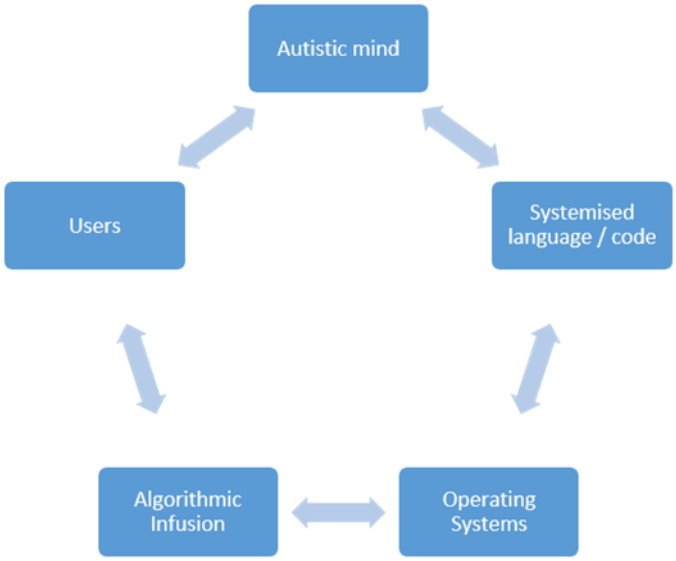
2021

The autistic sinthome: towards a numerical distribution of jouissance

Submitted in partial fulfilment of the requirements of Kingston University for the award of Doctor of Philosophy

SIMON MACKMIN




```
Inputs :
     Psychological Traits : PsyTrait (DataSource=.\Human Behaviour),
     Technology Employer : TechEmp(DataSource=.\Employment Records)
     UK Market Share : MarkShare (DataSource=.\UK Market Share Technology Devices)

Hypothesis : If TechEmp = Autistic, then OpSys = Autistic, then User = Autistic

     // First calculate if Microsoft employee is autistic.

If PsyTrait = Autistic + TechEmp = Microsoft then begin
Name : EmpAust

     // Then calculate algorithmic infusion into operating system,

AlgorithmicInfusion += 50% Operating System input
Operating System input : OpSysInput
OpSysInput = EmpAust/TechEmp
Name: AlgorithmicInfusion

     // Then calculate operating system adoption by user and operating system algorithmic infusion into user

AlgorithmicInfusion.2 += 20% user adoption + User PsyTraits = Autistic
User adoption : useradopt
useradopt = MarkShare, where OpSysInput = AlgorithmicInfusion
User PsyTrait = Autistic
Name : AlgorithmicInfusion.2

If AlgorithmicInfusion.2 = TRUE, Hypothesis = correct
```

Abstract

In Lacanian psychoanalysis autism is part of the clinic of foreclosure and as such is linked to the non-separation of jouissance and the subsequent lack of symbolic incorporation. Where the machine of discourse has not been incorporated the autistic subject seeks to plug into a supplementary device, or what Miller (2020, p.67) refers to as a 'machinic assemblage'. The Lacanian field seeks to apprehend what is singular about the subject's mode of jouissance while also offering us a means of understanding symptoms as they relate to the pervasive discourses of our time, namely science and capitalism. This theoretical approach is particularly appealing in offering a framework in which to examine the central question of this thesis, which is 'how can we understand the relationship between scientific discourse, the autistic scientist and the inventions, devices, and machines which they create'? In this thesis I attempt to outline a particular autistic mode, that of the coder, whose mode of functioning and subjectivity emerges through attempts to metricise the real, organising body, identity, and experience through the laws of mathematics.

Acknowledgements

To my supervisor, Professor Scott Wilson, thank you so much for your continual calming influence, knowledge and patience. Thank you for giving me just the right amount of freedom to explore the subject in my own way but with enough guidance to stop me going too far off track. The whole process has been more enjoyable for your input and wisdom.

Contents

Introduction

In this thesis I ask, and ultimately attempt to answer, the question, 'How can we understand the relationship between the autistic scientist and their inventions'? This question emerged out of a more generic interest in the wider relationship between autism, technology and science that is pervasive in popular culture, but also, according to Professor Baron-Cohen (2012) of the Autism Research Centre at the University of Cambridge, is not without an empirical basis. He suggests that 'autism may be linked to minds that are wired for science' (Baron-Cohen, 2012). He supports this idea with an impressive array of data from his research centre, which indicates that autism is up to five times more common in maths students than those studying the humanities, that scientists score 'significantly higher' in autistic traits than the general population, and that autistic teens score far higher in mechanical comprehension tests than teens from the general population. His suggestion is that the autistic brain may be 'wired for science' because there is both the desire to understand how systems work, and to discover and master the rules of their functioning, along with the mechanical comprehension to achieve this. I want to point out here that I certainly don't hold the view that the vast majority of the autistic population are gifted in science, tech, engineering and maths. I am not looking to add weight to unhelpful stereotypes regarding autism. Yet, there are many cases in which members of the autistic population state the complexity and importance of their relationship to science and technology, seeing it as integral to their sense of identity and experience, and of 'seeing the dividing lines of self and tools as sometimes indistinct' (Buchanan, 2018, p.139).

Diagnosis: What is Autism?

How autism is diagnosed and understood varies across different frameworks, an issue that adds considerable complexity to any clinical discussion and impacts greatly the orientation of treatment. In this thesis I will reference two frameworks, the Diagnostic and Statistical Manual (DSM) and the psychoanalytic framework, in particular the Lacanian orientation. The DSM guidance and testing is the only way that an individual can gain an official diagnosis in the UK. The DSM is a book of psychopathological disorders characterised by taxonomies against which a person is assessed. The onset of a particular set of symptoms and mode of functioning is not considered on the subjective level, only as a cross checking of symptoms against diagnostic criteria. The individual is assessed for autism in a series of structures assessments that 'codes' them across various categories in social communication, and restricted and repetitive patterns of behaviour. The DSM is a book of over one hundred and fifty disorders, which grows as quickly as

new sets of symptoms emerge in society. My personal experience of this as a clinician is that this model of diagnosis creates a lot of inconsistency in terms of patients who are referred to me with a diagnosis of autism. The predominant issue is that there is often not enough consideration given to the individual nature of the symptoms and their potential psychic origins. There might be many reasons why a subject displays signs of withdrawal, issues with communication, and doesn't want to make eye contact. This is evident in the varied responses that someone diagnosed with autism might have in the therapeutic process. The Lacanian clinic maintains a differential clinic predominantly orientated around two subjective structures, neurosis and psychosis. Autism is situated on the side of psychosis but within the Lacanian clinic there are many who consider it as a separate structure. While this debate is complex and ongoing, there is always an emphasis on the subject and what is singular about their symptoms and mode of regulating jouissance[1].Psychiatrists and Lacanian psychoanalysts might agree on the diagnosis of many cases of autism, but the thinking and understanding is very different. In this thesis I use material where the diagnosis has been made in accordance with the DSM. Both contemporary case studies have an official diagnosis of autism obtained through DSM diagnostic pathways, but my reading of these cases is orientated by the Lacanian clinic. While the DSM takes a predominantly quantitative view of diagnosis, the Lacanian clinic is orientated by a qualitative analysis of the subject's relation to language, and the utility of language in the mediation and treatment of jouissance. Autism can be considered as a subjective position in which there is a lack of access to the signifier. Without the signifier to mortify jouissance it runs wild, invading the body from the outside and tormenting the body with unbearable bursts of excitation. The 'aloneness' and 'sameness' that are characteristic of autism are ways of attempting to regulate unbearable excitation and impose some predictability, order, and limit to jouissance. In this thesis I am concerned with the alternative modes of regulation that the autistic subject creates, particularly in relation to the discourse of science and scientific invention.

---

[1] Jouissance is a Lacanian concept that is derived from Freud's notion of libido and the economic function of the pleasure principle to limit or regulate the excess excitation and energy of the drive. It is usually defined as enjoyment beyond the pleasure principle or an excess, supported by life in a state of superabundance, that has to be mortgaged and mortified in order to gain access to the signifier, as an effect of 'symbolic castration'. In Lacanian theory it is the 'master signifier' that organizes, regulates and stabilizes jouissance for the subject.

A particular 'mode of jouissance' is specific to each subject but can be said to be characterized according to different subjective structures (neurosis, perversion, psychosis) and their relation to language as an 'apparatus of jouissance'. Technological gadgets are ultimately formations of language.

Lacanian psychoanalytic theory offers a particularly useful orientation for understanding autism and its relation to science and technology, and I want to outline my reasons for using it as a framework for approaching my main research question. In the Lacanian field autism is situated in the clinic of foreclosure, which is characterised by the non-separation of jouissance and the subsequent lack of symbolic incorporation. 'This lack can justify his attaching to another symbolic body' (Miller, 2020, p.87). This is referred to in the Lacanian field as 'plugging in' and is so commonly observed in cases of autism that it is described by Colette Soler (1984) as 'banal'. 'Plugging in' to a prosthetic symbolic body introduces a means of stabilisation and of orientating subjective experience. This resonates heavily throughout the case studies, both classic and contemporary, that I will lay out in this thesis. Lacanian theory also provides a framework in which symptoms are considered in terms of their relationship to changes in the master's discourse. This has proved particularly useful because it situates a subject for whom scientific axiom essentially becomes an organising principle, wholly in relation to the dominant discourses of science and capitalism. Finally, Lacanian theory, in situating symptoms in relation to discourse while also seeking what is singular, has allowed me to develop the concept of a particular autistic mode that is both collective and yet unique.

Central to my approach to the research question is the use of case material from classical cases well established in psychoanalytic literature such as 'Joey' and 'Schreber'. 'Joey', the so called 'mechanical boy' who was treated by Bruno Bettelheim in the 1950s (Bettelheim, 1972), was diagnosed with autism and proved to be a master at inventing electrical and mechanical devices that he would connect himself to, and without which he would remain inert, seemingly unable to function. I refer to canonical case studies such as Joey not for historical interest but to isolate a particular subjective modality of jouissance that I relate directly to contemporary case material gathered from my time spent with autistic coders at Microsoft in both the UK and the US. This material plays an important role in the thesis in a number of ways, which I believe justify its inclusion. Through the use of classical case studies, I attempt to outline the foundations of a particular mode of subjection organisation, but what is particularly important to me and to the thesis is to evidence this mode in contemporary society, and to outline its method, value, and impact on the subject, industry, and potentially to wider society. As a clinician in the psychoanalytic orientation, clinical material is the basis for theoretical exploration and brings it to life in a way that benefits those reading it. I have tried, successfully I hope, to avoid writing a thesis that disappears into anecdote, or in which the case material alone provides the basis for a particular knowledge. Rather, I have attempted to build a justification for reading and

interpreting it in a certain way through the use of Lacanian theory, which I feel gives a very solid foundation to how I have shaped and presented the contemporary cases.[2]

My interest in autism began in around 2015. Having completed a clinical training in Psychodynamic Psychotherapy, I had started a placement at the Gordon Psychiatric Hospital in Victoria, London. The inpatient units were made up of a complex spectrum of psychopathology, but primarily consisted of cases of florid psychosis. Co-morbid diagnosis is commonplace in the psychiatric system, and autistic spectrum disorder (ASD) was one of the most consistently diagnosed co-occurring conditions. It was at this time that I first became aware of Lacan's work. I found it impenetrable at times, and a constant source of frustration. However, I was helped greatly through reading his seminal text *On a Question Preliminary to any Possible Treatment of Psychosis* (Lacan, 2006). It introduced me to two concepts that were lacking in my object relations training, and in my time in analytic clinics and psychiatric institutions. The first was the idea of a psychotic structure, which is a separate structure from neurosis and is conceptually understood through Lacan's theory of the foreclosure of the Name-of-the-Father. It challenged the idea of psychotic parts of the ego, and of a subjective oscillation between neurotic and psychotic positions. The second was the understanding of the subject's delusional system as a mode of stabilisation. While this might sound obvious to some, I had seen many times, and had been guilty of myself, challenges made by psychiatrist or therapist to the subjects' delusions, often resulting in increased confusion, anger, frustration, and other such destabilisations.

Approaching it from a more Lacanian perspective, I became interested in the structure of the delusional creations and systems invented by the psychotic patients. There was, for example, patient C, who was obsessed with the idea of toxins in his body. He believed that all his past sins were stored up in his body and needed to be purged and kept in balance. Smoking, sex, cannabis, pornography, and masturbation were classed as sins. They were pleasures that exceeded a limit, that merged into tension and distress. He would restrict his food intake, only eat certain types of food, would make himself sick, and would take laxatives to purge the sins from his body. He had

[2] I have chosen to only include material in this thesis that has been publicly presented and shared in various forms by the individuals themselves. The material used here was gathered at the Microsoft hosted 'Autism Research Summit' in Redmond in 2019. Both of the cases that I have chosen to use in this thesis presented their stories to the summit audience, and to a smaller group of researchers for additional Q and A, where there was a particular interest in the utility of technology for the monitoring and regulation of affect. Over the course of my research, I have gathered a great deal of information that has influenced my thinking, but that I have chosen not to include directly in the thesis on the basis that the information has not been publicly shared at Microsoft hosted events or on approved platforms.

become dangerously thin and had been an inpatient for some months. He was tormented by the bodily experience of excess, and of the idea of transgressing pleasurable limits. He found relief in the idea of extraction that was tied to religious ideas regarding fasting and abstinence. He would oscillate between excess and extraction in a tormenting and dangerous cycle. It was another bodily ailment that ultimately changed the dynamics of his delusion enough for him to be released from his section. He developed a large corn on one of his feet and had been refusing treatment for it. This was, initially at least, seen as further evidence of his lack of executive function and delusional state of mind. One day I saw patient C sitting in the canteen eating a full English breakfast. I had barely seen him eat since I joined the ward. I sat with him and asked about his change in appetite and food choice, to which he replied that the toxins built up from his previous indiscretions were now being drained off through his corn, which meant that he could eat properly. This assuaged his feelings of excess, restored some balance and more importantly restored some of the basic functions, i.e. eating, sleeping, not throwing up etc on which his discharge relied. My reading of Lacan provided a context in which I could understand the significance of removing excess in psychosis. Jacques Alain-Miller (2020, p.77) poses the question; 'As soon as we suppose that, in psychosis, the separation of the subject did not take place, the question of the localisation of jouissance opens up. What happens in terms of different localisations of jouissance when it comes to psychosis'? For the foreclosed subject there has been no extraction of jouissance, hence the feeling of excess, of a body not emptied. It was an interesting theory, and one which shone a bit more brightly for me having apparently observed its centrality in patient C's delusion. Patient C was deemed fit to leave the hospital, his delusion intact, but modified to the point that it jarred less with the social norms against which psychopathology is judged.

Some weeks later I was with a patient who was diagnosed with schizophrenia and ASD. He stood out from the other patients for two reasons. First, because he worked for a multi-national cyber security company. Many of the inpatients came from low-income backgrounds, had relatively chaotic histories in terms of accommodation, employment, relationships etc. and often had a history of substance abuse. This patient, who I will refer to as Alex, had a private education, a PhD from Oxbridge, and a job with a six-figure salary. A few weeks prior, his visiting mother had become concerned when she saw him in a trance like state with his hands either side of the radio in his bedroom. When she enquired what he was doing, he told her that he was tuning in and uploading information that he needed for work. This was a ritual that, unbeknown to anybody, he had been doing for some time. He would 'tune in' to the radio by placing his hands either side of it. He would then either upload information, or if he were feeling overwhelmed with ideas and

mental noise, would download information, which allowed him some relief. Thoughts would come to him out of nowhere, that would sometimes contain solutions to mathematical or coding problems, but could also flow too fast, overwhelming him and merging into a state of synaesthesia in which his perceptions became scrambled. Colours would be seen as numbers, and language would become disordered and hard to process. His radio ritual imposed some order. When, one day, I enquired about the process of uploading and downloading, he simply replied, 'well how am I supposed to work without it'? What is interesting about this is that he did not appear to mean 'work' in terms of employment. He was referring to his functioning as a human being. Again, Lacan's texts provided me with orientation in terms of how I thought about such a case. For Lacan, schizophrenia is an 'an affection that has to do with the non-separation of jouissance', and the subsequent lack of symbolic incorporation (Miller, 2020, p.87). This lack 'can justify his attaching to another symbolic body' (Miller, 2020, p.67). Psychiatric and psychoanalytic discourse is littered with such cases, involving the schizophrenic subject plugging into machines. Indeed, as Miller (2020, p.67) points out, 'Kraepelin's treatise on dementia praecox already showcased the image of a patient who was imagining that he was plugged into many sources of emission of voices and influences. What are these machinic-assemblages if not the markers of a substitutive symbolic body'? In psychosis, for Lacan, there was but one polarity, that between schizophrenia and paranoia. Paranoia is of the ego, and schizophrenia of the fragmented body. This fragmentation of the body is 'a native fact of the human organism. Unity comes afterwards thanks to what is added by the image of the body' (Miller, 2020, p.57). It is through the mirror stage that the ego is formed out of the conception of a bodily unity, and as such the ego functions as a supplement of the organism as well as a precursor to symbolic incorporation. As a result of the failure of the paternal metaphor, the schizophrenic is a body without the discourses that orientate the subject regarding what he has to do as a body, hence the practice of plugging into a substitutive symbolic body.

Alex's stay at the hospital was relatively short. His was a period of voluntary assessment, albeit on the insistence of his family. Other than his strange ritual with the radio, and his belief that he could tune into frequencies through which he could upload or download information, his was a functional life. He had navigated university, and employment, admittingly with a few challenges, but he had worked for the same company for 7 years with great success and had been 'tuning in' since he was a young teenager. Delusional as his ritual was, its function as a stabilising factor through which he could localise jouissance seemed clear. Through it he had created a way to regulate his vital energy, and to achieve a kind of homeostasis through his routine. In the morning he would upload information and energise himself and, in the evening, or if he felt

overwhelmed or overstimulated in the day, he would 'tune in' and download. The process of draining off some excess reminded me of patient C. They shared a similar relief from the idea that something excessive, a 'too much', was leaving the body. Alex left the hospital and returned to his job and two years later, when I last encountered him at an outpatient appointment, he was still stable, had been given a promotion and was still convinced that his ideas and knowledge came to him from an abundant source of knowledge that he tuned into through the radio. This seems such a beautiful description of a prosthetic Other, that I have never forgotten it.

During this period, it became known that I was interested in working with patients who had autistic/psychosis co-morbid diagnosis, and that I particularly liked working with the 'techies'. I worked with several such cases in outpatient services. What was consistent between them is that their interest in science and technology was inherent to their sense of identity, and that it had been a catalyst for improved regulation and social functioning, including their gaining of employment. Moreover, many of them held senior technical positions and were contributing a great deal to a range of new technologies. It is the intersection of psychosis, autism, and scientific discourse that would focus my attention over the next 4 years.

It is an ongoing debate in Lacanian analytic circles. 'Is autism a type of psychosis or should it be differentiated. Is it a state or does it belong to a clinical structure' (Tendlarz, 2003, p.11)? The relationship between autism and schizophrenia is long and complex. Eugen Bleuler coined the term autism in 1911 to describe the states of withdrawal he observed in schizophrenia. The term has since acquired different meanings 'according to whether it was used to describe an early pathology or a secondary state that results from the triggering of an illness' (Tendlarz, 2003, p.10). This distinction was based on the results of therapy. Treatments that apparently 'free the patient from an autistic enclosure act on a psychosis in which 'autism' refers to a disconnection from the external world' (Tendlarz, 2003, p.10). This might be referred to in some quarters as a secondary autism. Autism might also be associated with different organic conditions such as congenital rubella, Fragile-X Syndrome, and encephalitis, amongst others. This has implications for any investigation into an organic etiology, as the results will vary according to the definition of autism that is used.

For many years' autism fell under the diagnostic category of childhood schizophrenia until, in 1981, the American Psychological Association abandoned the notion of childhood psychosis in the third edition of their flagship diagnostic manual the *Diagnostic and Statistical Manual* or

DSM. This was on the basis that these 'early pathologies rarely developed into adult psychosis' (Tendlarz, 2003, p.10). In its place they introduced the term 'Pervasive Developmental Disorders' (PDD), to designate the lack of development of various psychological functions fundamentally linked to the acquisition of social skills and language. In 1987 this was revised and two types of PDD were proposed: autistic disorder, which was based on Leo Kanner's definition; and a non-specific PDD, which has behavioural disorders as its diagnostic criterion (Tendlarz, 2003, p.10). Leo Kanner had introduced the concept of 'early infantile autism' in 1943, to describe children who were characterised by their inability, from the beginning of life, to establish normal connections with people and situations, and by their tendency to autistic isolation. Kanner highlighted what he felt was an additional causal factor in the children's relation to their parents, who 'are typically obsessed by details but lacking in feeling' (Tendlarz, 2003, p.9). Kanner's observations offer the material for two different psychoanalytic readings of autism. One could focus on his observation of the child's relation to their parents, as Bettelheim (1972, pp.233-343) does is his account of *Joey*, the so called 'mechanical boy', who's diagnosis of autism was considered a childhood schizophrenia at the time. Joey is an exemplary case of the autistic or schizophrenic child plugging into a machine Other, and he will form a fundamental part of this thesis. This approach has formed the basis of many object relations orientated readings of such cases over the years, in which the cold and emotionless character of the primary care giver is thought to give rise to an autistic withdrawal. I am not denying the implications of a child's early environment in relation to psychopathology, but in many of the cases of autism that I have studied I have found it to be insufficient. This is not to say that no such cases exist. The symptomatic traits that are today associated with autism perhaps have multiple origins and cover multiple modes of functioning. In this thesis I am concerned with a certain type, a certain consistency, and a certain mode. That is cases of autism in which the subject has emerged from a state of withdrawal, and through the utility and invention of supplementary devices, has structured a subjectivity and created what Jacques Alain-Miller (2019, p.147) refers to as a 'superior homeostasis'. Central to these cases is the utility of scientific discourse and its associated technologies, which provide the components and/or devices into which the subject 'plugs in'.

It is for this reason that I have found such a solid and consistent orientation in approaching such cases through the dynamic, yet consistent, theories of Jacques Lacan and the contemporary Lacanian school. Under such an approach we can think about the criterion for autistic disorder in the *DSM III revised edition* (1987), laid out in accordance with Kanner's thesis regarding the 'lack of development of various psychological functions fundamentally linked to the acquisition of social skills and language', in relation to the non-incorporation of the symbolic order (Tendlarz, 2003, p.10). It is difficult to find a better definition of evidence of the lack of a relation to the

Other than a lack of acquisition of social skills and language. This will become increasingly evident in the cases, both contemporary and classical, that I lay out in this thesis, in which subjects describe social convention and codes as alien to them. One can also find solid ground in our understanding of Kanner's observation of parental relations, in that 'without the mediation of the symbolic order, parental care is often experienced as an intrusion' (Tendlarz, 2003, p.9).

The picture in autism diagnosis became more complex in the DSM IV, which specified five categories of PDD: autistic disorder, Rett's disorder, Childhood disintegrative disorder, Asperger's disorder, and developmental disorders not otherwise specified. Asperger's disorder has sometimes been referred to, most notably by Steve Silberman (2001) as 'autisms milder cousin' and was initially separated from autism since it is not characterised by a defective acquisition of language. DSM IV distinguishes it from schizophrenia even though its description is strikingly similar. The overlap between autism, Asperger's, and schizophrenia can be subtle at times, not just in diagnostic criteria, but in presentation. This can result in a comorbid diagnosis of childhood onset schizophrenia and autism spectrum disorder that is assigned different terms by researchers, such as 'multiplex developmental disorder', or 'multiple complex developmental disorders. In the DSM V, the category of Asperger's was abandoned, and a new category of autistic spectrum disorder encompassed the pervious categories of autistic disorder and Asperger's syndrome.

The concept of an autistic spectrum has entered mainstream discourse, and it is a spectrum that appears to be widening rapidly, with diagnosis on a steep upward trajectory. In the Lacanian field autism is positioned in the clinic of foreclosure, but debate continues as to whether it constitutes a structure of its own, or whether it is a radical mode of psychotic foreclosure. I think that it is unlikely that cases will fit neatly into a psychotic or autistic box. There are cases where one cannot be certain. Lacan never distinguished autism from schizophrenia. He situated it on the schizophrenic side of the schizophrenia/paranoia polarity outlined by Lacan. This is not in contradiction to Robert and Rosine Lefort, who proposed the concept of an autistic structure. They also distinguish between autism (which they consider to be a form of schizophrenia) and paranoia (Tendlarz, 2003). This could be a different position from the autistic states described by object relations analyst Frances Tustin. Whatever the opinions and debates might be within the Lacanian clinic, what is consistent is the position of autism with the clinic of foreclosure of the Name-of-the-Father. There is a subtle difference, outlined by Eric Laurent, that in autism, stabilisation appears to be possible without slipping into paranoia, although he states that this is always possible. Lacan had highlighted paranoia as a mode of stabilisation in schizophrenia. Laurent points out that if there is treatment of the child and he can come out of the autism, then

he was never autistic in the first place. 'This would be a version of the paradox of analytic treatment itself: it would achieve what was possible, but only so as to destroy itself by demonstrating that autism did not exist in the first place' (Tendlarz, 2003, p.13). Tendlarz (2003, p.13) points out that 'in a certain way Laurent includes autism in schizophrenia, because in both cases we see the return of jouissance in the body, which tries to add an organ given that language was not able to create that organ'. She adds, 'clinical experience clearly shows that there is a different development in: (a) children whose psychosis is clearly manifested and who have the capacity to reach a delusional stabilisation; and (b) those who undergo autistic withdrawal, whose future adult difficulties are always on the horizon'. This thesis will highlight the complexity of these debates rather than making any attempt to answer them. The cases that I highlight in this thesis all demonstrate the persistence of autism in an attenuated form, rather than a 'coming out' of autism. Crucial to this attenuation is the addition of an organ, which is linked to a discourse that provides a mode of stabilisation as well as a conduit to the external world.

Neurotribes and Microsoft

My interest in autistic subjects who have emerged from various states of withdrawal through the utility and invention of supplementary devices, moved out of the clinic and into the workplace in 2016. I was studying for an MA in Psychoanalysis and inspired by a module on *Psychoanalysis and Media*, as well as by the book *Neurotribes*, written by Steve Silberman in 2015, my wife, herself a director at Microsoft, had arranged for me to meet with a senior technical director to discuss the influence autistic staff had on the development of Microsoft technology. During our conversation he told me about Microsoft's autistic hiring scheme and connected me with several contacts at Microsoft's headquarters in Seattle. He told me about teams at Microsoft Research in Cambridge, that have multiple autistic members. He also noted that numerous members of his own technical team were autistic. 'They are some of my best coders' he told me. 'They say to achieve expertise in a discipline it takes 10,000 hours. The obsessional nature of autism is such that I have seen 12–13-year-olds who have achieved this. They are developing code that it takes me time to compute'. As our initial meeting came to a close, he made a statement that has remained central in my thinking throughout the development of this thesis. In describing the relatively high number of technical staff at Microsoft, as well as the upward trend in autism diagnosis, he said:

'It all works in a big cycle. People with autism like to systemise things. They are attracted to IT with its logic, rules, and predictable interface. The operating systems that are on your phone, PC etc. are all autistic. If you operate outside of these systems, these days you are on the fringe.

The OS mirrors the autistic mind, and the user mirrors the OS. We see children as young as 8 coding in our talent workshops. They have grown up on a diet of technology'.

One needs to be careful with such statements of course. It is anecdotal, reflects the personal opinion of a staff member, albeit a senior one, and is perhaps an extension of a particular understanding of autism within the rubric of popular culture, in which techies are often deemed as being on the spectrum. Having spent over three years speaking with and visiting members of staff at Microsoft in both the UK and the US, and attending their autism conferences and research summits, there is no doubt that the fabric of the organisation has not been immune from the influence of such a cultural understanding. However, his statement and the influence of autism in general within the organisation has a real history that is not to be underestimated. The Lacanian concepts of plugging in to symbolic prosthesis, as well as the inextricable relation between dominant discourses and subjectivity offer much ground with which to explore such a statement. My meetings with diversity and inclusion managers in the US gave further context to the autistic hiring programs now running at the organisation. In 2001 the company introduced psychometric testing of staff members to assist hiring managers in achieving the right balance in their teams. It was noted that a particularly large number of technical staff demonstrated a high proportion of autistic traits, for example, a preference for computer-based communication over face-to-face interactions, a desire for very clear goals to be set in tasks, a preference for quiet low sensory working environments etc. There was a recognition that several autistic subjects as well as subjects who had autistic tendencies but might not yet of been diagnosed, had joined the company despite the recruitment process often being stacked against them. There was an emphasis on selling oneself, and on the relationship that the interviewee could build with the interviewer. Under such conditions the success of an autistic interviewee was often contingent on how well they could mask, and on the severity and nature of both their autistic symptoms and their mode of stabilisation. The feeling in the company was that if so many talented autistic staff had come through the backdoor as it were, then what would be the effect of tailoring a recruitment process especially for autistic people, and of 'opening the front door' and making Microsoft more accessible.

Microsoft also gets a special mention in Steve Silberman's article *The Geek Syndrome* (2001), as well as his book *Neurotribes* (2015). In *The Geek Syndrome*, first printed in 2001 in the tech magazine *Wired*, he refers to the fact that Microsoft were the first company in the world to provide behavioural training as part of staff insurance packages, in response to the growing number of staff who were having time off to look after autistic children. In this article he

speculates about the theory of assortative mating, in which two adults who have autistic tendencies but might be without diagnosis, get together and have a child. As such he asks the question 'Are math and tech genes to blame'? This article was hugely popular and was a pre-cursor to his later book *Neurotribes*, which explores the history of autism in terms of its relationship to breakthroughs in science, math, and engineering over the centuries. Such a book involves a retrospective biographical diagnosis of such titans of contemporary science and technology as Henry Cavendish and Nikola Tesla. That such retrospective diagnosis of the fashioners of scientific method is becoming so common place, is perhaps a representation of the broader shift, and one that affects subjectivity generally, from a society organised by the Name-of-the-Father i.e. religion, family, aristocracies, to one orientated and organised by the dominant discourses of science and capitalism. Such biographical diagnosis can be problematic, but certainly are not without their validity and utility. In his book, Silberman (2015, p.13) describes a conversation with a Microsoft senior manager, who told him that 'all of my top debuggers have Asperger's'.

One idea that appeared to be popular, and which I continually came across in my early research, was the concept of 'algorithmic infusion'. This is the idea that the mind of the coder/coders is infused into the algorithm, which then influences, or is assimilated in some way by the user. This was apparent in my opening meeting with the senior director at Microsoft, in which he referred to the technology itself as autistic. Silberman (2015, p.2) makes similar suggestions in the opening chapter of Neurotribes, in which he is describing a meeting with Larry Wall, a 'legendary coder' and the creator of the coding program Perl. He states, 'To an unusual and colourful extent, the language is an expression of the mind of the author. Sections of code open with epigrams from Larry's favourite literary trilogy, the Lord of the Rings, such as 'A fair jaw-cracker dwarf language must be'. The idea came up again in a conversation with an autistic coder from X-box while he was at the Microsoft Campus in Seattle. He was emphasising the idea floated by Microsoft CEO Satya Nadella, that due to their creative expertise, and the global dependence on technology and networked communication systems across all facets of neoliberal infrastructure and consumer markets, coders were like modern day gods, creating the world in their image. 'We are coded individuals who are coding individuals', he said. The suggestion here, and in Silberman's book, is clear. Autistic individuals, both historic and contemporary, have had a significant impact on the current scientific landscape. The autistic cycle suggested by the senior director, is not only alluding to this impact, but also to the behavioural modifications that contemporary technology has ushered in, which social scientist and MIT professor Sherry Turkle (2015) has described as a form of 'induced autism'. Such a term reflects on the presentation of a

growing number of young people who have withdrawn from conversation, show reduced empathy, and tend towards mediating all relations and tasks through devices. I will propose this as a separate autistic mode, that of the user, and different in presentation and structure from the autistic/schizophrenic presentation of the coder. One is a mode orientated by the object, the other is orientated by formulas, algorithms, and technical discourse.

A Tribe of Digital Natives

While in Seattle I was struck by the size of the autistic community of hackers who had settled there from all over the world. The area is home to Amazon, Boeing, Nintendo, Microsoft and many other science and tech organisations. Many had come to visit the Microsoft campus for the annual autism summit, which Microsoft was hosting. Companies such as Ford, JP Morgan, IBM, SAP, Facebook, and Google, came together to share best practice on autistic hiring, to discuss the economic improvements in performance of certain areas of their businesses that they directly attributed to autistic influence, particularly in areas such as compliance, technical innovation, and efficiency. I spent considerable time with autistic employees, primarily from Microsoft, and became interested in their personal stories. At home and at the Microsoft campus, while quirks and idiosyncrasies were plentiful, there seemed to be an absence of the crippling anxiety and social isolation that I had worked with in the clinic. Clearly, they felt at home here in 'their tribe'. They were successful, and some enjoyed almost celebrity status, such were their professional reputations. This had not always been the case though. Many had overcome, although not entirely, significant issues with anxiety, social withdrawal, strange bodily phenomena, meltdowns, sensory overload, and other such issues common to autistic subjects. There was a consistency to their stories. They had done so by building a life around an interest and skill set that they had developed in childhood, and while this had evolved into a professionally desirable islet of competence, it followed a particular trajectory. This trend is reasonably well noted. In her book *Emergence: Labelled Autistic*, Temple Grandin (1986, p.146) observes that 'when high functioning autistic adults have a stable job, they often have work that is in the same field of interest as their childhood fixations'. Silberman (2015, p.3) also comments on this, stating that the autistic coders and engineers that he spent time with in researching his book, had found ways 'of turning teenage requests for arcane knowledge into rewarding careers. On weekends they coded recreationally, spinning up side projects that lay the foundation of new technologies and start-ups'. What really interested me here is the frequency in which the subject described that the 'childhood fixation' had developed as a kind of rudimentary solution to overwhelming affect, a puzzlement of social convention, and difficulties with the nuances of non-technical language. Their descriptions were of the order of the foreclosed subject, of autism as a

type of schizophrenia, plugging into gadgets and systems that at first afforded them some stability and from which a subjectivation could emerge. Whether we consider autism to be a form of psychosis, or a clinical structure, these subjects appeared to fall within the group of 'children whose psychosis is clearly manifested and who have the capacity to reach a delusional stabilisation' (Tendlarz, 2003, p.13). There is often a consistency in the clinical picture of autism, in terms of stabilisation, that some suggest supports the argument that it is a separate structure. Maleval (2012, p.35) takes note of this when he says, 'A schizophrenic can develop towards paranoia, then fall into a state of melancholia, have a manic episode, then present a delusional paranoia again, and finally end up in a paraphrenic appeasement. The most studied case by psychoanalysts, that of president Schreber, shows particularly well the multiplicity of clinical pictures compatible with psychotic structure. There is no such thing in autism'. He also notes that the psychotic subject can get out of his clinical psychosis, to report on it, critiquing their past delusion, while those 'with the most stable forms of high-functioning autism never consider themselves to have escaped from their autistic functioning: all insist on the fact that it persists in an attenuated form' (Maleval, 2012, p.35). There are always cases that confuse such an argument though. I can personally recall a patient with a co-morbid diagnosis of psychosis and ASD, who fitted the profile of the autistic 'techies' with whom I had spent so much time at Microsoft. His presentation was almost a textbook case of high-functioning autism. Yet he had been sectioned twice for florid psychotic episodes that he reported on at length. Both built gradually as a growing paranoia until such a time as it made him severely unwell. The idea that someone at work had it in for him, escalated into the idea that his computer and phones were bugged. Despite the complexity of the debate regarding the status of autism within the clinic of foreclosure, there was a picture emerging in these cases that seemed pertinent considering both the rapid increase in autism diagnosis over the last twenty years, and the social trends towards increasing adhesion to tech objects that organise and mediate the social bond and appear to function as pseudo-organs or cybernetic extensions of the subject.

Steve Silberman's (2015, p.3) description of the subjects of his book as a 'tribe of digital natives with their own history, rituals, ethics, forms of play, and oral lore', felt particularly apt. He goes on to say, 'that while the central focus of their lives is their work they did in solitude, they clearly enjoyed being with others who are on the same frequency. They are a convivial society of loners'. One could argue that Silberman is not just describing the autistic subjects from Microsoft, SAP, JP Morgan, and Google, but the wider subjective trends of contemporary society. Whether it is classed as a form of psychotic stabilisation, or an autistic attenuation, what is clear is that, through the utility of scientific discourse and its associated devices, many autistic subjects had indeed 'migrated from the margins of society to the mainstream' (Silberman, 2015, p.3). More than this they were significantly influencing the technological landscape while

'refashioning popular culture in their own image'. 'Now', says Silberman (2015, p.3), 'it is cool to be obsessed with dinosaurs, periodic tables, and Doctor Who – at any age. The kids formerly ridiculed as nerds and brainiacs have grown up to become the architects of the future'.

Scientific discourse and the autistic cyborg

Through my engagement with autistic subjects at Microsoft, my interest continued to grow in stabilisation and attenuation through scientific discourse and the machine. It is this pairing that appeared to provide the vehicle for the migration from the margins of society to the mainstream. Without an established discourse the subjects body remains alien to him. As Miller (2020, p.77) says, 'the subject has no natural knowledge about what he has to do as a body' and that, as such, the 'schizophrenic is a body outside or without discourse'. Yet it seemed to me that through their prosthesis there is a coming together of technical discourse and machinic assemblages which stabilise the fragmented body, localise jouissance and allow the subject to cohere. Through scientific discourse and algorithm, the subject had a means of symbolising the real of the body. Where the phallic function was lacking, an alternative metric operation was created. It is a numerical operation, an operation that seeks certainty and is beyond meaning. This is opposed, of course, to the ambiguity of the signifier and the constant metonymic drift of meaning, both of which are experienced as traumatic and confusing for the autistic subject. An important part of my explorations in this thesis considers the organising function of techno-capitalist discourse, how it organises our cultural practices, and its utility as a mode of organising, understanding, and representing the body in an algorithmic way. The advancement of the sciences that attempt to reduce all human experience to formula, play no small part in contemporary subjectivity. The term 'digital native' is provocative here, suggesting a dilution of classical social and cultural structures, and a move towards a virtual one-nation in which all its citizens are expressions of the code with which it is written.

Throughout Lacan's teaching there was a shift in his thesis regarding foreclosure and the psychotic subject. The psychotic as an exception made way, and the concept of generalised foreclosure and Borromean topology emerged. In his late teachings, Lacan was concerned with the various modes through which the subject knotted the real, the symbolic, and the imaginary. By this stage, the Name-of-the-Father was considered to be just one symptom among many, and there was, in essence, a diversification of modes of jouissance and associated discourses through which the subject could approach reality. Marie-Helene Brousse (2013, p.29), picking up on Lacan's hypothesis that the foreclosed Name-of-the-Father comes back to us nowadays in social

norms, suggests that there has been a replacement in the current master discourse, of the signifier one by 'the number, the numerical figure, the average, the ratio'. This now functions as a master signifier, 'a tyrannical master claiming its scientific power'. This is conceptually interesting regarding the subjects of my thesis for a number of reasons. It is through scientific discourse that they found ways to address the enigma of their bodies, as well as to create a space for themselves in the world. They thought of their bodies and brains as a technical system, something that could be regulated, debugged, and recoded in accordance with norms dictated by statistics, formula, and algorithms. The symbolic prosthesis thus functioned as an organ extension of the subject, and was, as such, incorporated into the subjective montage. These ideas and feelings have been central to many of the subjects I have either treated as patients or observed and spent time with during my research for this thesis. Indeed, it is commonplace in many autistic and psychotic subjects. Describing this relationship to technology and machines one autistic writer notes, 'I'm not alone in seeing my autistic experience as inherently linked to technology, in seeing the dividing lines between self and tools as sometimes indistinct. I'm not alone, either, in feeling affinity to representations of cyborgs, beings whose bodies comprise both organic and biomechatronic components' (Buchanan, 2018, p.139). Through Lacan we have a framework in which we can understand the centrality of scientific and capitalist discourse in relation to the structure of the subject. The affinity to the cyborg is one I have heard many times from autistic and psychotic subjects. It can be linked to the unique ways in which the subject utilises science to organise the relation between the symbolic and the real. We can trace back the concept of the cyborg to the advent of cybernetics in 1948. Central to the construction of the cyborg are informational pathways connecting the organic body to its prosthetic extensions. 'This presumes a conception of information as a disembodied entity that can flow between carbon-based organic components and silicon-based electronic components to make protein and silicon operate as a single system' (Hayles, 1999, p.2). When information loses its body, equating humans and machines is especially easy. Cybernetics is an important part of this thesis. Its driving hypothesis, that the human brain is a cybernetic machine, has been hugely influential in terms of contemporary scientific representation and understanding of the subject. The post-war elaboration of game theory, cybernetics, and information theory, all of which emerged as novel mathematical developments during the war efforts in World War II, found their way into mainstream discourse in the 1950's. These developments provided fertile ground for the production of the technical objects to which the contemporary subject adheres, with their AI powered predictive algorithms and biological tracking systems, as well as the plethora of 'psy' practices that use statistics, data, and algorithm to modulate the behaviour of the subject in line with the statistical norms highlighted by Brousse. For the subjects of this thesis the concept of merger with an object organ in a single cybernetic system is inherent to their structure. I will

approach this from the Lacanian perspective, that both cybernetics and the cybernetic subject, so to speak, are productions of the real. His theory, that 'in this real, organised bodies are produced, which retain their form', and that 'this is why bodies imagine the universe', gives a unique perspective from which to approach both their unique subjective modes, as well as their potential influence on our cultural practices (Lacan, 2019, pp.83-108). The purpose of this thesis is not to argue for or against autism as a structure, or to add to unhelpful notions regarding all autistic subjects being gifted with exceptional talent in math or computer science. This is an investigation into the autistic coder, their relationship to technology and technical systems, and their influence on the networks, gadgets, and discourses that shape our reality.

Outline of the thesis

In chapter one, I introduce the reader to Lacan' s thesis on the mechanism of foreclosure and psychotic structure, as he laid it out in 'Seminar III: The Psychoses', and his paper in his paper 'On a Question Prior to Any Possible Treatment of Psychosis'. I pay particular attention to his reading of the Schreber case and his schematic representation of Schreber's delusional structure. This is an important starting point in order to consider the structural implications of foreclosure and Lacan's thinking here. Lacan's analysis of Schreber and the concept of foreclosure are very important foundations to understanding what is at stake for the autistic subject in relation to jouissance and its regulation. His reading of Schreber introduces the creation of a delusional metaphor as a particular mode of stabilisation that is characteristic of psychotic structure. What I attempt to do with the introduction of 'Joey', is to apply Lacan's theory and schema to a case of autism diagnosed at the time as childhood schizophrenia. Joey's case study is important because it introduces a particular mode, different from delusional metaphor, that functions as a means of regulating jouissance. This mode is characterised by the utility of scientific discourse and the invention of machines, and functions as a prototype for my elaboration of the autistic mode of the coder.

