic nor emergent, it cannot be modelled or predicted, its possibilities cannot be enumerated, nor its problem space solved. In short, the virtuality of the artwork does not yield to computation. It demands a human observer, and, more, its endurance calls forth some future observer, some ‘people’ that are not yet there. In this, it is linked to the freedom of the decision argued for by Sartre, but it is not the freedom to act but the freedom to look, to think, to feel, to receive. It does not lead to resistance in the present but promises an enduring resistance to the totalisation of social domination on the horizon.

The chapters of this thesis have taken this promise of resistance as the basis for which more specific forms or strategies of resistance might be enacted by individual artworks. Those approaches are briefly revisited here.

Tabor Robak’s *Where’s My Water?* enacts a critique of praxis by delivering general social technique over to subjective artistic production through what amounts to a functional transformation (Benjamin/Brecht’s *Umfunktionierung*) of the most advanced technical means of production. The aesthetic autonomy of the work allows it to turn against the faulty rationality of control society by withdrawing from the social and—in directing the subjective labour of the artist towards purposelessness—engages technical mastery in the service of fully reconciled labour. Moreso than both of the other artworks considered in this thesis, Robak’s work revels

in noncommunication; it seems not to attempt to 'say' anything immediately social or political at all. It treats its own technical sophistication flippantly, it makes a joke out of the idea of technical mastery—here perhaps it echoes the labour critique not of Duchamps' *Fountain* but of his 1919 *L.H.O.O.Q*, a defaced reproduction of Da Vinci's *Mona Lisa*. The task of critique taken up in my thesis, then, was to attend to the serious critique buried in the joke, and to see in the work evidence of the transformative freely sensuous and subjective labour of the artist that models the emancipation of labour itself.

Jacolby Satterwhite's *Country Ball*, unlike Robak's work, invites myriad interpretations from any number of critical perspectives. The work is culturally intersectional, moves deftly between the personal and the social or political, engages with and subverts traditional aesthetic concepts and categories (flatness and depth, text and image, object and performance, etc.) and remediates technologies, media, and artistic practices to produce a work that fully demonstrates the inexhaustibility of the artwork in its relation to the virtual. The particular line of inquiry pursued by my research concerned the artist's stated aim in creating the work, the attempt to "recreate" the memory of a remembered (and video-recorded) family party from the artist's childhood. Satterwhite's work, although making extensive use of digital techniques, elaborates what might be called a vernacular mode of memory in which images, videos, objects, and acts of performance (dancing, and specifically voguing) furnish a way of remembering and recreating that runs contrary to the recollective perfection demanded by digitality. Satterwhite's work—in terms of the efficiency of memory—is largely redundant; if the aim is to recreate an event that has already been recorded, there is strictly speaking no need for his work to exist, from an informational perspective. Instead, Satterwhite deploys technology in a way that subverts its productive and communicative telos and deliberately pursues a recollective impurity that is irrational and illogical, but that—as a result—illustrates the capacity for digital techniques and technologies to sustain the virtual potentiality of the artwork.

Finally, Ian Cheng's *Emissaries* trilogy turns reflexively upon the concept of control itself, setting forth autonomous space-times populated by artificial intelligence through which the artist investigates the practice of Worlding as a form of resistance to the social domination of control society. Here, aesthetic autonomy liberates the work from the imperative of control; Cheng deploys the techniques of control towards non-dominative ends, pursuing the expressive possibilities of algorithmic systems as they tend towards chaos. In contrast to

Deleuze's account of control, Cheng advances an ethics of Worlding, a way of harnessing simulation and prediction to expand, rather than merely govern, the communicative possibilities of digital technology. Cheng explicitly describes his work (and indeed all art) in terms of the communication of some idea or message, but this point of divergence is mitigated by his similarly expanded notion of autonomy; an artwork can, for him, be both autonomous and communicate with some observer, because the particular autonomy of the artwork for Cheng secures it against a broader communicative regime. Rather than seeing a binary between the space-time of control and that of the artwork, Cheng speculates on a future in which autonomous space-times proliferate towards countless different ends, with the overall result of expanding the degree or extending the duration of human agency in a world dominated by technology. In this, Cheng parallels Vilém Flusser's description of the universe of technical images, a world in which a technologically sophisticated few safeguard human communication against its machinic subsumption by consistently discovering new, unlikely outcomes of technical apparatuses. For both Cheng and Flusser, autonomy—and indeed, at their most sci-fi, the very future of humanity—can only be secured by an ethical engagement with the technology of control that turns it towards specifically human ends.