In Chapter two, I introduce the epistemological category of ordinary psychosis. This category was introduced by Jacques Alain-Miller in 1998, as a space to consider cases that were hard to define within the classic binary structures of neurosis and psychosis. The concept of ordinary psychosis introduces the idea of a sub-category on the side of psychosis in the Lacanian diagnostic clinic. It suggests that various creations can function in the place of the Name-of-The-Father to stabilise and orientate the subject. In this chapter I consider the autistic mode of the coder as one such 'compensatory make believe' (CMB) with very particular characteristics. This provides a

contemporary frame with which to understand chapter one, with Schreber providing an example of the exceptional psychotic, and Joey providing an example of the coder's development of a CMB as well as its evolution and function over time. This chapter is also important because it situates the symptom in direct relation to discourse, a key feature of Lacanian theory and practice. This provides an important theoretical platform from which to situate the mode of the coder in relation to the dominant discourses of our time, namely science and capitalism. I suggest here that the mode of the coder could be considered the dominant CMB of our epoch, such is the ubiquity of science and technology in contemporary society.

In chapter three, I introduce British philosopher and social reformer, Jeremy Bentham, and his concept of the panopticon. While in chapter two I attempt to provide the reader with a structural understanding of foreclosure and to position the mode of the coder as a particular CMB operative in the absence of the Name-of-the-Father, in this chapter I attempt to outline the distinct features of the coder in relation to Bentham. Bentham is one of many historical figures who has been biographically diagnosed with autism. Bentham also had a very particular way of calculating pleasure, pain, and excess, which I will suggest is a codification of jouissance that is characteristic of the mode of the coder. Not only does my inclusion of Bentham help to establish a form for the mode of the coder, but it also introduces the social and economic utility of the coders inventions and their potential to impact society, which I explore in more detail later in the thesis. Bentham's unique algorithm for calculating jouissance appeared to function as a highly stable CMB, which became central to his identity, situating him in relation to the social bond without being prone to breakdown, as was the case with Schreber.

In chapter four I consider why the mode of the coder, elaborated in the previous chapter through a reading of Bentham, appears to be so effective as a means of regulating jouissance and structuring the subject. This was an important point of interest for me as a clinician. The difference between the autistic subject who could barely leave his room, would struggle daily with regulation, and was selectively mute, and the autistic coder who lived independently, was professionally successful, and would often speak at conferences and work meetings in front of large audiences was both stark and jarring. I choose to approach this question through a reading of Miller's 1995 conference address 'The invention of delusion'. Here, Miller suggests that knowledge (S2) is a delusion that situates and grounds the elementary phenomena (S1) in psychosis. This situates knowledge in the place of the Other. The suggestion here is that the empty symbolic register absorbs the structure of the imaginary, which is inherently unstable. In this chapter, I explore the idea that scientific knowledge and calculation such as Joey's and

Bentham's has the potential to overwrite the imaginary or encode jouissance in a particular way that can be extremely stable and evolves over time bringing the subject towards the world rather than away from it. The subject's reality is orientated by an effective symbolic system rather than by the imaginary, with the emphasis on function and the satisfaction that it brings.

In chapter five, I explore the role of function in relation to jouissance within the context of theoretical shifts in Lacan's teaching. Primarily I am concerned with shift in the status of jouissance characterised by the move from 'the subordination of jouissance to the primacy of language', towards a 'second status of jouissance, in which there is a subordination of the structure of language to jouissance' (Miller, 2011, p.55). This represents a shift from meaning to function and satisfaction, which is inherent in the autistic mode of the coder, in scientific discourse, and in the real. I build on the previous chapter here by connecting Lacan's exploration of cybernetics and the quantification of communication, to the autistic coder's utility of quantification as a mode of jouissance and a means of approaching reality. This offers a particular view of the method by which the coder attempts to tie the real to syntax, and the relative stability that this affords them.

In chapter six, I build on the idea of quantification and the encoding of jouissance as it relates to the body. Invasive, unregulated jouissance and the experience of excess excitation, are common problems in autism, that can be addressed, as discussed in chapter four, through alternative encodings of jouissance. This chapter is an important link between the previous chapters, where I have suggested that quantification is a particularly successful mode of regulation, and the contemporary case studies that I explore in chapter seven. For Lacan, the body of the subject was a symbolic construct, and so the autistic subject outside of the Other is left without a body structured by the signifier. Here, I explore the concept of plugging into alternative symbolic systems, and how this functions as a means of stabilisation for the autistic subject. This directly links the excitation, or what could be thought of as elementary phenomena, to the machine as a mode of regulation. I suggest here that the autistic coder's is a coded body, and that the body is the starting point of the coder's inventions.

In chapter seven, I attempt to bring the previous chapters to life through the use of case material. I use this to situate the autistic mode of the coder within contemporary society, to show the trajectory of stabilisation and creation throughout the lifecycle, as well as to demonstrate how these distinct modes of encoding subjectivity can have an important economic

utility. The concept of the coded body explored in chapter six is particularly relevant here, because it emphasises what is at stake for the autistic coder when they attempt to tie the real of the body to syntax through their inventions. I consider how the application of algorithm can provide a tangible sign system with which to organise the body, and how the data that this provides is a commodity in its own right. I briefly introduce the concept of surveillance capitalism as a means of thinking about the impact of the autistic coder's inventions on the user. I use this to situate the idea of an 'autistic cycle' suggested by a senior director at Microsoft. His suggestion was that the autistic coders inventions caused the user to mirror autistic behaviour, mediating relations through devices, withdrawing from the world around them, and becoming preoccupied with bio and other such data. I suggest that one of the reasons that the discourse of science provides such a successful mode of stabilisation is not only because it provides predictable sign systems with which to impose function and order, but also because scientific knowledge has a high social and commercial value.

This leads onto the concluding chapter of the thesis, in which I elaborate on chapter seven by considering the concept of autistic society and the idea of the autistic mode of the user as distinctly different from that of the coder. I offer a brief outline of the mode of the user, while suggesting that this is an area that would warrant further research. I conclude with a summary of my findings in the thesis and an overview of the disciplines that might want to take on and develop these findings.

Chapter 1: Binary Mechanism

Joey and Schreber: A schematic mapping

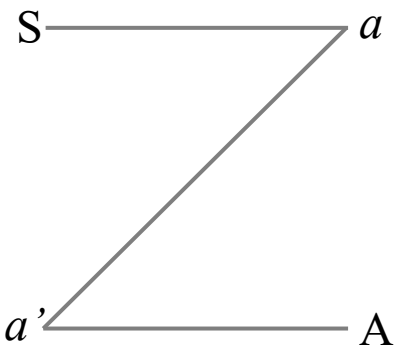
In this chapter I want to outline Lacan's thesis regarding the mechanism of foreclosure as he developed it in seminar III and his paper 'On a Question Preliminary to Any Possible Treatment of Psychosis' (Lacan, 2006). Whether we consider autism as a form of psychosis or a separate subjective structure, what is clear is that in Lacanian terms autism is part of the clinic of foreclosure. This chapter aims to develop a base understanding of Lacan's thinking and how he applied it to a canonical case of psychosis in his reading of Schreber's biographical account of his psychotic episode. This gives an understanding of what is at stake at the point of triggering, the collapse of signification, and the construction of a delusional metaphor as a mode of stabilisation. I will also introduce a second canonical case, that of 'Joey', diagnosed with autism, which was classified as a form of childhood schizophrenia at the time. In doing so I want to introduce a different and distinct form of stabilisation that utilises machines and scientific discourse.

Some of Lacan's most influential work came from his contribution to psychoanalytic understanding of psychosis. In *Seminar III: The Psychoses* and his associated paper *On a Question Prior to Any Possible Treatment of Psychosis*, Lacan introduced the mechanism of 'foreclosure' as fundamental to the development of a psychotic structure, as well as introducing several schemas that topographically mapped his ideas on subjective structure, and in particular psychotic structure as it related to his analysis of the case of judge Daniel Paul Schreber. Schreber's book, *Memoirs of My Nervous Illness* (2000) in which he documents his psychotic delusions, became an influential historical text in the fields of psychiatry and psychoanalysis thanks to its interpretation by Sigmund Freud. Freud's analysis of Schreber's text was orientated by a hypothesis of repressed homosexual desires and a projection of repressed inner drives onto the outside world. It was published in his text *Psycho-Analytic Notes on an Autobiographical Account of a Case of Paranoia* (2001). Lacan's seminal works on psychosis are concerned with his own analysis of Schreber's account of his illness within the context of Freud's interpretation. It is through the development of his theory of foreclosure and the non-incorporation of the phallic function, that Lacan provides an alternative reading of Schreber's divine emasculation. Schreber is important to this thesis precisely for this reason. He is central to Lacan's elaboration of the concept of foreclosure and indeed to the historical psychoanalytic understanding of psychosis in general. However, he also sits as an interesting and important juxtaposition to Joey, who I will also introduce in this chapter. While both had a diagnosis of schizophrenia and presented with the

associated bodily phenomena, it is the difference in their mode of stabilisation that is of particular interest here. While Schreber creates an elaborate delusional metaphor, Joey demonstrates in exemplary fashion the utility, and indeed the merger with, machines as a mode of installing some form of order, identity, and homeostasis. He epitomises, in extreme form, the banality of the spectrum of merger with technological objects that defines the autistic modes of jouissance that could be considered characteristic of the contemporary subject.

In the Lacanian clinic, autism's presentation as a disorder of language, identity and jouissance, firmly places it in the clinic of the foreclosure of the Name-Of-The-Father, and as such as a psychosis or perhaps a particular solution to a psychotic structure. In the elaboration of his thesis on psychosis and the mechanism of foreclosure, Lacan (2006) developed three schemata, namely the I, L, and R schema, in order to lay out and map the co-ordinates of the subject's structure, as well as the mode by which they approach reality. I will introduce Lacan's schema within the context of his analysis of Schreber, before applying them to Bruno Bettelheim's account of the case of Joey. Both are canonical cases in analytic literature. Schreber, as a case of psychosis and Joey of autism. To question and investigate structure in psychosis and autism, one must apprehend the question; If the Name-of-the-Father (NoF) is foreclosed, then what is there in its place in terms of the subject's mode of orientation? Let us first approach this question through classical case studies and classical Lacan.

The Name-of-the-Father and Foreclosure: Towards a differential diagnosis



(Ecrits, 2006, p.458)

Lacan's L schema forms the foundational basis of the R and I schemas. The schema has four points. S signifies the subject, a, his objects, a', his ego, that is his form reflected in his objects, and A, the symbolic order of the Other and the locus in which the question of the subject's existence arises for him. 'The schema', states Lacan, 'signifies that the condition of the subject, S (Neurosis or psychosis), depends on what unfolds in the Other, A' (Lacan, 2006, p.459). The Other can be thought of as the common discourse, or the law, which both orientates and determines the position of the subject. This is because what unfolds in the Other (A) is articulated like a discourse, and the 'unconscious is the discourse of the Other' (Lacan, 2006, p.459). The subject's position in relation to the Other bares a fundamental relation to his structure. Lacan (1991, pp.40-41) describes this in *Seminar II*, when he states, 'I am giving you a possible definition for subjectivity, by formulating it as an organised system of symbols, aiming to cover the whole of experience, to animate it, to give it its meaning'. He goes further in his description of the role of the Other in the determination of the subject while discussing 'repetition automatism'. He states, 'there is a symbolic circuit external to the subject, tied to a certain group of supports, of human agents, in which the subject, the small circle which is called his destiny is indeterminately included' (Lacan, 1991, p.98). It is the insistence of the signifier in the unconscious that constitutes the subject as determined by and within the discourse of the Other, and which is visible in repetition automatism. It is in the subject's relationship to the signifier that Lacan isolated the mechanism for a structural distinction between neurosis and psychosis.

The nature of this relationship is determined by the subject's passage through the Oedipus complex, or lack thereof. To not have undergone the Oedipus complex leaves the subject with a particular defect, and it is this defect that 'gives psychosis its essential condition, along with the structure that separates it from neurosis' (Lacan, 2006, p.479). This defect is characterised by the foreclosure of the Name-of-the-Father in the place of the Other and the failure of the paternal metaphor, which renders the signifying effects of metaphor and metonymy inaccessible. As such the psychotic never enters the game of signifiers, except through a kind of external imitation (Lacan, 1997). Lacan's formulation for metaphor can be seen below:

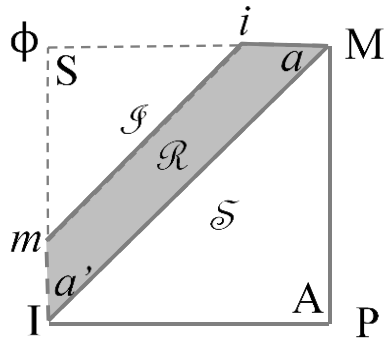
$$\frac{S}{\not{S}'} \cdot \frac{\not{S}'}{X} \rightarrow S\left(\frac{1}{s}\right)$$

In the formula the S's are signifiers, x is the unknown signification and s is the signified induced by the metaphor, which consists in the substitution in the signifying chain of S for S'. The elision of S', represented in the formula by the fact that it is crossed out, is the condition of the metaphor's success (Lacan, 2006, p.465). The formula as it applies to the metaphor of the Name-of-the-Father is laid out as follows:

$$\frac{Name-of-the-Father}{Mother's\ Desire}\cdot\frac{Mother's\ Desire}{Signified\ to\ the\ Subject}\rightarrow Name-of-the-Father\left(\frac{A}{Phallus}\right)$$

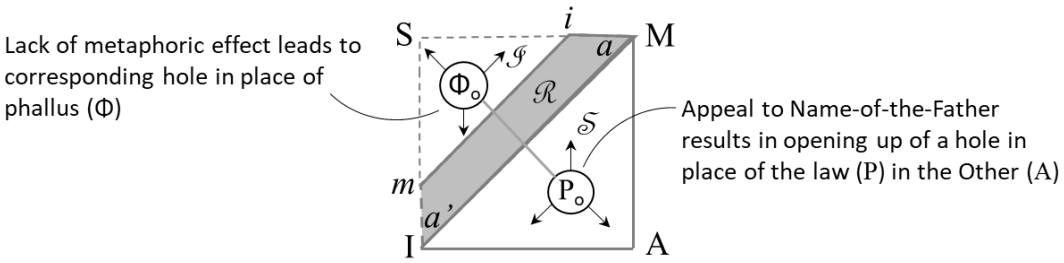
This formula signifies the process of substitution by which the Mother's desire comes to be signified by the phallus, or as Lacan puts it, the metaphor 'that puts that Name in the place that was first symbolized by the operation of the mother's absence' (Lacan, 2006, P.465).

The position of the Name-of-the-Father in the symbolic and the function of the signifier of the phallus in the imaginary can be seen in Lacan's R schema below:



Here S, a, a' and A occupy the same positions as they do on the L schema. The schema represents the double ternary of the imaginary and symbolic, represented by the upper imaginary triangle (*I*), and the lower symbolic triangle (*S*). The central 'quadrangle' (*R*) represents the field of reality as it arises for the subject. The symbolic triangle has the letters M, I, and P at its corners. M represents the signifier of the primordial object e.g., mother, I, the ego-ideal, and P, the position of the Name-of-the-Father in A. Along with M and I the other two vertices of the quadrangle, that is *i* and *m*, represent the two imaginary terms of the narcissistic relation: *m* for moi, i.e. the subject's ego, and *i,* representing the specular image. Situated inside the quadrangle between M and *i*, you have *a,* which is the realm of the imaginary other, where relationships of erotic aggression are realised. Situated between *m* and I, is *a'*, where the subject's ego is identified (Lacan, 2006, p.462). Failure of the Oedipus complex in the form of a foreclosure of the Name-of-the-Father creates corresponding holes in the imaginary and the symbolic in the

position of the phallus, and the Name-of-the-Father. The subject, in their futile appeal to the Name-of-the-Father, is confronted with a 'pure and simple hole' in the Other, which is the catalyst for the triggering of the psychosis. It is due to the lack of metaphoric effect that this hole gives rise to a corresponding hole in the imaginary, in the place of phallic signification. I have demonstrated how this might look on the R schema below:



After this initial phase of triggering, the psychotic's efforts move towards either adding something to the world, via delusion or creation, or removing something from the world in the form of self-mutilation or change. While the former uses meaning in an effort to restructure, the latter aims directly at the subtraction of jouissance. Both aim at emptying out some excess either in the body or in the Other (Leader, 2012). Lacan's concept of jouissance is developed through the course of his teaching, but throughout its various modifications the sense of excess remains present. This can be thought of as an 'excess of life, sensation, pain – more sensation than a body can bear' (Wilson, 2017, p.8). The Name-of-the-Father is the metaphor for prohibition and the law, its essence to divide up, distribute or reattribute everything that counts as jouissance (Lacan, 1999, p.3). This is a consistent feature of Lacan's texts – when you introduce the ordering element of the Name-of-the-Father (+NP), you have a subtraction at the level of jouissance (-J). The lack of the paternal metaphor, by way of the hole that it opens in the Other, sets off what Lacan (2006, p.481) refers to as a 'cascade of reworkings of the signifier, until signifier and signified stabilise in a delusional metaphor'. The delusion is constructed to reintroduce meaning and order to the psychotic's world and, with careful analysis, can perhaps also indicate what is at stake for the subject. Lacan illustrates this process in his reading and analysis of the case of Schreber.

Schreber

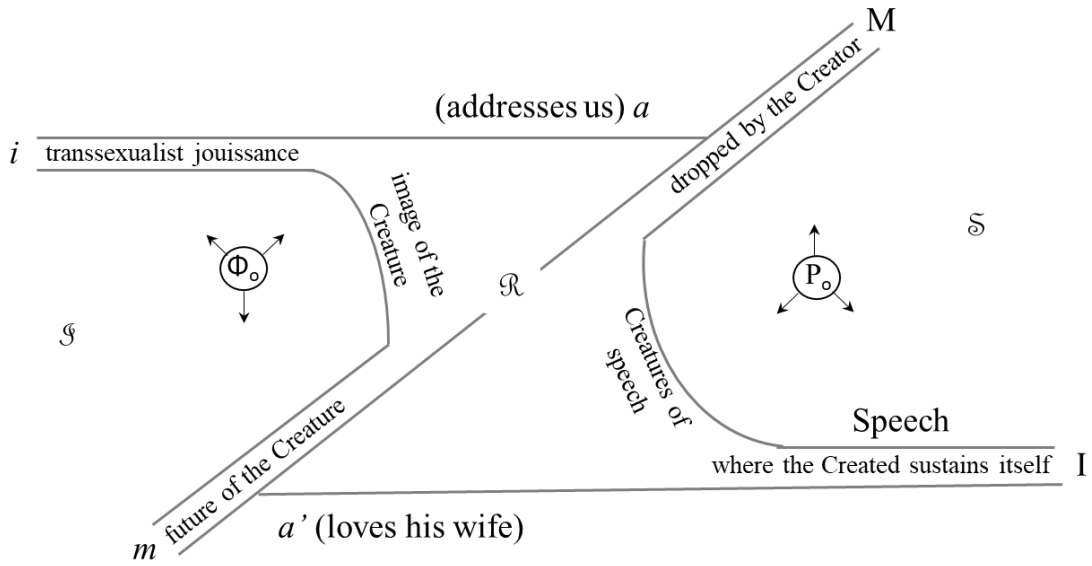
Lacan's analysis of the case of Judge Schreber came by way of a reading of Schreber's testimony in his book *Memoirs of my nervous Illness* which, Lacan (2006, p.466) points out, 'is a production that coincides with the most highly developed form of the delusion'. In this sense it is considered a testimony of real importance in the understanding and analysis of psychosis. Daniel Paul

Schreber was a successful and highly respected German judge until he encountered three periods of mental illness, the first between 1884-85 at the age of 42, which was relatively brief. The second triggering of Schreber's psychosis came in 1893, when Schreber was 50 years old, and was far more enduring, lasting around 9 years. It was during this second period of illness, as his delusion was reaching what Lacan refers to as its 'terminal point', that is when signifier and signified stabilise within the delusion and some level meaning is re-established, that he produced his memoir (Lacan, 1997).

Lacan's hypothesis for the mechanism of psychosis helps us to understand how Schreber arrived at the age of fifty, as a successful and respected judge, with only a brief previous encounter with mental illness at the age of forty-two. In Lacan's (2006, p.481) formulation, while the foreclosure of the Name-of-the-Father is responsible for the subject's psychotic structure, it is the subject's summoning of the 'One-father' to a tertiary position 'in any relationship that has at its base the imaginary couple *a*-*a*'', that is responsible for its triggering. In other words, the subject is confronted with the absence of the paternal function, which manifests in several distressing symptoms of unregulated, invasive jouissance.

Lacan speculates that this point of 'symbolic opposition' came for Schreber when he was appointed to the Court of Appeal in Dresden. Schreber's work up until that point had been as a judge operating among his imaginary equals, represented along the imaginary axis of *a*-*a'* on the L schema. His appointment resulted in him presiding over a panel of five judges, most of whom where up to twenty years his senior. It is this promotion, which for Lacan provides the basis for Schreber's encounter with the Father as a pure symbolic function. In Schreber's case this encounter with the One-father comes not through the intermediary of another person, but through his promotion to the 'league of fathers occupying social, political, or juridical positions' (Lacan, 1997, p.344-5). At this point the stability found in the transitivism, described by Lacan (1997, p.251) as 'external imitation', with the specular image of the imaginary other, begins to collapse. It is here, in Schreber's encounter with a situation he could not symbolise, that his appeal to the Name-of-the-Father, P, in the symbolic, A, brings him to the edge of the hole that opens up in its place. It is around this hole, where 'the subject lacks the support of the signifying chain, that the whole struggle in which the subject reconstructed himself took place' (Lacan, 2006, p.470). In essence, something from everyday reality calls upon the signifier that is lacking, it becomes evident it is missing and the catastrophe begins and undoes the imaginary (Miller, 2005, p.26).

In the early stages of Schreber's psychosis he awoke with the thought, 'wouldn't it be pleasant to succumb to sexual intercourse as a woman' (Lacan, 2006, p.472). Troubled by this thought he became convinced that someone else had placed it in his mind. He thought that perhaps his psychiatrist, Professor Flechsig, who had practiced hypnotherapy on him, had contacted him using a type of 'nerve language', of which humans are unaware. Nerves formed a fundamental component of Schreber's delusion as a mode by which he communicated with human souls, and with God. As Schreber's delusion progressed he believed that God was turning him into a woman, sending rays down through the nerves to enact miracles on him, including little men to torture him (Lacan, 1997). In Schreber's delusion he was to be the begetter of a new race in which he, as God's partner, would repopulate the world which would restore both order and meaning for him. The terminal point of Schreber's delusion is summarised by Lacan through its mapping on his I schema, which is a modification of the R schema based on Schreber's 'eccentric reshapings' of the symbolic and the imaginary (Lacan, 2006, p.478):



Here Lacan demonstrates how the 'cascade' of reworkings of the signifier stabilises through the modification and development of Schreber's delusion. The schema illustrates how the fantasy is constructed in response to the corresponding holes in the imaginary and the symbolic. The hole in the symbolic, A, in the place of the Name-of-the-Father, P, is skirted by the curve between the primordial object, M, and the ego ideal, I. The ego ideal is the signifier operating as ideal, an internalised plan of the law as it were, and the guide governing the subject in the symbolic order. In the schema this represents the created in Schreber's delusion, that is Schreber as the partner of God, and as such, I takes the place of the law in P. Technically God's word, or rather his plan, is operative in the absence of the law, and some sense of meaning and order is restored. In his

position as the chosen one of God, sustained by God's word, which is passed to him through the 'winged creatures of speech' along nerve filaments and into his occiput, Schreber is able to sustain himself.

The creatures of speech, flying creatures created by God for Schreber to communicate with him, come in the place of the 'child who doesn't come' (Lacan, 2006, p.469). The idea of the 'child who doesn't come', perhaps refers to the fact that in Schreber's delusion there was a promise of 'divine fecundation' that would surely take place upon his transformation into a woman. This would be a spiritual act through which God and Schreber could repopulate the world with the 'new spiritual humanity of the Schrebian creature'. However, it is 'postponed for an indefinite period' (Lacan, 2006, p.475). This is represented on the schema along the line 'dropped by the creator', who it seems is represented by M. This appears to be present in the delusion, in that as the creatures of speech increase in activity God withdraws, 'leaving Schreber in the lurch' (Lacan, 2006, p.470). This postponement is perhaps, a crucial part of the delusion's success, in that it elevates and thus sustains the fantasy at a level that 'parodies the situation of the last surviving couple, holding the power to repopulate the entire earth' (Lacan, 2006, p.476). The symbolic absorbs the structure of the imaginary here, with the third term of the Other foreclosed and law and order being established through the imaginary relation a-a' between Schreber and God.

The curve that skirts the edges of the hole in the imaginary, which has opened up in the place of the phallus, runs between the points of the specular image, i, and ideal identification, m or moi. Ideal identification, m, is the ego as it originates in the specular image of the mirror stage, offering the illusion of unity on which the ego is built. Prior to the evolution to the terminal point of Schreber's delusion, the hole in the imaginary was the site of 'soul murder' for Schreber, and his relation to the specular image was that of 'a leper corpse leading another leper corpse' (Lacan, 2006, p.473). For Lacan (2006, p.473), this represented the subject's topographical regression to the mirror stage, at a point when his body was 'merely an aggregate of colonies of nerves', and a sort of 'dump for detached fragments of his persecutor's identities'. It is here, in the transition between the specular image of a leper corpse and the terminal point of the delusion, that Schreber's solution to 'soul murder' can be found, and as such the whole meaning of his fantasy, i.e. his emasculation. Unable to be the phallus the mother is missing, there remained the solution of being the 'woman that men are missing'. The subject is destined to be a woman not because he is foreclosed from the penis, but because he has to be the phallus (Lacan, 2006, pp.471-472).

Lacan (2006, p.472) isolates the point at which the subject starts to 'articulate a way out' of this body of 'dissanexed identities' two years after the onset of his illness, with the word 'suhne' or sacrifice. This is the word that Schreber uses as he accepts his destiny. An emasculation that at first was horrifying became a reasonable compromise, and thereafter 'was a motive for redemption concerning the entire world' (Lacan, 2006, p.470). Through Schreber's divine emasculation the unity of the specular image is restored, which is represented in the line that runs from m to i. The specular image becomes the site for the localisation of Schreber's transsexualist jouissance which Schreber captures perfectly when he describes the erotic satisfactions he derives from his image in the mirror when he is 'dressed in the cheap adornments of feminine finery'. It is an image that Schreber feels is capable 'of convincing any possible aficionado of the female bust' (Lacan, 2006, p.474). It is here, in the ego's relation with the specular image defined by the line between the ideal ego, m, and the specular image, i, that the future of the creature and the image of the creature are situated in the delusion. For it is in Schreber's image that the 'creature of the future' will be created (Lacan, 2006, p.475). At the center of the schema, R represents the conditions in which reality was restored for the subject, which is essentially a production of the 'skew' between the eccentric reshaping of the imaginary and the symbolic. Lacan's I schema potentially shows us both what was at stake for the subject as well as the genius of his delusion. Not only did Schreber's divine communication and emasculation allow him to 'tell the Name-of-the-Father to go fuck itself with the name of God', thus beginning a restructuring around the hole in the symbolic, it also allowed him to become the phallus for the creator, negating the enigma of the mother's desire (Lacan, 2006, p. 485).

According to Lacan, the neurotic subject is orientated by a 'phallic signifier', that is grounded by the Name-of-the-Father. The phallus signifies the value that transcends the desire of the mother for the child, providing definition by its very difference to the child. For the psychotic subject, the phallus does not exist, and the mother's desire remains an enigma. Stabilisation in psychosis then, 'involves the attempt to produce – in oneself or of oneself – an imaginary phallus that can take on the signifying function and produce relatively stable effects of meaning' (Wilson, 2017, p.16). Schreber's promotion, for Lacan, represents a rupture in experience. There is a call to the signifier that is lacking and its absence results in a moment of perplexity in which meaning does not appear. There is a moment of waiting for meaning that remains enigmatic (Miller, 2005). This is where we can frame the early moments of Schreber's delusion, in which he introduces the idea of meaning and enjoyment with the thought of how delightful it would be to submit to intercourse as a woman. In Lacanian psychoanalysis this is referred to as the 'push-to-the-woman'. This is in reference to elementary structures of kinship discussed by Claude Levi-

Strauss, in which the woman (or daughter) equals the phallus. This forms the basis for Schreber's system of delusion in which God transforms him into a woman to 'redeem the world and transform it into a lost state of bliss' (Wilson, 2017, p.16).

Lacan's reading and analysis of Schreber introduces us to a process by which a delusional metaphor functions in the place of the Name-of-the-Father, producing a phallus that can take on the signifying function, thus restoring relatively stable effects of meaning. I use the term 'functions in the place of the Name-of-the-Father', to reflect this point in Lacan's teaching, in which he considered the neurotic subject, orientated by the phallus and the paternal function, to be the dominant subjective mode, psychosis thus being the exception. Later in his teaching, and beyond it in the contemporary schools of Lacanian analysis, this viewpoint changed, and the Name-of-the-Father became just one of many modes of knotting the imaginary, the symbolic, and the real (ISR) and hence the concept of foreclosure was generalised. This shift will be considered during this thesis and Joey's case is particularly interesting in this regard. He represents a distinct mode of plugging in and the utility of technical discourse and its objects as a highly effective method of stabilisation and subjectivation.

Joey – Schizophrenia and the machine

The case of *Joey* has become very well-known over the decades since his treatment at Bruno Bettelheim's orthogenic school, not least because at the time his presentation was so remarkable. Joey's case differs in some very distinct ways to Schreber's. There is a poverty of hallucination, the lack of a discernible triggering, and a persistent symptomology that noticeably evolves towards a more functional form. Add to this the governance of the child by the 'powerful desire for aloneness and sameness' first highlighted by Kanner (1943, pp.217-250), and you have the fundamental coordinates that support the Lefort's theory of an autistic structure. There are also some notable similarities. Both appear to address enigmatic bodily phenomena through the production of a stabilising metaphor which addresses the fragmented body; Schreber through divine rays and emasculation, and Joey through electricity. Both delusions, in their own unique way, become functional enough to allow them to leave their respective institutions. It is also interesting, if perhaps coincidental, that both Schreber and Joey spent nine years in institutional settings modifying their respective symptoms towards more socially compatible forms. What unites and differentiates the cases is the substitute symbolic body. Both cases create one and plug into it, yet the symbolic bodies have fundamentally different characteristics that perhaps differentiate two distinct modes of psychotic functioning. Before I consider how Lacan's schema

might be applied as a guide in Joey's case, I will give an overview of his symptoms as they are described in Bettelheim's (1972) account of his treatment in his book *The Empty Fortress*.

Early life

In the second year of Joey's life, he developed an obsession for rotating objects, particularly fans. He was quite advanced in terms of his speech but often chose not to communicate. His mother thought of him as a thing and not as a person, and where Joey was concerned, she was totally indifferent. He was 'received with neither love nor rejection, but was simply ignored' (Bettelheim, 1972, p. 237). For the first three months he cried most of the time, but his cries were not responded to. He was not cuddled, soothed, or played with, and was fed on a rigid four-hour feeding schedule. The mother was anxious and ill. She had married Joey's father off the back of the traumatic loss of her lover, who had died when his plane crashed in the war. Joey's father was in the military and largely absent on military postings. As a result, Joey's mother lived with another army wife for a period. On the fathers return things did not get any easier and his frustrations were 'often discharged at Joey'. It was, says the mother, 'the most difficult time for both of us' (her and the father) (Bettelheim, 1972, p.240). At the age of one Joey was given a handheld battery powered fan to amuse himself with so that he did not bother his mother or father (it is noted that he had already shown an interest in the fan, hence the decision to give it to him). In his first year he became a violent head banger, as his parents' indifference to him started to yield catastrophic effects. At the age of one and a half his father was posted abroad again on military service, and his mother moved in with her parents. Joey's grandparents became immediately concerned. He had previously been responsive to them but now was completely withdrawn into his own world and would not respond to them at all. He had become preoccupied with machinery and could already take apart and put back together the fan with remarkable deftness. Bettelheim pondered the role of the cumulative effect of Joey being given a fan instead of attention, and his trips to the military base to see his father leave or arrive on propeller driven planes, in the development of his obsession with rotating objects.

Outpatient treatment

At the age of 4 Joey started treatment at a specialist clinic as an outpatient. He was obsessed by fans and 'ran around gyrating like a propeller' (Bettelheim, 1972, p.243). His actions were repetitive, and his interests were narrow and restricted to things rather than people. Joey turned everything into a fan and would spend considerable time imitating them. He had an extremely impressive grasp of the mechanics involved and would use very precise technical terms. When his solitary activities were interrupted, he was prone to violent outbursts.

Joey's speech had apparently started out normally, before becoming increasingly abstract, depersonalised and detached. It was marked throughout by either the refusal or misuse of pronouns. He would call himself 'you' and the other 'I'. This was a phenomenon that Kanner referred to as 'pronominal reversal' and is an indication of the confusion and entanglement that emerge when imaginary identifications dominate the subject's experience (Bettelheim, 1972, p.244). I have observed this in my clinical work. On one occasion, for example, an autistic patient started to cry and insisted that it was me who was crying. Despite never playing with other children, towards the end of his time at the outpatient's school at the age of six, Joey would acknowledge the other children but not directly and only to forecast their 'coming doom' (Bettelheim, 1972, p.244). At six years of age Joey had reached the age limit for the specialist school he was attending, and over the next two years the small amount of progress that Joey had made was lost.

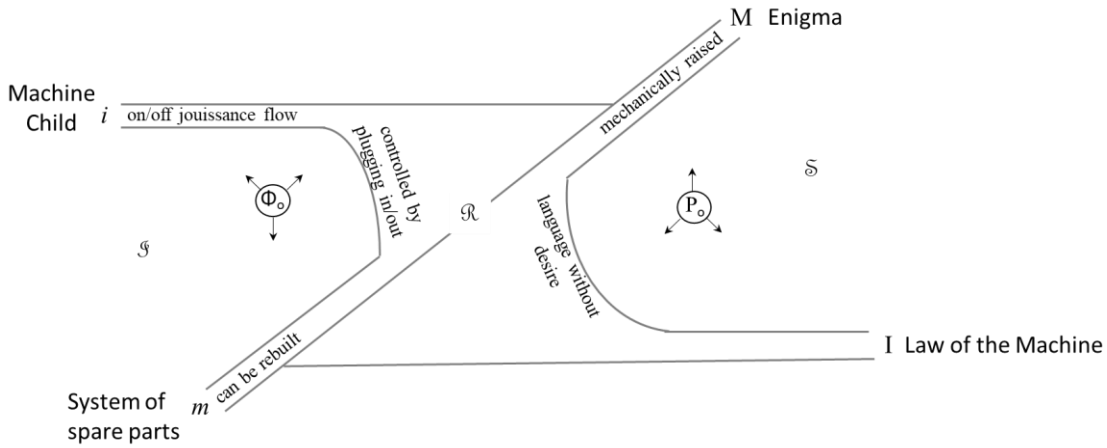
He entered Bettelheim's orthogenic boarding school at nine years of age. By this time, he did not speak except in whispers to his mother, and then only occasionally and with precise instruction. Joey had turned himself into a machine and carried around a motor and power tubes, which 'lived him'. In Joey's words, 'there are live people and then there are people who need tubes' (Bettelheim, 1972, p.253). This bears all the hallmarks of the psychotic's fundamental question highlighted by Lacan, 'am I alive or dead' (Lacan, 1997)? Joey needed to plug into his tubes, his motor, or some other imaginary power source to eat, drink, move, sleep, and to defecate. His imaginary apparatus powered every aspect of his functioning. Joey had constructed elaborate machines out of tubes and wires. He would move mechanically, and staff noted that they had to look closely to be sure that it was not real, so convincing was his performance. Defecation was also an obsession for Joey and his machine powered the eating of food and its elimination. He was toilet trained very early by his mother and, as with his feeding, this was done in accordance with a strict regime. Neither his feeding nor his defecation was connected to Joey's need or demand for food or to go to the toilet. They were imposed on him according to a schedule, without emotion or any real human interaction.

Improvements

Whilst it is difficult to relay all the details of Bettelheim's case study here, the attenuation of Joey's autism appeared to go through several distinct phases, with occasional relapses. In the first phase Joey enters the school as a machine child. He does not acknowledge other children, he has totally given up the use of pronouns, the words 'mother' and 'father' are banned around him and their use throws him into a violent rage. He stated, 'certain words and names are

dangerous' (Bettelheim, 1972, p.252). Joey's language was factual, flat, and mechanical and was not aimed at the other. Machines ran him 'by their own laws' (Bettelheim, 1972, p.271). There appears to be similarities here, with Schreber's delusion in the early phases where Lacan describes his 'topographical regression' to the mirror stage, in which he is confronted with the image of the fragmented body prior to the illusion of unity offered by the capture of the specular image. Just as Schreber is an 'aggregate of colonies of foreign nerves', Joey is an aggregate of mechanical parts and systems operated by an external power source. Joey testifies to this when he states that broken parts of his body will be replaced with machine spares (Bettelheim, 1972).

If we were to attempt to schematise Joey's symptoms at this point using a version of the I schema, it might look something like this:



Bettelheim's approach to Joey's symptomology here is squarely in the object relations school of psychoanalysis. Here, the emphasis is on the relationship to the other, and how the other is internalised as an object that then influences the subject's internal working models, and as such, how they negotiate reality and the social bond. I should note here that Lacan felt in this approach there was a significant neglect of the symbolic order and that object relations functioned entirely along the imaginary axis a-a'. His issue here is that, in essence, the analyst's approach concerns exporting their own mode of making sense, thus perpetuating a certain reality and politics as a defined mode of subjectivity. As such, Bettelheim was extremely focused on the mother's total indifference, lack of emotional attachment and heavily routinised approach to Joey's basic needs, which he felt came across as mechanical and emotionally detached. He notes, 'a body cut off from feelings is not much more than a machine' (Bettelheim, 1972, p.314). It is not my intention to entirely dismiss this thought process or approach, as clearly a maternal deprivation of this kind will have an influence on development. Bettelheim is also led by Kanner here, who highlighted what he saw as the role of parents 'obsessed by details but lacking in feelings' (Tendlarz, 2003, p.9). However, for the purpose of this thesis I want to consider the case in relation to the mechanism of foreclosure outlined by Lacan. I should also

note here that maternal deprivation of this kind can make a significant contribution to the conditions under which foreclosure could take place, of which I am sure there are many.

From this perspective, what is perhaps more important is the lack of a third term to impose the law, and to mediate the desire of the mother. We must assume, and all of Joey's symptoms indicate it, that there is an absence of the paternal function and that, as such, Joey is left to construct his own system with which to structure a subjectivity and to regulate jouissance. With the signifying function missing, Joey is left with the radical instability of the imaginary (a-a') with jouissance oscillating across the polarities of positive and negative identifications (Wilson, 2017). With Schreber we can highlight the push-to-the-woman as an indicator of the site of truth, thus 'revealing that the phallus itself is nothing but the site of lack it indicates in the subject' (Lacan, 2006, p.745). The excessive, invasive jouissance experienced in his body is metaphorized in his delusional system as 'divine rays' that are sent from God in a type of 'nerve language'. Jouissance is thus signified in the delusion as a divine energy of sorts, which is grounded in meaning by Schreber's push-to-the-woman, in which he becomes the phallus. In Joey's case we cannot identify a moment of triggering as such, only the utility of the fan and subsequent utility of machines with which to stabilise his functioning and to impose some order. I have reflected this on the schema by placing machine in the place of M, the primordial signifier. This skirts around the hole in the symbolic to I, where the ego ideal takes the place of the law in the absence of the Name-of-the-Father. This is the scientific law of machines and their mathematical principals. I could, in fact, be more specific here and put electricity and its laws. As a reminder, in Schreber's case, these points were occupied by God and the word of God. What is interesting is that both cases approach the schizophrenic fragmentary phenomena of the body through plugging into a prosthetic system, which provides them with a law, discourse, and thus a body. Schreber aligns very much to the image elicited by Kraepelin in his description of dementia praecox, of a patient imagining that he was plugged into many sources of emission of voices and influences.

For Joey, energy in the form of electricity functions as a metaphor for invasive, unregulated jouissance, which is brought under control by its systems of regulation. We can see incredibly early on in Joey's life that his mode of regulation is tied to the flow of energy through mechanical systems. As such we can see that the fan and his later inventions, function as metaphors for his body, and for the regulation and systemisation of invasive jouissance. We can isolate a difference in the way in which elementary phenomena become structurally inherent in the development of the delusional system. Elementary phenomena are what arise as a moment of perplexity when confronted with the hole in signification. The elementary phenomena thus function as an index

linking phobias, fetishes, and delusional systems to the site of truth. Miller (2005, p.7) states that 'the delusion is an elementary phenomenon given that delusion has the same structure as an elementary phenomenon. In this sense the term generative element used by Robert Cueva is interesting'. I will discuss the structure of delusion in more detail in a later chapter, but essentially the generative element functions as an index and a general principle of construction that becomes a point of stability. I have already discussed Schreber's response to this perplexity, and we can see how he beautifully constructs himself as the phallus in a delusion that starts with his thoughts of succumbing to coitus as a woman and develops into a divinely orchestrated transsexualism. In Joey's case the structuring of his own delusional system is of a different order and is orientated around machines and mechanical systems, which while metaphorizing jouissance and the body and, as such, providing a signifying function, do not appear to introduce meaning. Rather they connect the body to technological objects and scientific principles that represent function, order and control. In Schreber and Joey we have two different discourses that function as a mode of approaching and ordering reality in the place of the Other. These discourses give the schizophrenic a means of addressing the body and, as a result, we have Schreber's body as phallus and Joey's body as a technical system.

The laws by which these machines and systems function were clearly important to Joey. He built up an extensive knowledge of mechanics and electronics and shocked the staff at the Orthogenic School with his understanding and with the skill in which he would dismantle and re-assemble fans and other machines. This knowledge is a response to the elementary phenomena and the route stock of his own scientific delusional system. Bettelheim (1972, p.271) attests to this when he states that 'Machines ran him according to their own law'. To return to the schema, we have the imaginary positions of i and m, which represents the two imaginary terms of the narcissistic relation: the ego (m for moi) and the specular image. There is not, at this stage, a unified image it seems, just an assembly of mechanical parts that function independently. The position of i, as such is Joey's specular image of him as a machine, with its various elements isolating fragments of ego, or elements of the fragmented body, with the regulation of jouissance and libido coming through the electrical control of current entering and leaving his body, with the flick of a switch or the smashing of a light tube. The machine regulates jouissance in the place of the signifier, with the sign, icon, or code being less ambiguous and thus infinitely more appealing than the signifier.

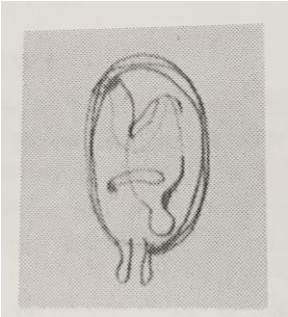
Objects

The utility of objects in autism is commonplace and was documented by Leo Kanner in his initial research into autistic children. He noted that the autistic child 'has a good relation to objects; he is interested in them, can play with them happily for hours. He can be very fond of them, or get angry with them if, for instance, he cannot fit them into a certain space. When he is with them he has a gratifying sense of undisputed power and control' (Maleval, 2012, p.43). I have observed this in many forms and, what is interesting is, the potential that the object has as a passage towards the world and the social bond for some autistic subjects. In such cases the object can mediate and facilitate connection and communication that would otherwise feel impossible. What is interesting, and as Maleval (2012, p.44) says, is an 'almost universally cited observation in the description of autistic children', is the fact that the autistic child will often use adults, or the adult's hands for example, as a tool, thus also considering them as objects. We can see this in the attenuation of Joey's delusional system, in terms of the introduction of imaginary identifications with the other, who according to Bettelheim (1972, p.315) were utilised as 'externalised structures for inner personality'.

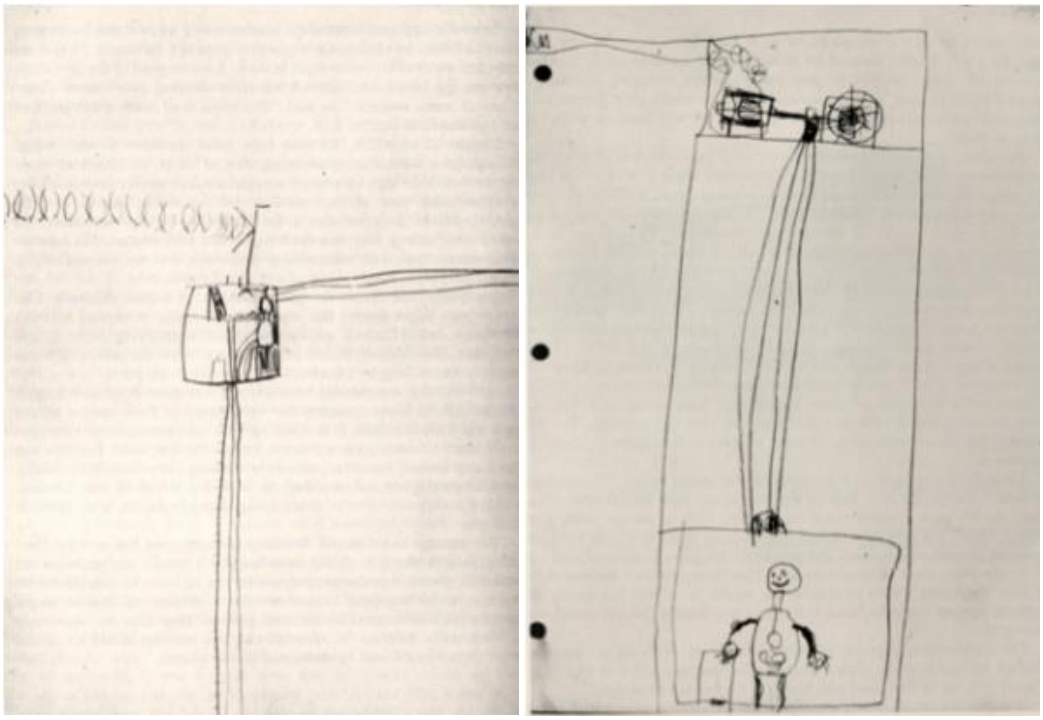
During this period Joey became obsessed with another boy called Ken. This was the first time he had shown any interest in other children. He was not actually interested in Ken as a defined and autonomous other it seems, but rather as an object among others, that had the potential to instil some dynamism. For example, the staff noted that Joey never seemed to be interested in what Ken was doing, but he would use his name a lot to contain his destructive phantasies. In fact, he did not even use Ken's name. He called him Kenrad, which was the trade name of a company that made radio tubes. He would say things like, 'Kenrad is going to blow this place up'. Or if there was a storm, 'Kenrad is angry' (Bettelheim, 1972, p.299). Ken becomes another object that functions as a support along the imaginary axis (a-a'). There is an imaginary entanglement or confusion, in which Ken becomes mechanised and as such is like Joey. When Ken went to the toilet Joey would sit outside the door making a pumping action for him because 'only machinery could move people's bowels' (Bettelheim, 1972, p.300). According to Maleval (2012, p.44), what these observations about the utility of autistic objects identify is that in order to engage some dynamism, 'a detour via the support of an external object is necessary'. For example, for the autistic writer and advocate Donna Williams (1992, p.31), this came by way of her imaginary companions, Willie and Carol, which allowed her to communicate with the outside world. Willie had a 'sense of responsibility', while Carol was 'shallow' and 'social'. She could plug into and assume the role of one, and then the other, which enabled her to complete university studies, hold down jobs, and remain socially active. This is an important aspect of the autist's utility of

objects; if the object remains under control, 'the autistic can, precisely through its intervention, open themselves to the world' (Maleval, 2012, p.44). In addition to Ken, Joey became interested in another boy at the school called Mitchell. Mitchell was idealised as all good and somebody that would never harm anybody. Bettelheim felt that Joey looked up to Mitchell because he had been a difficult child who had made excellent progress. Again, Joey was not particularly interested in Mitchell's activities, rather he would attach anything good that happened in the school to Mitchell. He stated, 'Mitchell was the first person to give him strength' (Bettelheim, 1972, p.311). He began to imitate the good Mitchell that he had created. We can see the similarities between Donna Williams' imaginary companions and Joey's utility of Ken and Mitchell. Ken and Mitchell function as imaginary objects that represent the oscillation of identifications and affects between the two poles of the imaginary register (a-a'), in which love, affection, empathy, attraction, can rapidly switch into hatred, rivalry, antipathy, and repulsion (Wilson, 2017).

Joey would adopt Mitchell's good character in a type of functional mimicry that improved his relations in the clinic. He also became part of a fantasy for Joey, in which he appears to confront the enigma of his existence. Joey expressed his desire that 'Wanda (his favorite counsellor) and Mitchell could be husband and wife and I could be born from them' (Bettelheim, 1972, p.310). Joey appears to confirm the enigma and absence of the phallus here. This particular desire has distinct echoes of Schreber's delusional metaphor, in which the enigma is addressed through his transformation at the hands of god. Throughout this period Joey did a series of drawings that show him inside various structures that resemble a papoose or amniotic sack, with a cord that never attaches to anything (see below). This can, and indeed has, been interpreted in many ways but it must be said that the drawings typify the autistic position; encapsulated, isolated and disconnected from the Other. I also feel that the pictures demonstrate the enigma of Joey's existence, with Joey in a type of womb but the umbilical cord attached to nothing. Thinking about this in terms of the schizophrenic plugging into a prosthetic symbolic body, Joey goes from the image of the body outside of discourse, to a body plugged into a machinic assemblage. Joey appears to be at the controls of both machines, which is crucial to their success and underpins their potential in terms of opening himself up to the world.



The schizophrenic body without a discourse and disconnected from the Other.



Connected to the machine and its laws of functioning.

Mitchell eventually left the clinic and Joey regressed, becoming more isolated. He reverted to his previous state of not being able to do anything without his imaginary machines. Joey emerged from this withdrawal through the creation of a new imaginary companion called Valvus. Valvus, stated Joey, 'is a boy just like me' (Bettelheim, 1972, p.314). Bettelheim (1972, p.249) noted that the name Valvus related to the valves on Joey's machines that let him plug into the 'current that sustained life', or to release a 'build up' of vital energy. Valvus functioned as an 'auxiliary ego' for Joey (Bettelheim, 1972, p.315). This is an important insight from Bettelheim, because it highlights the fact that Valvus represents the embodiment of the machine, and indeed Joey's own means of embodying his precious inventions. After Joey had created Valvus his use of tubes

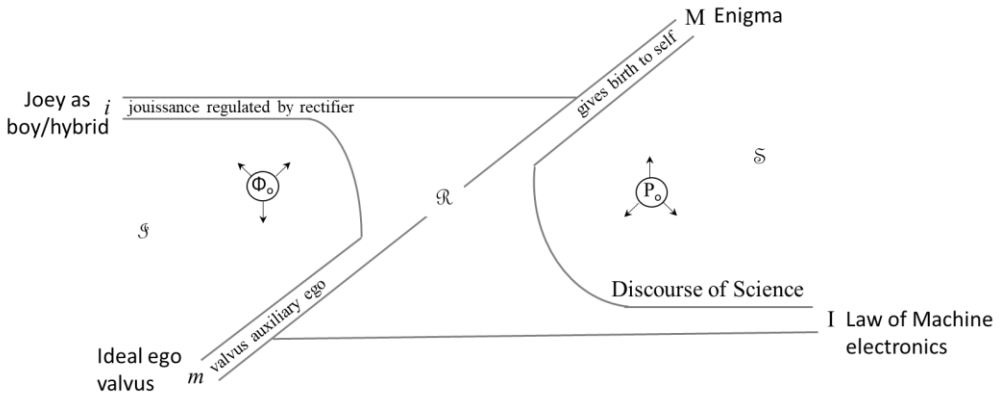
and wires was reduced, although not entirely. Valvus was used as a tool to communicate with other children and staff and, at this point, Joey reassumed the use of pronouns which he had previously abandoned. This event came when he was talking about his feelings through an imaginary radio, and then an imaginary phone, as at this point, there could not be any direct connection to the other person. On both occasions he referred to himself as 'I' and 'Joey'. He was also able to do this when he sent a message to some other children on a new telegraph set and signed it. This only happened when a machine acted as an intermediary between Joey and the other.

Close to the end of Joey's time at the school, an event took place that I believe was Joey's final attempt at resolving the enigma of his existence. Joey had developed an obsessive interest with hens and eggs. Over a period of a few weeks, he had 'been behaving more and more like an excited hen' (Bettelheim, 1972, p.325). This built up to a dramatic acting out in which Joey crawled under a table over which he had draped blankets. Once under the table he enacted the laying of an egg in which he was encased. He slowly pecked his way out. He later stated, 'I laid myself as an egg, hatched myself, and gave birth to me'. Joey explained that he and Valvus had pecked their way out of the egg together and that 'we weren't joined together, but we were very close' (Bettelheim, 1972, p.325). Through the creation of Valvus as an alter ego and their birth together from the egg, I believe we can see a resolution of the fragmented body, and the enigma of his existence. Both Joey and Schreber go through a kind of rebirth in their respective delusions, which organises the body in situation to a corresponding discourse. It shows how imaginary prosthesis can be utilised to stabilise the effects of unregulated jouissance in the absence of the Other. These delusions organise the body and reality for the subject. What I believe Joey's mode of stabilisation demonstrates is the application of scientific formula as a means of metaphorizing and encoding jouissance and the body.

We can only speculate as to the effect of the mother's emotional absence on the mirror stage. However, Joey's 'complete alienation from his body', reduced to a collection of machine parts held together precariously by the laws of their functioning gives us an indication of it (Bettelheim, 1972, p.272). Such a failure, leaving the subject as it does without body or ego, reduced Joey to a purely functional system. A key development in Joey's fantasy is the gradual stabilisation of the image through the Kenrad, Mitchel, Valvus progression. The creation of Valvus as an imaginary companion and alter ego, in which the imaginary terms of the narcissistic relation, m and i are stabilised, coincides with his dramatically enacted birth from the egg. While it seems, he could only emerge from the mother as a machine, as by her own admission she did

not really view him as a person, he certainly emerges from the egg, by his own declaration, as a boy (Bettelheim, 1972). It would be a big a step, although Bettelheim appears to take it, to say that Joey's reliance on machines to function ended with his emergence from the egg and discharge from the school (Bettelheim, 1972). He still had Valvus to plug into, his name clearly indicating his machinic qualities. The machines that 'lived' Joey were precious inventions that were critical to the creation and realisation of himself as a subject.

Shortly after his birth from the egg Joey left the school after nine years and completed his education at a technical college, going onto university to study electronical engineering. Some years later Joey visited the school, and he had a machine with him that he had constructed, which he called his 'rectifier'. The machine controlled and regulated the flow of electricity, taking the 'eternal back and forth of alternating current into a continuous controlled flow' (Bettelheim, 1972, p.339). This is particularly interesting, because it appears to function as a metaphor for the introduction of a mathematical principle to ground the oscillations of the imaginary register. The fact that he had taken the machine with him, combined with the fact that he wanted to tell 'everyone who would listen' how he constructed it and how it worked, is testimony to the continued importance of the machine to Joey's functioning (Bettelheim, 1972, p.339). Below I have attempted to plot a final schema along the model of the I schema, to illustrate the structure of Joey's fantasy at the time he left the Orthogenic school.



In the place of M, that is the primordial object, I have put machine. It is what Joey extracts from the machine in terms of knowledge and law, that is critical for the elaboration of a symbolic function. When the real of the body is metaphorized through an object, law or principle that allows it to be metricised or calculated, it appears to introduce a mode of regulation that, in its advanced forms, can be highly stable and functional. The place of the ego ideal, I, that takes the place of the law, P, is taken by the law of the machine and electronics, that is information that either works or does not. This corresponds directly to the hole in the imaginary in the place of

the phallus, in that it is the machine that regulates jouissance in the absence of the signifier. Joey's image is stabilised through Valvus, whose auxiliary functions negate the fragmentary effect caused by the lack of an ideal ego. The combined functions of Valvus and the 'rectifier' in unifying the specular image and localising jouissance are plotted on the schema between the points m, ego, and i, the specular image. Valvus and the rectifier are intrinsically linked it seems, with both symbolising the machine as homeostat.

In the comparison of Joey and Schreber there are similarities and differences. Clearly they are both delusional systems, however the onset and the evolution of the delusion are inherently different. Lacan isolates a moment of triggering in Schreber, whereas in Joey's case the symptoms of his autism are there from an early age and become attenuated towards a more functional form over time. This is a characteristic of autism, although it should be said that not all autistic subjects become more functional over time. Both achieve a stabilisation of their symptoms, but while for Schreber this involved grounding the invasive jouissance in a delusion that gave it meaning, Joey's inventions appear more akin to a functional regulation of jouissance through its condensation and calculation within a mechanised system. There is a utility of science and a coherence and efficacy of knowledge and delusion in Joey's case, which it seems is emerging as a socially sanctioned response to, or manifestation of elementary phenomena. Miller (2005, p.22) points out that 'without a doubt there is always a risk in science because it can be a delusion. Accordingly, Lacan maintains that it was Sputnik, this first object launched into space, which verified many things, is, in this sense, a certain type of elementary phenomenon'. Joey approached reality by way of science and the machine in an era in which post war technologies and the concept of the cyborg had reached mainstream discourse. Today, the discourses of science and capitalism are dominant, and the subject's adherence to the machine in the form of gadgets and devices is banal. In the next chapter I will explore whether the banality of such symptoms and their relationship to the dominant discourses of our time, constitute a type of ordinary psychosis and function as a socially sanctioned mode of approaching both body and reality.

In this chapter I have shown, through the cases of Schreber and Joey, two distinct subjective modes of foreclosure. There are key differences that are important to this thesis and to my development of the autistic mode of the coder. Schreber suffers his first florid psychosis in middle age, and while his creation of an elaborate delusional metaphor achieves a stabilisation of sorts, he suffers two further episodes and periods of institutionalisation. Joey, in contrast, demonstrates withdrawal, a need for solitude, and an affinity with predictable machines from

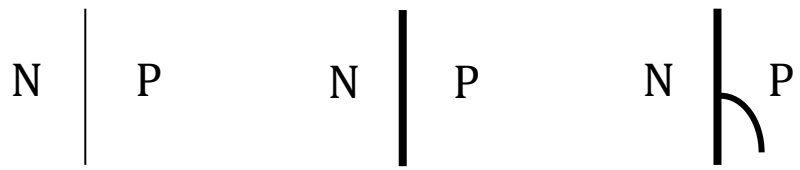
very early in life. Through scientific discourse and the production of increasingly sophisticated machines he appears to engineer a way out of his autistic isolation. Electricity appears to function as a metaphor for jouissance, framing it and allowing increasingly functional attenuations of his autistic symptoms. This pattern functions as an important prototype for the mode of the coder that I will develop throughout this thesis, particularly the movement from a rudimentary means of treating the excess in the body, to a specialist knowledge and an islet of competence.

Chapter 2: Structural Organisation

Ordinary psychosis

In the last chapter I introduced the outline of a particular mode of approaching foreclose through scientific discourse and the machine. In this chapter I want to consider this within the context of the epistemological clinic of ordinary psychosis. Ordinary psychosis allows us to think about the subtle ways in which the subject might cohere in the absence of the Name-of-the-Father, and how subjective modes function as an extension of the discourses that organise reality in light of that absence. This is important because it offers a conceptual frame with which to understand the rise of the autistic mode of the coder as it relates to the dominant discourse of science.

Ordinary psychosis is an epistemic category rather than a diagnostic one introduced by Jacques-Alain Miller in 1998 as a conceptual space for the exploration of the symptoms of the modern clinic that are often classed as borderline. Miller (2013) was acknowledging the fact that the shifting symptoms were not easily located in the classical Lacanian diagnostic binary of Neurosis and Psychosis. This binary, as laid out in the previous chapter, was structured around Lacan's linguistic formalisation of Freud's Oedipus complex and the functioning or foreclosure of the Name-of-the-Father. Lacan in his later teachings stated that the 'Name-of-the-Father is foreclosed nowadays' and in fact was already paving the way for a research category on the side of psychosis (Brousse, 2013, p.29). The question that orientated his later teaching regarded the alternative methods employed by the subject to organise the real, the symbolic and the imaginary in the absence of the paternal function. There was already an acknowledgment perhaps, that there were cases of psychosis that functioned without the extraordinary symptoms associated with the structure. As the 90's progressed it was clear in the analytic clinic and in institutions that cases of triggered psychosis were on the rise, as were cases that were difficult to define. These cases, that were not obviously neurotic or psychotic, instead became situated between the two in a zone that 'became thicker and thicker' (Miller, 2013, p.36). Miller represented this shift graphically as follows:



The second diagram illustrates the growing number of cases that appeared to be 'between the two' categories. The third diagram illustrates an epistemic pocket which allowed for the introduction of the cases excluded by the classical binary while still locating them on the side of psychosis. 'It is a way of saying' states Miller 'that if for years you have doubted the neurosis of the subject, you can bet he's more like an ordinary psychotic' (2013, p.36). In the same way that Lacan (2006, p.481) encouraged the analyst to detect the 'dramatic conjuncture' when 'the One-father comes to that place which the subject could not summon him before' at the beginning of each case of psychosis, Miller (2013) is encouraging the analysts to pay attention to the 'discreet signs' and 'small clues' of psychosis. This epistemic pocket maintains the refusal of any intermediary categories on epistemological and ethical grounds while upholding the orientation of the clinical approach around the central axis of the Name-of-the-Father and a lack of the paternal signifier in the symbolic order (Brousse, 2013). In doing so it asks the question as to what imposes order for the subject in its absence?

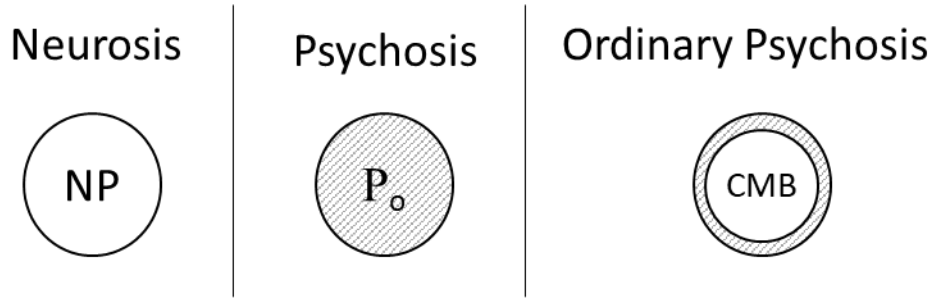
Lacan's concept of the symbolic order centralises the effects of language and the paternal metaphor in the imposition of order, hierarchy, structure and constancy in the inherently unstable and previously dominant imaginary (Miller, 2013). The symbolic ordering is introduced through the Oedipus complex and symbolic castration which has the effect of a subtraction at the level of libido, jouissance and the drive. This is written as follows:

$$+NP \quad + \Phi$$
$$-J \quad (- \Phi)$$

This illustrates that the introduction of +NP (Name-of-the-Father) results in a subtraction of jouissance, a process that sees the imaginary phallus (Φ) replaced by the minus phi (-Φ) i.e. castration (Miller, 2013, p.38). As described in the previous chapter, Psychosis is characterised by the lack of the Name-of-the-Father, Po, and the correlative lack of the castrated phallus (Φ_o) (Miller, 2013, p.39). These two lacks are written on the I schema as follows:

In the case of Schreber, Lacan introduces the ordering function of the delusional metaphor that supports the 'cascade or reworking's' of the signifier to a point of stability (Lacan, 2006, p.481). However, prior to the triggering of Schreber's psychosis at 51 years of age, he had led a life apparently devoid of exceptional symptoms. As Miller (2013, p.40) points out, if Schreber was treated by Freud before he was 51, he 'might have observed certain peculiarities in the construction of his world that would have made one say it is an ordinary psychosis'. This promotes the sort of question that Miller wanted to leave the space for in the research category of ordinary psychosis i.e. is ordinary psychosis an untriggered psychosis, the period prior to triggering or a psychosis that cannot be triggered? Miller stopped short of offering a precise definition of ordinary psychosis to promote this kind of debate and room for manoeuvre. Towards the end of his teaching 'Lacan is very close to saying that all of the symbolic order is a delusion, including his own construction of the symbolic order' (Miller, 2013, p.40). The symbolic order is a way of structuring and making sense, and making sense, for Lacan, is already delusional.

In classic Lacan, which orientated our exploration of Schreber and Joey in the previous chapter, the Name-of-the-Father is the mechanism by which the symbolic imposes order on the subject's world and is thus utilised as a proper name. If we are to continue tracing the lines of late Lacan in which we might consider the symbolic as a delusional construct, according to Miller (2013, p.40) the Name-of-the-Father then needs to be considered a 'predicate as defined in symbolic logic – NP(x)'. This element then functions as a Name-of-the-Father for the subject, ordering his world. It is not the Name-of-the-Father as such but has its characteristics. While the Name-of-the-Father substitutes itself for the desire of the mother and imposes its order, the predicate of the Name-of-the-Father functions in its place. It is a 'Compensatory Make Believe' of the Name-of-the-Father or CMB (Miller, 2013, p.41). While Schreber's case has become canonised in analytic theory regarding psychosis in its extraordinary presentation, it also has something to teach us about any possible concept of ordinary psychosis. The concept of a predicate providing an organising function helps us to understand how Schreber's life functioned for 51 years prior to the onset of his illness. When we think about the Name-of-the-Father in this way we have three ways of orientating and ordering two structural positions. This can be represented as follows:



In neurosis we can see the Name-of-the-Father (NP) in its proper place. In psychosis, or at least the psychosis of *Seminar III*, we see a hole in its place (**P**o). In Ordinary psychosis there is no Name-of-the-Father but a supplementary device is there in its place, as its predicate (CMB). The need to formulate such a research category shows the broad spectrum of psychosis, from a psychosis that remains very stable and functional throughout the subject's life, to the psychosis that cycles through compensatory activity and points of rupture. Ordinary psychosis is a clinic that investigates the subtle zones of foreclosure without the extraordinary Schreberian symptoms and apprehends the subject's alternative methods of ordering reality. Joey's case sets an interesting tone here, in terms of considering autism as a distinct mode of organising and approaching reality. Autism as a subjective structure and autism as part of the clinic of ordinary psychosis are not necessarily mutually exclusive. Autism, after all, is approaching ordinary status. Eric Laurent (2012, p.129) points to the prevalence of autism in our epoch when he states 'the beginning of the 20th century consisted in the discovery of the extent of neurosis and psychical conflict. The end of the last century was marked by the ordinary status of psychosis and depression. Will the 21st century not be that of the evidence of an ordinary status of autism'?

The word 'ordinary' in this case could be taken to mean statistically ordinary, which is certainly proving to be the case, but also to mean ordinary in the sense of the subtle uniformity of the incorporation of autistic features as a common mode of organising reality. Autism could be considered as a mode of foreclosure with distinct structural features, that is distinct symptoms and forms of compensatory activity. In this sense it can be thought about within the epistemic field of ordinary psychosis as a contemporary and perhaps even the dominant CMB of our time. How can we think about a particular structural mode that in Joey's era appeared exceptional but in ours can appear commonplace? I am not suggesting that Joey's presentation is something observed everyday by modern parents, rather that autistic children utilising machines and inventions to self-regulate affect and mediate social relations is increasingly commonplace and certainly not exceptional. Neither is the fact that, in many cases, the supplementary device is developed out of a narrow interest in a science, tech, engineering and math (STEM) category

that leads to a specialist skill, a profession, and often the production of a piece of technology or the addition of scientific formula to the discourse from which it was produced i.e. science.

Such radical shifts in subjective modes, marking as they do the end of the privilege of the Name-of-the-Father as unique signifier of the law, need to be considered within the context of the discursive conditions in which they were produced (Brousse, 2019). While there are unstable elements to Joey's behavioural and affective processes, electricity and its circuitry mechanisms appear to order his reality and structure the partial drives. For example, the anal drive and the process of extraction is localised in a pump that controls elimination. Electrical engineering as a scientific discourse remains central to Joey's negotiation of reality and the social bond. The discourse itself comes in the place of the Name-of-the-Father and takes on the function of organising the subject's world (Miller, 2019). This is the shift that puts the 'ordinary' in ordinary psychosis, in that it refers to the multiplicity of discourses that organise reality in the place of the Name-of-the-Father (Brousse, 2019). This brings subjective modes in direct relation to discourse. This is not, perhaps, a radical departure from Lacan's (2006, p.458) assertion that 'the condition of the subject is dependent on what unfolds in the Other', rather a reworking or evolution of it. Before considering further the relation between discourse and subjective structures I will give a brief overview of the four discourses introduced by Lacan in *Seminar XVII: The other side of psychoanalysis* (2007). Lacan's formulations here represent what he considers to be the four possible formulations of the symbolic network which social bonds can take.

The Master's Discourse

$$\frac{S_1}{\not{S}} \rightarrow \frac{S_2}{a} \qquad \frac{agent}{truth} \rightarrow \frac{other}{product/loss}$$

The master's discourse places the master signifier (S1) in the upper left-hand corner. This is the commanding position, the position of agent. The master signifier is the dominant, ordering and sense giving signifier. The S1, on its own is in essence senseless, yet it orientates, organises, and gives meaning to an existing battery of signifiers and knowledge (S2). Lacan (2007, p.13) describes this existing battery of signifiers as 'already forming a network of what is called knowledge'. Knowledge arises at the point in which S1 intervenes in the existing battery of signifiers. The master S1 puts the slave S2 to work and in serving the master knowledge is

acquired. Lacan (2007, p.22) states that 'the entire function of episteme, as far as it is specified as transmissible knowledge, is always borrowed from the techniques of craftsmen' and that the master's discourse is a 'matter of extracting the essence of this knowledge in order for it to become the master's knowledge'. If we think about the capitalist and the worker, this does not necessarily mean that the capitalist in interested in the detail of the knowledge produced, just that it works and increases their power and market share. The surplus produced is represented here by object (a) in the position of product/loss. This is the surplus produced by the activity of the worker and appropriated by the capitalist. The master, in order to preserve his position of power, hides the fact that they have succumbed to symbolic castration. The barred subject is thus veiled in the master's discourse and emerges in the position of a 'dissimulated truth' (Fink, 1995, p.131).

The other three discourses are generated by rotating each element counter-clockwise one-quarter turn (Fink, 1995, p.131). The four positions of agent, other, product/loss and truth remain in the same place and designate the role of each element in the respective discourse.

The University Discourse

$$\frac{S_2}{S_1} \rightarrow \frac{a}{\not{S}}$$

The first quarter turn results in knowledge (S2) replacing the master signifier (S1) in the dominant position of agent. 'Systematic knowledge' is the ultimate authority here (Fink, 1995, p.132). According to Lacan (2007, p.31) this is 'not knowledge of everything' but rather 'all knowing'. Lacan appears to suggest an historical evolution from the master's discourse to the university discourse. 'To be sure, the present one does not have the structure of the old. The present one is installed in the place on the left, the one capped by the U. What occupies the place there, which we will provisionally call dominant, is the S2' (Lacan, 2007, p.31). Here the S2 is mobilised in the service of legitimising and propping up the master's discourse which is shown here with the S1 in the place of truth. According to Bruce Fink (1995, p.132) Lacan, at this time, 'seems to agree with the argument put forward in the 1960's and 1970's that the university is an arm of the capitalist production (or of the military-industrial complex)'.

In this case knowledge 'interrogates surplus value' i.e. the product of capitalist economies, and rationalises or justifies it (Fink, 1995, p.132). The knowing subjects function as agent here

produces the divided unknowing subject which occupies the position of product/loss. The university discourse generates knowledge, under the guise of reason and rationality, to validate the discourse of the master. Fink (1995, p.133) describes this as an 'encyclopaedic endeavour to exhaust a field'. We could potentially situate the *DSM* as a diagnostic reference guide within the university discourse, with its burgeoning categories apparently an attempt to exhaust the field of psychic suffering, and in essence to order and absorb all jouissance with the signifier. The impossibility of this endeavour results in the creation of even more personality types and disorders.

Lacan has located scientific discourse here as well as in the hysteric's discourse, which I will discuss later. 'Systematic knowledge' of electricity is imperative to Joey's existence from an early age, and it becomes formalised in a way, when he studies electrical engineering at university and begins producing electrical inventions. S2, as an existing 'network' of scientific formula, provides an orientation, a formal and systemised knowledge that imposes order and, as such, S1 is preserved in the position of truth.

The Analysts Discourse

$$\frac{a}{S_2} \rightarrow \frac{\not{S}}{S_1}$$

The next series of quarter turns brings us to the analyst's discourse. Here object (a) as cause of desire is in the position of agent. The analyst situates himself in the position of cause and interrogates the divided subject at the point of division, that is where the unconscious erupts in speech, slips of the tongue, unintended acts etc. This process unearths isolated master signifiers that have not yet been related to any other signifier and, as such, they may emerge as senseless points of rupture in the subject's associations. Analysis brings the master signifier in relation to other signifiers. As such the analyst's interrogation of the divided subject puts the S1 in the position of product/loss. The process of bringing the generated master signifier in relation to other signifiers places S2 in the position of truth.

The Hysteric's Discourse

$$\frac{\$}{a} \rightarrow \frac{S_1}{S_2}$$

The fourth and final discourse, generated by the series of quarter turns, is the discourse of the hysteric. Here the divided subject occupies the dominant position of agent and interrogates S1. Unlike the university discourse, which generates a system to support the master, the hysteric demands that the master produces something serious in the way of knowledge. As such, the hysteric's discourse, in terms of its function and its graphic representation, is the exact opposite of the university discourse. The product of the hysteric's demand to the master is knowledge S2. This is the position in which Lacan locates jouissance; the pleasure produced by a discourse and, as such, there is the suggestion that the acquisition of knowledge is intrinsic to the hysteric's mode of jouissance. This suggests a libidinisation of knowledge not perhaps seen in the other discourses. In the master's discourse knowledge is only valued in terms of how it can benefit and be put to work by the master. In the university discourse knowledge is prised in as much as it justifies the academic's position. In neither case is knowledge an end in itself and it lacks the erotic quality it holds for the hysteric (Fink, 1995).

The hysteric then continues to address the master's knowledge to the point where it collapses or can be found lacking. Hysterics in this sense do not try to explain everything with the knowledge they already have, like the 'systematiser or encyclopaedist' of the university discourse. Their drive to find the limits of knowledge and scientific practice puts the cause of desire (a) in the position of truth. The truth of the hysteric's discourse is thus the real (Fink, 1995, p.134).

By 1975 Lacan 'quite unreservedly' identifies the discourse of science with that of the hysteric. It should be stated that, in this sense, Lacan is talking about 'genuine scientific activity' such as Heisenberg's uncertainty principle (Fink, 1995, p.133). Heisenberg, perhaps unusually for a scientist, states that we cannot precisely know both a particles position and its momentum at the same time. If we have been able to ascertain one parameter the other must necessarily remain unknown (Fink, 1995, p.134). This is a clear point of separation from the idea of science as an all-encompassing and expanding set. The uncertainty principle states that the set cannot be complete. Lacan associated this principle with true scientific endeavour in that it asserted that

there is something that cannot be accounted for and reduced to formula and thus cannot be known. Like the hysteric, true scientific work pushes and produces a terminal point in the master's knowledge, with the impossibility related to the real designated by object (a) in the place of truth.

Lacan's theory of discourse provides a basis for considering the changes in symptoms in relation to changes to the master discourse. As the master discourse and thus the social bond changes through time, the symbolic order changes in correlation to it. As such, the symptoms, which Brousse points out 'complete the discourse and reveal the power of the jouissance corresponding to it', change as well (Brousse, 2013, p.25). Autistic symptoms, therefore, could be seen as both a production and a completion of scientific discourse.

The move from the centrality of the Name-of-the-Father as organising axis towards the diversification of modes of jouissance in relation to discourse is characterised by Brousse into three key theoretical elaborations that can be traced through Lacan's teachings. The first is the displacement of the Name-of-the-Father towards the multiple. Lacan elaborates this in the transformation of the S1 into the 'Swarm'. Swarm is pronounced 'essaim' in French, which is homophonic with S1. It suggests a multiplicity of signifiers that function together but are not centralised by one, replacing the singular organising element. It is this move towards the multiple that also places the Name-of-the-Father as a symptom among others, so there is an acknowledgement of other symptoms that are organising the subject's reality and relation to the social bond. Secondly, she states that in Lacan's work and language the 'indefinite article 'a' (un, une) replaces the universal 'The' (Le, La), founded on the existence of an exception: the psychotic is not an exception' (Brousse, 2019, p.115). This change in language represents a movement from the idea of the defined set, with a point of exception outside it, i.e. the Name-of-the-Father as a 'normalisation' and the psychotic as an exception. Psychosis is thus no longer considered 'the only psychical organisation related to exception' (Brousse, 2013, p.27). This leads to the third elaboration, the category of the 'not-all', which provides an alternative to the concept of foreclosure. This allows for the diversification of jouissance in relation to the various discourses by which subjects approach and structure reality. This paradoxically 'implies the generalisation of foreclosure, while also stopping it being absolute' (Brousse, 2013, p.27).

Brousse (2013, p.29) accounts for this diversification of jouissance by suggesting that the 'foreclosed Name-of-the-Father comes back to us in the social norms, in discourse'. She

describes this as the 'replacement in the current master discourse, of the signifier one by the number'. This number is the new master, 'a tyrannical master claiming its scientific power. The middle of the Gaussian curve, that's social order'. The Gaussian curve thus comes to the place left empty by the Name-of-the-Father (Po) and imposes an 'iron order'. This follows on from Lacan's teaching in 1974 when he states that the 'Name-of-the-Father' has been replaced by the function he refers to as 'naming to' (nommer a). The social here has the power of 'naming to', and therefore of organising existences (Brousse, 2019, p.116).

The sinthomatic device

> *'There is no such thing as a science of man because sciences man does not exist, only its subject does'. (Lacan, 2006, p.730).*

The power of the number to organise the social elevates scientific discourse to a position of primacy in imposing order on the chaos of the real. Lacan (2019, p.107) attests to this in 'The Third' when he states 'as for the jouissance of the Other, there is only one way of filling it in, and it is properly speaking the field in which science emerges'. The jouissance of the Other, as opposed to phallic jouissance, is outside of language and the symbolic, which is to say that it is beyond the signifier. It is then only through the letter, i.e. science 'that we have access to the real' (Lacan, 2019, p.107). Here we have a correlation between autism and science in that they both seek to impose form and order on what is formless, by imposing mathematical formula, laws, and logic onto it. Lacan (2007) takes this up in *Seminar XVII: The Other Side of Psychoanalysis* in which he describes the role of science in imposing form on the natural world i.e. 'mother nature'. 'At the level of the so-called natural principle, where it is not for nothing that it has always been symbolised, in the bad sense of the word, by a female reference, it is on the contrary from out of the insubstance that this void appears. Void of what? Let's give it the horizon of woman, as in what is in question as unformed jouissance, precisely without any form, that we can find the place in the opercieve in which science comes to be constructed' (Lacan, 2007, p.160). Lacan insinuates directly here that, out of the 'void' and uncertainty of the mother's desire and jouissance, science emerges to retrospectively impose order and form to it. I have illustrated this on the I schema in the previous chapter with the relation between the primordial signifier, M, and the ego ideal, I, mapping the relation between the enigma and scientific knowledge. Here we can see in Lacan's language (1969-70) acknowledgment of the 'displacement' of the Name-of-the-Father towards the number and science described by Brousse (2019). Science in this regard arises from a void of formlessness that it simultaneously provides an answer to, or at least the elements from which an answer or organisation can be formulated.

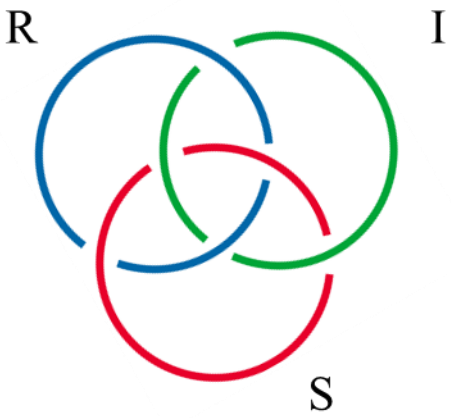
I want to consider, taking my lead from Miller (2019, p.153), how these elements of the master's discourse S1, S2, $\not{S}$, can act as elements 'of a device of jouissance'. That is a sinthomatic device to produce and localise jouissance rather than to produce meaning. Such a device is concerned only with giving form to formlessness, under the guise of functionality and order that produces a certain satisfaction. This is a point of common denomination between autism and science. Joey's alternator, for example, is not a device aimed at producing meaning, it imposes an order and functioning that localises jouissance and from which a satisfaction is derived. Note the importance of this device on his return visit to the hospital. His keenness to show it and to talk about it to everybody who would listen betrays the devices manifestation and function in relation to jouissance. It represents, as far as we know, a peak in the evolution of his inventions that correlated directly with his stabilisation and functionality in the social order.

Miller (2019, p.153) writes the discourse of the master as sinthome as follows:

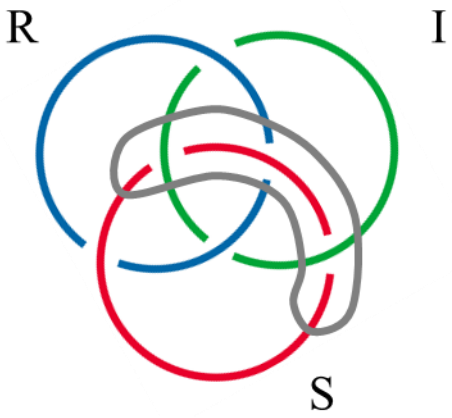
$$\mathrm{dM}\ \boxed{\frac{S_1}{\not{S}} \rightarrow \frac{S_2}{a}}\ \Sigma$$

It is boxed off to signify its function as a device. Miller is suggesting that the signifying articulation suggested in Lacan's formulation of the master's discourse in the ordering function of the master signifier (S1) on the battery or network of signifiers that constitute knowledge (S2), is less important than the function of these elements in relation to the subject's particular mode of jouissance. Here (a) is the index for the localised jouissance.

In relation to the sinthome Miller (2019, p.154) describes S1, S2, and $\not{S}$ as 'functors of jouissance' rather than signifiers or truth effects. 'Functor' is a mathematical term for algebraic objects that are associated with topological spaces. In essence they map between various categories. This needs to be considered in the context of the topological structuring of the real, the symbolic and the imaginary (RSI) elaborated by Lacan in his later teaching in which there had been a notable shift from linguistics to topology. Here Lacan gives the RSI the structure of three rings in the form of a Borromean link.



The Borromean link conjoins the rings together in such a way that they are bound together, but that a break in one of the rings releases the other two. In *Seminar XXIII: The Sinthome*, Lacan (2018, p.11) states that what forms the 'enigmatic' link between the RSI is a 'fourth term, which on this occasion is the sinthome'. 'Sinthome' references the structural importance of the symptom as a form of knotting the RSI. Lacan uses the example of perversion, in which he states, 'it is not a break between the symbolic, the imaginary, and the real that defines perversion, it is that they already stand apart in such a way that a fourth term has to be supposed, which on this occasion is the sinthome'. Perversion is merely a 'version towards the father, and that all in all the father is a symptom, a sinthome' (Lacan, 2018, p.11). Here Lacan positions the Name-of-the-Father as a sinthome amongst others. In essence the Name-of-the-Father forms a fourth ring that links the RSI together in a particular way. Throughout *Seminar XXIII: The Sinthome*, Lacan uses the example of enigmatic writer James Joyce, who I will look at in a little more detail in later chapters. His writing was a construction beyond meaning, of which all that could be purchased was jouissance. While meaning is already figured within the Borromean knot at the intersection of the symbolic and the imaginary, the sinthome, which intervenes to knot the RSI, is beyond meaning. Lacan's thesis here is that Joyce deploys his art as a supplementary cord in the subjective knot that, in essence, allows the subject to cohere, thus avoiding a psychosis. Joyce's work is a radical and destructive refashioning of language, representing the invasion of the symbolic by jouissance. Lacan uses the pun synth-homme regarding Joyce becoming an 'exemplary Saint Homme', implying a kind of artificial self-creation in which all imaginary solutions were refused and his own linguistic formation, which abolished all grammatical structure and was continually punctuated by signs and symbols, emerged as a subjective mode of organising enjoyment (Lacan, 2018). Below is a relatively simple topological drawing showing the RSI linked together by the fourth ring, which is in black and designates the sinthome.



The master's discourse can function as an effective sinthome in that S1, S2 and ~~S~~ always localise jouissance in the position of production or loss. It is here, operatively speaking, that they function as functors that locate jouissance within a circuit. Joey's inventions could be considered as examples of the master's discourse operative as sinthome in the particular way that knowledge, in the form of algebraic symbols and mathematical principles, localise jouissance, rationalise it and routinise it. Moreover, the acquisition of the knowledge and the utility of the symbols is enjoyed in its own right. Here is an example of how we could think about Joey's alternator in relation to the discourse of the master as sinthome.