As mentioned at the outset of this thesis, the anecdotal methodology deployed here limits the breadth of the conclusions that can be drawn from this study, and some of these limitations are addressed below. However, what the analyses of these three works demonstrate is the enduring possibility that it is possible for art to resist control from a position of even limited aesthetic autonomy. None of these works fully withdraws from the social, nor from the infrastructure of control and the extractive operations that act upon the works themselves and those that view them, yet each is able to critique and to resist some aspect of the functioning of control society in a way that sustains the potentiality of art in general.

It has been the stated aim of this thesis to pursue such an account of art's resistance *in general* to control society, and so further research would do well to interrogate the conditions of this generality.

Firstly, the generality of the practices of data collection, management, storage, and prediction might be considered with more specificity. As a growing body of literature shows, algorithmic functions routinely reproduce real-world biases and reflect (or, worse, mask) demographic inequalities both within discrete societies and across populations globally. If the artificially imagined subject of control society is white, male, European, and so forth, then it should be

asked how this is reflected in the space-times that control distributes, and in turn how this might determine the possibilities for aesthetic resistance to those environments. This is of particular relevance in the condition of the global South, where control—as both a social form and the set of technologies and techniques that produce it—has proliferated in a less uniform way. Inequalities of access contour the possibilities of resistance, so a local perspective on the question of aesthetic resistance to social domination would inevitably yield different results to those produced in this thesis.

Secondly, and more straight-forwardly, further research should pursue further diversity of case studies. Though the artists here represent a number of racial and sexual identities, there of course remain countless other perspectives that might reveal new forms of aesthetic resistance premised on the specific differences of relations between human subjects and the apparatus of control. Without proposing a tokenising methodology, it is vital to strengthen the claims made by this research (and those made by future research) by testing them against as wide a variety of contexts as possible—is the artistic appropriation of technology universal, for example, or is it determined by subjective conditions? If Deleuze was concerned broadly with the search for new weapons against the machinery of control, we might further ask who has access to which weapons, and under which conditions are they best used.

Thirdly, we might reverse the question of the appropriation of technology in light of the rapid development of image-producing AI and the proliferation of technologies like the large language models (LLMs) of OpenAI and Google. In the case of deep learning models like DALL-E, which synthesise new images after being trained—with dubious legality—on vast quantities of human-made images and artworks, we must ask how the use of this new technology impacts the claims made in the course of this research about the character of the artwork, its relation to the virtual, and the possibility of its aesthetic resistance to social domination. On the one hand, LLMs in general do not contradict Marx's account of the subsumption of skill and subjective labour by the machinery of capitalism, but, on the other, just as the scalar shift wrought by the proliferation of computing led to a qualitatively different social form, might the similar shift unleashed (or at least promised) by AI provoke a similar qualitative transformation of the forces and relations of production?

Finally, and especially in response to the development of image-generating AI tools, future research should look beyond the moving image to seek alternative strategies of resistance to control native to other artforms. It is difficult to think of any contemporary practice that is not

now shaped by its relation to digitality, even if that relation is a self-conscious rejection of the digital and a withdrawal into, say, craft practices and artisanal production. Here, the focus would be required to shift decisively to artistic media, rather than (or in addition to) form; different ecologies and economies are invoked, each with its own particular relation to control and its own immanent potentiality.

Ultimately, this line of research is engaged with the broadest and most fundamental questions about the art of a society in crisis. Faced with the existential threats of global war and environmental collapse, and ideological attacks from the Liberal left and right, art is under increasing pressure to justify its existence. Its purposelessness is confused for wastefulness, and in order to justify its demand for financial and material support, it is compelled to take on functions once provided by a now-starved civil sphere. This research vigorously defends not only the necessity of art, but the particular necessity of art which is pointless, purposeless, and useless. It is this condition which endows art with its radical promise, its *promesse du bonheur*, and which will ultimately secure some degree of human freedom in the face of domination.

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