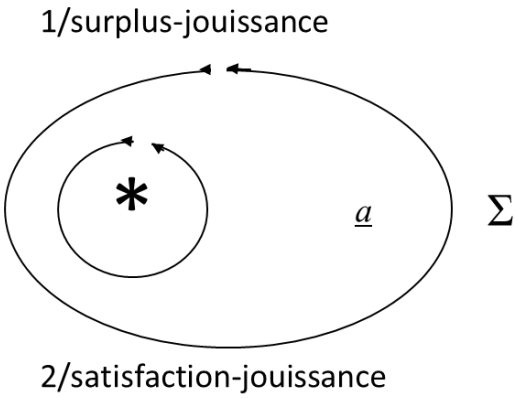
$$\mathrm{dM}\ \boxed{\frac{\overset{S_1}{elementary\ phenomena}}{\cancel{S}} \rightarrow \frac{\overset{S_2}{electricity\ law}}{\underset{localised\ jouissance}{a\ (alternator)}}}\ \Sigma$$

In Joey's case we can see how the law, classically installed by the Name-of-the-Father in the place of S2, is replaced by the law of mathematical principles. S1 here denotes the enigmatic elementary phenomena of the body. It is the relation between the elementary phenomena as S1 and mathematical formula that is manifest in the body/machine relation. From an early age

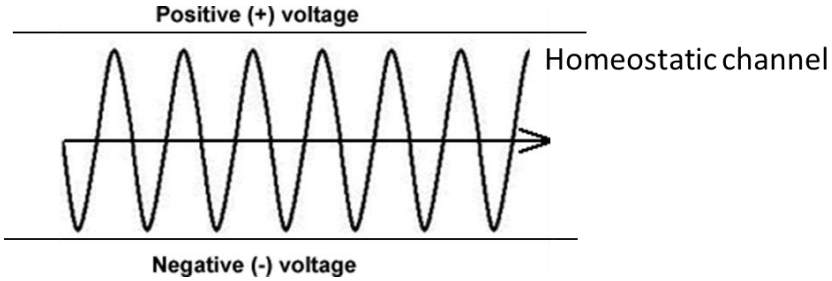
Joey's parents recognise the fan is a source of enjoyment for Joey and that it soothes him. The fan is already tied to jouissance, to its regulation and localisation. Veronique Voruz (2013, p.208) states 'Everyone regulates the jouissance of the living through the signifier, except for autistic subjects. They have to devise an alternative way of regulating jouissance'. The reduction of the signifier to algebraic functor is, perhaps, one such alternative way, observed commonly in autistic subjects, in that they favour the sign over the signifier. Jouissance is localised in the place of production/loss within a device or invention that has a symbolic function. Miller (2019, p.153) describes this as 'a localisation of jouissance articulated in a signifying device'. The main point here is that the fan represents an object than can metaphorize and localise jouissance and the seeds of a kind of fecundity that often arise from the elementary phenomena. It is the first device of a series of inventions that culminates, as far as we know, in his rectifier.

Satisfaction jouissance

Here jouissance has been afforded a 'second status' in Lacan's teaching (Miller, 2019, p.147). The first status is the status of 'excess jouissance' that must be distinguished from pleasure. Pleasure in the Freudian sense translates to a state of homeostasis. This state is interrupted by the object (a) that exceeds the limits of well-being and pleasure. In the master's discourse of *Seminar XVII* Lacan inserts this object into the structure of language, but by *Seminar XX* he 'had to bring out an amorphous space where he placed jouissance (J), precisely to deny that one could imprison it in that way'. This is the point at which Lacan shifts to the topological structuring embodied in the structure of knots which have nothing to do with the structure of language (Miller, 2019, p.145). The second status of jouissance, which begins in *Seminar XX*: *Encore*, is the 'satisfaction jouissance' which, according to Miller (2019, p.147), is 'not at all the jouissance of the previous status'. The satisfaction jouissance is the restoration of a 'superior homeostasis under the guise of a functioning, that includes the excess, that routinises it. It is what Lacan calls the sinthome' (Miller, 2019, p.147). Miller (2019, p.147) represents this as follows, with homeostasis represented by 'an arrow that loops into a circle'.



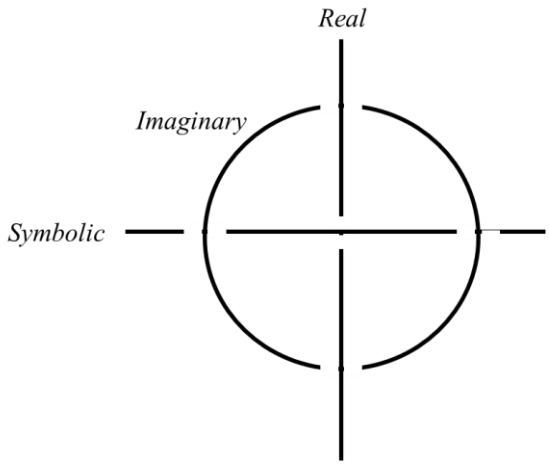
The representation of superior homeostasis in a circuit that routinises jouissance is perhaps no coincidence when we think about the important role that circuits play in the autist's regulation of jouissance. What could function as a better metaphor for the routinisation of excess than Joey's alternator which transforms alternating current (AC) electricity into direct current (DC) electricity? We could think about the graphical representation of alternating current in periodic motion (see below) which represents the back-and-forth motion of electrons in a wire when powered by AC electricity in relation to the circulation, or rather, oscillation of jouissance between the positive and negative polarities of the imaginary register (a-a'). Bettelheim (1972, p.339) noted how Joey 'showed us again and again how this device he had constructed himself changed the eternal back-and-forth of the alternating current into a direct continuous flow'.



We could think about the gradual refinement of Joey's inventions in terms of a move towards superior homeostasis. His early inventions regulate his vital energy through an absolute (+) or (-), and the partial drives are localised in relation to particular devices. For example, the oral drive was brought into relation with being plugged in to a system of tubes and straws, and the anal drive was localised in a pump that powered the elimination of waste product. By the time that Joey visits the hospital after his graduation from college his device regulates the oscillations of the (+) and (-) apparently without the need to switch on or off and become inert. There is no sign off his own oscillation between dynamism and inertia, or to our knowledge, of the wild

fluctuations in mood that were characteristic of his early years and are indeed characteristic of the transitory and unstable imaginary.

There is scope, I feel, to think about the level of functionality and stability regarding autism in relation to satisfaction jouissance, machines and systemisation. Here we are perhaps at the crux of the difference between autism and psychosis in the classical sense. In psychosis one can observe a 'multiplicity of clinical pictures' of which it seems there is 'no such thing in autism' (Maleval, 2013, p.35). Psychotic subjects can recover from a clinical psychosis and report on it whilst those with 'the most stable forms of high functioning autism never consider themselves to have escaped from their autistic functioning: all insist on the fact that it persists in attenuated form' (Maleval, 2013, p.35). To compare Joey and Schreber in relation to the Borromean clinic of late Lacan we can, perhaps, see two methods of ordering the RSI that characterise this distinction. In *The Third* (2019, pp.83-109), Lacan lays out a particular configuration of the Borromean knot:

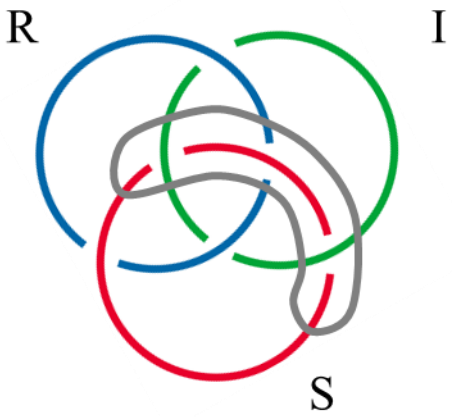


Here Lacan (2019, p.101) draws the real as 'infinite straight line' because 'it is characterised by not closing upon itself'. In this case he hypothesises that it is the same for the symbolic and that it is perhaps 'the imaginary where one goes round in circles'. In this illustration there are two straight lines and one torus constituting a knot. A fault at any junction can cause the whole knot to come undone. In this configuration, despite it remaining true that a break in either straight line or the torus will result in the collapse of the knot, it appears to illustrate an imaginary dominance. In Schreber's case it appears that imaginary identifications are the primary method of stabilisation until Schreber is promoted to a position within a hierarchy in which he has no equal. There is a rupture at the junction of symbolic and imaginary in which the entire structure of the knot comes undone which is then carefully reconfigured by way of the delusional

metaphor, which functions to recohere the subjects experience and suture the symbolic and imaginary.

What is different is that from the beginning in Joey's case we can, perhaps, see the utilisation of a sinthomatic device or at least a kernel of sinthomatic inventions to come which holds the RSI together in a particular way and, importantly, takes the excess jouissance into account. What is crucial here is the devices capacity to impose some order on the real. Miller (2019, p.151) moves towards a change in definition of the real from impossible to contingent. The real 'thus ceases to not write itself'. The real as contingent can be retroactively ordered, in this case by the scientific letter and formulae, hence what 'appears in finality is an intention that makes sense' (Miller, 2019, p.151). Joey's machine, through the correct calculations and calibrations, has the potential to retroactively subject the real as contingent to algorithm. As such both the subject and the symptom, which are essentially synonymous, emerge from scientific discourse. The circuit that Miller uses to illustrate satisfaction jouissance could just as well represent the autistic subject as a production and a completion of scientific discourse. Is autism a successful paranoia, in terms of Lacan's (2006, p.742) assertion that 'a successful paranoia might just as well constitute the closure of science'? Such an assertion would appear to suggest that a 'successful paranoia' provides a solution to the problem of foreclosure. Scientific discourse is primed to offer 'functors' for the regulation and localisation of jouissance, for the production of machines, formula and devices that knot the RSI and organise living bodies and subjects.

How successful was Joey's paranoia? His story, as we know it, ends at the point of the hospital visit after his college graduation, but the hypothesis I have laid out for the functioning of his sinthomatic device would position it as a knot that covered the various intersections of the RSI and, as such, has the potential to offer long term stability and the potential for continued refinement. The stabilisation offered by such a device is potentially what separates Joey from Schreber. It appears that there was no fourth knot in Schreber's case or, if there was, it certainly did not have the stability afforded by scientific knowledge that is observed in some cases of high functioning autism. His mode of orientation took the form of imaginary identifications and then a delusional metaphor. Science has an added advantage in that formulae only become defunct through the creation of a new formula that proves the old one to be incorrect. As such, a solution always replaces a solution and points of rupture seem far less likely. In addition, science, like the Name-of-the-Father, is a socially sanctioned sinthome, hence it affords a more tangible pathway towards the world, which is perhaps apparent in the attenuation of autism. Joey's sinthome in terms of its topological formation might have looked something like this:



His scientific sinthome appears to bind all possible junction combinations of the RSI and has a high level of stability in its evolved form i.e. the alternator. The fact that science continuously produces more and more formulae through the conduit of the subject has significant repercussions for the ordinary status of subjective structures. Joey's inventions, produced from the formulae that surrounded him in discourse from the beginning, produce new formulae through which subjects can organise reality and localise jouissance. To bring this back to the master's discourse and the dominance of science within it, we could perhaps consider autism as a particular mode/s of jouissance, identified to the discourse of science (Brousse, 2019). Such cases appear to disclose the coherence and efficacy of knowledge and delusion, particularly in relation to our epoch's determination by the applications of scientific discourse in conjunction with capitalism. As such, our epoch 'is relatively stable insofar as belief persists in the consistency and utility of scientific knowledge that, as the history of science demonstrates, is a locus of delusion and error' (Wilson, 2017, p.2). It is a question, it seems, of which discourse the subject utilises to impose law and order on their reality. The essence of law, as Lacan (1999, p.3) states in *Seminar XX*, is to 'divide up, distribute or reattribute everything that counts as jouissance'. Science is a reply to the anxiety and trauma of the void, of the lawlessness of the real of the body. It is an attempt to symbolise it, to retrospectively organise or produce, through mathematical formulae, a certain law or necessity. The autistic seeks to provide a technical solution to the void or perhaps the unbearable uncertainty of the mother's desire and jouissance. This theme is central to Silberman's book in which science appears central to both the autistic subject's coherence and identity. Its utility, as a mode of ordering the subjects reality, can have the dual function of reconfiguring social bonds and impacting reality on a wider scale. One only has to read 'Neurotribes', in which Silberman chronicles the experience of Nikola Tesla and Henry Cavendish, to recognise this. Does Tesla's obsession with electricity start with a desire to leave his mark on the world? Or can we locate its origins in an event of the body, in the

enigma of the S1? If we orientate ourselves through Lacan and the latter, then we have a means of understanding the autistic cycle suggested by the Senior director at Microsoft, in which the autistics inventions, which are devices of jouissance, illicit the autistic jouissance of the user. I will attempt to formulate this in more detail later in the thesis. However, in the next chapter I want to consider this in relation to the inventions and philosophy of Jeremy Bentham who, incidentally, has also fallen prey to a biographical diagnosis of autism.

In this chapter I have attempted to situate the autistic mode of the coder as a particular mode of jouissance, that functions as an extension of, or 'completes' the discourse of science (Brousse, 2019). I have introduced the concepts of 'satisfaction jouissance' and 'superior homeostasis' as they relate to the 'routinisation' of jouissance (Miller, 2019). I have found that these concepts are highly applicable to the autistic mode of the coder and can help us to understand the adaptation in functioning that appears to accompany the evolution of the coder's inventions. The routinization of jouissance and its relationship to function is a critical aspect of the autistic coders structure. This builds on the idea of a particular mode of jouissance that can afford high levels of adaptation and stability while blending the subject into the 'ordinary' through the dominant discourse of science. This also suggests that as the symptom completes the discourse it adds to it in the form of formula and gadgets that further modify the modes in which the subject approaches reality. I suggest that the utility of scientific discourse and its associated gadgets as a means of approaching and organising reality, potentially make the autistic mode of the coder the dominant CMB of our epoch. I also consider the idea of an autistic cycle, in which the symptom or sinthome, not only completes the discourse but adds to it in the form of formula and devices, which further influence the ways in which subjects organise and approach reality.

Chapter 3: Behavioural Modification

Bentham's Panopticon: Or autistic jouissance machine

In this chapter I want to build on two key concepts from the previous chapter. The first is the routinization of jouissance through the application of formula and its frequent deployment by way of a device. The second is the potential impact of the autistic coder's inventions on society. I do this through the introduction of Jeremy Bentham, who, I believe, is exemplary in his routinization of jouissance and his constant drive for superior homeostasis. In addition to this, his concept of the panopticon contributed significantly to the development of surveillance society and surveillance capitalism, linking the autistic invention to a modification of social practices.

Why Bentham?

Bentham is important to this thesis for several reasons. Detailed biographical accounts by those who knew Bentham best certainly lend themselves to those interested in speculating that he was autistic. This, I feel, lends itself to an alternative reading of his influential panopticon writings from the perspective of the sinthomatic device. I will suggest, in this chapter, that Bentham's codification of the law, his felicific calculus and the concept of the panopticon represent technical solutions to unregulated jouissance and the lawlessness of the real. Bentham was also of interest to Lacan and the wider French academic elite in the early 1970's. Miller's ideas regarding satisfaction jouissance and superior homeostasis (cited in the previous chapter) are a reading of *Seminar XX*, in particular chapter V '*Aristotle and Freud: the other satisfaction'* (Lacan, 2000). Bentham is important here. His pleasure/pain economics and emphasis on utilitarian functionality appear to be present in Lacan's revisions of *Seminar VII* (in which Bentham was regularly mentioned) in which he moves from meaning to function. It was in *Seminar XX* that Lacan first introduced the idea of 'the economy of jouissance' which is perhaps inspired by Bentham. Indeed, Bentham's calculus carry the law and its imposition from meaning to function essentially abolishing interpretation and ambiguity and deriving a satisfaction from function and efficiency. It is perhaps noteworthy that *Seminar XX* was delivered in 1972-3, the same year that Miller wrote his social/political critique of Bentham in his paper '*Jeremy Bentham's Panoptic Device'*, which I will cite in this chapter. At the same time Michel Foucault (1991) was working on Bentham for his book *Discipline and Punish – The Birth of the Prison*. Clearly Bentham was a big influence on social and psychoanalytic thinking in France at that time. Bentham is also important to this thesis because the invention of the panopticon (which anticipates the advent of

contemporary surveillance capitalism) exemplifies the connection between the autistic mode of the coder/scientist and the behavioural modification imposed on the user.

The autistic sinthome

Joey's alternator, framed as a sinthomatic homeostat, perhaps offers us a structural conceptualisation of an autistic sinthome. That is a device that serves for the implementation and application of algorithm with which to organise reality and systematise jouissance. The success of such a device, in terms of the level of integration it affords the subject regarding the social bond, is dependent on the degree in which it stabilises the disorders of language, identity and jouissance associated with autism and the clinic of foreclosure. Joey's sinthome has characteristics that are observable in a large cross section of cases. Firstly, the sinthome becomes synonymous with the subject's identity. Electricity was not just a phased interest for Joey, it remains a critical part of his identity all the way through to his graduation as an electrical engineer. Secondly, it stabilises the linguistic ambiguity that can prove so anxiety provoking for the autist. Electrical engineering provides a highly specialised scientific vernacular in which polysemy is eradicated. Maleval refers to this as a 'synthetic Other' i.e. a prosthetic symbolic system that is created from the subjects' special interests (Maleval, 2013, p.31). Thirdly, it is a device that systematises jouissance and takes the 'excess' into account. It is these three fundamental elements that I want to explore in relation to the conceptualisation of an autistic sinthome. To do this I want to further elaborate the concept of the autistic sinthome within the context of Jeremy Bentham's Panopticon writings (1995).

Bentham (1748-1832) was an English philosopher, jurist and social reformer and, although, his 'main interest was in moral and political philosophy, it is through the panopticon that Jeremy Bentham made his most powerful impact on modern thought' (Bozovic in Bentham, 1995, p.1). Bentham was also known to be eccentric, reclusive and inaccessible. These were character traits that, among others, have caused many to retrospectively diagnose him as proto autistic i.e. he demonstrated many of the characteristics associated with autism prior to the establishment of a diagnostic category. Indeed, a close reading of biographical accounts written by those who knew him well highlight many of the distinctive features associated with Asperger's syndrome. William Hazlitt, an eminent nineteenth century thinker who knew Bentham personally, wrote of him 'He has lived for the last forty years in a house in Westminster, overlooking the park, like an anchoret in his cell, reducing law to a system, and the mind of man to a machine. He scarcely ever goes out and sees very little company. He does not like to have witnesses to his conversation. He talks a great deal and listens to nothing but facts' (Lucas & Sheeran, 2006, p.7).

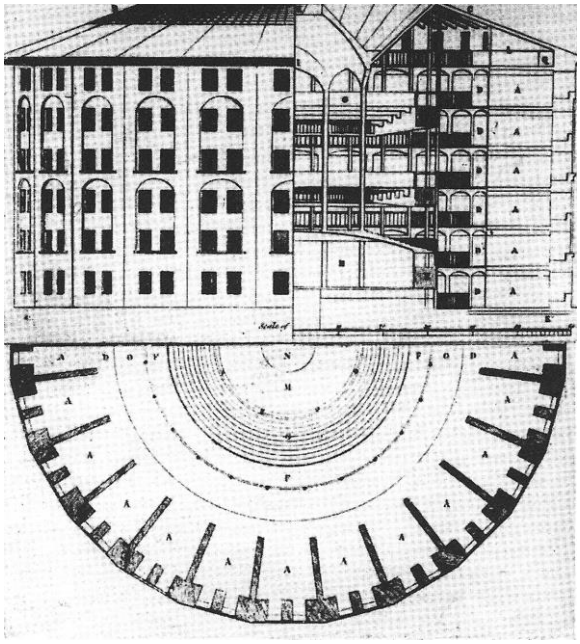
Here Hazlitt, prior to any understanding or conceptualisation of autism, draws attention to many of its fundamental elements: distaste for company; a passion for systemisation of both the law and the human mind; and an exclusive interest in facts. Philosopher and political economist John Stewart Mill also knew Bentham well and, in an essay on Bentham, drew attention to his remarkable lack of understanding of other people. He wrote 'In many of the most natural and strongest feelings of human nature he had no sympathy; from many of its graver experiences he was altogether cut off; and the faculty by which one mind understands a mind different from itself and throws itself into the feelings of that other mind, was denied him' (Lucas & Sheeran, 2006, p.7). In both Mill's and Hazlitt's observations we have many of the hallmarks of autism which, incidentally, would need to be present to some degree to attain a diagnosis. What are most interesting though are Hazlitt's comments on Bentham's reduction of law and the human mind to a mechanised systemisation, for here we perhaps have the hallmarks of the autistic sinthome and the elements or functors that operate in the service of jouissance and its superior homeostasis. In Joey's case it was the law of electricity isolated in a specialist vernacular and the implementation of a symbolic system that regulated jouissance in line with the flow of electricity. Such systemisation needs a vehicle for its delivery, in essence a piece of hardware, that can optimise the organisational algorithm. Joey's specialist knowledge of electricity and its circuitry was not enough to regulate his jouissance on its own, it required a series of devices for its application, culminating in his AC/DC rectifier. These devices are the concrete metaphorizations of the subject's mode of jouissance and their means of subjectivation. From this perspective the panopticon, like the rectifier, would be the production of an idiosyncratic ciphering in which enigmatic events of the body come to be encoded in the autist's inventions.

The Panopticon

The panopticon is an architectural concept (see original drawings below), an apparatus described by Miller (1987, p.3) as follows:

'The apparatus is a building. It is circular. There are cells around the circumference, on each floor. In the centre, a tower. Between the centre and the circumference is a neutral, intermediate zone. Each cell has a window to the outside, so constructed that air and light can enter, but the view outside is blocked; each cell also has a grilled door that opens toward the inside so that air and light can circulate to the central core. The cells can be viewed from the rooms in the central tower, but a system of shutters prevents those rooms or their inhabitants from being seen from the cells. The building is surrounded by an annular wall. Between this wall and the building there is a walkway for sentries. There is only one entrance or exit to the building or through the outer wall. The building is completely closed. The panopticon is not a prison. It is

a general principle of construction, the polyvalent apparatus of surveillance, the universal optical machine of human groupings'.



Bentham's panopticon plan (Foucault, 1991)

Bentham intended his panopticon as a polyvalent device that could function to install order across all facets of society in the form of an asylum, a prison, a school or a workhouse, among other things. The central principle was always the same, that a set of organising principles/laws was enforced by the omnipotent and omnipresent gaze located in the central tower. Such was the configuration of windows and lighting that the prisoners or subjects of the panopticon could not be sure whether they were being observed, only that there was a presence in the tower that could be watching them. 'The prisoners of the panopticon are awed to silence by an invisible eye. What is staged in the panopticon is therefore the all-seeing gaze itself' (Bozovic in Bentham, 1995, p.18). The torment of the idea of constant surveillance is enforced by the voice. Any observation of deviance from the established order among the prisoners in their cells could be reprimanded by the guard in the tower through a tube which carried the voice to the relevant cell to enforce and uphold the law, as well as the universal and unseen gaze. The drive objects voice and gaze associated with the super ego are disembodied and isolated as objects within a kind of God column. Any subjective effects of the resulting omni surveillance would have to be considered within the context of the social code or law that it enforces, and it is here that the ingenuity of Bentham's design can be seen in terms of the application of total control over the economics of jouissance. In terms of a sinthomatic device that functions in the place of the

Name-of-the-Father to organise and routinise jouissance, not to install meaning, the panopticon is unparalleled in its intricacy.

Leader (2012, p.204) describes the utilisation of such a device in psychosis, referring to it as a prosthetic symbolic system created by the psychotic 'as if to create on the outside the symbolic system that is lacking' due to foreclosure of the Name-of-the-Father. He goes on to describe a patient who studies human interactions like an anthropologist to create an algorithm and encode the process of making friends. He hoped to develop schemata to organise relationships on his hospital ward. This description bares significant similarities to Bentham's panoptic ideal. 'These systems', says Leader, 'can take the form of machines and mechanical devices, or of mathematical or genealogical systems, or computer work for example' (2012, p.206). Interestingly he states that 'many people diagnosed with Asperger's syndrome are in fact psychotics who have managed to find a solution along these lines, limiting their interests to a single, usually symbolic activity, as if to condense the real – their experience of bodily excitation – and the symbolic into one point' (Leader, 2012, p.207). This description by Leader perhaps adds weight to the idea of the autistic sinthome and autism as a radical mode of foreclosure with distinct features and variable outcomes.

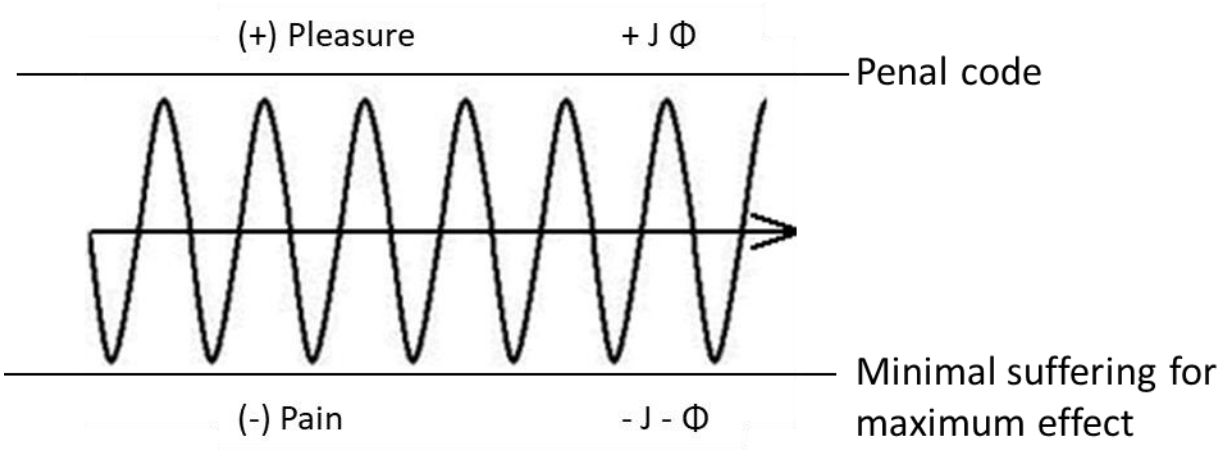
The economy of jouissance

The law that, according to Hazlitt, Bentham reduces to a coded system has a particular goal in mind and one that is the underpinning principle of Bentham's concept of utility. That is simply to provide and sustain the 'greatest happiness of the greatest number' (Bozovic in Bentham, 1995, p.3). In reading Bentham, it is clear that the concept of happiness isn't related to any spiritual or philosophical approaches to ontology. Rather it is reduced to a precise algorithm of ordered efficiency, described by Miller (1987, p.8) as 'a world without waste', i.e. without excess. The panopticon then is the 'concrete embodiment of his philosophy' (Miller, 1987, p.4). Inside the panopticon everything is systemised and mechanised, and man is turned into an instrument under a penal code which amounts to 'an economics of suffering' with sentences calculated precisely in terms of profit and loss (Miller, 1987, p.11). Bentham, in the '*Introduction to the Principles of Morals and Legislation',* starts to distinguish the various categories of pleasure and pain, all of which have subdivisions and various combinations (Miller, 1987). His felicific algorithm 'calculated the variables of pleasure and/or pain (such as intensity and duration) that would follow a particular course of action as it impacted on, potentially, whole populations' (Wright, 2014, p.795). Happiness, then, becomes 'inextricably linked to what can be measured, counted, rationalised and apportioned' (Wright, 2014, p.794). Both pleasure and pain are

associated with jouissance in Lacan's teaching and Bentham's pleasure/pain taxonomy and process of calculation appears to be an attempt to localise and order jouissance in the absence of the paternal function. Miller's (1987, p.11) observation that the panopticon is a 'world without waste', demonstrates its function as a device that restores a superior homeostasis. It takes the excess in to account through a process of reduction.

How did Bentham's penal code function to regulate and parameterise the enjoyment of society? The panopticon could be accessed by any member of the public and, as such, the staging was considered vitally important in terms of the span of effects created by the punishment. The actual pain inflicted on the subject by the punishment was less important than the perceived pain observed by the public. Miller (1987, p.15) describes this as 'a calculation with regards to appearances.' The staging is an important part of his algorithm. The punishment extracts some happiness from the group with the aim of having the greatest degree of effect on 'those tempted to offend' (Bozovic in Bentham, 1995, p.4). A calculation has been made between reformation and staging in terms of an economy of effects. Reformation impacts the individual, whereas staging impacts the group. It allows Bentham to utilise the gaze of the public to install the effects of the panopticon outside of its walls. By making certain crimes analogous with certain punishments so that 'the crime brings the punishment to mind, and the punishment the crime', Bentham implements a code that polices thought. The temptation to offend or enjoy beyond the limits installed by his penal code immediately conjures the image of a punishment. It is not just enjoyment that is subjected to imposed limits. Pain is also kept to a minimum and is precisely calculated so that the offender is subjected to just enough in relation to the staging so that the enjoyment of the greatest number of the group can be preserved. A limit of extraction is imposed by Bentham's system and, as such, we have the parameters of a homeostatic channel. An example of this is Bentham's idea that prisoners should wear masks according to the seriousness of their crimes. 'The masks may be made more or less tragical, in proportion to the enormity of the crimes of those who wear them. The air of mystery which such a contrivance will throw over the scene will contribute in a great degree to fix the attention by the curiosity it will excite, and the terror it will inspire' (Miller, 1987, pp.9-10). For Bentham, the mask was an important part of the staging, but also served the humane purpose of masking the offender's identity so that he may re-enter society without persecution. There was not the intention of any meaning being derived from the punishment in the moral sense; the mask was simply a unit of code, a scientific element of his philosophy of utility. The mask functioned as a sign that could be immediately attributed to a certain crime, and a certain punishment at a single glance. In effect, the prisoner becomes an algebraic element or functor, and an integral part of the code itself. Any

pain/punishment therefore has a purpose, a utility. Miller (1987) postulates that Bentham was, or saw himself as, a philanthropist, whilst Foucault (1991) states that the panopticon design is a diagram of the mechanisms of power reduced to its ideal form. Both observations may be correct, but within the context of Bentham as a proto-autistic subject, his rigorous formulation of a penal economics that drives all ambiguity from the language of law is perhaps better framed as the operating system for a sinthome that derives all its satisfaction from its efficiency and function. In essence it could be seen as an ordering machine for jouissance. Illustrated in terms of the sine wave (see below), we can see how Bentham's system defines parameters for enjoyment. When the upper limits are exceeded and there is a too much, a punishment is implemented, and a balance is restored.



As with Joey's alternator, an algorithm is implemented to routinise jouissance according to Bentham's precisely codified laws. From disorder, order and from formlessness, form. The maximum amount of happiness for the maximum number of people was achieved through a functional system of ordering and as a manifestation of Bentham's own mode of jouissance. It could be a school, an asylum for the mad, a workhouse or a prison. The central principle was that in the panopticon the social code could be implemented through a prosthetic symbolic machine, a term that in many cases can be used interchangeably with the sinthome in terms of its purpose and function.

Coding language

For the neurotic subject the process of symbolic castration and the installation of the paternal metaphor, symbolises the subject's submission to the law and order of the Other. In the clinic of

foreclosure, particularly in the clinic of autism, the construction of an alternative system for the implementation of order is a distinctly different method of metaphorization. The interchangeability of signifiers increases the autists anxiety around disorder and ambiguity and, as such, the autist constructs a synthetic Other (Maleval, 2013). This is usually a narrow and highly specialised vernacular that often emerges from the subject's special interest in a particular STEM field. For Joey it was the precise laws and mathematics of electrical engineering that provided a linguistic field with which Joey could utilise a symbolic system to impose order and systematise jouissance. This, it seems, is the process of conversion from S1 to the number 1 and from signifiers to signs or functors. Such a process allows a mathematical formalisation of the Other and, as such, a mathematical formalisation of jouissance. It is localised within a system that has calculable limits. This is the essence of Miller's formalisation of the sinthome as a system for superior homeostasis.

Bentham, like Schreber, found some method and means of ordering in the law, that is the legal framework of the time rather than the law of the Other. However, Bentham was wholly unsatisfied with the opaque nature of the legal framework and set about codifying it so that any possible ambiguity regarding its meaning or application was eradicated. 'He found the philosophy of law a chaos and left it a science' (Lucas & Sheeran, 2006, p.9). His scientific ordering of law was an exercise in algorithm, a numerical exercise involving the endless subdivision of categories until every potential interpretation had been boiled down to a finite point. Miller (1987, p.28) points out that the process of subdivision is taken down to 'the very atoms of meaning, the single digits of thought'. His style of approach was considered nomographic in reference to his attempt to calculate and account for all things. The nomograph is a graphical calculating device to allow computation of a mathematical function. By fixing values to certain variables, the nomograph can calculate the value of an unknown variable (Miller, 1987, p.28). The nomograph is the vehicle by which Bentham carries the S1 to the number 1 through the intricacies of his panoptic system.

I will come back to Lacan (2019, p.107) here, when he states that science is the only way of 'filling in the Jouissance of the Other'. Bentham's penal code is akin to the scientific formalisation of the Name-of-the-Father. It is in its discourse that 'Bentham tells us, the legislator makes himself manifest to each individual. He allows, he orders, he forbids; he lays down for each person the rules of his conduct; he employs the language of a father and of a master' (Miller, 1987, p.27). All laws brought together, assembled, unified, harmonised upon a single principle, 'each complete, individualised, numbered, drawn up in univocal algebra – achieving 'the

projection of the legal sphere so that all its parts can be seen at a single glance' – which Bentham calls the Pannomion – the great panoptic code' (Miller, 1987, p.27). The panopticon then, is not just a prison for offenders or madmen, it is a 'prison of language'. Bentham is a utilitarian and the 'utilitarian classifies. In order to compose the most profitable assemblages he must always analyse' (Miller, 1987, p.15). Profit and loss for Bentham is a calculation of jouissance. The linguistic operation that his nomographical approach facilitates provides the algebraic elements for its economy. His hyper-codified reduction analyses objects and transforms them from a montage into 'a mass of separate elements. The utilitarian, therefore, is constantly producing systematic syntheses that must of necessity be exhaustive' (Miller, 1987, p.19).

The Utilitarian's discourse is thus expansive, infinitely stretchable because it must account for things exactly and order them precisely (Miller, 1987). This is a key characteristic of the autist's synthetic Other. It is composed of codified symbols or signs. Autist K. Nazeer (2006, p.26) captures what is at stake for the autist when they create expansive discourses to combat the ambiguity of the signifier. 'It is not the complexity of language that creates a problem for autistics. In fact, it probably helps them because the more of it there is, the less chance there is of words being polysemic'.

There is an interesting similarity in process between Joey and Bentham here. The object in question is broken down to a mass of separate elements so that it can be reconstituted as an organised 'montage' (Miller, 1987, p.19). This accounts for the scientific underpinnings of the autist's approach. Science, as Lacan (2007, p.160) tells us 'arises from the void of unformed jouissance'. Outside of the symbolic realm of the Other the autist experiences life as chaotic and disordered. Both Joey and Bentham reduce the mass of disorder into separate elements and systems that can be measured and ordered precisely. Joey constructs systems for eating, sleeping, breathing, defecating, all of which are powered by plugging into his various inventions and all of which are governed by the law of mathematical principles. In both cases there is the creation of a synthetic Other that codifies language through the sign or numerical symbol, prior to the subjects jouissance being symbolised and regulated through a device or invention. Bentham's panopticon and Joey's alternator are both inventions that are characterised by the fact that they are 'concrete embodiments' of the subject's unique method of organisation and, moreover, embodiments of their unique modes of jouissance (Miller, 1987, p.4).

The circuit

In the clinic of foreclosure then, what is in question is the form of symbolic ordering that takes place. In early Lacan, which was perhaps a less complex picture, the subject was either in the symbolic world of the Other or they were not. In late Lacan and within the concept of the sinthome, we can consider various modes of approach in terms of a knotting of the RSI. For the autist it seems that there is an alternative symbolic system in operation which can vary greatly in terms of its complexity. For Lacan, the symbolic order was like a machine composed of circuits of discourse in which the subject gets caught up. This is how he accounted for the presence of repetition in the subject. Lacan (1991, p.32) preferred to call this 'insistence', in line with his theory that it was the insistence of the signifier in the unconscious and its metaphoric substitution that led the subject to repeat events that appeared to breach the limits of enjoyment. Here Lacan attempts to account for the dilemma encountered by Freud in '*Beyond the Pleasure Principle'* in which he discusses the process of repetition in the context of its running counter to his concept of the pleasure principle. Lacan (1991, p.89) describes this insistence as an effect of the symbolic machine when he states 'The unconscious is the discourse of the Other. This discourse of the Other is not the discourse of the abstract other, of the other in the dyad, of my correspondent, nor even my slave, it is the discourse of the circuit in which I am integrated. I am one of its links'.

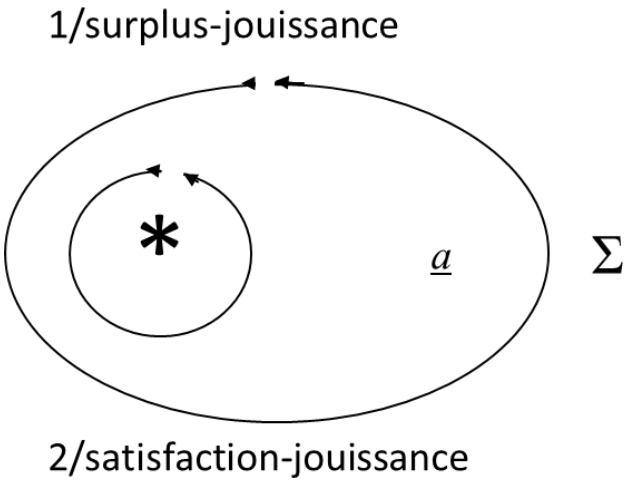
It is the introduction of the signifier that structures the subject's drives and regulates jouissance but, as a result, the subject becomes caught up in the gears of the symbolic machine and is 'condemned to reproduce the discourse bequeathed to him'. The discourse is, says Lacan (1991, p.89), 'the discourse of my father for instance, in so far as my father made mistakes that I am absolutely condemned to reproduce'. The autist's prosthetic symbolic system does not appear to be one of interchangeable signifiers and the unconscious repetition of discourse circuits. It is a system of design and one more classically of the order of Freudian biology. As Lacan (1991, p.75) reminds us 'Freudian biology has nothing to do with biology. It is a matter of manipulating symbols with the aim of resolving energy questions'. By the time Lacan was developing the concept of the sinthome in the mid 70's this would undoubtedly be read as the manipulation of symbols in the service of jouissance. Lacan links the discourse loops of the Other to the homeostat, in that they form a type of feedback loop in which they return to the same place. He uses the example of the message circulating inside the machine to make this point.

'Suppose I send a telegram from here to Le Mans, with the request that Le Mans send it back to Tours, from there to Sens, and from there to Paris, and so on indefinitely. What's needed is that when I reach the tail of my message, the head should not yet have arrived back. The message

must have time to turn around. It turns quickly, it doesn't stop turning, it turns around in circles. It's funny, this turning back on itself. It's called feedback and it's related to the homeostat' (Lacan, 1991, p.88).

The circuit in operation represents 'an oscillation around a point of equilibrium', (Lacan, 1991, p.88). Lacan is referring here to the circuit orientated by the signifier S1, with repetition operative through metaphoric and metonymic channels. Joey's utilisation of the circuit is an entirely different prospect. As Lacan (2018, p.111) reminds us in his seminar on the sinthome, 'What is known as energetics is none other than the handling of a certain amount of numbers from which a constant number is extracted'. This statement indicates why energetics and other mathematical fields function as such effective metaphors for the symbolisation and regulation of jouissance. The numerical constant is the point of equilibrium that determines that the formula works therefore supporting the core principle or law. This is what introduces predictability and homeostasis, imposing form on the formless. What science and the autistic subject (and indeed psychoanalysts) have in common is that they do not attempt to give any meaning to this form. They simply put it to some use, some functional purpose that produces a certain satisfaction.

Such a circuit still represents an 'oscillation around a point of equilibrium', as demonstrated in the sine wave diagram and Miller's (2019, p.147) schema for superior homeostasis.



A coded system orientated by precise algorithm also appeases the autistic subjects need for control, as well as their desire for solitude and immutability. The autistic subject regularly cites this when commenting on their use of objects and inventions 'it is important to always keep them under control' (Grandin, 1986, p.108). A circuit governed by algorithm guarantees immutability in the form of consistent functioning. It obeys absolute rules, a cornerstone of the

autistic's orientation of reality. In terms of solitude the device can function as a regulator or mediator of the social relation, operating as a controllable interface that sits between them and the other. This can be used as a defence or a conduit to the world.

Despite their radically different approaches, explainable due to their radically different epochs, a comparison of Joey and Bentham's method for the production, regulation, systemisation and localisation of jouissance shows the consistent themes of the autistic sinthome. Firstly, we can utilise the discourse of the master as a sinthomatic device to demonstrate the production of a jouissance machine that localises and regulates.

Joey

$$\mathrm{dM}\ \boxed{\frac{\overset{S_1}{elementary\ phenomena}}{\cancel{S}} \rightarrow \frac{\overset{S_2}{electricity\ law}}{\underset{localised\ jouissance}{a\ (alternator)}}}\ \Sigma$$

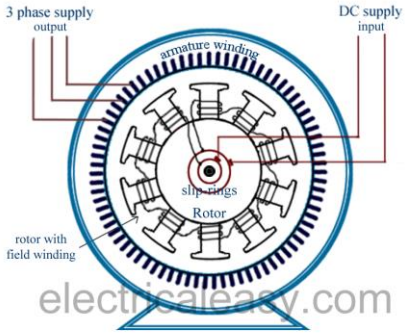
Bentham

$$\mathrm{dM}\ \boxed{\frac{\overset{S_1}{elementary\ phenomena}}{\cancel{S}} \rightarrow \frac{\overset{S_2}{penal\ code}}{\underset{localised\ jouissance}{a\ (panopticon)}}}\ \Sigma$$

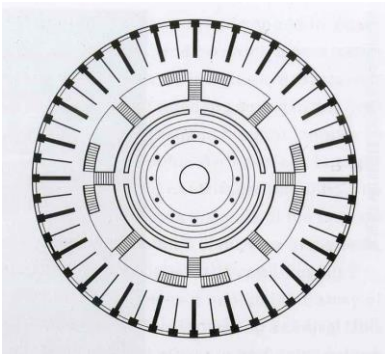
In the position of S1 we have the event of the body, the enigmatic elementary phenomena. The law in the position of S2, electricity in Joey's case and a rigid codification of the law in the case of Bentham, provides the principle of constancy that grounds the S1. As such S2 is characterised by scientific knowledge and calculation. In the place of production there is the autistic invention or the machine i.e. the rectifier and the panopticon which under the governance of the law

'routinises the excess under the guise of a functioning' (Miller, 2019, p.147). It is in the position of (a) that we can see the evolution of objects that often become increasingly sophisticated and effective e.g., from the fan to the rectifier. As such you have examples of Miller's dM sinthome functioning as a circuit in which jouissance is orientated by the functors S1, S2, and S. There are, of course, alternative ways to schematise this. The barred subject that sits under the S1 could, and perhaps should, read (S0) which indicates the enigma. It is the enigma that is perhaps the engine of scientific endeavour in such cases, and which ties the body event to the production of scientific formula and devices. I will explore this in more detail in the next chapter.

It is the link between the event of the body, scientific formulation and the device that is, perhaps, behind Miller's (1987, p.4) assertion that Bentham's panopticon is a 'concrete embodiment of his philosophy'. The sinthome is structurally inherent to the subject which is why the sinthomatic device is so often synonymous with the subjects themselves. When, for example, we consider the schematic drawings for the AC/DC alternator and the panopticon, we can observe the construction of the codified circuit in both cases. Lacan (2018, p.111) refers to the codes that ensure the function of the circuits as 'ciphers'. 'How can it be that there is such a thing as a metaphor of something that is nothing but number? This metaphor, on account of this, is called cipher'. The numerical co-ordinates of the autist's sinthome can then perhaps be thought of as ciphers of jouissance.



AC/DC Alternator



Bentham's Panopticon

It is hard not to be immediately drawn to the visual similarities between the AC/DC alternator and the panopticon plan. The circle is the circuit in its exemplary form and the perfect visual representation for a system of superior homeostasis. In Miller's diagrammatical representations of the discourse of the master as sinthome and satisfaction-jouissance as a sinthomatic circuit, we can see how functors produce and organise jouissance in circuits that are predictable and obey strict laws of governance. The similarities go beyond purely visual comparisons and perhaps

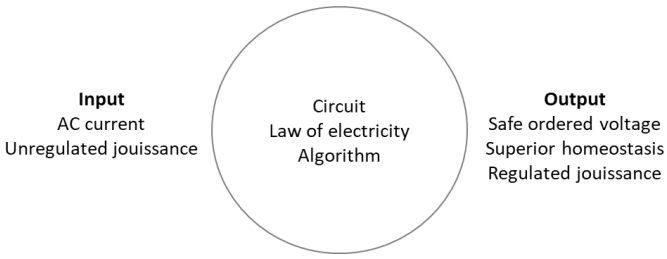
could be said to follow the same structural blueprint. Both devices have an input that represented lawlessness and lack of form. For Joey this was in the form of AC electricity which switched directions and oscillated back and forth. For Bentham input could be thought of in two ways. Firstly, in the form of language as disordered discourse that is subjected to the panopticon as a 'prison of words' (Miller, 1987, p.16). The panopticon was, after all, a means of enforcing a law that he had painstakingly codified beyond all ambiguity. His discourse occupied the panoptic cells with no room to move. Bentham made of them fixed numerical constants every bit as utilisable as components of ordering algorithms as Joey's laws of electricity. Signifiers are fed into the panoptic machine and turned into signs or numbers. It is a machine for the production of a particular type of synthetic Other. It is a numerical Other, a mathematical Other that ciphers jouissance impenetrable to meaning. The autist's numerical Other, as Bentham demonstrates, is concerned with utility and not meaning. The second way to view input in relation to the panopticon is in terms of its prisoners. The prisoners were the embodiment of lawlessness and disorder. If the offender's happiness (+) exceeded the limits of his penal code, the panopticon was used to impose an extraction of happiness (-) that maintained the functioning and utility of the group. It is the functionality of the ordering, the smooth running of the machine that defines its role as an object of satisfaction jouissance.

From God to Siri

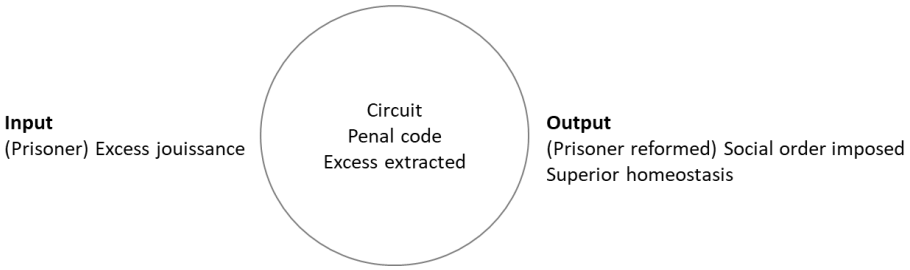
The Name-of-the-Father, Lacan (2018, p.112) tells us 'is undoubtedly God' and ushers the subject into the world of signification. Here the S1 represents the subject 'in conformity with reality' (Lacan, 2018, p.113). In terms of the paternal metaphor, God orders the world of the signifier. In Bentham's panopticon the presence of God is aroused in the prisoners by the omnipresence of the gaze and, as such, he has created a system in which God, or rather his semblance, orders the world of the number. This is the critical element in the devices design and the central principle through which function is guaranteed and variables are controlled. It is integral to the operating system, so to speak. The super egoic elements are what determine the utility of the other applications at the panopticon's disposal and introduce a kind of self-governance. There are similarities here between the panopticon and the contemporary objects of surveillance capitalism. The smart phone or wearable devices that, through voice and gaze (tracking) technology, predict, suggest and modify behavioural outcomes in the user. A guarantee is introduced but it is not the guarantee introduced by the Name-of-the-Father, rather it is an algorithmic one. The numerical constants keep all elements of the circuit in order. This is a numerical constant that the law, whether that of electricity or Bentham's penal code, relies upon for its smooth functioning. The panopticon 'is a world ordered from top to bottom' (Miller, 1987,

p.5). Joey and Bentham's devices differ in terms of their algorithmic construction and the mechanics of their implementation. The fact remains though, that whatever numerical model is created or utilised serves to impose an ordered functioning on whatever disordered elements are fed into it. In both cases, what comes out the other end in terms of output has been subjected to a system of regulation. This process of input/algorithm/output can be illustrated as follows:

Superior homeostasis circuit for Joey



Superior homeostasis circuit for Bentham



This could just as easily be written, formlessness – science – form, which demonstrates the relation between the discourse of science, the autist, and the real. Neither device is a symbolic device that churns out meaning. All that is produced is jouissance and, as Miller (2019, p.153) states, 'if it does produce meaning, it is only as a cover for jouissance'. That Bentham's panopticon never came to fruition in his lifetime did nothing to dampen its function as his sinthome. It remained the apex of his system of utilitarianism. It was a system under constant development being tweaked, refined, improved with new algorithms and new data. It did not really require application through which he could order all social life. It was the development of a science of social utility and efficiency, the systematisation, and the concept of the panopticon that all functioned in the service of jouissance for Bentham. The autistic sinthome can utilise existing scientific principles like Joey's alternator or create new ones as with Bentham's penal

code and ordering tables. It can also remain a concept or something that has a local application i.e. is only utilised privately by the autist or becomes a manifest design with global application.

The four mathemes and the autistic circuit

Miller has demonstrated that the discourse of the Master can indeed, under the right circumstances, be utilised as a device of jouissance. The four mathemes laid out by Lacan take on the role of functors, algebraic coordinates for topological spaces and provide an algorithm for a circuit of jouissance. It is perhaps worth considering the status of these mathemes for the autistic subject to better understand the dynamics of the autistic's jouissance machine. It is here, in the understanding of the mathemes in the field of autism, that we may also understand the vast spectrum of presentation in terms of autistic functioning. The reduction of the field of the Other, for example, can lead to 'a state of withdrawal and catastrophic stabilisation' (Laurent, 2012, p.17). Here the autist's rudimentary and radical homeostat leads to a 'catastrophic stasis'. Such stabilisation, rigid as it may seem, can be 'shifted in a number of cases, always centered on the essential mechanism of the localisation of jouissance' (Laurent, 2012, p.17). Laurent (2012, pp.11-26), describes this as a shift from the 'the autistic shell, which is the height of stabilisation' to the adherence to a 'supplementary object' which functions as a 'signifying device outside the body', as described by Miller in terms of the dM sinthome. The key for Laurent (2012, p.23), in terms of modifying the autist's approach towards improved functioning, is to assist the subject in 'disengaging from his homeostatic withdrawal', to pass into some form of subjectivity. However, what we can see in many cases of high functioning autism, is that the production and refinement of a complex object can maintain a 'superior homeostasis' while also allowing the subject to take a position in the diverse social panorama. Joey, and indeed Bentham, are testament to that fact. Joey's shift from institutionalisation to college degree was a nine-year process in which he never gave up his supplementary device. While Maleval (2012, p.35) points out that autistic subjects do not 'escape their autistic functioning, rather it persists in attenuated form', in many cases the same can be said of their objects. How can we attribute the status of the mathemes in relation to the autistic object, to better understand the autist's journey from 'Kanner's to Asperger's' (Maleval, 2012, p.34)?

S1

'The passage of the signifier into the real, and its repetition without displacement, defines what is clinically described as the autistic subject's 'taste for order'' (Laurent, 2012, p.18). As previously described, if we consider the return of the foreclosed signifier S1 as the number in

discourse, we are in the rubric of the autistic circuit properly speaking. 'The S1 provides us with the clinic of the circuit' and through the utilisation of the number the 'autistic circuit is organised according to an equivalent topology' (Laurent, 2012, p.18). We can see in the panoptic writings two stages to this approach. The first is a codification of the law, which is surely an early example of 'the replacement of the signifier one in the master discourse with the numerical figure' (Brousse, 2013, p.29). The second is the implementation of the codified system into the autistic circuit i.e. the creation of a device/circuit through which the code can be implemented to impose order. In Bentham's case this was the panoptic machine. Through this pairing 'the symbolic as real is provided with a topology' (Laurent, 2012, p.18). When it is said that Bentham 'found the philosophy of law a chaos and left it a science', we can make sense of Lacan's (2019, p.107) assertion that it is only through the letter i.e. science 'that we have access to the real'. Today, criminal law calls increasingly to science 'to deal with the enigmas of crime' (Voruz, 2012, p.171). In the U.S we have seen the advent of neurolaw. Neurolaw has several purported uses: 'determination of mental capacity, responsibility, empathy, mind-reading (sic), verification of chronic pain' (Voruz, 2012, p.171). This is just an advancement of Bentham's legal science with improved mechanisms of recording and processing data.

We can see the efficacy of the letter for the autist for the construction of a metric space in the absence of the phallic signifier or at least the minimisation of the effects of non-metric space. Without the phallic signifier as a means of regulation, the subject is vulnerable to the invasive jouissance of the Other. Bentham and Joey demonstrate, through the formulation of a synthetic Other, a numerical system that creates a reliable topology. It is effective because like the quantum calculations that demonstrate the constant expansion of the universe, the scientific Other continues to produce calculations to produce, localise, and regulate jouissance.

S2

In autistic children 'we can observe a relation of direct and radical opposition to the knowledge in language – a relation of pure exteriority' (Laurent, 2012, p.19). As demonstrated with Bentham and Joey, the autistic subject attempts to reduce the 'disorder of lalangue to a language from which fixed rules can be extracted' (Laurent, 2012, p.19). Such a reduction is quite different from the appropriation of the signifier into the unconscious. Lacan noted this when discussing the case of Melanie Klein's patient 'Dick'. 'He already has some sense of vocables, but to these vocables he hasn't given a Bejahung – he hasn't assumed them' (Laurent, 2012, p.19). For the autistic subject, the reduction provides a framework of 'fixed rules' which act as functors, topographical data points for the circuit of satisfaction jouissance. Autistic testimony points to

the effects of such a process. Temple Grandin, one of the world's best-known autists and autistic advocates, describes her decision making as 'a process of pure computing'. The subject's world and process of regulation becomes a scientific process. Bentham essentially codifies an alternative Other and through the panopticon designs the apparatus for the regulation and projection of the symbols of control. Foucault (1991) wasn't alone in describing the panopticon as a mechanism for power and control but understanding Bentham as an autistic subject offers the potential for this idea to be reframed within the context of satisfaction, regulation and function. The process of precise calculation and mathematics of pleasure and pain, provided the mechanisms for the sort of numerical constant that the laws of electricity provided for Joey, and as such the elements of his idiosyncratic jouissance circuitry. Language, when used in this way, is disconnected from affect and it is not a vehicle for the symbolic representation of desire. It is a structure of 'concrete and tangible elements' (Laurent, 2012, p.20). These are the elements of the sinthome which 'invalidates, if not object (a), at least the orientation that gave birth to it' (Miller, 2019, p. 147).

S

Lacan often described the subject as 'the one who is spoken of' (Laurent, 2012, p.20). It is often noted in autistic children that they become identified with something spoken by a parent, such as an instruction. The subject's separation from the Other 'is not achieved only through moments of producing knowledge about language as a whole and about the rules of discourse as a social link, but equally through moments of stupor, of pure real absence' (Laurent, 2012, p.21). In both the pure exteriority of discourse and on the side of stupor we can speak about production of a subject. Laurent describes how such a subject often describes a 'moment of emptying' that is a pure real absence 'that may be the upsurge of a subjective functioning within a state of hyperagitation or screaming, or from within the diktat imposed by the 'real-isation' of the master-signifiers of parental speech' (Laurent, 2012, p.21). We can see with Joey that such upsurges and experiences of emptying were always arranged in a circuit designed for a superior regulation. The identification with, or hanging onto, a parental instruction can perhaps be related to statistical correlation between children with autism and parents who work in engineering i.e. numerical formulations are already present and extractable in the discourse that surrounds them from the very beginning. Joey's first object, his first introduction to the circuit of self-regulation was the fan given to him by his mother, with who knows what instruction. The purpose of the fan was clear though, it was given to him with the intention of soothing him, and through its on/off oscillation a process of regulation was introduced. There is the potential here to recognise the autistic subject's structuring in accordance with a sinthomatic device that

addresses the particularities of their autistic mode of functioning and that can enable their insertion into the social by way of their synthetic Other.

(a)

It is well known that the autistic subject has different modes of attachment to supplementary objects which are 'particularised and electively erotised' (Laurent, 2012, p.21). Laurent (2012, p.21) refers to this as an 'object of jouissance outside the body, elevated to the category of an object (a)'. Thought about in relation to Miller's discourse of the master as sinthome, such a description is perfectly in keeping with an object of jouissance localised in the place of production/loss. This has been described as 'the Other as exteriority', as an 'organ' (Laurent, 2012, p.21). Bentham's panopticon was perhaps such an object or supplementary organ. Miller (1987) described the panopticon's function as a prison of language, a quite literal description of an organ for the exteriority of the Other. The autist's creation, which can be any object, but in the cases of Joey and Bentham are extremely complex designs, is gradually drawn in and appropriated by the subject as part of a 'montage made up of the body plus an object outside it' (Laurent, 2012, p.22). In many cases it has been noted that the appropriation of such an object constitutes a clearing of all possible organs of exchange. The dividing up of the body into organs is apparently overcome at the cost of being encapsulated in the autistic shell (Laurent, 2012, p.23). Yet, paradoxically, it is also noted that through the object the subject can experience an opening up. This is perhaps dependent on how the object functions as a means of installing a prosthetic Other and the efficacy of the Other in the organisation of jouissance. This, as I think Bentham and Joey's cases illustrate, is where scientific discourse functions in line with the autistic ideal of total codification. Joey's prosthesis serves the purpose of dividing the body up into systems following precise laws until, through a gradual process, he perfects his device. Bentham similarly appears to construct a scientific Other that divides up the body, accounting for every motivation, pleasure and pain in a meticulous process of sub-division.

To think about S1, S2, ~~S~~ and (a) in this way assists us in understanding their function as functors. They are what link the body event, the enigma of the elementary phenomena to scientific law and the synthetic Other. The autistic object i.e. the alternator and the panopticon are then a production of the synthetic Other, a metaphorization and an object of jouissance operative as an organ outside the body. It is by way of these three mathemes and their idiosyncratic construction that the subject is structured. As the functors are elaborated and refined, the production changes and the subjective position in relation to the Other is modified. The process by which Joey goes from an understanding of the basic circuit of the fan to a college degree in

electrical engineering involves an expansion of scientific knowledge and thus the expansion of his synthetic Other. The expansion of the synthetic Other enables more sophisticated objects to be produced which, in turn, appears to result in improved functionality in the subject. This can account for the fact that 'autism persists in attenuated form' (Maleval, 2012, p.35). In the next chapter I will consider the relationship between an enigmatic and perplexing event of the body (S1) and knowledge (S2) as a delusion that grounds it. One can observe patterns in this relation e.g., in paranoia and conspiracy theories, and in autism and technology and identification with cyborgs and complex systems.

In this chapter I have built on the idea of a numerical encoding of jouissance through Bentham's codification of the law. I have suggested that the panopticon functions a device, a type of rectifier comparable to Joey's, in which jouissance is kept with in calculable limits through a careful taxonomy of pleasure and pain and through the application of his penal calculus. I make a comparison between Bentham's mode of routinizing jouissance and its potential for behavioural modification in society, to that of the coder, as a means of exploring the idea of an autistic coder/user cycle.

Chapter 4: Mathematical Stabilisation

In the previous chapters I have developed the idea of a particular autistic mode, which evolves over time but through a consistent trajectory, often accompanied by an attenuation towards a more functional form of autism. In this chapter I will attempt to develop a theoretical basis for understanding the apparent efficacy and stability of this mode of functioning. I will suggest that the coder develops a symbolic system that is inherently more stable than the imaginary prosthesis typically characteristic of the clinic of foreclosure.

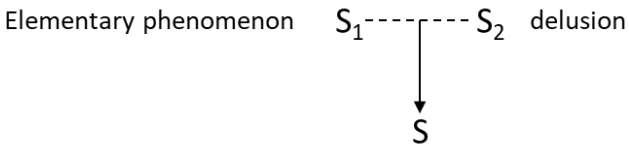
The Structure of Delusion

When we ask the question, in relation to ordinary psychosis, what is operative in the place of the Name-of-the-Father? in essence we are asking a question regarding knowledge. What is the nature of the knowledge through which the subject approaches or constructs reality? I want to explore this within the context of Miller's (2005, p.1) assertion that 'according to the binomial S1-S2, every piece of knowledge is a delusion, and each delusion a piece of knowledge'.

'Freud', Miller (2005, p.28) reminds us, 'states a delusion implies dominance over libido, or in our lexicon, a certain encoding of jouissance'. This offers a contextual frame with which to understand Lacan's position late in his teaching, in which he is 'very close to saying that all of the symbolic order is a delusion' (Miller, 2013, p.40). The classical conceptualisation of the Oedipus complex from this position becomes an acceptance of a particular delusional structure of established discourses. 'They have accepted the order of language, or the organ of the human being as Chomsky has it' (Perrin, 2012, p.70). As such the signifier (S1) mortifies jouissance and represents the subject for another signifier (S2). This ushers in the realm of sense for the subject and constitutes reality from the social perspective. Lacan (1999, p.55) tells us that 'reality is approached with apparatus of jouissance, and there is no apparatus other than language'. This translates equally well as devices of jouissance, and it is the concept of such devices that goes on to underpin Lacan's development of his thesis of the sinthome. As previously stated, the Name-of-the-Father, which undergoes its own theoretical elaborations through the course of Lacan's teaching, then becomes one such device, one such delusion operative in the service of jouissance. The shift from linguistics to topology, and from symptom to sinthome, brings with it a shift in interpretation of the symptom. Where once the symptom was thought of as a message which can be deciphered by reference to the unconscious structured like a language, now it is seen as a trace of the modality of the subject's jouissance. If we are to understand subjective

positions in this way, we need to develop an understanding of the structural mechanisms involved in the subject's delusion.

Perhaps a good place to start with this is with an understanding of elementary phenomena in psychosis from a Lacanian perspective. 'Delusion is a discourse' states Miller (2005, p.2) and 'it is from this perspective that we get the meaning of the term elementary'. Lacan's teaching allows the formulation that delusion is an articulated discourse in that 'it is a combination of elements where the intention to situate the elementary phenomenon, supposes a value or meaning'. The elementary phenomena thus become like axioms, in that they are foundational and cannot be doubted (Miller, 2005). The elementary phenomena therefore operate as a sign rather than a signifier, in that they represent something for someone rather than representing the subject for another signifier. The signifier is the material of unconscious formations, where it is linked to another signifier, and the subject emerges as a result of this link (Miller, 2005). Elementary phenomena are the material of psychosis in that the establishment of this process is foreclosed. The (S1) is therefore not grounded in the Other (S2), and what emerges is a 'moment of perplexity', a moment waiting for meaning 'that is enigmatic, and that does not satisfy' (Miller, 2005, p.19). In this way, Miller (2005, p.21) points out that the 'lone signifier (S1) is always elementary, that is to say that it doesn't know what it signifies. Only when (S2) appears can the signification of (S1) emerge'. Miller's hypothesis is therefore that all knowledge (S2) is delusion, and that delusion is a type of knowledge. Miller schematises this as follows:

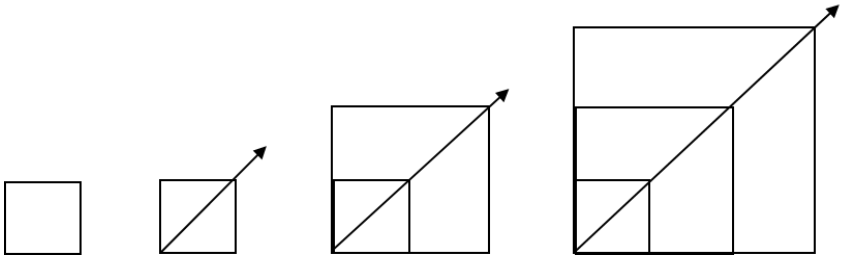


Delusion then, could be thought of as the linguistic economisation of jouissance. That is, it is the subject's mode of ordering reality and jouissance through discourse. The elementary phenomena are structurally significant in their function as a sign 'that represents (X) for the subject' (Miller, 2005, p.10). The element is the structure that repeats itself like a 'gnomon in distinct levels' (Miller, 2005, p.11).

Gnomon

The gnomon is a geometric concept that can be produced in the case of the square through tracing a diagonal and extending it vertically through erecting the diagonal line (Wilson, 2017,

p.17). It is this diagonal that counts, according to Miller (2005, p.7), because it already functions as an index. It becomes a point of stability, a general principle of construction, through which the square can be extended vertically or horizontally.



Lacan states that just as we can know a tree through an examination of the leaf or can reconstruct a dinosaur through the examination of a bone from its claw, we could also observe the structure of the subject through their various symptomatic presentations (Miller, 2005). For Miller this advances a particular thesis that the elementary phenomena represent for psychosis what the unconscious formation represents for neurosis. Freud, in his observation of certain neurotic or perverse subjects, described the various fetishes and phobias that emerged or rather were deployed in the place of a phallic function that had failed to become fully effective. They functioned as signs indicating the subject's fear or disavowal of castration (Wilson, 2017). As such, utilising the logic of gnomonology, the phobia or fetish are gnomons that indicate the site of truth for the subject, just as the phallus is an indicator for the site of lack (Lacan, 2006). In psychosis the elementary phenomenon repeats itself in the process of the elaboration of the delusion (Miller, 2005). This is to say that the elementary phenomena (S1) initially arise as a moment of perplexity and is then grounded and repeats itself within the structure of a delusion (S2).

It is in the structure of delusion that we have the key structural difference in the classic binary clinic. We have the neurotic structure with the (S1) grounded in the Other (S2), with the paternal function operative. The signifier represents the subject for another signifier and through this process the subject emerges. In psychosis the (S1) does not represent the subject for another signifier and is not grounded in the Other (S2). There is a foreclosure of the Name-of-the-Father (S2) and as such a perplexity. The (S1) produces the empty site of the enigma (So) which is devoid of a subject. There must be a set of phenomena that provides the basis of interpretation for the psychotic and, as such, the empty symbolic register absorbs the structure of the imaginary (a-a'), 'from which the ambivalence of a delusional fantasy develops' (Wilson, 2017, p.10). Miller (2005, p.25) schematises the relations between delusion and knowledge as follows:

$\frac{S_1}{S_0}$ $\quad$ $\begin{matrix} S_2 \\ \triangle \\ a - a' \end{matrix}$

Schreber, for example, located the strange elementary phenomena (S1) that emerged in his body in his delusional theory of 'divine nerves', in which God would communicate with him through 'rays'. Here we can see the development of a structure with which to organise or ground the effects of unregulated jouissance. During Freud's work on Schreber and the structure of psychosis he 'introduced a two-phase system in which libido alternately 'cathected' to the positive and negative poles of object and ego' (Wilson, 2017, p.13). Freud's theory, elaborated in his paper '*On Narcissism'* (1914), had a significant influence on Lacan's formulation of the imaginary register, with object and ego represented with the formula (a-a'). As such the imaginary register is inherently unstable with identifications and affects continually oscillating between the two poles. 'Love, affection, empathy, attraction can rapidly switch into hatred, rivalry, antipathy, and repulsion' (Wilson, 2017, p.10). It is these positive and negative oscillations (+/-) that we can see being grounded or formalised in Schreber's delusional metaphor and Joey's alternator.

Can we then take Miller's schematisation of the relations between knowledge and delusion as a general schema for foreclosure? There is no doubt that imaginary identifications and prosthesis can maintain a lasting degree of stability for the subject. Schreber lived an apparently normal life for 51 years prior to the triggering of his psychosis in middle age. His imaginary prosthesis collapsed when he was promoted to a position in which he had no equal and no imaginary identifications to support him (Lacan, 2006). However, this is the opposite of many observations of autism where there is so often a gradual and systemised attenuation of the subject's symptoms towards greater functionality and improved mediation of the social bond. I have previously stated and utilised Brousse's hypothesis of the centrality of the number in ordinary psychosis and perhaps as the dominant CMB of our epoch. It is here that I want to propose a distinction between the structures of delusion in the absence of paternal guarantees and, perhaps, a structural differentiation between psychosis and autism. This can be isolated, I feel, in the role of scientific discourse in the development of sinthomatic devices that are highly stable in terms of how they cohere the subject and facilitate a form of subjectivation.

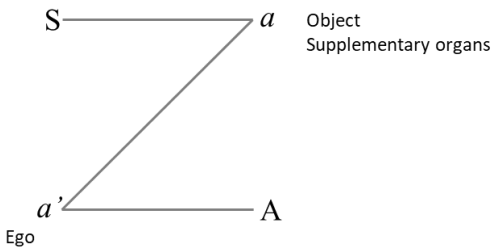
If the autist deploys scientific invention in the same way that Joyce deployed his art, as a supplementary cord in the subjective knot, is the nature of its underpinning axioms akin to a sign

system that goes beyond the symbolic absorbing the structure of the imaginary? It is perhaps here that we can characterise the evolution from 'Kanner's autism to Asperger's syndrome' noted in many cases of autism. As the autist's inventions evolve there is often a correlation in terms of an increased stabilisation of mood, a reduction in anxiety, an emerging subjectivation, potential for employment and an increased social functioning. As the sinthome becomes more refined, it intervenes with a sign system or a mode of ordering that in some way overwrites or fundamentally anchors the imaginary. Presumably, if we are to position the Name-of-the-Father as a particular delusional structure, we must also acknowledge a range of efficacy in the signifying articulations that are deployed by the subject. One can certainly see in psychosis, or certainly psychosis of the extraordinary type, as well as in many cases of autism, including Joey's at the outset, that the delusion (S2) appears to maintain the structure of the imaginary (a-a'), and therefore that it is less stable and more prone to break down. Delusional systems are infinitely more stable when the knowledge that is assimilated and put to work is central to the organisation of society in general. God and science, for example, have both proven to be effective foundations on which to structure a relatively stable reality. Religion is only effective if one follows it without questioning it too much. At some point the subject arrives at a point that amounts to 'because I said so' or 'it is gods will'. Science on the other hand attempts to fill what is unknown and enigmatic and, while it is happy for meaning to remain in flight, it sustains itself in the efficacy and constancy of formula and numbers. Science, in western society at least, is the dominant mode for understanding and organising reality and therefore can provide a highly stable sign system that goes beyond the imaginary structure (a-a'). I will attempt to frame this hypothesis within the context of the evolution of the autist's structuring, from simple objects and imaginary identifications to complex sign systems.

Autistic objects

The role and importance of objects for autistic subjects has been noted from the earliest writings of both Kanner and Asperger on the subject of autism. Asperger noted, 'Perhaps they fixate on a whip or a wooden brick or a doll that they never let out of their sight and cannot eat or sleep when the 'fetish' is not there. There can be the most severe tantrums at any attempt to take away the object of such passionate attachment' (Perrin, 2012, p.66). When alone with their objects, Kanner noted that there 'is often a placid smile and an expression of beatitude' (Perrin, 2012, p.66). It was Frances Tustin who pursued the function of such objects and coined the phrase 'autistic objects' in order to differentiate them from transitional objects and to define their defensive functions (Perrin, 2012, p.66). For Tustin, the objects were either part of the child's body or parts of the outside world experienced by the child as belonging to his body. She

described the attachment to such objects as serving the function of a suture preventing the sense of a draining away of bodily consistency. Tustin also notes their pathological aspects, considering them to promote repetition compulsion and thus that they are 'anti-life' (Perrin, 2012, p.68). Tustin is observing the role of the supplementary organ in supporting the body without discourse. In the absence of the 'organ of language' i.e. the Other, the autistic child seeks objects that take on a basic structuring function and are experienced as an extension of the body (Perrin, 2012, p.70). Such an organ serves to localise jouissance, at times absorbing the excess (-), while at others dynamizing the subject (+), through the process of plugging and unplugging. The function of the double in autism is of the same order of course. Kanner realised that 'such children do not distinguish between people and inanimate objects; they treat them both in the same way' (Perrin, 2012, p.68). Here then we have the description of a supporting system in which ego and object are undifferentiated and a primitive structuring is taking place. We can contextualise this within Lacan's L-schema, with the Other (A) foreclosed, the imaginary (a-a') is supported by 'supplementary organs' (Perrin, 2012, p.70). The autistic objects have a symbolic function and are often the rudiments of a more sophisticated system to come.

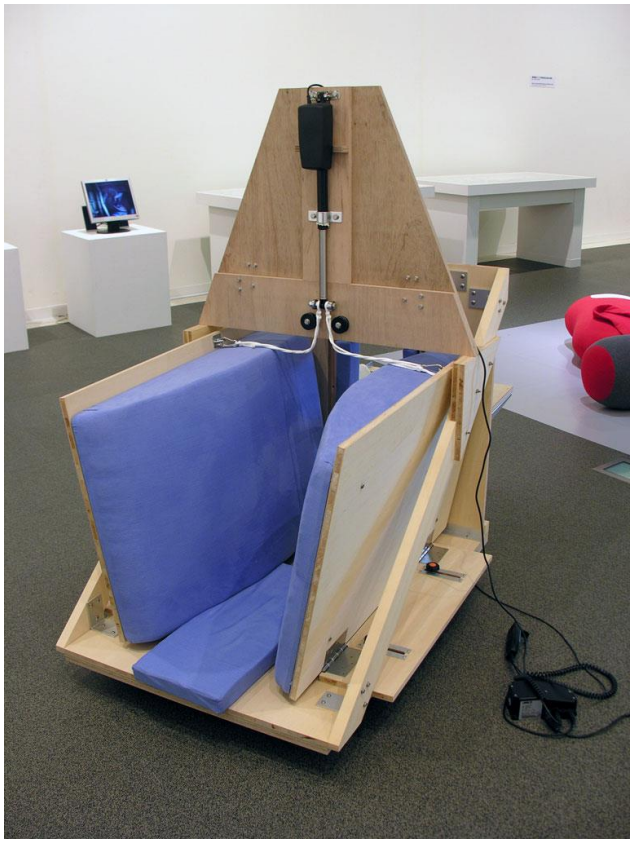


However, at this stage we could say that the symbolic function has the structure of the imaginary (a-a'). We can assume that this is the structure of the infant/child's world prior to the symbolic castration that sees the paternal function take effect in the subject. It would be absurd, and Miller says as much, to think that there is no symbolic functioning prior to this point. Symbolic castration installs, or rather grounds, a symbolic system that alters the structure of the symbolic register from (a-a') to (A). What is crucial to this process is that a third term, and as such the law, is initiated for the subject. The symbolic, as well as overwriting the imaginary, serves to 'cancel out the real, to transform it into a social, if not socially acceptable reality' (Fink, 1995, p.56). I believe we can see a similar symbolic overwriting in many cases of autism, in which a sign system in the form of scientific axiom is established as an organising principle that cancels out the real or orders it into a socially acceptable reality. As with the paternal function it is unlikely that this process can be isolated at one moment in the subject's history. Bruce Fink (1995, p.58) says of the paternal function, that its initiation is 'generally quite difficult to isolate at any particular chronological moment of the individual's history and is likely to require many such moments to come about, each building on the ones before'. Rather it is established as an increasingly

effective and stable system, that is built up and refined, axiom by axiom, device by device. It is noteworthy, perhaps, that Lacan identified 'five registers of the law' that he 'used and rendered explicit' during his development of the symbolic order (Miller, 2013, p.20). There are the linguistic laws that Lacan borrowed from Saussure and Jakobson that led to his utilisation of signifier and signified, and metaphor and metonymy. There is the dialectical law 'which Lacan went searching for in Hegel: this law which says that in discourse the subject can only assume his being through the mediation of another subject. Lacan calls this the dialectical law of recognition' (Miller, 2013, p.20). Then there is mathematical law, which Lacan explored in his seminar 'The Purloined Letter' and his exploration of cybernetics in *Seminar II*. There is also the sociological law of alliance and kinship, which Lacan adopted from Levi-Straus's book on 'The Elementary Structures of Kinship', and the Freudian law of Oedipus, which early Lacan made into a law, 'namely that the Name-of-the-Father must be imposed on the Desire of the Mother' (Miller, 2013, p.20). Today, mathematical law appears to have risen to its zenith, in that it underpins scientific enquiry and the algorithms that support and drive global economic systems, as well as functioning as a law by which the subject can organise body, identity and experience. Where the Name-of-the-Father is absent in the place of S2, another law functions in its place as a system of logic and rationale.

Such a structuring would represent the shift from Kanner's to Asperger's, an attenuation often noted by autists and those supporting them. In such cases imaginary supports can become obsolete as a scientific knowledge is refined and developed, which can often be seen as objects are entered into a system or circuit governed by law and a principle of constancy. In the place of (S2) we can perhaps separate the delusional metaphor of the imaginary register from the numerical system of science and algorithm supported as it is by a burgeoning lexicon that dominates the social fabric. Without going over ground that has already been covered, we can potentially see this in Joey, as he builds and essentially installs a law of functioning that sees his emergence as a subject and his entry into social discourse, with electricity and electrical engineering being deployed as his sinthome. Electricity is traceable as a gnomon that has always been fundamental to his subjective coherence. His initial binary on/off constructions are rudimentary symbolic systems that represent a basic encoding of jouissance through the (+/-) of plugging and unplugging that typifies the oscillations of the imaginary register. His alternator, and thus his body and identity, are supported by an established discourse that already has its place in the social bond. Joey is, in essence, an effect of the move in the social towards a numerical organisation of libidinal economy or jouissance, that has displaced the Name-of-the-Father.

To keep the focus on autism, we can see with Joey a stabilisation of symptoms. While his devices had a symbolic function at the outset, they were still accompanied by wild oscillations in affect and behaviour. The refinement of his inventions and of his increasingly sophisticated use of discourse is paralleled by the refinement, organisation, and regulation of his body and identity. In Temple Grandin we see a similar trajectory. Her early symptoms and outbursts nearly saw her institutionalised. Initially she found a rudimentary means of self-regulation through rolling herself in a rug. Her overwhelming affect and anxiety (+) were tempered and drained away by the pressure of the rug against her body (-). Later, at her auntie's cattle ranch, she utilised a cattle holder, which is used to reduce the cattle's anxiety through the application of pressure so that inoculations or examinations could be given. She later devises her own 'squeeze machine', based on the same principles, through which she can control the pressure against her body (see picture below).



The object evolved from a rudimentary system for a basic regulation of jouissance to an object grounded in scientific discourse. What happened next perhaps captures the shift from the symbolic absorbing the structure of the imaginary, to its grounding in scientific axiom. Grandin's mother and most of her teachers were concerned about her use of the machine. They were in

favour of banning its use until her science teacher, sensing its importance, encouraged her to make it into a scientific experiment. Under his guidance Grandin (2006) developed her scientific interests and went on to study animal sciences and began to design cattle chutes that made slaughter more humane through regulating the cattle's anxiety. We can observe a trajectory of development and structuring, from the basic binary system of the rug (a-a'), to the development of the squeeze machine, which still maintained a binary function but was undoubtedly an object supported by law and a principle of constancy. Finally, we have the cattle chutes and Temple Grandin the animal scientist and professor. At this point Grandin states that the squeeze machine is obsolete. Can the giving up of early precious and crucial inventions by Joey and Grandin be put down to the fact that a superior symbolic system, which enables a 'superior homeostasis', has been developed? If we return to Miller's (2019) discourse of the master as sinthome, in the place of (S2) we now have an established scientific discourse, and in the place of production we have the objects of jouissance (a) that serve for its localisation and routinisation within an organised system. Both Joey and Grandin, through their inventions, have achieved a means by which a subjectivation can take place. Perhaps this means that we can replace the enigma (So), with the subject (~~S~~). In the discourse of the master as sinthome, such a configuration would be defined by the fact that it functions as a circuit that ensures everything stays in the same place i.e. Grandin the animal scientist (~~S~~), and her objects of jouissance (a), are supported by a synthetic Other with precise laws (S2). The (S1), her enigmatic proto-signifiers, or elementary phenomena, perhaps lose their perplexing and anxiety provoking quality. Again, it is worth highlighting the difference here in terms of the quality of the delusion. Lacan tells us that 'the delusion is an interpretation' and that, in its text, we find it to be an explicit truth and almost meaningful (Miller, 2005, p.23). Miller (2019, p.147) approaches the sinthome purely as a device of jouissance, its only purpose being function, function organising and structuring satisfaction jouissance and achieving a 'superior homeostasis'. Potentially we have a differential clinic orientated around the structure of delusion, in as much as it functions as a sign of the subject's mode of jouissance and their method of subjective coherence. The social relevance of the knowledge that gives the autist or the schizophrenic a body and regulates their jouissance is paramount to the delusion's efficacy.

Development of a synthetic Other

In autism there is often a shift in the structural quality and thus the stabilising and ordering efficacy of the symbolic dimension. This is played out in the extraction from an object of a law, a discourse with a principle of constancy from which a structuring can take place. Take, for example, Joey's dismantling of the fan or Grandin's pursuit of an understanding of the mechanics

of the cattle holder to the point where she could construct her own squeeze machine. Objects that function as ego supports in the imaginary register either already obey a law or organising principle, which can then be apprehended and developed, or they are subjected to the subject's own idiosyncratic algorithms. Often, in the cases that could be considered to have good outcomes, it is the former, as this is more likely to coincide with the development of an islet of competence. Joey's degree in electrical engineering is a good example, as is Grandin's tenure as a professor in animal sciences. I should point out that a 'good outcome' is based on the subject's experience and wellbeing in terms of mental health, rather than any neurotypical idea of social utility, although the two usually go hand in hand. Even when the object is in the form of the double, there can be an attempt to utilise it as a fountain for the provision of organising laws. Take Donna William's (1992, p.176) commentary of her treatment by Dr Marek. Williams reports that she demanded of him nothing but 'absolute rules' by which to function. When Asperger comments that 'social adaptation has to proceed via the intellect' and that everything must be taught 'systematically', he is attesting to the development of an organising system of rules and laws which are absolute (Maleval, 2013, p.43). Even at this early stage of observation Asperger noted that it was a process of codification rather than signification as such. He was clear that 'everything has to be absolutely enumerated', and in doing so highlighted the power of algorithm and scientific discourse in orientating and structuring the autistic subject (Maleval, 2013, p.43).

In her paper '*Construction of an autistic dynamic*' Myriam Perrin (2013, pp.82-83) describes the case of a young autistic patient called Mathieu. Mathieu would walk around in an empty 'unplugged state' but was 'revitalised' by a particular game. In his motor skills class he would make several Playmobil figures get on a bus and would classify each one with a number. He would then take one of the characters and say 'Jump, jump, jump 1'. He would then take him off the bus and shut him in a locked cupboard and wave 'Goodbye'. He would repeat the process with figure 2 and figure 3. Perrin notes that the phrase 'jump, jump, jump' is taken from the cartoon Dora the Explorer, which he is particularly fond of. Each time he carefully locks the door and puts back the key, never does he bring them back out again.

In comparing the game with the 'Fort/Da' game played by Freud's grandson, Maleval states 'the first expression, which is generally 'there', stands in contrast to Fort by underlining the presence of the object, not its remoteness, whereas the second expression, 'there's no', does not greet its return, but on the contrary its distance' (Perrin, 2013, p.82). 'It is clear,' states Perrin (2013, p.82), 'that it is not about the mastery of loss, but rather the distancing of the object'. Over the course of his teaching Lacan made multiple references to the account of the game of 'Fort/Da'

described by Freud (2001, pp.14-15) in his paper '*Beyond the Pleasure Principle'*. Freud is describing the evolution of a game played by his grandson between the ages of 18-24 months. Whilst Freud observed that the child would 'never cry when his mother left him for a few hours', he would play a game where he would throw his toys away into a corner or under a bed while saying 'ooooo'. The boy's mother felt that this was his attempt to say the German word 'fort' (gone). Freud appeared to confirm this in his own observation of the boy who he witnessed throwing a cotton reel into his curtained cot and saying 'oooo' (gone), before using the thread to pull it back out again and saying 'da' (there). For Freud this was an important symbolic act. The child did not make a fuss when the mother left but 'compensated himself for this by staging the appearance and disappearance of the objects within his reach' (Freud, 2001, p.15). For Freud, this observation was an important act of symbolisation and repetition. 'Children', he pointed out, 'always repeat the events that have left a deep impression on them' (Freud, 2001, p.17). There could be an alternative view here. The game follows a particular algorithm, which in part is extracted from the discourse that surrounds and influences Mathieu i.e. Dora the Explorer. It is noted that the random distancing of objects has little effect in terms of tempering his anxiety. Mathieu often walks around the hospital making objects disappear out of the window or making 'them disappear all over the day hospital'. It is noted that this 'does not allow him to calm his anxiety' (Perrin, 2013, p.83). It is when an algorithm is applied that it seems to have a tempering effect. The game resembles the basic coding games that are taught in schools. The characters are assigned a number (1,2,3), and are then given an order (jump, jump, jump). They are then locked away and the sequence is repeated in a circuit like fashion. The word 'goodbye' provides the feedback that prompts the restarting of the sequence. This appears to be more of the order of a 'routinisation' of excess that the non-sequenced disappearance of objects does not appear to achieve (Miller, 2019, p.147).

In the same paper Perrin gives a more detailed account of autistic structuring with her account of the treatment of Charlie. Charlie, like Joey, is obsessed with circuits from an early age. He obsesses with the window fans at the day hospital. He will spend hours watching them and, for a period, it is the only thing that reduces his anxiety. He starts to remove the window fans, taking them apart and putting them back together again repeatedly. We can perhaps see here, as we did with Joey, that while the circle image of the fan, the ultimate symbol for routinisation, soothes Charlie to a degree, it does not suffice to reduce anxiety entirely without an understanding of the laws of its functioning. Even so, Perrin (2013, p.70) notes that the 'object is crucial for structuring a body image'. She refers to Joey in this regard and his comment that 'there are those who are alive and those who need tubes', i.e. there are those who have

accepted the order of language (A), or the organ of the human being as Chomsky has it, and those who need an alternative symbolic system (Perrin, 2013, p.70).

Perrin also notes the utility of the fan in the framing of the drive object gaze. This, she feels, is an attempt to 'frame the overwhelming jouissance while also allowing for a libidinal vitalisation of the subject' (Perrin, 2013, p.78). This bears a resemblance to Bentham's panopticon, with the objects voice and gaze framed within his elaborate ordering system. In Charlie's case, as with Joey's, the fan does not suffice for the long term 'treatment of the object gaze and the mastering of libidinal energy' (Perrin, 2013, p.83). The fan is abandoned, and Charlie becomes agitated. A period of heightened anxiety and dissatisfaction is only broken by what Perrin describes as a 'creative leap'.

'A machine, buy a machine, big machine…Draw a circle', cries Charlie. Charlie adds that it is a 'washing machine'. Charlie leads Perrin to the staff laundry room and sits down for hours watching the washing machine turning. Perrin refers to it as a 'complexified fan' and a 'body machine' (Perrin, 2013, p.84). The control panel is a point of particular interest for Charlie. It allows him to control the speed and the various cycles, its filling and evacuation. It is the law (S2) that regulates the machine's functioning.

The utilisation of the washing machine allowed for a localisation of jouissance, to the point where Charlie's use of the washing machine became less frequent. However, when the laundry room became prohibited, Charlie entered a period of total affect dysregulation, which Perrin describes as his 'falling apart' (Perrin, 2013, p.92). The only thing that soothes him in the absence of the machine is to sit in her car, firstly to turn the key in the ignition repeatedly and then to drive around the roundabout. His need for circuits is absolute. After a time, a 'therapeutic machine' is granted (Perrin, 2013, p.94). It is important to note the differences here between Charlie at this stage of his structuring, and Bentham, Joey, and Grandin. At the time of Perrin logging her account Charlie had not developed an islet of competence in terms of a specialised knowledge of the systems in question. This comes back to the question of outcomes and the level of attenuation that might be observed in an autist's presentation. The development of specialist knowledge taps into a distinct pocket of discourse, usually with precise laws and calculations supporting it. Such knowledge can provide a means of production that facilitates the development of a squeeze machine, or a rectifier, or a structural philosophical concept like the panopticon. The islet of competence often allows a social position to be taken up, setting off a whole raft of structuring functions in terms of identity. It facilitates a subjective position.

Charlie's system of regulation is at the level of the object. He has not assimilated and mastered a discourse with which he can structure a body and an identity. This is the crucial step in moving the delusional system beyond the structure of the imaginary where the relationship between syntax and the real is primary. This division highlights two distinct autistic modes, that of the coder/inventor and that of the user. The coder is the subject who real-ises themselves as a subject through the application of syntax (formula) to the real. This is a creative process which always produces something, a formula, a scientific principle, a device etc. Science is the ordering discourse, and the body is structured as a cybernetic system which can connect to and exchange information with machines in a singular and seamless circuit. This is different from the autistic mode of the user who creates nothing. Rather they are pulled into reactive behavioural patterns that isolate them in the imaginary axis of object and ego (a-a'). While the coder can often become more functional, this is a trajectory rarely seen in terms of the autistic mode of the user. This is the cycle that is observed by the director at Microsoft. The coder writes the operating system, or rather it emerges as an extension of their mode of ordering jouissance and reality. The user responds to the operating system which mobilises an isolation and disorders mood and identity. One could think about this model and its utility in the context of active autistic hiring programs at organisations like Microsoft, Google and GCHQ, where economic and political advantage hinge on who controls market share, discourse and the operating systems that govern and organise society. When the director of GCHQ recently said that 'the concern is that China's size and technological weight means that it has the potential to control the global operating system', this, at least in part, is a concern over the influence this gives China over the global population (Haynes, Sky news, 2021). By controlling the discourse, and the algorithms that underpin it, there is also a control of the symptoms that complete the discourse. We can ground the autistic modes of coder and user in Lacan through his theoretical exploration of syntax and semantics, syntax being concerned with function, and semantics with meaning.

In this chapter I have highlighted the utility of symbolic systems and suggested an algorithmic means of grounding events of the body, which are so often the starting point of the autistic coders inventions. While Miller suggests that in delusion, Knowledge (S2) absorbs the structure of the imaginary (a-a'), I suggest that the autistic coder's symbolic system, anchors the subject by tying the real of the body to syntax. I use this as a point of differentiation between the coder, and the user who can become isolated in the imaginary zone (a-a').

Chapter 5: Codifying Information

Syntax and semantics: the Other as cybernetic machine

In this chapter I seek to trace the evolution of jouissance in Lacan's teaching, in relation to the shift from meaning to function, and from signification to satisfaction. I look closely at seminar II here, in which Lacan investigated cybernetics, the quantification of information, and differentiated syntax and semantics. I offer a theoretical elaboration of the autistic coders mode of functioning through the use of syntax systems laid out in the previous chapter.

The idea of a sinthomatic machine as a device for the production, localisation and routinisation of jouissance, while elaborated by Miller in his re-reading of *Seminar XX*, finds its origins in Lacan's exploration of cybernetics in *Seminar II*. Miller is not forwarding a theory of an autistic sinthome as such, but the cybernetic tone of his exploration of repetition, function and superior homeostasis in the sinthome offers an important link between *Seminar II* and any understanding of autistic structure. The autistic tendency towards systemisation and the utility of machines and devices, for example, while highly individual, indicates a distinct mode of orientation in the epoch of generalised foreclosure. Cybernetic theory is important here because it developed mathematical theories of communication that allowed for the flow of information between man and machine, bringing them together in a single cybernetic system. The machine does not have to be a literal machine in the classic sense of the word, as I hope I have demonstrated with my analysis of Bentham's Panopticon. It merely functions as an apparatus that embodies a particular combination of symbols which, in turn, according to Miller, produce a particular organisation and routinisation of jouissance. With cybernetics 'Lacan suggests the symbol is embodied in an instrument that ties the real to syntax' and, as such, 'scientists find what their instrument permits them to find, thus enabling a kind of ritualised encounter with nature' (Liu, 2010, p.194). It is here that cybernetics allows a particular exploration of the autistic subject's relationship to science and the machine.

It is this formulation that underpins Miller's thesis of the DM as Sinthome. Miller's formulation positions the DM as a device which sees (S1), (S2), (a) and (Ⓢ) function as organising elements of jouissance, rather than signifiers or truth effects (Miller, 2019, p.154). Miller makes the point that the symbol's function in the device has nothing to do with meaning, emphasising their syntactic application as a mode of ordering the real. A repetition is installed in the form of a circuit, which is of the cybernetic order and aims to eliminate chance and ambiguity. This repetition is a routinisation of jouissance towards a 'superior homeostasis' that ushers in a

'second status' of jouissance and a change in the value of language present in Lacan's teaching from *Seminar XX* onwards (Miller, 2019, p.147). Miller (2011, p.59) characterises this shift when he states that the 'inertia in the function of language is thus opposed to the speed of mathematical signs, the mathemes which are easily transmitted integrally without knowing what they mean. We must understand that it is precisely because these signs are free from signifieds, they do not have the inertia displayed by the functioning of language insofar as it is loaded with signifieds'.

Language thus becomes a device for jouissance, which is a shift from the first turn in Lacan's teaching in which there is a 'subordination of jouissance to the primacy of the structure of language'. In the second turn there is a 'passage to the reverse' in which there is a 'subordination of the structure of language to jouissance' (Miller, 2011, p.55). This represents a shift from signification to satisfaction. The question 'What does this mean?' becomes redundant and is replaced by the question 'What does this satisfy'? This is what Miller (2019, p.147) describes as the 'second status of jouissance' which he refers to as the 'satisfaction jouissance'. In the passage to the reverse the sinthome takes the place of the fantasm. The fundamental relation to jouissance is no longer enclosed in the inertia and condensation of the fantasm which must be crossed by a dynamics. It is in the sinthome 'not as a condensation but as a functioning' (Miller, 2011, p.61). The symbolic dynamics are thus exhausted and are replaced by routine. As such the symbolic 'appears as a routine, a disc, a repetition' (Miller, 2011, p.59). This is highly relevant to any understanding of autistic symptoms in the contemporary clinic. The utilisation of mathematical signs, which tie the real to syntax and impose on it an algorithm, is entirely of this order. It is, after all, the passage of the (S1) into the real which accounts for the autistic subject's 'taste for order' and 'presents us with the clinic of the circuit' (Laurent, 2012, p.18). There is a clear differentiation between function and satisfaction, and truth and meaning which, even though Miller located this turn in *Seminar XX*, has its kernels in Lacan's differentiation between syntax and semantics in *Seminar II* and his cybernetics lecture *'The Circuit'*.

Lacan's interest in cybernetics developed, at least in part, in its common ground with psychoanalysis in terms of what he referred to as 'the signification of chance' (1991, p.296). Analytic technique is concerned with the subject making their discourse, their thoughts, available 'without any intention' through the process of free association. What is aimed at is to get as close as possible to chance so that 'determinism can be sought' (Lacan, 1991, p.296). Hence there is a kind of elimination of pure chance as such, and through cybernetics there is an attempt to reformulate the unconscious as a machine of statistical probability. The field of cybernetics

that emerged in the 1940's had its origins in the efforts of engineers 'concerned with the economics of information', particularly Norbert Wiener and Claude Shannon (Lacan, 1991, p.296). In his lecture '*The Circuit'*, relatively early in *Seminar II*, he discusses the work carried out by Shannon at The Bell Telephone Company. 'The Bell Telephone Company needed to economise, that is to say, to pass the greatest possible number of communications down one single wire. In a country as vast as the United States, it is very important to save on a few wires, and to get the inanities which generally travel by this kind of transmission apparatus to pass down the smallest number of wires. That is where the quantification of communication started' (Lacan, 1991, p.82). In 1948, 6 years prior to *Seminar II*, both Weiner and Shannon released seminal texts in the fields of cybernetics and information theory, respectively. Wiener's text '*Cybernetics or, Control and Communication in the Animal and the Machine'* (1948), the product of years of theoretical development by mathematician's, engineers, physiologists and psychologists at a series of conferences beginning in 1942 'aroused a great deal of excitement and curiosity among the scientific and intellectual elite in in France' (Liu, 2010, p.158). This included Claude Levi-Strauss, Jean Hyppolite, Jacques Derrida, Michel Foucault, Giles Deleuze and Roland Barthes. We can of course add Lacan to this list and it is of note that at least two of these names, Levi-Strauss and Jean Hyppolite, were known to attend his seminar. Lacan's use of terminology such as 'feedback', discussed in detail by him in his lecture '*The Circuit'*, and 'Jam', a word used to describe an interruption in a circuit or feedback loop, appear to show a familiarity with Weiner's work. It is not clear whether Lacan read the text or whether it was discussed in his seminar or amongst his peers who, as well as Levi-Strauss and Hyppolite, also included mathematicians and cyberneticists Georges Guilbaud and Jacques Riguet. Guilbaud was a close friend of Lacan, was 'an important contributor to game theory and was the first to introduce game theory, information theory, and cybernetics to the French-speaking world' (Liu, 2010, p.166). Shannon's paper '*A Mathematical Theory of Information'* (1963) was published in the same year, and his development of information theory was instrumental to the formulation of Cybernetic theory. In the first page of his paper Shannon (1963, p.1) states 'the semantic aspect of communication is irrelevant to the engineering problem'. This, of course, has echoes of Bentham, whose own engineering problem regarding the codification of the law and its apparatus for delivery was a process of driving out the semantic aspects of legal discourse which rendered it ambiguous and open to interpretation.

Cybernetics and its associated theories became increasingly dominant in scientific and mainstream discourse in the decades following World War II, influencing the direction of research across multiple fields, including psychology. Indeed, in Wiener's book *Cybernetics or,*

Control and Communication in the Animal and the Machine, his assertion that 'the ultra-rapid computing machine, depending as it does on consecutive switching devices, must represent almost an ideal model of the problems arising in the nervous system' ushered in a new wave of cognitive models of understanding and treating the human psyche (2013, p.14). We can see here the beginning of a widespread discursive shift which, as Brousse points out, offers context to contemporary clinical symptoms including autism and/or autistic modes of jouissance. Game theory, Information Theory and Cybernetics are also thoroughly intertwined with Miller's reading of *Seminar XX* in the '*Economics of Jouissance*' and his concept of superior homeostasis in the sinthomatic device.

The origins of cybernetics: the first machine

Cybernetics and information theory marked the entry of linguistics into the Freudian domain for Lacan. While, according to Liu (2010), it is the figure of the machine that mediates Lacan's initial speculations about the relationship between the symbolic and the real, Lacan is keen to identify the true origins of cybernetic theory much earlier than 1948. For Lacan (1991, p.296) cybernetics' origin in the signification of chance can be found in the 'rationalised formalisation of the conjectural sciences.' Lacan suggests that the conjectural or human sciences are inseparable from the exact sciences which he says are wholly concerned with the real. He points out something important in terms of the enduring nature of man's attempts to tie the symbolic to the real. Prior to the development of the exact sciences, man thought that the real is what keeps turning up where it is expected. For example, 'at the same time of night one will always find one particular star on a particular meridian, it will turn up again there, it is indeed always there, it is always the same' (Lacan, 1991, p.297). We can trace an evolution of man's relationship to nature here and Lacan points out that originally man thought that his action was concerned with the preservation of this order. This is evident in anthropological studies into the rituals and ceremonies that were thought to usher in the start of spring, for example. Man did not so much think that the real would vanish without his participation but that it would be disturbed. In this sense he did not 'pretend to lay down the law, he pretended to be indispensable to its permanence' (Lacan, 1991, p.297).

It was the loss of this conviction regarding man's involvement with the order of things, that for Lacan, ushered in the birth of the exact sciences. The order of science pursues a more precise form of ritualisation that 'officiates over nature', mathematising its laws with precise calculation, which serves to 'reduce the real to several little letters, to a little bundle of formulae' (Lacan,

1991, p.299). This laid the foundations for the emergence of probability calculus in 1654, 'with Pascal's treatise on the arithmetic triangle, and emerging in the form of a calculation, not of randomness, but of chances, of the encounter itself' (Lacan, 1991, p.299). Lacan (1991, p.299) refers to the arithmetic triangle as 'the first machine', in that 'it enables one to determine immediately what a gambler has a right to expect at any given moment when the succession of turns which make up a game is interrupted'. Importantly he points out that the succession of turns is the simplest form one can give to the idea of the encounter. 'As long as one hasn't come to the end of the of the sequence of turns fixed by convention, something can be evaluated, that is, the possibilities of the encounter as such' (Lacan, 1991, p.299). The science of what turns up in the same place is replaced by the science of the combination of places, and thus the 'science of numbers becomes a combinatory science' (Lacan, 1991, p.300). This brings us back to the relationship between cybernetics and psychoanalysis in that it introduces statistical probability to the chance encounter, and as such forms the basis of Lacan's central question of this seminar, i.e. 'what is the chance of the unconscious, that in some way lies behind man' (Lacan, 1991, p.300)?

It is combinatory science that organises symbols around the correlation of absence and presence. This is what underpins Lacan's formulation of symbolic castration in that there is a signification of the mother's absence which marks the subject's entry into the Other and functions as a signifier that marks the site of lack in the subject. The application of the laws of presence and absence can be organised around the binary symbols of 0 and 1 and thus we have the originating elements by which 'cybernetics can appear into the world' (Lacan, 1991, p.300). 'This science', states Lacan (1991, p.300), 'has to function in the real, independently of any subjectivity. This science of empty places, of encounters in and of themselves has to be combined, has to be totalised and has to start functioning all by itself'. Lacan, in bringing our attention to the origins of statistical probability and the combinatory sciences, demonstrates that man has from the very beginning attempted to tie the real to the play of symbols, or more specifically to laws which amount to a syntax. Lacan uses the example of the door as a symbol that embodies the oscillation of 0's and 1's and functions as the constituent material of the cybernetic circuit. 'Once it has become possible to fold the two characteristics together, to construct an enclosure, that is to say a circuit, so that something passes when it is closed, and doesn't when it is open, that is when the science of conjuncture passes into the realm of realisation of cybernetics' (Lacan, 1991, p.302).

The chain of possible combinations of the encounter that probability calculus formulates subsists independently of all subjectivity. This is an important observation by Lacan because it indicates the presence of a syntax that is prior to the subject and into which 'he integrates himself, and which through its combinations already governs' (Lacan, 1991, p.307). Lacan is suggesting here that the Other is the cybernetic machine rather than language and that the primordial couple of the 0/1 should precede linguistic considerations and are, in fact, what enables the symbolic order (Liu, 2010, p.177). 'In order for language to come into being, insignificant little things such as spelling, and syntax have to be introduced. In other words, within this perspective, syntax exists before semantics. Cybernetics is a science of syntax, and it is in a good position to help us perceive that the exact sciences do nothing other than tie the real to syntax' (Lacan, 1991, p.305). It is here, at the junction of syntax and semantics, that we can find the basis for the turn in Lacan's teachings, identified and elaborated by Miller, twenty years later in *Seminar XX*. Lacan (1991, p.305) places semantics at the level of the 'concrete languages, with their ambiguities, emotional content, and their human meaning'. This is opposed to syntax, which is about function rather than meaning, as Miller would have it. In his concept of satisfaction jouissance, by which the excess is regulated within a circuit supported by a signifying device, the signifier is reduced to the position of functors or elements and from the word to the letter. Philosopher Slavoj Zizek describes this as the 'symbolic Real' in which the signifier is reduced to meaningless formula like quantum physics which cannot be understood in any meaningful way, only grasped through abstract mathematics (Glyn, 2004). Lacan, through his distinction between the word and the letter and his reinterpretation of the unconscious by way of cybernetics and information theory, was perhaps laying the foundations for the contemporary understanding of the autistic subject's relationship to science and systematisation (Liu, 2010).

Joyce the symptom

The contemporary position in the Lacanian clinic is that the autistic subject is in the real and in language but outside sense and utilises syntax as a mode of ordering the chaos of the real. The ambiguity and emotional content characteristic of semantics is confusing and anxiety provoking for the autistic subject but is not absent altogether from their discourse, which is something I will discuss later in the chapter. When Lacan (1991, p.305) tells us that the real 'has no meaning because it is not with words we write the real. It is with little letters' he is attesting to the habitual endeavours of man to tie the real to syntax, as well as underscoring an organising principle and a potential solution to foreclosure. Lacan's early theoretical exploration of cybernetics was heavily present in his formulation of the sinthome and his interpretation of its utility in the case of the author James Joyce. 'Lacan wants to demonstrate with his mathemes

and diagrams what Joyce can inform us about the symbolic, the real, and the unconscious' (Liu, 2010, p.121). His particular focus is Joyce's novel *Finnegan's Wake*, which at its most appreciated is classed as a subversive literary experiment and at its least as indecipherable nonsense. I think it is useful prior to discussing Joyce further, to give an example of a piece of writing from the book.

'These paper wounds, four in type, were gradually and correctly understood to mean stop, please stop, do please stop, and O do please stop respectively, and following up their one true clue, the circumflexous wall of a single minded men's asylum, accentuated by bi tso fb rok engl a ssan dspl itch ina, - Yard inquiries pointed out - >' (Liu, 2010, p.113).

Lacan emphasises the sinthomatic function of *Finnegan's Wake*. He refers to him as 'Joyce the sinthome', in that through his publication of *Finnegan's Wake* 'he offers the apparatus, the essence, and the abstraction of the symptom' (Lacan, 2018, p.145). Through its publication Lacan (2018, p.145) hypothesises that Joyce, from the beginning, wanted to be 'someone whose name, very precisely the name, would endure forever'. It is difficult to read *Finnegan's Wake* if one tries to consider its meaning in the semantic sense. Joyce's work is in direct conflict with the 'concrete languages' considered by Lacan to be the bedrock of semantics. This is because in semantics there is a particular interplay between the symbolic and the imaginary. The symbolic ties the imaginary to the law and discourse of the Other which accounts for the inertia in language that sows discord in the discourse. In the process of Joyce's writing 'meaning, in the sense that we would normally give it gets lost' (Lacan, 2018, p.144). The meaning gets lost in the process of symbolisation which in itself brings us closer to the real. Language has been radically reconfigured, engineered in line with the subject's particular mode of jouissance. As previously stated, the sinthome is a device for jouissance and not for meaning, which causes Lacan (2018, p.146) to state, 'jouissance is the sole thing in his text on which we can get a purchase'.

The configuration of letters is embodied in an apparatus (*Finnegan's Wake*) which functions as a device of jouissance, as a direct relationship between the symbolic and the real. Interestingly Shannon, who of course was a key part of the cybernetic movement in the 40's and 50's, advanced a theory of written English being in the realm of pure ideographic symbols. 'In so doing, he assumes a radical rupture between the written alphabet and the spoken language that it supposedly represents' (Liu, 2010, p.109). As such the letter sequences in printed English are 'almost devoid of linguistic meaning, in as much as what is left of meaning is made to migrate to the utopia of mathematical symbols' (Liu, 2010, p.109). It should be said that mathematical

symbols, and indeed syntax, are not totally devoid of meaning if we consider that meaning can be found in sense and the anticipation that accompanies the element of chance. Miller (2011, p.59) conceptualising the reduction of signifiers to functors in the service of jouissance (which appears to have echoes of Shannon) provides a symbolic circuit which he describes as a 'repetition, a disc', lays the foundations for a sense or logic to be extracted from the symbolic ritualisation of the real. This repetition produces a kind of sense in that 'if the signifier always has the same sense, it is due to routine' (Miller, 2011, p.59). If we try to understand Shannon through Miller, and the concept of satisfaction jouissance, routinisation and functors, we could say that the reduction of signifiers to functors, and thus from meaning to satisfaction, is akin to the 'migration of meaning to the utopia of mathematical symbols' (Liu, 2010, p.109). Subsequently, sense and meaning can be retroactively applied or extracted from the symbolic routinisation orchestrated by the numerical elements. The ideographic symbols, like functors, are conceptual, spatial, modular, and fit well with Miller's own interpretation of language as a device for jouissance and not just for meaning. The sense produced by the routine is an important aspect of the autistic negotiation of the social bond and apparently an important feature of ordinary psychosis, if indeed they are radically different structures. This is what lies at the heart of Brousse's theory of the return of the master signifier as numerical elements in discourse. When she states that ordinary psychosis is 'super social' it is because the number, the average, or the ratio represents routine and social order.

To bring this back to Joyce and *Finnegan's Wake*, it is perhaps the epitome of the function of 'language itself as a device for jouissance', which Miller points out, 'leads to a status of the signifier prior to the structure of language, which can be called prelinguistic. It was along these lines that Lacan invented lalangue, woven with signifiers but prior to language' (Miller, 2011, p.56). Lacan (1998, p.143) refers to lalangue as the only place 'insofar as lalangue is investigated qua language, that what a primitive linguistics designated with the term element, can be discerned'. Conceptualised in this way, Joyce's sinthome is a formation of jouissance, written between the real and symbolic as a direct effect of lalangue on jouissance (Soler, 2014, p.132). I would like to note here some similarities between Joyce's neologisms in *Finnegan's Wake* and some of Joey's writing in Bettelheim's hospital. For a period, Joey would recite the word 'chickenpox' in no particular context and could not tell the staff at the hospital what it meant. He wrote the following words on a piece of paper, which Bettelheim referred to as a cryptogram:

CHICKENPOX

ASH CRIMPOX

BONDNAP

LAPBED

ASHTIE

ASTABLISHMENT

ANTERYALYZEM

(Bettelheim, 1972, p.324)

Bettelheim expended a good deal of effort in interpreting the meaning of the written words, but is this another example of the direct effect of lalangue on jouissance, devoid of meaning? The sinthome, according to Miller (2011, p.52), should be taken for the 'unity of a life and not concentrated on the equivocal element that we call the fantasm'. This is clear in Joyce whom, Lacan (2018, p.147) notes, has reached 'the extreme point of embodying the symptom in himself', hence his use of the term 'Joyce the symptom'. It is equally clear in Joey, who gradually developed and embodied his symptom and evolved from Joey the mechanical boy to Joey the electrical engineer.

The Real Unconscious: from fantasm to sinthome

This distinction between the location and distribution of jouissance in the sinthome and the fantasm is an important one, and one that caused Lacan (2018, p.145) to state that Joyce was 'unsubscribed from the unconscious'. What Lacan called the fantasm is the fundamental relationship with jouissance, modelled by the structure of language. Jouissance is in the sinthome, not as a condensation as in the fantasm, but as a functioning (Miller, 2011, p.61). It is this formulation that led to the concept of the real unconscious 'the notion forged and founded by Lacan' (Soler, 2014, p.183). The notion implies a division of the unconscious 'between a decipherable unconscious as language to which the fantasm gives its meaning, or its truth value, and the real unconscious which fixes jouissance to a linguistic element outside of meaning, in itself disconnected from the imaginary' (Soler, 2014, p.183). To say Joyce was 'unsubscribed from the unconscious' is to say that his symptom was not condensed in a privileged location, with a meaning and a truth-value, decipherable as a language. Rather it was a product of the real unconscious 'disconnected from the imaginary where the letter and jouissance are joined without mediation' (Soler, 2014, p.136).

The real unconscious is described by psychoanalyst Colette Soler (2014, p.183) as 'neologic or holophrastic, coming from the effects of lalangue' and that it 'is not a product of discourse'. Interestingly, she also refers to it as autistic, in that it does not lend itself 'to any form of exchange'. She states 'it is autistic, even if not always resistant to the perception of obscure affinities'. Soler (2014, p.132) classifies it as autistic on the basis that it is disconnected from the imaginary and, as such, 'asks nothing of another body'. There is common ground here between Joey and Joyce. They both utilise sinthomatic inventions to tie these little letters, outside of meaning, to a distinctly autistic jouissance outside of any classical conception of the social bond, but not resistant to obscure affinities.

Soler (2014, p.133) points out that the symptom, as well as its function as a sign, 'is also an answer, a solution, always singular, to a failure which is, on the contrary, general'. This would seem to add weight to the potential understanding of science as a successful paranoia, in that it provides a mode of tying the real to syntax as a 'solution' or 'answer', to the generalized problem of foreclosure. It also helps us to understand the attenuation that is possible, and indeed often observed in autism. For example, Soler (2014, p.135) points out that 'Joyce, through publication, established himself as 'the artist' he wanted to be, he thus restored a social bond with his audience that corrected his autistic symptom'. Joey too, can potentially take up a social position by way of his islet of competence as an electrical engineer. Joey, relative to Joyce, is certainly more of the order of autism in the classical sense. However, their distinct symptoms, which seemingly emerge as productions of the real unconscious, tying elements outside discourse to the real in a singular formation of jouissance, have considerable similarities. For example, in both cases we can see language subservient to jouissance, organized in a signifying device that supports it, where the goal is a functioning in the service of producing and routinizing jouissance. Joyce exhaustive linguistic experiment pushes the combinatorial possibilities of language to its limits. As it functions outside discourse, and offers no obvious meaning, Lacan claims that all we can grasp of the text is jouissance. Joyce's books, *Ulysses*, and *Finnegan's Wake* are the supports for the production of linguistic combinations that function to routinise the oscillations or scansion of jouissance within the device. In this sense we can understand both Joyce and Joey's sinthomatic inventions through Lacan's exploration of cybernetics. When Lacan states that 'through cybernetics the symbol is embodied in an apparatus in a literally trans-subjective way', we can find something of Joyce, Joey, Bentham, Grandin and, indeed, of the symptom of the real unconscious.

The process, which in Miller's terms takes the excess jouissance into account, can be isolated in this separation in the unconscious and the change in the status of jouissance highlighted by Miller in his reading of *Seminar XX*. This is of course the 'jouissance that does not write the sexual relation' and which changes the function of the symptom (Soler, 2014, p.131). As such, any understanding or deciphering of the symptom involves 'extricating the specificity of the symptom in so far as it is a formation of jouissance and which of the two unconscious determines it '(Soler, 2014, p.131). Understanding the symptom of the real unconscious is different from the 'metonymic drift of speech that never stops displacing castrated jouissance and surplus jouissance' (Soler, 2014, p.131). Foreclosure demands a different operation which we find in the functional routinisation of jouissance in the sinthome. Where language displaces in the series of signs, the symptom anchors, and fixes (Soler, 2014, p.131). Soler points out that in the seminar on the RSI, 'Lacan wrote the structure of the symptomatic exception as a function of the letter: f(x), f being the jouissance function, x any element of the unconscious that has become the enjoyed letter, which, in contrast to the signifier, is characterised by self-identity' (Soler, 2014, p.132). As such, Lacan determined that the symptom is 'the way in which each enjoys his unconscious' (Soler, 2014, p.132). This (x) is the enjoyed element, which Lacan in *Seminar XX*, states can only be 'discerned' in relation to lalangue and includes the 'lonely jubilation of Joyce squeezing out lalangue when he writes *Finnegan's Wake*', the linguistic reduction of Bentham as he writes the law as pure syntax, and Joey's' embodiment of the electrical circuit and its cybernetic regulation of his chaotic oscillations (Soler, 2014, p.132).

Whilst Joey's utility and embodiment of the machine and electrical science as a means of tying the real to syntax appears quite different from Joycean literature, many theorists have placed Joyce works squarely in the cybernetic arena. Philosopher Jacques Derrida, according to Liu (2010, p.102), offers some interesting 'speculation upon the implications of *Finnegan's Wake* in anticipation of the future of computer technology'. He describes Joyce's works as a kind of 'hypermnesiac machine, there in advance, decades in advance, to compute you, control you, forbid you the slightest inaugural syllable because you can say nothing that is not programmed on this 1000th generation computer – Ulysses, *Finnegan's Wake*'. Derrida, at the time of writing in the early 80's, considers the computer technology of the era to be years behind Joyce's calculations of combinatorial possibilities. 'It's mechanism', he says, 'are of a slowness incommensurable with the quasi-infinite speed of the movements on Joyce's cables' (Liu, 2010, p.102). The idea of a hypermnesiac machine indicates a process by which all possible linguistic combinations become exhausted. Bentham too spent his life constantly listing, categorising and

subdividing everything in a similarly exhaustive process until it 'had been boiled down to the very atoms of meaning, the single digits of thought (Miller, 1987, p.28).

Bentham's nomographic process and Joyce's hypermnesiac machine are apparently both processes driven by 'the speed of mathematical signs' (Miller, 2011, p.59). Derrida attests to this when he says, 'counting these connections, calculating the speed of these communications, would be impossible, at least de facto, so long as we have not constructed the machine capable of integrating all the variables, all the quantitative and qualitative factors' (Liu, 2010, p.103). Media theorist Donald F. Theall argued that Joyce approached his work as a 'mathematical structure, and an engineering problem', and Liu (2010, p.103) states that Joyce 'literally conceived of his work as a kind of machine' and that 'it encompasses several aspects of engineering: chemistry, mechanics, mathematics, geography, and strategic planning'. Hence, we have an example of written work fundamental to Joyce's structure, which resemble the neologisms of schizophrenic speech and are akin to the random production of symbols that might be generated at high speed by a machine. Such an analysis places *Finnegan's Wake* alongside Joey's rectifier, Bentham's panopticon and Grandin's squeeze machine, in terms of the utility of mathematical elements to engineer a solution to the chaos of the real in the absence of the Name-of-the-Father. As such one could place Joyce, as Soler does, in the realm of autistic jouissance, outside of the social bond, as a symptom written between the symbolic and the real. Joyce, like the autist, is in the real, and in language, but outside sense in terms of meaning, and is thus orientated by syntax. Despite it not being immediately obvious, there is a ritualisation of the real in the form of code or the theory of information. In fact, Shannon mentions using the 'statistical properties of the Wake in the course of conceptualising his mathematical theory of communication' (Liu, 2010, p.104).

Cyborg

This symbolic ritualisation of the real can be written as a matheme Sàr. This is the matheme that I will use to denote the autistic mode of the coder and it is concerned with how the symbolic ritualises the real. It is the formulae for one of the 'passions of being' described by Lacan at various points in his teaching, on occasion referring to then as delusions. S◊r is the formulae for ignorance. In *Seminar I*: *Freud's Papers on Technique*, Lacan (1991, p.277) writes 'it is only in the dimension of being, and not that of the real, that the three fundamental passions can be inscribed – at the junction of the symbolic and the imaginary, this fault line, if you will, this ridge line called love – at the junction of the imaginary and the real, hate – and at the junction of the

real and the symbolic, ignorance'. Ignorance is the passion that Lacan (1991, p.277) associates with the scientist and the analyst/analysand couple, stating that 'if the subject commits himself to searching after truth as such, it is because he places himself in the dimension of ignorance – it doesn't matter if he knows it or not'. It is a useful formula in relation to the autistic position of the coder, both as a means of expressing the syntactic coding of the real of the body, as well as the ignorance that does not want to know anything about it, except how it works, such that a pleasure is derived from its functioning. While the schizophrenic body is a body without a discourse, for the autistic coder the body is inscribed at the junction of the symbolic and the real.

It is here, through this mode of orientation, that we can identify and explore the autist's relationship and identification with technology and the machine. I have shown, I hope, the function of the machine in the cases of Joey, Bentham, Grandin and now Joyce. They are all, in their own way, types of cybernetic circuit. Lacan, for example, highlights the cyclic form of *Finnegan's Wake* in *Seminar XXIII: The Sinthome*. 'How can Finnegan's, this dream, be said to be finished, since already its last word cannot help but join back up with the first, the *the* by which it ends soliciting the *riverrun* by which it starts, which indicates circularity' (Lacan, 2018, p.148)? This work of pure jouissance, which emanates from the pages, and is indeed 'all one can grasp', is characterised by the fact that its end point joins up with its start, and thus runs over and over in an extremely complex contained and engineered circuit. This circularity, governed by syntax, appears to not only manifest in the autistic tendency towards systematisation, but also in the autist's complex identification with technology. For example, autistic writer and advocate A.C. Buchanan 2018, p.138), points out that it is a 'well-worn trope that autistic people are like robots, or identify themselves with them' and that this is not always a negative perception or self-identification. 'Sometimes', she states, 'it is part of how we understand ourselves'. This has been a consistent thread in my research, not only of classical cases of autism and schizophrenia, but in the contemporary case studies that I will examine later in this thesis. This complex identification spans many strata but goes beyond the mere utility of technology to aid social interactions for example. Technology and technical objects are more intrinsically linked to the subject's very sense of being. This is the essence of the sinthome. It is a symptom that the subject embodies and which functions as a knot which 'takes within its parentheses, life in its entirety' (Miller, 2011, p.62). As such there is often an experience of merger with technical objects and systems that have been described to me as 'supplementary organs' or 'self-extensions' by autistic coders. Describing her own experience of this phenomena, Buchanan (2018, p.139) writes 'technology is more to me than just a tool. And I'm not alone in seeing my autistic experience as inherently connected to technology, in seeing the dividing lines between self and tools as sometimes indistinct. I'm not alone, either, in feeling affinity to representations of cyborgs, beings whose bodies comprise both organic and biomechatronic components'. This is

the experience of the autistic coder who described himself as a ‘coded individual’. The affinity with technological systems, for him, is grounded in the feeling that he is programmed with the same language. Science and mathematical law are incorporated as the organising principle for the entirety of the subject’s experience, starting with the body. His assertion that he is a ‘coded individual who is coding individuals’ is an important and astute observation because it highlights the fact that what the coder writes today could manifestly effect your subjective experience tomorrow. It is an expression of the relation between discourse and the body, two bodies that continually affect one another.

In this chapter I have explored both the theoretical shift in relation to jouissance, meaning, function and satisfaction, as a way to provide context for the concept of the autistic coder, who doesn’t suffer an absence of meaning, but enjoys a satisfaction jouissance related to the functional operation of their inventions and the calculated predictability that this affords. Through the introduction of Joyce and additional material from Joey’s case, I have drawn a comparison between the two and suggested that Joyce’s work can be compared to a feat of engineering that compares to the autistic coders sinthome, which is a device of jouissance, not meaning. I have also cited the relevance of cybernetic theory in creating a pathway by which information can pass from human to machine in a seamless flow of information. This plays an important role in how the autistic coder routinizes jouissance by directly applying a sign system to the body and underpinning the process of ‘plugging in’ noted in many cases of autism.

Chapter 6: The cyborg and the satisfaction of function

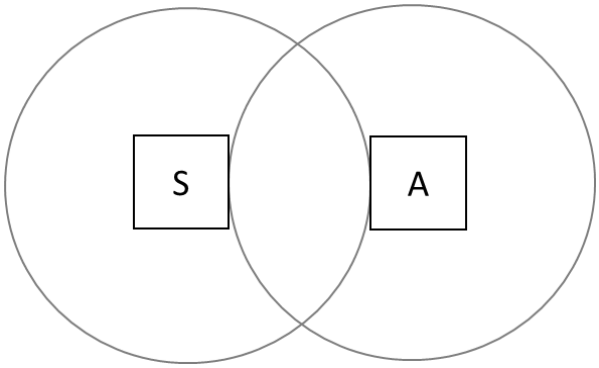
In this chapter I explore the process of 'plugging in' within the context of the body in the teaching of Lacan. Understanding Lacan's theory of the body as secondary, as a symbolic construct, is crucial to understanding what is at stake for the autistic subject when they 'plug in' to a symbolic prosthesis. This demonstrates the relevance of cybernetics explored in the last chapter, which provides highly sophisticated means on directly connecting the organism to a codified system that can represent it in a calculated way. This chapter forms a bridge between my exploration of quantification as a mode or routinizing jouissance, and the case material that I will explore in the next chapter.

The autistic experience cited by Buchanan, of identification with the cyborg, of something intrinsic in her relation to technology, is indicative of the relation of the S1 as it arises as an enigmatic proto signifier in an event of the body and knowledge S2. In Lacan, the body is not something primary, something one is born with. Rather, it is a reality, a construction, something bestowed on you by language. Hence, we can say that it is discourse that 'isolates organs and gives them their functions' (Soler, 1984, p.7). In the castrated subject there is a subtraction at the level of libido, which Lacan positioned as an 'organ' or 'instrument', an instrument that 'goes further than the bodies limit' (Lacan, 2006, pp.718-719). The subtraction accounts for a redistribution. Libido, in essence, 'looks for part of itself outside itself, which ensures an extension of yourself outside yourself' (Soler, 1984, p.12). Such an extension outside the body is only possible due to the subtraction; the fact that something has been lost or removed i.e. the condition for libido is a certain loss. Lacan (2006) uses the example of weaning here, where he is clear that if the infant experiences the breast as an extension of himself that, when it is removed, it is a part of himself that he has lost and seeks to recover.

The breast, for Lacan, prefigures castration. Soler (1984, p.13) points to a small notation at the end of the text 'Position of the unconscious' in which 'he points out that everything he has said in the text on the partial object in its four occurrences, the breast, faeces, the voice, the gaze, can only become intelligible if it is referred to the phallic object'. It is clear, that for Lacan, this subtraction that founds the organ libido as a vector towards the object is identified with the subtraction of castration (-phi) (Soler, 1984). As we know, castration results in a negativisation of jouissance which is subsequently redistributed outside the body i.e. phallic jouissance. Soler (1984, p.13) offers the example of ancient burials 'where objects which are placed next to the

dead, enumerate jouissance in its extra-corporeal form'. This is the jouissance of the drive, which is outside of the body precisely due to the inscription of signifiers which operate by way of the demand of the other, which localise jouissance around anatomical rims and in connection with the object which corresponds to it, but which is an object outside the body (Soler, 1984). This is the object (a), surplus jouissance, or the plus-de-jouir. The object functions as a sort of restoration, or compensation of jouissance. It is a small plus outside the body, which directly corresponds to the negativisation that came before it.

The object, in as much as it is lost and cannot be re-appropriated, is part of a series (- -), while at the same time it is 're-positivised' and 'restores a certain coefficient of jouissance' (Soler, 1984, p.14). As such, the body is orientated by this extraction and the small compensation of surplus jouissance which causes the subject to go on repeating. It is through the process of castration that the order of the drives exteriorises jouissance or, as Soler (1984, p.15) puts it, the drives 'substitute themselves for the full jouissance of the body; in other words, the libido is, in Lacan's teaching, the other name of desire'. We can see here, what is at stake for the autistic subject, who presents with disorder of the drives, jouissance and language. The order of the drives, and thus the body, comes to the subject from the symbolic Other hence, the autistic subject must find another means of constructing a body and of subjectivation. This is where we can locate the commonplace practice of the autistic subject plugging into a machine and the generalised practice of the parlêtre coupling to i-objects. I have commented quite extensively on the case of Joey, but the use of machines is not always as literal. Psychoanalyst Margaret Mahler described the case of an autistic patient called Stanley. Stanley only has two states; one in which he is completely amorphous, and the other in which he is animated. In the former he is completely delibidinised, that is, he shows no aspiration for anything else in the form of objects. In the latter he can become animated by plugging into the Other. Stanley plugs in, either by putting his hand on the therapist or by pronouncing certain words. Soler (1984, p.16) describes this case as 'priceless, because it shows us that the external machine is the Other'. Soler utilises Euler's circles to demonstrate this:



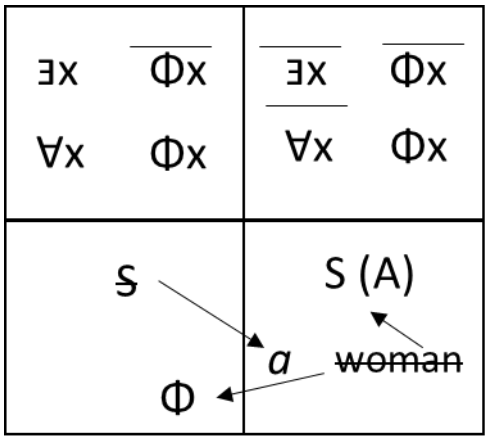
The circles show the child on the left and the Other on the right. They are two circles that 'just touch each other. The signifier doesn't encroach on the body' (Soler, 1984, p.16). Autistic or not, in the epoch of the decline of the paternal function we cannot say conclusively that 'the subject has a body'. As Soler (2014, p.177) points out, 'all subjects have an organism, but perhaps all do not have a body'.

Lacan's theoretical elaborations here allow for an avoidance of the confusion of the object relations theory in which Mahler, and Bettelheim were grounded. Caught up in the idea of developmental phases 'they had no other framework than to assume an organic disorder' (Soler, 2014, p.179). How else would one understand a six-year-old manifesting the level of oral eroticism usually seen in a six-month-old? What Lacan formalises, although his thesis always remained dynamic, is that the machine of discourse has not been incorporated i.e. the condition through which the body is socialised – and thus functions outside 'or rather finds a suppletion in the Real' (Soler, 2014, p.179). The autistic subject is exemplary here, in that they demonstrate so clearly the relation between the supplementary device and the body, something that appears to be becoming a defining aspect of the parlêtre. This is where we can locate Buchanan's (2018, p.139) assertion that her autistic experience is 'inherently connected to technology'. The connection functions at the level of the scientific ritualisation of the Real, an encoding of ones jouissance, of one's body. The autistic body differs from the schizophrenic body in this regard. It is characterised by 'a supplementary organ controlling the organism; instead of a schizophrenic body like an empty bag, it is over-informed, robotised paranoiac body, the cyborg or Terminator' (Cottet, 2013, p.129). The autistic subject does not only plug into the machine, but they also incorporate it. It is interesting that Cottet chooses the word 'organism' and not body. Organism indicates the body in terms of its scientific existence, outside of what could be considered the standard forms of cultural practice in which the body is situated in relation to discourse. The 'over informed' body is, in the real sense, an organ-ism, in that it is situated and organised in relation to a supplementary organ. It is a codification and an engineered expression of the enigmatic jouissance of the body, the theory of which has its foundations in Lacan's theory of sexuation.

Sexuation and the not-all

The importance of *Seminar XX: Encore* in the elaboration of the sinthomatic device, warrants outlining the theory of sexuation in a little more detail. Autism and the concept of ordinary psychosis fall squarely in the clinic of the discourses and theory of sexuation, in as much as 'this

accomplishes the setting up of the 'not-all' in *Seminar XX: Encore*' (Brousse, 2019, p.115). Below is Lacan's formula for sexuation:



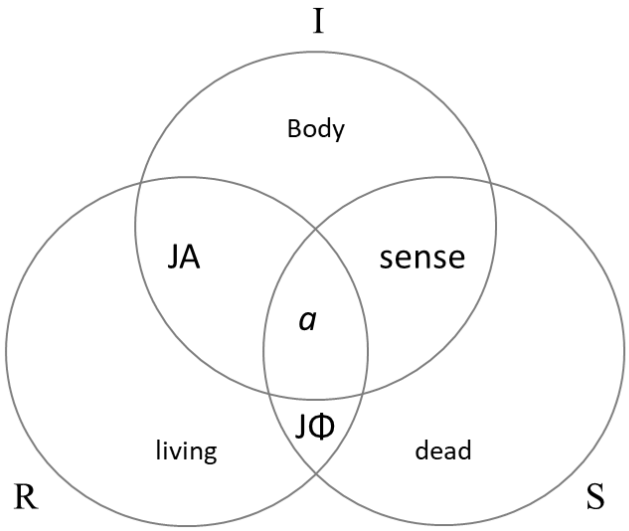
(Lacan, 1999, p.78)

The top four formulae had been a work in progress for Lacan and had already been presented by him in *Seminar XVIII: On a discourse that might not be a semblance* and *Seminar XIX: … or Worse* (Lacan, 1999, p.78). The diagram is divided into two sides, on the left, the male side and on the right the female side. The formula for sexuation appears at the top of the diagram. The 'E' stands for existential quantifier. Existential quantifiers denote finite collections in logic and can essentially be read as 'there exists'. 'V' denotes universal quantifiers and 'phi' for the phallic function. On the male side we have the formula 'there exists an X, that does not fall under the phi of X' (Brousse, 2019, p.115). In other words, there is a form of jouissance that is not subject to castration. On the lower level we have the formula which reads 'that it is through the phallic function that man as a whole acquires his inscription' i.e. a jouissance outside the body and all his satisfactions will come up short (Lacan, 1999, p.79). The masculine position underpins the unconscious fantasy that there is an uncastrated, complete jouissance, thus rendering all available jouissance insufficient.

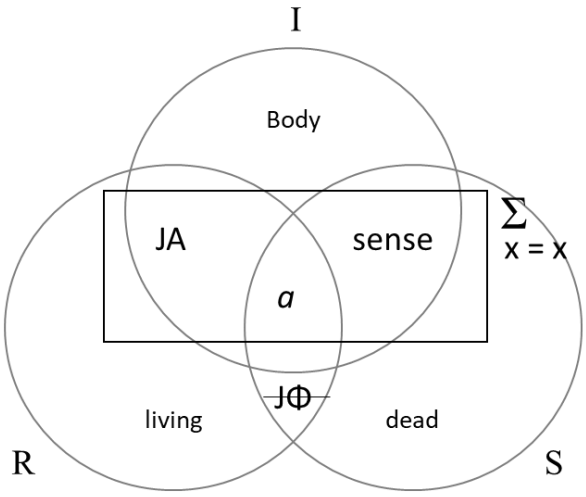
On the female side we have what Lacan (1999, p.80) refers to as 'the woman portion of speaking beings'. The formula of the female side reads 'there does not exist an x that does not fall under the phi of x' and 'for not all x the phallic function is valid' (Brousse, 2019, p.115). It is the second part of this formula that denotes the relationship of the feminine position to the not-all. This is conceptually complex of course. The formula essentially states that there is not any jouissance that is not phallic jouissance i.e. all the jouissance that do exist are phallic. This is because, for Lacan, to exist it must be articulable within the signifying system determined by the phallic

function. This does not mean that there are not some jouissance that are not phallic. Such jouissance, which Lacan termed the Other jouissance, ex-sists. In other words, the Other jouissance is outside signification properly speaking (Fink, 1995, p115). Phallic jouissance, which exists, is therefore subject to symbolic law, can be divided up and attributed defining features. The Other jouissance ex-sists outside of language and outside of its governing rules and principles. This is a jouissance of the body, beyond the phallus. 'There is a jouissance that is her's of which she knows nothing other than she experiences it,' states Lacan (1999, p.74). This is what causes Lacan (1999, p.73) to say that woman is 'not-whole, she has a supplementary jouissance'. There are two important factors here that are highly relevant to autistic structure, scientific discourse and the relationship between the two. Firstly, as I have previously stated, the category of the 'not-all' provides an alternative to the concept of foreclosure, thus diversifying the modes of jouissance with which subjects approach and create reality. Secondly, Lacan (2019, p.107) states that the impossibility of the Other jouissance is the enigmatic field from which science emerges. Science, of course, being based on the letter and 'passing beneath all representation' provides the formula and algorithms to organise and localise the jouissance of the real. We can see here the pathway by which the Name-of-the-Father becomes part of the broader category of the sinthome. What we can also see is the relationship between the Other jouissance of the body, autism and ordinary psychosis and technical research and production (Cottet, 2013).

In 'The Third' and in 'The Sinthome' Lacan (2019, pp.83-109) isolates four modes of jouissance. Phallic (ϕ), the Other jouissance (JA), (a), and sense. All four modes of jouissance can, in essence, be made the organiser of reality. The ordinary psychoses are, therefore, plural 'because in them the chosen mode of jouissance is made the organiser of reality, and this, without recourse to the fantasy, and, consequently, without the relation of desire to the sexual law. Insofar as the objects (a) are not situated in the Other, clinically this produces some noticeable effects, such as the impossibility of producing any loss' (Brousse, 2019, pp.117-118). This causes Brousse (2019, p.118) to position ordinary psychosis as a solution in which 'sexual non-rapport has disappeared in order to give way to common sense, which is a form of countable sense'. The suggestion here is that the 'jouissance of the body, beyond the phallus' is routinised through 'sense', or rather 'countable sense', as the organising mode of jouissance, bringing the letter of science squarely in relation with the real of the body (Lacan, 1999, pp.72-73). Below we can see the knot from the 'The Third' (Guyonnet, 2019, p.127).



In terms of the foreclosed subject, we can strike out the Other as such, and phallic jouissance (ϕ) since the process of subtraction has not taken place. The autistic sinthome can be situated in the interlinking portion that includes the Other jouissance (JA), the object (a) and Sense. The Other jouissance (JA) is the field in which science emerges and sense is the organisation introduced by quantification and mathematical law. The object (a) here represents the autistic object or device, which interconnects the two. In Joey's case the Other jouissance (JA) is the enigmatic jouissance of the body and the field in which science emerges, Sense is the routine, stasis and coherence installed by the laws of mathematics and the object (a) is the place of the supplementary organ that connects the body to its organising discourse or operating system. It is the interconnection of the three that is crucial to stabilise the body, locate the enigmatic phenomena of the real and to situate the subject in relation to a language organ. The fourth knot of the sinthome would thus loop around this interconnection with varying degrees of success.



When this system is highly refined, science (JA) and quantification/countable sense are utilised to produce objects (a) in the form of a series, or evolution of supplementary organs. Conceptualising these components as critical aspects of the autistic sinthome allows us to locate the Panopticon, the rectifier, Grandin's squeeze machine and *Finnegan's Wake*, within a device that interconnects science, quantification, supplementary organs and the body, to constitute a knot that amounts to a structure, a coded body or subjectivation.

Countable sense, meaning and satisfaction

I want to make a clear emphasis here, in terms of the concept of 'sense', or 'countable sense', as Brousse describes it, and meaning. The space occupied in the above knot by 'sense' is occupied, in Lacan's original knot, by the word 'meaning'. There is occasionally overlap between the two in analytic discourse which has the potential to confuse the issue where the autistic subject is concerned. For example, psychoanalyst Veronique Voruz (2012, p.208) states that the autistic subject is 'in language, but outside sense' and that they 'don't have access to the sense of language'. Voruz is talking about the sense introduced by the signifier in its mortification of jouissance i.e. the subtraction associated with castration. Meaning is not a place of solid ground however, a holy grail that some inside language and inside sense arrive at through the signifier. It remains elusive, slipping away beneath the signifier along its metonymic line of flight. Miller (2019(b), p.37) thus describes it as 'the lost object of language', precisely because of the permanence of its flight, which he describes as constituting 'a real of language'. How are we to understand meaning then? I want to cite a passage by Miller here which, while perhaps a little lengthy, is important in orientating us in terms of the parallels between meaning, jouissance and satisfaction, which Miller brings together in his elaboration of the discourse of the master as an apparatus of jouissance.

'Meaning is essentially satisfaction, meaning is jouissance. Nothing decides meaning, I could say, if not satisfaction. What do we call understanding? If I had to be quick about it, I would say that to understand is to be content. Sometimes we are contented with having understood nothing. But to understand has an essential connection with being content. The question of interpretation – the question what does it mean? – opens onto explanations, onto translations extending to infinity. When do we stop explaining? When the other admits to being content. In interpretation it is a case of finding out at which point the subject is satisfied, at which point the question of the meaning of meaning becomes ridiculous. The meaning of meaning is jouissance' (Miller, 2019(b), p.37).

It is not that meaning is arrived at or captured, rather that the subject reaches a point of satisfaction, of being content. For the autistic subject this point of satisfaction could be described in the following way: 'this works therefore I am satisfied'. The concept of satisfaction-jouissance represents a shift in the manifestation of meaning, from the purely linguistic concept grounded in semantics, to a more somatic dimension of satisfaction grounded in routine or functioning. As Miller (2011, p.62) indicates, the interpretation of jouissance is aimed at sense and that 'sense is nothing but the routine of a discourse, the routine of the environment in which you live'. By replacing meaning with the word sense in the knot from '*The Third'*, I am positioning the autistic subject in a more somatic dimension of sense, in which the letter modulates body phenomena, with its ability to dictate the norms and to organise cultural practices. Autistic testimony is consistent in this regard. Grandin, for example, states 'verb conjunctions like 'to be' are absolutely meaningless to me', while 'technical language was as easy as social language is difficult' (Saks, 1995, p.185). I think that Grandin eloquently captures the difference between meaning and sense here. In scientific discourse something makes sense if it can be calculated, and a constant can be achieved. The signifier is potentially disorientating and traumatic, until it can be bolted to a signified or, more commonly in the autistic subject, a specific reference in the form of a sign, the scientific letter being the ultimate it seems. It would perhaps be more accurate to say that the autistic subject is inside sense but outside meaning.

This formulation is supported by Grandin's testimony. The jouissance of the body (JA) is enigmatic and traumatic. It is 'a world of chaos without modulation' (Saks, 1995, p.174). She feels 'excluded from knowledge of social codes and convention' i.e. the Other (Saks,1995, p.184). This is a beautiful articulation of the disorder and enigmatic nature of foreclosure. The laws of mathematics provided some respite for her and she describes technical language as a 'huge relief'. Despite what she describes as the widespread 'derision of her fixation' from those around her, she states that she was 'determined to find scientific validation of her feelings' (Saks, 1995, p.180). For me, this is clearly a statement that brings the letter of science in relation to the real of the body and is at the level of a countable or quantifiable sense, rather than any traditional linguistic concept of meaning. Moreover, this process of calculation is the foundation of an enciphering of jouissance that constitutes a life and thus a routine or sense as Miller would have it. Grandin captures this perfectly when she states 'my life would be horrible if I did not have my work' and that she would 'make science her whole world' (Saks, 1995, p.185). Scientific discourse provided Grandin with the elements for the development of a sinthome which clearly 'takes within its parentheses, life in its entirety' (Miller, 2011, p.62).

We know that there is much about the autist's experience of their body, and of social conventions and codes, that remains enigmatic. It is a consistent feature of autistic testimony. However, the concept of the sinthome functions as a fourth knot, establishing a point of stability which by its nature satisfies. Miller (2019, p.146) points out that in an analysis the initial question 'what does that mean?' is replaced with 'what does that satisfy? In which sense does that satisfy?' The status of jouissance that is one of excess in which the pleasure of homeostasis, in the Freudian sense, is broken off by the element (a) which goes beyond the limits of wellbeing and is replaced by the status of satisfaction-jouissance. This brings jouissance closer to the register of pleasure through the restoration of a superior homeostasis. The sinthome routinises the excess (Miller, 2019). This routinisation is a crucial aspect in terms of countable sense. Brousse, when she uses the term, is highlighting the introduction of sense in relation to the number, and the average introduced into discourse by the Gaussian curve that occupies the place left empty by the Name-of-the-Father. Ours is an era defined by 'the dictatorship of statistics' in which the subject 'embodies the dictatorship of the average claiming to be the norm' (Brousse, 2019, p.116).

I think it is worth clarifying a point concerning satisfaction-jouissance, in that satisfaction and jouissance are connected but not the same. Soler (2016, p.107) points out that 'satisfaction is obviously not the same as jouissance. Satisfaction is a phenomenon that concerns the subject, not the body. Satisfaction is nevertheless a 'response' (Lacan's term) to jouissance, more precisely the enjoyed knowledge of lalangue that speech accommodates'. We could perhaps say that these elements of lalangue, outside of meaning, become encoded in the scientist's inventions and that satisfaction is the response to this enciphering. Lacan (1999, p.118) tells us in *Seminar XX: Encore* that 'the real is the mystery of the speaking body, the mystery of the unconscious', hence lalangue is the locus of the knowledge that affects the body and 'whose effects go beyond anything we can enunciate about it' (Soler, 2016, p.102). As such, the real unconscious is real knowledge - outside of meaning but related to the enjoying substance of lalangue. We can see then, through this elaboration, that the elements of lalangue ex-sist, whilst remaining structurally determinant in relation to the subject's particular mode of jouissance, through which the knowledge is enjoyed. The body, as such, becomes a real production. Lacan is clear about this. He states 'In this real, organised bodies are produced, which retain their form. This explains why bodies imagine the universe' (Lacan, 2019, p.91). The real is only approached through writings and the letter, especially through mathematics. Hence, these mathematical signs can organise, function, routinise, make sense and satisfy but they cannot create meaning in

the linguistic sense. 'The cold fire of the real burns at absolute zero, the zero of meaning' (Brousse & Poliakoff, 2019, p.7).

Bentham

I want to return here to Jeremy Bentham and assume that his was indeed a body not emptied of jouissance. As a reminder, the underpinning axiom of Bentham's (1995, p.2) principles of utilitarianism was that 'It is the greatest happiness of the greatest number that is the measure of right and wrong'. Bentham's concept of happiness was based on an algorithm which governed the relationship between pleasure and pain i.e. a predominance of pleasure over pain. In '*The Principles of Morals and Legislation'* he wrote 'Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as determine what we shall do' (Bentham, Wikipedia, 2021). Let us ground this is Freud and Lacan. In Freud, pleasure is the agreeable feeling of not too much excitation, i.e. the homeostasis of the pleasure principle. Lacan originally 'split the term jouissance from all its associations in the register of pleasure', situating it within the death drive as 'a deleterious jouissance, harmful to the ends of the homeostasis of pleasure' (Soler, 1984, pp.9-12). Hence, we could associate this with the sovereign master of pain. However, what we see in the panopticon, and what outlines its sinthomatic function, is the restoration of a superior homeostasis through a process of calculation. We therefore move from the first status of jouissance, that of excess and the disruption of pleasure, to the second status, which restores homeostasis through the routinisation of the excess (Miller, 2019).

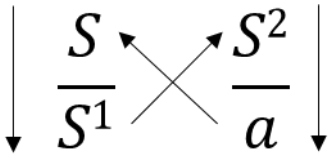
Hence the panopticon is the supplementary machine that Bentham plugged into and embodied, a 'living entity, and his artificial body', with the 'countable sense' of a regulatory code his organising mode of jouissance (Bentham, 1995, p.19). The moral status of any act was therefore subjected to Bentham's 'felicific calculus algorithm' (JA) which attempted to calculate a point of stasis that provided the greatest pleasure to the greatest number through the regulation of jouissance. The law is an insufficient mode of organising and keeping order for Bentham until he codifies it and subjects it to the laws of science. This, while exemplary, is not the limit of Bentham's creativity in addressing that Other jouissance by way of the letter and scientific discourse. When Bentham was just 21, he made a will listing precise instructions pertaining 'to the disposal and preservation of the several parts of my bodily frame'. His skeleton was to be 'clad in one of the suits of black occasionally worn by me and seated upright on a chair under a placard reading 'Auto-Icon''. Bentham suggested that his corpse might then be able to preside

over regular meetings of his utilitarian followers. Here, it seems, in death as in life there is a mathematical formalisation of the body, potentially an effect of the tension between existence and ex-sistence. When Lacan (1999, p.77) states 'Doesn't this jouissance one experiences but knows nothing about, put us on the path of ex-sistence?' he provides a strong orientation here. The Other jouissance is a bodily jouissance one cannot know and thus the body itself remains enigmatic, until such a time that is, that a solution, such as the panopticon, can be determined. One might argue that there is a difference between the foreclosure of the phallus and the beyond of the phallus of course but the point here is that the phallus is not absolute, and the psychotic is no longer the exception. The letter, and scientific discourse, can perhaps carry the body to existence to some degree, although perhaps not as successfully as the Name-of-the-Father. Lacan (1999, p.82) appears to suggest this when he states 'Scientific discourse has engendered all sorts of instruments that we must, from our vantage point here, qualify as gadgets. You are now infinitely more than you think, subjects of instruments, which are becoming elements of your existence'. The autist potentially carries the elementary phenomena of the body from ex-sistence to existence through the algorithm. This is always a process, an evolution, which even in the best of cases always carries a risk of collapse. This is the nature of mathematical language in which 'if one letter doesn't stand up, the others disperse' (Lacan, 1999, p.128). The effects of this are seen in the autistic clinic, as I highlighted in the case of Charlie when his utilisation of the washing machine became prohibited. We can perhaps see in Bentham's 'Auto-icon' an insurance policy for the permanent existence of his body and a memorial to his idiosyncratic formalisation of the real. The term 'Auto-icon' captures the relationship between the real of the body and the letter of science with the formulaic efficiency one would expect of Bentham. His request to have his body present at meetings in which 'disciples should be disposed to meet together on some day or days of the year for the purpose of commemorating the founder of the greatest happiness system or morals and legislation' is a testimony to its function. One could argue that the 'Auto-icon' takes on panoptic qualities in terms of his body watching over 'his disciples'. 'Surveillance', after all, 'confiscates the gaze for its own profit, appropriates it, and submits the inmate to it' (Miller, 1987, p.4). Bentham himself, becomes the 'polyvalent apparatus of surveillance', a point which is perhaps best captured in the glass eyes, which for ten years before his death, he kept on his person so that they may be inserted into his preserved head in accordance with his will (Miller, 1987, p.3).

The capitalist discourse

It is here, at the point of encoding events of the body in and through scientific inventions, that defines the contemporary subject. It is unarguably the standout feature of our epoch 'that each

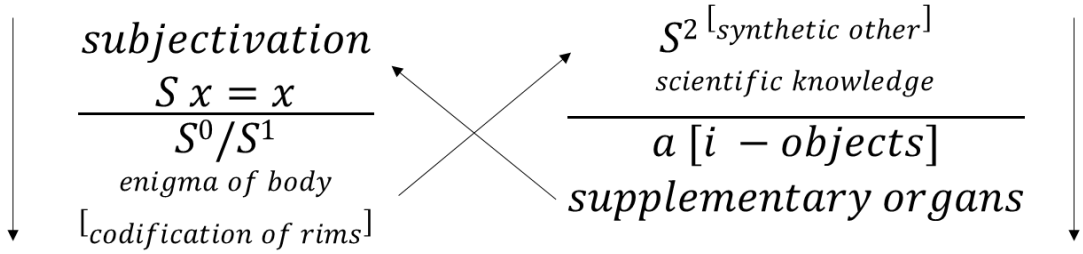
parlêtre has to kit himself out with his own body to adjust it, although never completely, to the real of the drive' (Vanderveken, 2013, p.114). We see the manifestations of this to varying degrees in contemporary society as an apparent bi-product of techno-capitalist discourse. The irony of this era of hyper-connectivity is the isolation it produces, the multi-form jouissance for one, outside of social bonds, or at least classical conceptions of them. This is what Soler (2014, p.183) refers to as 'autistic jouissance'. While she is clear to point out that there 'is no collective unconscious', there are 'collectivised modes of jouissance' (Soler, 2014, p.177). Discourse has always located and structured the body through cultural practice. Female genital mutilation and the 'atrophied feet of Chinese women' are testament to this, so we can situate the subject who connects his body to a machine, within the discourse of capitalism which 'consists in trying to make all jouissances enter into the mad machine of production-consumption' (Soler, 2014, p.177). Lacan laid out an algorithm for the capitalist discourse which perhaps offers an interesting insight into the contemporary subject on two levels. It helps us locate the contours of the singular drive circuits, structured through the repeated condensation and localisation of jouissance by way of supplementary organs, as well as the structural relation between the real of the body and scientific knowledge.



The algorithm forms a closed circuit which is demonstrated by the position of the arrows. The subject here is in the position of agent, who does not address the other, but the truth, which is occupied by the master signifier (S1). In the capitalist discourse (S1) represents the market e.g., Apple or Microsoft. Through the market the subject can address knowledge (S2) i.e. science and technology which produces objects (a) to be consumed. A critical aspect of the algorithms continual running as a closed loop is the 'that's not it' described by Lacan as 'the very cry by which the jouissance obtained is distinguished from the jouissance expected' (Lacan, 1999, pp.111-112). It is this gap between the jouissance obtained and the jouissance expected that prompts the subject to return to the market (S1), the dissatisfaction inherent in the subject's lack being the motor for the perpetuation of the circuit. Lacan describes this as 'a small inversion between (S1) and the subject (S) which is enough for it to run as if it was on wheels, it can't run better, but it actually runs too fast, it runs out, it runs out such that it burns itself out' (Vanheule, 2016).

Foreclosure, according to Lacan, is the distinguishing feature of the capitalist discourse. 'What distinguishes the capitalist discourse is this: Verwerfung, rejection, rejection outside all fields of the symbolic…of castration' (Vanheule, 2016). This foreclosure of the impossibility of totalisation can also be observed in the autistic subject in the form of an attempt to entirely encode the elementary phenomena of the body by way of a supplementary organ. We could think about this in relation to Miller's (2005, p.22) formula for the structure of delusion which brings the elementary phenomena of the body (S1) in relation to delusion as 'a type of knowledge (S2)'. The subject's elementary phenomena function as a truth embodied in scientific invention. In many cases we can observe a genesis in which the elementary phenomena potentially become located in scientific knowledge (S2) which treats their enigmatic qualities (So). For example, when Joey is given a fan, we can see an initial circuit is laid out in which elementary phenomena (the body), scientific knowledge and the object (a) become structurally relevant in Joey's subjectivation. The critical relation here is between the body and knowledge. 'What is at stake here', according to Lacan (1999, p.130), 'is to obtain a model of mathematical formalisation, which is nothing other than a substitution of what is called a letter for any number of ones.' Electricity, it seems, becomes an (S1) operative under an element or letter of the real unconscious which constitutes an encoding of the body. What is of vital importance here is that it subjects jouissance to an organising principle or law. Lacan (1999, p.130) states 'whatever the number ones you place under each of those letters, you are subject to a certain number of laws – of grouping, addition, multiplication etc.'

The capitalist discourse as an algorithm effectively schematises the continued process of refining that can be observed in the autistic subject. In Joey's case the position of (a), which would initially be the place of the fan as a device for the localisation of jouissance, is also the place of the complex tubes and the rectifier. As the supplementary organs (a) become more refined, they have a structuring effect in terms of him realising himself as a subject, and further securing the relation between electricity as a master signifier and the 'real as the mystery of the speaking body' (Lacan, 1999, p.131).



I am not suggesting here that the autistic subject is the direct subjective correlate of the capitalist discourse. It is the configuration of mathemes that I am proposing as constituent of autistic structure. Consumer capitalism is of course based on consumer desire, driven by the subject's lack. My utility of the capitalist discourse algorithm regarding the autistic subject is of a different order in which the critical aspect is how the autist appeals to scientific knowledge to address the enigma of the body. The motor here is not desire but an attempt to codify the real. I want to use the example of Steve Jobs here. Jobs famously said 'Some people give the customers what they want, but that's not my approach. Our job is to figure out what they are going to want before they do. People don't know what they want until you show them' (Mui, 2011). What is aimed at here, it seems, is to calculate through algorithm what is beyond articulation i.e. to give body and to locate that which ex-sists. The drive to predict and calculate is aimed at solving the disorder of the real and is central to science and the autistic subject. It represents a fundamentally Galilean position in that Miller (2019, p.73) tells us 'to say there is something of knowledge in the real is to seize science in its Galilean definition. Galileo's science is not presented as a figure of speech: his point of view is rather that being itself is mathematical'.

The creation of a synthetic Other which is formulated from the subject's favourite subject, or islet of competence, has the potential to aid communication deficits in a localised domain. The efficacy of mathematical formalisation in locating enigmatic phenomena allows the autistic subject to insert themselves into the common discourse of science, often becoming a real source of expertise within their field of knowledge. 'Communication', according to Lacan (1999, p.138), 'approaches what is effectively at work in the jouissance of lalangue'. There is a connection between the effects of lalangue, which presents all sorts of affects that remain enigmatic, and language, which is 'merely what scientific discourse elaborates to account for lalangue' (Lacan, 1999, p.138). Hence the enigmatic elements of lalangue get taken up in scientific discourse and encoded into the autist's inventions. Lacan gives an example of this when he is describing experimentation in which rats are put into a maze. He draws attention to the structure of the maze itself or rather the engineer or scientist who invented it. What is important here for Lacan (1999, p.141) in terms of the status of unconscious knowledge is 'how the rat-unit responds to what has been thought up by the experimenter based on nothing, but on the basis of llangue. One doesn't invent just any old labyrinth composition'. This is conceptually interesting if we think about the autistic coder in line with the experimenter, and the 'induced' autistic mode of the user in line with the rat unit for whom all decisions or illusions of free will are made within the codified parameters of the networked systems that organise society. Temple Grandin is a wonderful example of the autistic coder. She describes finding language difficult until she found

scientific discourse. 'I found the language of science and technology a huge relief. Technical language was as easy as social language is difficult' (Sacks, 2009, p.185). As she developed her scientific vocabulary and with the assistance of language therapy, 'her world of chaos without modulation' began to stabilise. Such were the grounding effects of technical discourse that she declared 'that she would be celibate and make science her whole world' (Sacks, 2009, p.185). Her squeeze machine is an example of an invention encoded with the proto-linguistic elements of lalangue, her enigmatic affect subjected to the precise calculations of her inventions.

Local coherence: regulating affect

'Local coherence' is a term used by many in the autistic community to describe the process by which enigmatic phenomena and affects become subjected to an ordering system. Autist Kamran Nazeer (2007, p.38) describes local coherence as the 'use of objects, rituals, and rules for negotiating the world'. Another autistic writer, Thomas McKean, describes how, like Grandin, pressure against the body can serve to reduce his anxiety and allow him to achieve local coherence. On meeting Grandin, he had been allowed to try her squeeze machine but found the pressure 'insufficient', preferring a 'speedo swimsuit and a heavy sweatshirt' (McKean, 1994, p.67). He also liked to wear a Casio watch on each wrist, not to tell the time, but because the additional pressure that the watch provided helped him to regulate his body. 'It is frustrating', he says, 'when the body does not work as it's supposed to' (McKean, 1994, p.63). Local coherence can be optimised by a system of precise rules with which to negotiate social life. These rules function as an alternative to the machine Other, as a synthetic Other with which to regulate the body. Nazeer (2007, p.38) describes how even simple and random rules, such as 'only talk to people wearing green', can 'help with local coherence'. We can see here the fundamental relation or disjunction between affect, the body and the Other, as well as the rudimentary compensations that seek to formalise or condense the disruption. In *Television,* Lacan (1990, p.23) notes, 'Affect befalls a body whose essence is to dwell in language. Affect befalls it on account of it's not finding dwelling-room, at least not to its taste. This we call moroseness, or equally, moodiness. Is this a sin, a grain of madness, or a true touch of the real?'

How then does discourse situate the body within reality without the compass of the Other? This is what is at stake for the autistic subject in terms of dealing with their affect and achieving coherence and regulation. The autist gives such accurate testimony to the enigmatic qualities of the Other and the chaotic effects of being outside meaning, although not outside countable sense. McKean (1994, p.50) for example, describes 'humanity as one big enigma' yet, through

making detailed 'notes on human interactions', he learnt enough to get by in select social situations. Grandin offers a similar description. She cites Asperger who noted 'autistic intelligence is scarcely touched by tradition and culture' (i.e. the Other) (Sacks, 2009, p.174). She goes on to state that she felt excluded from 'all knowledge of social convention and codes', and instead had to 'compute' and 'algorithm what comes naturally to others' (Sacks, 2009, p.184). This clearly delineates the sense of the Other and countable sense. The autist's body does not dwell naturally in language. How can one be so alien to social convention and codes, and yet have a body that can dwell in language and the reality it constitutes? This is what autistic subjects experience as a lack of coherence. Coherence must be engineered by the autistic subject through scientific endeavour.

Affect in the teaching of Lacan

At this point there is a need to comment on the importance of Lacan's thesis regarding certain affects in the consideration of autistic modes of functioning. I have mentioned the moroseness mentioned by Lacan in Television and will elaborate on it. Other affects of note in autistic subjects are anger, angst or anxiety and enigmatic affects, an orientation of which is important in conceptualising the autist's utility of technology and its systems to achieve some coherence and functioning. Regarding moroseness, Lacan (1990, p.23) leaves us with a question: 'Is it a sin, a touch of madness, or a true dash of the real?' In her book *Lacanian Affects* Colette Soler (2016, pp.83-84) picks up this question and comments on all three positions but, perhaps most interesting in relation to the autistic subject, is her take on moroseness as a 'a dash of the real'. She states 'Unless – and here it is 'a dash (or dollop) of the real' – it is simply the repercussion in the subject of the parlêtres status (or mode) of jouissance, along with the solitary fate created for it by the unconscious' (Soler, 2016, p.83). Here, Soler (2016, p.83) is suggesting that there is ratification that the discord is real, 'a ratification of its inevitability, which doesn't stop being written'. The subject's 'bad mood' is 'the affective translation of a reality that does not suit a subject who does not get used to it. Other subjects might be more inclined to the quietude of resignation or even to enthusiasm' (Soler, 2016, p.84). It seems that there are three responses to the reality that imposes itself on the subject but that does not suit it. There is resignation, enthusiasm and the tendency to 'protest or stamp our feet' which Soler (2016, p.84) relates to anger. This is interesting because all these responses are common in autistic subjects. We can see how, through the process of structuring a sinthome, enthusiasm comes to stabilise and reduce the incidence of 'stamping one's feet' as well as the tendency towards morose resignation. Joey, Grandin and Charlie were all prone to outbursts of anger, low mood and flat affect which gradually stabilised as they appeared to embody their symptom to the point at

which they are synonymous with it. Enthusiasm is a requisite if one is to elevate their symptom to the status of a sinthome.

Anger

This process, in the most successful cases, reduces the wild outbursts of anger seen in so many autistic children. Lacan comments several times on anger during his teaching. In a class given in 1958-59 he states, 'It is hard not to perceive that a fundamental affect like anger is no other than the following: the reality [reel] that hits us at the very moment at which we have constructed a fine symbolic design, where everything is going well: [the social] order, law, our own merit, and our own goodwill' (Soler, 2016, p.88). This perhaps describes the outbursts of anger experienced when one interferes with the autist's relation to their object, to their supplementary and organising system. One could observe the elaboration of a 'fine symbolic design' in the lines of play bricks or toys or indeed Joey's complex systems of tubes and wires, as well as the angry reaction that is provoked when it is disturbed, or no longer suffices in locating the real of the body. I have heard many times the panic and anxiety in a parent's voice when they are discussing the occasional necessity to interrupt their autistic child's process of systemisation.

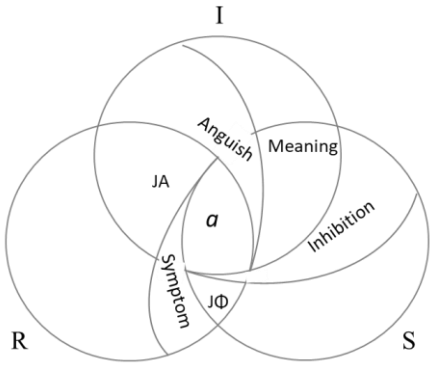
We can also consider anger in terms of the process of evolution of supplementary organs. In 1960 Lacan states 'Anger may require something like a sort of subjective reaction; it always involves a fundamental element of disappointment or failure of an expected correlation between a symbolic order and the response made by reality. Anger is essentially something related to a formulation that I would willingly borrow from Charles Peguy, who said it in a comical circumstance: it is when the square pegs don't fit in the round holes' (Soler, 2016, p.89). Anger thus arises when the chosen device does not work i.e. the expected correlation between the symbolic and the real fails. We can perhaps relate this to the breakages that many clinicians attest to when working with autistic subjects. Both Perrin in her work with Charlie and Bettelheim in his supervision of Joey comment on the breaking of the fans that seemingly functioned as the original supplementary device for both subjects. Soler (2016, p.89) notes 'breakage accompanies anger and that it attacks the very discursive agreements that have proven impotent to satisfy us'. Where satisfaction is linked to functioning, anger can be linked to an interruption or a cessation in functioning. 'The fan no longer seems to suffice', states Perrin (2012, p.83), 'so Charlie breaks the object'. Something, it seems, breaks down in the autistic subject's attempt to construct a symbolic system to organise the real. The 'square pegs don't fit in the round holes' as such. Soler (2016, p.89) describes this as a 'rail against the Other who can do nothing about it, and against the others who embody him, since we cannot sway reality (reel)

itself'. What it opens is an evolution of the supplementary device, a process of refining and of bringing it under control by bringing it in line with the construction of a synthetic Other. Perrin (2012, p.90) comments on this process; 'The necessity of being in control is manifest in autistic subjects whose defence is more developed. Temple Grandin's famous invention, 'the squeeze machine', with its pressure-control mechanism which she went on constantly refining, vouches for this necessity'.

Anxiety and enigmatic affects

Anxiety and enigmatic affects, both prominent affects in autistic subjects, are affects related to the real. Anxiety is the affect par excellence in this regard and indeed Lacan dedicated a whole seminar to it. Anxiety, in essence, does not mislead precisely because it remains moored to what caused it. If we think about anxiety, for example, as the 'unknown as experienced', then it takes anxiety beyond the object (a) which is merely the unknown of the barred Other (Soler, 2016). The real outside of the symbolic, according to Soler (2016, p.41), 'does not speak, has no Other and concerns the facticity of the living being outside of meaning. It manifests itself in varied contexts, running the gamut from those in which jouissance, which goes beyond the subject, emerges outside of meaning, to the effects of the new discourse – science – that forecloses the subject. This is not the same register as anxiety related to the symbolic'. The 'facticity of the living being outside meaning' is an interesting term and integral to not only the autistic subject, but to the notion of a division between meaning and sense. The jouissance of the real outside of the symbolic, and the anxiety it provokes, has no mooring other than the letter of science. It is clear, as I have demonstrated, that this anxiety can be reduced and regulated in some way, although not eliminated of course, through scientific discourse with all its technical applications. The 'facticity of the living being' is in line with Galileo's thesis regarding the idea that 'being is mathematical' (Miller, 2019, p.73).

How is this anxiety experienced by the subject? It arises as a feeling, often overwhelming, isolating and paralysing, 'a feeling of being reduced to one's body' (Soler, 2016, p.42). We can see below how Lacan tried to account for the experience of such anxiety in Borromean terms in his Anxiety seminar (Soler, 2016, p.42):



What is clear in Lacan's configuration is that the anxieties lie outside of meaning but not outside of the body. The real outside of the symbolic does not manifest as a 'Joui-sens', Lacan's term for enjoyment of meaning, which can be linked to the truth sought out in one's biography, life narrative and in analysis (Soler, 2016). Its manifestation is in the affect of anxiety, in the symptom, or both. Soler refers to this as the manifestation of 'a jouissance that is already denatured – in other words, marked and fixated by the very 'moteriality' of lalangue' (Soler, 2016, p.43). The term 'moteriality' is a condensation of 'mot' (word) and materiality and indicates the coming together of two things that lie outside of meaning i.e. 'the enjoying substance and lalangue' (Soler, 2016, p.43). As previously stated, lalangue is real and not symbolic. It is a multitude of elements that convey no meaning 'each being able to receive a plethora of meanings depending on the different linguistic constructions in which they are used' (Soler, 2016, p.43). Science, of course, offers its own 'plethora' of ways of making sense. As I attempted to indicate by placing the sinthomatic knot over JA, (a) and sense, the letter of science and the quantification it facilitates, can form a particular structure or subjective algorithm in which the elements of lalangue are manifest. When the subject refers to him or herself as an automaton, a computer or a cyborg, we are in the ballpark of the mathematical being, where the letter mediates the way in which lalangue effects the body as enjoying substance (Soler, 2016). It is a delusion of calculus.

Ten years after his seminar on Anxiety (1962-63), in Encore, Lacan extended his thesis in terms of affects that are related to the real. He called these affects enigmatic affects; 'they too, attest to the fact that the subject is approaching something real' (Soler, 2016, p.102). Enigmatic affects, 'which are effects of the unknown knowledge residing in lalangue', are revelatory, in that they attest to the irreducibility of the unconscious as lalangue (Soler, 2016, p.102). An enigmatic affect attests to its function as a sign of lalangue when it becomes a mystery to the subject. In talking about elementary phenomena Miller (2005) tells us that all S1's are elementary initially because they do not know what they signify until they are grounded by an S2. Discourse

produces many affects that one could class as standard, in that by organising shared experiences, it also programs shared affects, such as grief for example. 'The individual unconscious and the truth of jouissance that it implies', however, preside over affects not shared with others (Soler, 2016, p.104). We decipher the unconscious as language in a hypothetical way, but the undecipherable unconscious of lalangue is experienced via symptoms and subjective affects that remain incalculable. Therefore, I would say that some affects arise in the body as enigmatic but, as with Miller's invention of delusion, they are located within a body of knowledge governed by the letter of science. Thus, while they remain outside of meaning, they are integrated into a functional and calculated structure that is enjoyed, that satisfies. As such, enigmatic affects attest to knowledge that remains foreign to the subject or more precisely to knowledge that is enjoyed. 'In the enjoying, the conquest of this knowledge is renewed every time it is exercised' (Soler, 2016, p.109). This is a second mode of belief which finds enjoyment of the real outside meaning. It creates a new faith by bringing calculation to the place of the father (Soler, 2016).

Lacan comments, in *Encore* (1999, p.97), that 'The foundation of knowledge is that the jouissance of its exercise is the same as that of its acquisition'. According to Soler (2016, p.111) this 'can mean only one thing: there is neither loss nor entropy. A signifier that has been transformed into jouissance in the process of its acquisition – in other words that has become an element of knowledge – will be enjoyed with the same jouissance (that is without loss) in the exercise of knowledge'. Thus, the elements of lalangue, whether letters or signs, are enjoyed and re-enjoyed without loss. 'This', says Soler (2016, p.112), 'is a different constant than that of the joui-sense-laden fundamental fantasy'. This is a departure from the hegemony of the unary trait/signifier that indexes an experience for the first time, thus producing a loss. This process, as we know, causes object (a) to be subtracted, the loss thus perpetuated in the jouissance of repetition. It seems that the elements of lalangue, in the form of letters or signs, are enjoyed and re-enjoyed in the autistic subjects' inventions, without such a loss. It is the fact that they are enjoyed without loss which perhaps is the critical aspect of the superior homeostasis described by Miller (2019, p.147). Belief in the real unconscious i.e. in knowledge that is enjoyed in the real outside of meaning, is the precondition, 'for one to be able to identify with the symptom, with the constant in which one cannot believe and yet forces itself upon one and is experienced – either in exultation or fascination (in the case of James Joyce in *Finnegan's Wake*) or, on the contrary and more generally speaking, in horror or execration. Unless one manages, in the end, to make it one's own perhaps even with a certain amount of enthusiasm' (Soler, 2016, p.112). This horror and execration can be seen in Grandin, Joey and Charlie, prior to the evolution of the sinthome, which is an engineered subjectivity that is fully one's own. In terms of coherence, this

represents a gradual process, from total chaos and overwhelming affect to a local coherence, which constitutes a temporary localisation and relief, and finally to the refined sinthomatic invention, which constitutes a global coherence that 'takes within its parentheses life in its entirety' (Miller, 2011, p.62).

Coherence

The autist's lack of coherence has occupied many clinicians and academics working in the field of autism. Psychologist Uta Frith, of University College London, developed a theory of 'weak central coherence' to describe the predominant perceptual cognitive style of the autistic subject. This is described as a limited ability to see context or 'to see the big picture' (Wikipedia, 2021). The weak central coherence theory attempts to frame the remarkable and often isolated skills that autistic subjects might have in math or engineering, while having significant difficulty in managing the common aspects of everyday life and social convention. Whilst this can be the case for many autistic subjects, science offers some a unique pathway to a life they describe as 'normal'. We should remove any ideas regarding psychopathology when using the term normal. It is better located in relation to discourse i.e. to the 'dwelling room' within language (Lacan, 1990, p.23). Many autistic subjects working in a cross section of leading STEM organisations have described this process of 'normalisation' to me, which in essence amounts to the evolution from local to global coherence.

Mark, a software engineer who works for a leading robotics organisation, describes global coherence as 'a stability and reliability in all components of life'. Shaun, who is an autistic writer and advocate and runs his own consultancy, describes it as 'a point of stability, which encompasses employment, independence, identity, social life, and most importantly purpose'. He adds 'Many of the autistic people who achieve global coherence may not have even disclosed their autism to their employer. They are so adept at masking and adapting that they make up the end of the spectrum often defined as 'typical techies''. There are some critical points here. The point of stability, which I want to align to Miller's (2019, p.147) concept of 'superior homeostasis' and the numerical constant of the autist's sinthomatic inventions, and the body, in terms of how enigmatic phenomena or affect are situated within knowledge i.e. discourse. What is arrived at, it seems, when one has the feeling of a global coherence, is an identity, a real-isation of oneself as a subject. Where better for the autistic body 'to dwell in language' than in tech hotspots like Silicon Valley or Redmond? Self-identity, after all, is 'not produced at the level of the Other, but at the level of logic. It is in so far as one is able to reduce every aspect of meaning that one is able to arrive at the mathematical formula of self-identity (X=X)' (Lacan, 2019, p.107).

The capitalist discourse algorithm is potentially exemplary in this regard, in demonstrating the importance of the intersection of elementary phenomena, scientific knowledge, supplementary objects and subjectivation as well as the closed circuit through which they continue to act on each other. I am proposing here, the capitalist discourse as another means of formalising the autistic's sinthomatic circuit. It has an effective motor in that, despite the utility of mathematical equations, the autist's systemisation is never complete. In '*Microscopia*' Miller (1990, p.xxiv) states 'A system is called formal when it allows one to reason, at an elementary and supposedly intuitive level, with signs or materials. As a mathematical domain, it is thus translated into a system, S; and one proceeds to demonstrate that it is consistent'. Hence the numerical constant that governs the regulation of electricity in Joey's rectifier functions to bring jouissance in conjunction with a law, situating his body within discourse and enabling a stabilisation of affect. However, scientific formalisation is never complete. In this regard Miller cites the importance of Gödel's incompleteness theorems 'which provide for any and every system which would attempt to formalise arithmetic, an undemonstratable formula. No discovery since 1931 has been more important in mathematical logic than that impossibility, related to the handling of signs which are entirely material' (Miller, 1990, p.xxiv). What this identifies, of course, is that while the autist, and indeed the parlêtre, can 'kit himself out with his body', that there is no complete formalisation of the real. Just as the gap between the jouissance expected and the jouissance obtained fuels a dissatisfaction that drives consumer culture, for the autist the incompleteness of any formalised system, and thus the non-closure of science, perpetuates a process of further calculation. However, these mathematically constructed systems 'built up through developing chains of signifying material' are not defined by dissatisfaction. They are the systems of satisfaction jouissance, 'chains not of meaning, but of enjoyment' (Lacan, 1990, p.10). What is important is that the indeterminacy has something to fall back on in the form of the laws of probability and it is by these means that the excess can be routinised (Cottet, 2013, p.124). The discourse of capitalism and science are discourses outside of meaning and outside of the social bond. The result of this is twofold; anxiety is present in the solitude that capitalism fabricates, and it fails to produce any values that would permit a way of managing this anxiety. Contemporary anxiety is that of a lack of God (Other) which began at the time of the emergence of science. One is thus left with his or her body without any meaning for orientation and it is left to the creativity of the subject to engineer a means of orientating such a position.

We can separate the scientific body, plugged into its prosthetic system, and the body of the Other. 'Won't you feel the difference', asks Lacan (1999, pp.24-25), 'between energy – which is a

constant that can be marked each time in relation to the One, on the basis of which what is experimental in science is constructed – and the drang or drive of the drive which, jouissance of course, only derives its permanence from the rims – I went so far as to give them their mathematical form – of the body?' The constant of signs or materials are utilised as construction materials for 'the artificial production of substitute objects for drive objects by the autistic subject (where the phallic operation has not taken place) which opens the way for diverse forms of coupling with the objects of science' (Vanderveken, 2013, p.114). This comparison by Lacan, between the drives structured by the phallic function and the constant marked in relation to the One, is perhaps a sinthomatic variance concerning the body and the structuration of the rims that localise jouissance. The three components that Maleval (2013, p.47) highlights as constituting the autistic rim i.e. the autistic object, the double and the islet of competence or synthetic Other, are the elements of the autistic sinthome which evolve and interconnect to structure the subject and facilitate insertion into the common discourse. When the autistic subject talks of a global coherence, it is undoubtedly of this order, a mathematical construction that calculates and formulates a body, a functioning and an identity.

The discourse that provides the materials for the construction is the one that allows his body to dwell in language, hence its role in the stabilisation of affect. It is this comfortable dwelling that constitutes 'normal life'. It is the discourse itself and its utility in quantifying a structure without the phallic function, that provides a cultural fabric that both produces and supports the foreclosed subject. This amounts not only to the feeling of having a body, of a fitting in, but also of a 'sense of purpose' in 'coding the world we live in'. As one autistic software engineer told me, 'We are coded individuals who are coding individuals.' It is felt that their scientific productions, in the form of gadgets and the code that operates them, enter the general run of things, structure contemporary reality and, indeed, the contemporary subject. This is not a delusional point of view. It is true that code, artificial intelligence, and the gadgets through which they are deployed organise reality and modify user behaviour in significant ways. It is a strikingly similar view to psychoanalyst Yves Vanderveken (2013, p.116) who describes these productions as taking on 'unprecedented forms that science is attempting to implant in our bodies'. He goes on to describe these objects as 'part of a series that testifies to the fundamental structural operation that produces the subject, constitutes his body and his circuits of jouissance. They are shaping the world in which we live' (2013, p.116). These are objects of the body, objects of this Other jouissance, sinthomatic productions that hook the living body to lalangue, to sense, and to knowledge (Monnier, 2019). The senior director at Microsoft was very astute in his observations here, recognising, in his own way, the function of coder and user as two distinct extensions of

scientific discourse. In the next chapters I will return to the contemporary coder to offer a view of the evolution and development of a structuring which highlights the relation between the body, the object and knowledge.

In this chapter I describe how the non-incorporation of the machine of discourse leaves the autistic subject seeking an alternative means of coping with the enigma of the body and the field of unregulated jouissance. I use this as a way of understanding the autistic subject's frequent affinity with machines, using the specific example of one autistic writers' identification with cyborgs. The cyborg beautifully illustrates the cybernetic system and the way in which the autistic coders inventions functions as supplementary organs, furnishing them with a body, part man, part machine. I have attempted to demonstrate the utility of these organs in cohering the subjecting and regulating surges in affect experienced as pure sensations of the body. The autistic coders sinthome functions as a type of codified exoskeleton, representing the body in the form of data and scientific discourse. In this sense it remains an organism, but an organised one.

Chapter 7: The Exoskeleton and the codification of the body

Over the course of the last six chapters I have attempted to build a structural picture of a particular subjective mode of jouissance, which I have called the autistic mode of the coder. In chapter one I have referred to the cases of Schreber and Joey, in order to demonstrate not only that clear distinctions can be drawn in terms of modes of foreclosure, but also that a clear understanding and elucidation of any such modes can only be developed in relation to case material. Similarly in chapter three, I introduced Bentham, not only to further develop the characteristics of the mode of the coder, but to demonstrate the presence of such a mode across epochs, while showing how it is influenced by, and indeed influences cultural practice. This has been important in order to provide a theoretical framework in which the idea of an autistic cycle, as it relates to science and technology, can be considered. In the next two chapters I will utilise contemporary case material gathered from the time I spent with autistic coders at Microsoft as part of my research for this thesis. This material was really a starting point for the thesis. It is from this material that I considered the mode of the coder as a particular mode of jouissance and a cultural response to foreclosure, emerging as an extension of techno-capitalist discourse. From here I worked backwards, seeking to ground the material and any justification for a particular subjective mode through the weaving together of Lacanian theory and historical case material.

My justification for including this contemporary material is to situate the mode of the coder in the 'here and now', of our everyday lives and cultural practices. I hope it brings to life the mode of the coder and demonstrates how this mode both expresses and advances techno-capitalist discourse and cultural practice. It is important to point out that in the development of what might be called a 'collectivised mode of jouissance', that I am not abandoning the ethical position of the one-by-one approach. This is a central tenet of psychoanalysis, particularly in the Lacanian field, and provides a crucial counterpoint to the statistical taxonomy of disorders that dominates our psychiatric landscape. What I am hoping to achieve in the inclusion of this material is to preserve the singularity of the subject's mode, while also outlining the collective aspects of its structure. The material included here has all been publicly presented and shared in various forms by the individual themselves. It was gathered at the Microsoft hosted 'Autism Research Summit', at Microsoft HQ Redmond in 2019. Both cases presented their stories to the summit audience, and to a smaller group of researchers for additional Q and A. The

presentations formed part of a feature called ‘Tech in my life and my life in tech’, which really befits the autistic mode of the coder.

The cybernetic self

For the autistic coder, the idea of implanting technology into the body or of having a technological extension to the body in the form of a supplementary organ, is simply a condition of utilising mathematical law as the organiser of the body and of reality. Lacan’s distinction between the body and the organism is interesting here. Organism is a scientific term that defines the body as a biological system prior to the adoption of cultural bodily practices bestowed on it by discourse. I have argued, in this thesis, that the autistic coder utilises scientific knowledge to constitute his body and to ground or code the enigmatic phenomena that arise in it. However, in many ways the autistic subject seeks to maintain and identify with the body as organism, as a set of systems that can be calculated, numerically expressed, predicted, modified and debugged. It is this understanding and representation of the body and self that allows the subject to create new ways to merge with technology and for information to flow between organism and object. An idea that has come up regularly during conversations that I have had with autistic coders is that the merger with devices extends the subject beyond the limits of the body. That they can exist, in essence, as an extracorporeal body of information. For example, there is the idea that through AI and artificial neural networks, the subject’s opinions, beliefs and decision-making processes can be learnt and replicated to such a degree of accuracy that the subject could continue to function, to run a company and to represent themselves beyond the organic death of the body. To a lesser degree this manifests in the idea of debugging, of correcting through technological implants degraded, dysfunctional, or broken parts. In contemporary science there are many examples of this, from the humble pacemaker to the brain prosthesis that connects the brain directly with a technical interface and has allowed, among other things, a quadriplegic pilot to fly a fighter jet. For science to capture something of the real within its systems of signs and formula, the body must first be reduced to a body of information, systems and processes. It must be calculable, so that its function can be understood and optimised and so that dysfunction can be corrected. The scientist ultimately sees all aspects of subjectivity as calculable, even states of ecstasy and bliss, which have neuro-correlates, the replication of which will produce identical states of emotion or affect (Metzinger, 2010). These are states that Lacan attributed to feminine jouissance, to the Other jouissance of the body, yet through science there is the socially sanctioned delusion that they can be apprehended, captured and held in place by algorithm.

The case studies that follow exemplify the process of the autistic coder apprehending the Other jouissance of the body, of formalising it and making of it a body of information. As part of my research for this thesis I have spent considerable time with autistic adults from several organisations, including, Microsoft, IBM, SAP, EY, JP Morgan and Google. I also work clinically with autistic patients in both the NHS and private practice. It is important to point out that the material I am using in the following case studies does not come from my clinical work. Both case studies document the experience of successful autistic professionals, who have negotiated quite severe childhood symptoms and have gone on to achieve a high level of social and professional integration. As a matter of ethical practice some names and details have been changed to preserve the subject's anonymity. The information and experiences documented in the following case studies have been collected over a three-and-a-half-year period, both in person and over the telephone. I have also shadowed both subjects in their work and social environments in the UK and in the US. I have included biographical information in both cases because I think it is important to contextualise the trajectory of the individuals' inventions, the development of their skills, and the evolution and structuring of their identity.

Josh

Josh is a 26-year-old software engineer who works for a world leading robotics organisation. I have been documenting Josh's experiences for over three years, across two countries and two organisations. Josh lives independently with his girlfriend and his dog in the United States. He has a formal diagnosis of Asperger's syndrome and describes himself as 'aspie' or 'HFA' (high functioning autism).

Flow

Josh was born in Redmond, Washington in 1984. His father is an oncologist and his mother is a data scientist working in medical research. As is often the case with Asperger's, his developmental milestones were relatively normal. He learned to walk at just over a year and began talking in babble and monosyllables shortly afterwards. He began attending nursery at a year old when his mother returned to work. It was at about 18 months old that Josh started to demonstrate behaviour that the nursery classed as antisocial. He did not show a particular interest in playing with other children, which in itself is unremarkable at that age, but he became quite possessive and obsessive about a waterfall discovery table that they had at the nursery. The nursery reported to his mother that he would play with it for hours on end, become irritable when they tried to take him away from it for story time, snacks or lunch and would lash out at

other children who tried to play on the table with him. After some careful negotiation, Josh accepted specific time slots to play with the water table and reluctantly let other children play with it in between. He would sit quietly and wait until it was his turn to play with the table again.

At home Josh was similarly happy playing alone. His brother was two years older and, while he would engage with him, he showed little interest in playing with him. His love of water emerged there too. The family had a small pond which had two elevated mini pools running into it. Josh's family had purchased a waterfall discovery table like the one that Josh loved so much at nursery. By two years of age Josh had taken it apart and would use the parts to divert the flow of water from the elevated pools, through his own system and down into the pond. The waterfall table worked by pouring water into the top, which would then filter down through several cups that would tip when the water reached a certain level. The water would make its way through the cups until it reached the pool at the bottom.

'I don't actually remember the water table at nursery' Josh tells me. 'My mum told me about that. I basically took it over and defended it with my life. I remember creating water systems at the pond though, even in a Washington winter. My Dad would have to spend hours sat out in the rain, because he was worried that I would fall in the pond. It was only about 50cm deep but I was pretty young. I actually loved it when it rained because it increased the flow of the water'.

The pond was providing an escape, for both Josh and his parents, from his increasingly difficult behaviour at home. By three and a half he would have severe tantrums at any number of triggers

including, but not limited to, unplanned visitors including delivery drivers, trips to the supermarket, dentist, nursery, shopping malls, requests to stop his activities for food and the phone ringing. Such situations made Josh extremely stressed and following an often-explosive outburst he would either pull his mattress off his bed and lie underneath it or would sit behind his bedroom door and rhythmically bang the back of his head against it. 'I don't really remember the really wild tantrums' says Josh. 'I was a bit too young. But I remember, when I was about five, getting really stressed out about going out to various places. I hated the doorbell going when we weren't expecting anyone as well. By that time I didn't have a tantrum, but I remember lying under my mattress because it calmed me down. I also had this water-engineering book I found in the library. We hired it out so much that they let us have it for a dollar. It had this section on organised and logical flow with loads of detailed drawings and pictures. I would try and replicate some of them with Lego. That was my happy place. When I had the book and some Lego, I was calmer, and Mum could take me places.'

We can see an early developmental pattern here that is consistent with Joey's, Grandin's and indeed many autistic subjects. There are issues with emotional regulation, resistance to change (a taste for order), social interaction and communication and sensory processing, which can be regulated to a certain degree through the utility of a primary object, device or system. There is, in fact, an interesting theme that connects Joey's rectifier, Grandin's animal systems and Josh's water systems, and that is the control and regulation of flow. Flow of electricity, flow of livestock and flow of water. There is a correlation between the regulation of flow through engineered systems and the regulation of what Maleval (2012, p.45) refers to as the subjects 'vital energy'. We can link this, of course, to what the subject experiences in terms of libido, jouissance and affect, which as previously discussed, present issues for the autistic subject. Without the mortification of jouissance through the signifier, the subject experiences a formless surge of affect and emotion. It is perhaps not surprising then, that systems which offer calculation and control of flow appeal to the autist seeking a means of regulation. What is important here, it seems, is the function of the system as a metaphor for jouissance and the body to the point that it operates as an external embodiment of it, a cybernetic extension that is simultaneously internalised as a system of regulation. The appeal of engineered water systems to Josh was the fact that it offered him a varied and intricate system of control, with his levels of dynamism and affect being regulated in line with the volume of water and rate of flow within the system.

'The more I learned about water systems, the more it became a scientific process for me. I would calculate exactly how much water I needed to put in to just tip the cups in order to achieve a really slow flow that could make it to the pool at the bottom. I would record the volume in

relation to the speed of the flow through the system. A fast flow, where all the cups were clicking over rapidly one after the other, gave me a massive rush. If I was feeling really anxious or overwhelmed, I would put in just enough water to produce a really slow and rhythmic turning over of the cups; click, click, click. It would calm me down, my heart rate would slow, my breathing would flatten out and my skin would stop tingling'.

This is a wonderfully articulated example of the importance of calculation and control in the system. Grandin makes this clear when describing her squeeze machine. 'It is essential', she explains, 'to keep it always under control' (Maleval, 2012, p.45). It is also no coincidence that the control panel on the washing machine is of key importance to Charlie (Perrin, 2012). The calculation and precise measurements of water is an important feature for Josh, in a way that demonstrates not only the importance of control, but also of function in relation to the sensation of satisfaction. 'If I overfilled the system and there was a lot of spillages, it would trigger an outburst of anger and I would sometimes break the machine', Josh tells me. There is a fine line here between the satisfaction and 'ecstasy' felt by Josh when the cups were rapidly clicking and flowing without wasting any water, and the anger elicited by miscalculation, in what amounted to the deregulation of the system. This observation isn't lost on Josh, who tells me that 'precision and efficiency' have always been of primary importance in all his systems. We can, in fact, see in all the systems previously discussed, the correlation between precise calculation, function, satisfaction and jouissance. It became a life's work for Bentham to continually refine his panoptic science so that an entire populous could live within a state of 'superior homeostasis' (Miller, 2019). A process that required meticulous calculation, governed through precise laws and the perceived effects imposed by the optics of any given punishment (Bentham, 1995). We can see in Josh's earliest inventions the utility of calculation in the regulation of the body, with the number coming to the place of the signifier to impose some order. In essence we can see a numerical distribution of jouissance in a relatively rudimentary system. Through recording the volume of water and the time taken for it to travel through the system, Josh produced numbers and a working method that he directly associated with the regulation of his body. This is of no surprise of course, as the utility of science in the coherence of the subject is based entirely on its function as a system of logic and calculation. A lack of precision undermines the order, regularity and predictability that the autist seeks in their metricising of the real. This is a sinthomatic gnomon, making a 'knot between this jouissance of the body 'drawn' from within the body by which it is sustained, and the jouissance of the object 'extracted' from upon the body. In this respect, it 'replaces' the phallus and authorises a logical extension by which feminine jouissance subverts the distribution of the sexes' (Monnier, 2019, p.132).

Cuff

However, as we have seen in previous case studies, the earliest incarnations are superseded in a process of evolution and increased precision, which in many cases produces an islet of competence and increased function for the subject. Josh is no different here and, between the ages of six and seven, started to lose interest in water systems and would break them in frustration with increasing frequency. This coincided with a regression in his emotional state. 'It became harder to go out again. I became more withdrawn. I don't really know what happened. The water systems just stopped working for me'. Josh struggled for over a year, spending more time alone in his room, until a visit to his dad's office introduced him to a new device that would change the trajectory of his life. 'I remember it really well' says Josh. 'It was really unusual for me to go anywhere without planning. But I had always wanted to go to Dad's work. One day he had to go to the office to pick something up and he asked if I wanted to go. I remember sitting in his office and asking him what this machine was. He explained that it was a blood pressure machine and asked if I wanted a go. I put my arm in it and remember feeling calmed by the pressure on my arm. The numbers on the screen mesmerised me. What does this one mean? What does that one mean? I had the cuff on, the pulse oximeter on my finger. I was following all the readouts and I was just hooked'. The pulse oximeter is a small device that is attached to the finger which monitors the amount of oxygen carried in the blood. In sends two wavelengths of light through the finger to measure both pulse rate and how much oxygen is in the system. 'I could never explain my feelings, or even understand them. In fact, it made me feel worse when someone asked me about them. I would get worked up and start rocking, and mum would say 'tell me what's wrong. Use your words.' But I didn't have them. The readouts were a means of communicating what was going on in my body. HR up, BP up, often meant I was stressed or anxious. Just using the machine would relax me. Or if I was feeling flat, I could use it to re-energise', says Josh.

This is not a radical departure from the water system inventions created by Josh, but we can perhaps see that its application is more direct and its calculation more precise. The readings are now a direct representation of flow and pressure within his body and function as a system of signs for Josh, which represent the body as a quantifiable system. This appears to elevate what ex-sists in relation to the body in terms of jouissance and affect and brings it within the countable sense of scientific discourse (Brousse, 2019). Anything that the numbers allowed Josh to communicate regarding his body was certainly not of the order of meaning. There is no doubt, though, that within the medical discourse by which Josh was introduced to these machines, that

the human organism is approached through the number and the sense that it provides. Doctors, who consider things like spirituality and holistic healing, are often ridiculed and professionally marginalised. Medical devices and bio-medical discourse became sense machines for Josh, governed by precise algorithms that represented the body in a system of signs, which are infinitely less traumatic it seems, than the endless metonymic drift of the signifier (Miller, 2019). His bodily states became related to a numerical system, propped up by a discourse that made sense of them. This provided Josh with the foundations of a system that could locate phenomena that Miller might class as elementary (S1), within a body of knowledge (S2), that comes complete with its own formulaic system of calculation. It is perhaps interesting that Josh clearly remembers his Dad telling him 'life and death is all in the numbers'. From an oncological perspective this represents truth of course. Chemotherapy protocols, and indeed one's chances of survival will be calculated and weighed based on any number of readings in relation to one's biochemistry. Josh's perception of this is that knowledge of one's body is numerical.

I have already stated how, for Miller (2005), this knowledge is a kind of delusional structure. For the neurotic in analysis for example, there is an insinuation of what Miller (2019, p.152) calls the 'lying truth', where a 'rationalisation' takes place and a rational lie is superimposed on the absurd. It is a 'lie that makes sense'. Miller is referring here to the process that unfolds in analysis. 'The truth operation that gives meaning and reason to the case, to what happens, to what falls into your life, to what you stumble over' is, in fact, a 'lying operation' (Miller, 2019, p.152). Here we can see again the subtle difference between sense/meaning and countable sense/quantification. When the subject's jouissance is mortified by the signifier, the symbolic order 'captures what is not organised and imposes order on it' (Miller, 2019, p.151). The 'lie that makes sense' i.e. that gives meaning, is arrived at when the subject is satisfied with the rational lie, and no further explanation is needed (Miller, 2019, p.152). There is argument for a similar process in terms of the autistic coder's ritualisation of the real, in that, through mathematical organisation a point is arrived at that satisfies and requires no further explanation. Science can be imposed on one's body and experience as a rational lie, its axioms utilised as the foundations of a sinthome which, like the Joycean sinthome, perhaps goes to the best of what one can hope for in an analysis.

Josh's father allowed Josh to take one of the small mobile blood pressure devices from the hospital and for the next 6 months it went everywhere with him. 'I would use it in the car on the way to the supermarket, at school, when we had guests at the house. I could regulate the blood flow and pressure in my own system. If I became anxious or had a sensory overload, I could put

on the cuff, inflate it really tight and bring the numbers down'. What Josh experiences, we can assume, is this excess jouissance of a body not emptied, which disturbs the homeostasis that Freud aligns to pleasure. In terms of affect, it is affects that relate to the real, especially in terms of anxiety and affects that remain enigmatic. Such bodily events arise at a type of proto signifier (S1), disconnected from a signifying battery (S2) that might ground and orientate it. As such it remains enigmatic and traumatic, until that is, as we can see in Josh's case, it is localised within a system whose precision prevents any sliding whatsoever. The blood pressure cuff names something of the real. The little numbers that come up on the machine are real, and this representation renders all kinds of therapeutic and regulatory effects. At this point we can see the basic components that I am proposing form the autistic sinthome, although it is still in a relatively rudimentary form. Science (JA), countable sense/quantification and a device (a), offer a basic system for local cohesion. What emerges in the real of the body is less problematic when it is connected to a reference point or, in this case, a data point. What is particularly interesting is that the utilisation of the machine on its own is limited in terms of what it can achieve. What really characterises its sinthomatic potential is the scientific knowledge (S2) that underpins its functioning. The 'relief' of scientific discourse, described by Grandin, allows the subject to take up a position in a discourse in which they can orientate themselves and is a fundamental aspect of the autistic subject's identity. Thus, the process of refining the sinthomatic system involves the assimilation of the body of knowledge that supports it. It runs like a traceable thread, or gnomon through the subject's process of structuration. As Grandin tells us, 'when adult high functioning autistics have a job, they often have work that is in the same field of interest as their childhood fixations' (Grandin, 1986, p.146). The knowledge that is assimilated in such fixations provides the material for increased refinement of the subject's inventions.

Josh attests to this. 'The cuff was great. It really got my anxiety under control. But all the machines at the hospital got me excited. I really fell in love with data there. You could understand everything that was going on with a body through these machines. I got super interested in biodata and particularly machines that you could wear that could provide constant feedback. I moved on from the cuff after a time because Dad gave me his Garmin GPS smart watch. That generated data and linked to a software program that analysed it and configured it. Average HR, distance travelled, elevation covered, sleep patterns, calories burned, HR variance. I wore it everywhere and read about the technology in every spare moment I had. I was seven or eight, but from then on I was just mono-focused on the technology'.

Functional systems and their structuring functions

What can be seen in many cases is that the subject finds a system that consists of several components and, as such, provides some traction in terms of long-term stabilisation and creation. The components include a body of scientific axioms (S2), a supporting discourse, a means of calculable organisation that is extremely precise, the potential for the development of an islet of competence, and the potential for an evolution or refinement of any number of supplementary organs that function as an extension of the system. Function and satisfaction go hand in hand here. The functionality of any given system is determined by the consistency and precision of the results it yields. Inconsistency and a lack of predictability often renders a system dysfunctional, whether this is a mechanical system or a familial system. This is what elevates science to the level of organiser par excellence for the autistic subject. The desire for sameness and predictability, the core components of systemised functionality, can be met and contained entirely within the autistic's functional process of systemisation. Charlie's washing machine supersedes the fan primarily because of its control panel, which allowed for the calculable regulation of flow and pressure within the system (Perrin, 2012). Grandin too, finds a means of calculating pressure to regulate overwhelming jouissance and affect, which would form such a crucial part of her livestock systems (Grandin, 2006). Grandin, as we know forms an islet of competence, gains a professional status and a stabilisation of jouissance, affect, and identity, all of which evolved within a particular method of engineering. The local cohesion of affect and jouissance achieved by the squeeze machine evolves relatively quickly into a subjective status and a means of global cohesion.

For Josh, the blood pressure cuff is the point of traction, precisely because it calculates the body, and thus for him represents and stabilises what had previously been overwhelming and enigmatic. The blood pressure cuff is an inherently functional system that precisely calculates the pressure within the venous system. It is the efficacy and reliability of this algorithm that renders it functional and satisfies Josh. From this point on, biotechnology provides a highly functional body of knowledge that facilitates a structuring evolution in Josh. The blood pressure cuff and the Garmin watch were the first two supplementary organs derived within this sinthomatic system. Josh's 'mono-focus' on the science demonstrates the assimilation of knowledge that will constitute a synthetic Other and an islet of competence.

'I got super interested in math and coding', says Josh. 'I liked to use the cuff and the Garmin, but I have always needed to know how things work. I process and learn this stuff really quick. I think I was putting together basic data fusion algorithms within a year or eighteen months. It was data

fusion algorithms, Kalman filters and that sort of thing that I was really interested in. The better the filters and fusion algorithms, the more defined the output'. The data collected by the various sensors that are woven into all number of wearable technologies is complex and multidimensional. Data fusion techniques are utilised to provide what Josh refers to as 'meaningful representation' of the data obtained from the sensor outputs. There are two fundamental components required for this process. The first is the methods of calculation, for example the Kalman filters mentioned by Josh. A Kalman filter, according to *Wikipedia* (2020), is an 'algorithm that uses a series of measurements observed over time, containing statistical noise and other inaccuracies, and provides estimates of unknown variables more accurately than those based on a single measurement alone'. For Josh, one has to assume that the sensors collect the raw data including the 'statistical noise' and 'inaccuracies' that represent real enigmatic phenomena of the body as an unregulated organism. The Kalman filter takes the chaos of inaccuracy, the unpredictability of statistical noise and the enigma of unknown variables, and calculates accurate estimates, which in essence produce signs that satisfy and with which Josh is content. This mirrors the linguistic operation carried out by Bentham, where the statistical noise of ambiguous legal discourse was eliminated through a codification process. One would struggle to separate this from the Gaussian organisation of the social described by Brousse (2019). Over the next four years Josh started to construct a life and an identity from his love of math and coding. 'I joined the mathlete program at school', he says. 'We would have different math problems to solve, which I loved. I also joined a coding camp run by Microsoft. I loved going there. I learned a ton. As quick as they could teach me, I would learn it. When I got to college age, I bypassed it and did an internship there. I spent six months testing at X box, before I got a job working in affect technology. I spent about three months working on an emotions communication project before I got the dream job in R and D working on biometric technologies'. I have moved relatively quickly through this phase of Josh's life, to focus on the production of advanced technologies and his working life. However, we can see how the cuff and the watch are both supported by the same body of scientific knowledge, which he assimilates rapidly, acquiring an islet of competence with which he could identify and build a life. What initially starts out, as a system that produces functional data that represents his body in numbers becomes a means of structuring himself as a subject. There is a stabilisation and structuring of the body that holds, and furthermore within the rubric of the body of knowledge that supports it, there is a level of stability and subjective functioning that often belies the subject's early autistic symptoms. Global coherence is in fact subjective coherence and is achieved, or rather experienced, at the point in which the sinthome reaches its most functional point in terms of its subjective knotting.

What is clear in Josh's case is the incremental correlation between increasingly functional computational systems and the stabilisation of the body, jouissance, and affect. For example, Josh recalls the period of time when he was transitioning from the blood pressure cuff to the Garmin, which coincided with him learning to code, with the falling away of other stress responses used for local cohesion. These included tics, repetitive movements, and head banging. The tics would manifest involuntarily when Josh became stressed, at which time repetitive movements like rocking or hand flapping would help him to calm down, regulating his emotional and sensory overload. Extreme stressors could result in head banging, which allowed him 'to shut out the whole world'. However, discovering a means to represent the body as a quantifiable system, subjects the body to an ordering system. 'By the time I was into the coding club and math program at school, I wasn't really suffering from tics or stimming as much. I had a system for self-regulation by then, using the biotechnology. I also had a lot of friends through the clubs, something I had never had before. I had sleep overs for the first time, although only at my house, and we would sit up until all hour's coding, and hacking'.

The process of stabilising and structuring the body through a type of prosthetic symbolic system also functions as a conduit towards social life. Socialising in a domain that made sense to Josh, in the form of math and code, didn't provoke the anxiety of social situations governed by rules and expectations that he did not understand. It also provided him with a focal point for obsessional fixations and thoughts, which manifested in OCD like behaviour and procrastination. For example, Josh had obsessional thoughts about even numbers and balance. 'If I touched something with one hand, I had to touch it with the other to equalise it. TV volume etc. had to be on an even number. I am a very visual thinker, and in my head, I would visualise non-symmetry as disordered and unbalanced. Even things were symmetrical and visually calming. Equalisation and symmetry were a regulator and a means of ordering things. I did this less with the cuff, and I don't think I did it at all with the Garmin. Firstly, I wasn't as anxious, and my thoughts were generally always occupied with the coding or math problem that I was working on'.

Josh recalls that his overall performance at school improved significantly in line with his newfound passion. Josh shows me a section from an old school report. It reads, 'Josh's use of gestures, facial expressions and body orientation appears reduced. He appears to have an innocent lack of awareness of social niceties, which sometimes causes him problems. His hands are always covered in pen writing and scribbles. He has a strong preference for familiar routines, and constantly taps things, fidgets, and rocks on his chair. He is restless and easily distracted and is sometimes mocked by his peers about his lack of social skills and coordination. He is extremely

gifted in math and chemistry'. This is perhaps as clear a description as you will find of a foreclosed subject, outside of the Other. As Josh discovered biometric technology and utilised it to improve his own body awareness and regulation, he was better able to tolerate changes to routine, had better focus and found a tribe where he found communication easier. 'I found myself in the geek zone' he laughs. 'It's not like you find your passion, or your regulators, and then you don't have Asperger's. It is that you find something that allows you to be Asperger's without requiring as much masking or adapting. It was so much work for me to try and 'get it', that I was exhausted and emotionally wrung out. Finding my tribe helped dramatically with that, and life just felt easier'.

It is perhaps of no surprise that the first biotech project that Josh was involved in was for an advanced biometric watch. The watch was loaded with sensors that provided accurate data readings for heart rate, heart rate variability, blood pressure, ECG waveform, atrial fibrillation, sleep duration, resting heart rate, activity levels, calorie burn, stress markers, fatigue indexes, and even sweat sugar value, all of which could be transferred wirelessly to a doctor or insurance company. 'I loved working on the biometric software for the watch', says Josh. 'It was a combination of the Garmin and the BP cuff. It had so many applications in the health and wellness sector, but it produced a lot of data that needed cleaning before it meant anything. That was my domain, translating statistical data and noise into something that made sense'.

We can trace this skill to Josh's need to locate and organise the random manifestations of the real. Josh quickly identified that, at the heart of the scientific process behind biometric technology, was the data fusion techniques that made sense of unknown/enigmatic variables through calculation. What is vital, of course, is that any such method of calculation is supported by a discourse through which the information can be communicated, and with which the subject can identify or dwell. This was the language that defined the 'Geek Zone' that Josh described, and that brought them together as a tribe. It is through the transferring of data into a scientific discourse that 'meaningful representation' is achieved. However, at its base any sense communicated through the discourse is located squarely in the numbers that underpin it. This is the contemporary mode of Gaussian organisation of what 'Freud called civilisation', and 'Lacan renamed discourse' (Soler, 2016, p.61). It is the defining characteristic of the geek era that bodies and discourse, which are of course inseparable, are organised by scientific axioms, which can serve the function of enciphering, producing and regulating jouissance. Scientific and capitalist discourse can organise collectivised modes of jouissance, yet each subject's configuration is a unique manifestation, a unique symptom. The symptom as a 'bodily event' is

an ‘arising’ of the real in the specific form of a jouissance that excludes meaning (Soler, 2016, p.43).

In the symptom, two things that lie outside meaning come together: the body as enjoying substance, and lalangue, which is made up of a ‘multiplicity of elements’ with ‘each being able to receive a plethora of meanings depending on the different linguistic constructions in which they are used’ (Soler, 2016, p.43). We can see here that Josh’s issues with the body, with anxiety and enigmatic affects, were manifestations of the real outside of the symbolic, and of the workings of lalangue. The blood pressure cuff and the watch were part of a symptom formation, the scientific embodiment of affected bodily jouissance and enjoyed knowledge. The satisfaction Josh experiences and exudes when working on and talking about his inventions is the ‘response to the enjoyed knowledge of lalangue that speech accommodates’ (Soler, 2016, p.107). Josh’s symptom or sinthome is thus both a sign and a solution. Just as the rat maze, mentioned by Lacan (1999, p.141) in *Encore*, is encoded with the elements of lalangue, manifest yet opaque ‘because they exclude meaning’, so too are the algorithmic manifestations produced by Josh. Hence the evolution of supplementary organs; the water table, the cuff, the watch (Kalman filters) and the exoskeleton robotics, which I will come to shortly, can perhaps be traced in a line back to the ‘generative element’ discussed in regard to the gnomon earlier in this thesis (Miller, 2005, p.7).

Miller discusses this in terms of the ‘elementary phenomenon’ indicative of psychosis. Miller (2005, p.9) tells us ‘the elementary phenomenon represents that which is not known for someone, for a subject. Accordingly, we will remember it relates to Pierce’s definition of a sign of which Lacan’s insight was that the sign represented something for someone’. There are similarities and differences, perhaps, in the way elementary phenomena are in the ‘push-to-delusion’ and enigmatic affects (lalangue) and bodily jouissance (JA) are in the autist’s inventions. Sometimes they can be clearly differentiated and at others they appear of the same order. In both, we can see what Miller (2005, p.10) refers to as ‘that moment of fecundity’, those fertile moments ‘precisely situated like the repetition of elementary phenomena’. The fecund moment is a gnomic reiteration of the elementary phenomena that furnishes the idea of a continuation i.e. ‘the element is the structure that repeats itself like a gnomon in distinct levels’ (Miller, 2005, p.11). The series of objects utilised and produced by Josh function in this gnomonic way, traceable perhaps, to the elements of lalangue in the real unconscious, and which locate what is enigmatic or elementary within a structure. The symptom is thus a sign of these structural elements and a solution to what they produce that is real, of course the real being the

mainspring for the fecundity of science. In clinical practice this gnomonic character can be readily observed in both psychosis and autism, from the paranoid patient whose delusions always involve being watched by someone or something, to the autistic subject like Joey whose entire series of supplementary organs involves electricity and circuits.

The master organ

Josh describes the watch as both an 'organ' and a 'self-extension', and this is not a description that should be taken lightly, especially as such descriptions are pervasive in certain technical discourses. Josh is clear that what determines its function as 'organ' or 'self-extension' is its 'ability to delineate and provide clarity with regard to physiological mechanisms that would otherwise remain a mystery. Biometric technology can formalise how we experience and regulate our bodies and how we interface with our environment. It's an organ that reads organs, a master organ or organ-iser as I like to call it'.

Josh's description is of an organ that de-mystifies the body. The question posed by Lacan (2018, p.128) in his *The Sinthome* 'who knows what happens in one's body?' is paramount here it seems. The body and the experience of it is both reduced and multiplied in a way. Reduced to calculable effects, and multiplied in terms of organs and elements, the proliferation of which we see in cognitive sciences, where organs are broken down into endless modules. Eric Laurent (2014, p.9) describes this process as a 'new paradigm of cognition which defines a pluralisation of modules that give rise to a whole host of new organs housed in a body in which they proliferate'. Here he is referring to the findings of English psychologist David Marr and his research on vision. Marr's theory determines that it is not possible to take the eye as the sole organ of vision. Marr's thesis is that the 'organ is not the eye but the full set of interdependent anatomical devices that allow a reply to be given to the question 'what is here?'' (Laurent, 2014, p.9).

The organ in this regard is a complex multiplicity of interdependent devices that function to answer a question, a question whose sole purpose regards the orientation of the subject. It is possible of course to consider the autistic subject in this domain, orientated and in a sense structured by calculable processes. I am reminded of Miller's (1987, p.3) political critique of Bentham's Panopticon writings in which he states 'here the world must be ordered from top to bottom. The discourse will overlook no single detail'. There is a similar effort in biometric technology to multiply the number and functions of all manner of sensors, to span out a network

of modules woven into our clothing which, like cognitive science, gives us 'a body covered in organs, covered in modules' (Laurent, 2014, p.9). As with Marr's hypothesis of the eye organ, for Josh this network of modules, under the command of the 'master organ', also functioned to orientate the subject and answer the question 'what is here?'

The network of sensors, deployed in wearable biometric technology, is a mathematical solution to the lack of metric organisation provided by the phallus, which manifests in all manner of spatial and temporal disorientations. The body, language and the world are experienced as chaotic. We can see the continued push to delineate the precise lines and definitions of the body in Josh's career development. After working on the biometric watch, he developed extremely complex sensor software used for biomechanical modelling. Josh's initial focus was to develop a 'second skin', which could interpret flawed biomechanics, and augment natural body movements and tasks through improved strength and efficiency. It could also reduce the risk of injury by monitoring muscle tension and uneven distribution of load through kinetic chains. The sensors are woven into extremely light, breathable fabric, which closely grips the natural contours of the body, applying a light pressure inspired by sports support garments such as Under Armour, but lighter and more durable.

We can see that Josh's deftness at organ-ising the body is moving towards ever more sophisticated ways of structuring, of engineering a rim that functions as a nerve centre that feeds back its disparate sequence of data to the master organ. Laurent (2012, p.21) highlights the autistic child's attempts to construct a supplementary organ that substitutes for the Other that is tantamount to an 'organ with no function', to an Other as pure 'exteriority'. This is an organ that the child desperately tries to introduce as the 'appropriate organ for language in his body' and applies particularly to objects that 'make a rim with the body'. 'These objects substitute effectively for skin', says Laurent (2012, p.21), 'functioning as armour that can become more complex, but always has the same structure: ranging from the shoe to the detachable components of the robot-heroes currently fashionable in console computer games'. This sequence of organs is a response to the real, a 'real that is composed through scientific discourse. It is made up of objects that have nothing natural about them. It is formed of ways of proceeding, of procedures. It lies radically beyond meaning, but language allows us to fasten onto it by producing 'enjoy-meant'' (Laurent, 2014, p.12). The relation here between the object organ and language, as I have said before, is crucial. Language is the tool by which one forms orifices (oral, anal, scopic, invocatory) by instituting rims for them (Laurent, 2014). We can see in autism and early-onset psychosis precisely 'what a rimless organ is'. Lacan's 'rope-and-sack' logic

is a ‘logic that is articulated between, on the one hand, the sack that could find itself completely plugged up by the real, and on the other, the rope that allows a way through and for these rims and orifices to be constructed’, or rather encoded (Laurent, 2014, p.13). The consistency of the body then, is not related to the sack, but the series of letters that constitutes the autist’s rope, their sinthomatic cord which allows the ‘letter to stand a chance of operating in language’ (Laurent, 2014, p.13). The second skin is essentially the body as a sack woven with sinthomatic code. The fecundity that gave rise to such a sophisticated invention is undoubtedly the perplexity that defined Josh’s relationship to his body. These objects of the real, that have nothing natural about them, were also commented on by Miller in his political critique of Bentham’s panopticon writings. ‘The panopticon is the model of the utilitarian world: in it everything is artificial, nothing is natural, nothing is contingent, nothing exists for its own sake, nothing is neutral. Everything is precisely measured, no more, no less. Articulations, systems, arrangement . . . machines on every side’ (Miller, 1987, p.4). The Panopticon is the master organ, like the computer that commands and processes the network of sensors and their data in Josh’s inventions. Miller (1987, p.4) states, ‘The Panopticon is a vast machine, each element of which is also, in turn, a machine, the subject of calculation’. The word Panopticon could easily be exchanged for ‘biometric body suit’ in the above quotation. That is because what is at stake is of precisely the same order.

After 6 years Josh left Microsoft for a leading Robotics Company to work on exoskeleton technology. He was directly recruited for his ability to develop intuitive software that could interpret mass cross sections of data, thus improving the dexterity and ease of movement of the exoskeleton. ‘I operate across multiple levels. Design, unit testing, troubleshooting previously embedded systems, but primarily I develop extremely advanced controllers and sensor fusion algorithms. I’ll also code the mechatronic control systems’. The key aspect here is the fact that Josh’s skill set enhances the dexterity of the robotic systems. This is another production in the series that extends out like a gnomon. The goal is to minimise the discrepancies that arise between the exoskeleton and the wearer, to make the suit an extension of the human, an integrated part or organ. Josh’s entire structure and islet of competence is orientated around the creation of supplementary organs that constitute rims and regulate the real of the body. There perhaps needs to be the extreme tendency towards fusion with a master organ, to imagine technologies that increasingly blur the lines between man and machine.

‘These are dexterous robots that master the world’s most dangerous and unpredictable environments’, he tells me. ‘They augment intelligence, judgment, strength, endurance, and

precision'. There is the notion here that the master organ does not find its limits at the constitution of rims. It seems that it has the potential to constitute new limits or to abolish them altogether. Soler (1984, p.3) says that 'one is not born with a body' and draws a distinction between 'the organism, the living being, on the one hand, and that which on the other hand is called the body'. If the subject's body is bestowed upon them by language, or rather 'the body of the symbolic', then perhaps the autistic subject, in some cases, can establish new limits for the organism through the embodiment or connection to machines or master organs, whose algorithms and lightning-fast processors can redefine the previously established limits of what one called a body. Interestingly, in Josh's description of the exoskeleton technology, he commented that it 'master the world's most dangerous and unpredictable environments'. When Lacan (1990) said that the real replaced nature, and is advancing, we can perhaps see this in Josh's attempts to master what is unpredictable in nature through the process of calculation. All that is real is subjected to the autist's attempts at calculable organ-isation. The language-organ of the autistic sinthome has extremely defined characteristics that, in cases such as Josh's, it would seem, creates the autistic rim par excellence. From the earliest attempts to tie the real of the body to a form of syntax by way of the measurements and flows of the water table, to the utility of a multiplicity of sensors that constituted a 'body covered in organs' governed by the master, we can see that where there is an enigmatic moment, or a moment of perplexity, there is also a moment of fecundity that is the well-spring of creation (Miller, 2005). Josh's inventions, which are sinthomatic and are inherent to his structure, to his identity, are indeed master organs. They form part of a gnomic series from which a life is structured. It is, without doubt, a sinthome that subjects jouissance to a routinisation through a precise enciphering, with functors operative as topographical spacers that provide a means of regulation and a consistency of experience.

Josh's sinthome has been a process of continued refinement. The symptom is a sign and a solution, but not all solutions are created equal. Like Joey and Grandin, Josh was able to assimilate a great degree of scientific knowledge directly relating to his solution. This forms the often-cited islet of competence that appears to be a vital aspect in bringing the subject's solution into line with capitalist utility and ultimately, in the best of cases results in employment. This acquisition of knowledge is an acquisition of scientific discourse, of the technical language that provides such a relief, and that renders the letter operative in language (Laurent, 2014). It has functioned at times as a defence, a means of closing down and achieving local coherence when there was the experience of chaos or sensory overload. But all pathways towards the world came through it. Coding club, friendship groups, the first sleepovers, a profession, a career, financial

independence and independent living. These are all things that seem to elude many autistic subjects for a lifetime. A crucial component of this degree of success and independence appears to be the commercial utility of the knowledge with which the subject structures and approaches reality. I have shown how Joey's alternator, Grandin's livestock systems, Bentham's panopticon and Josh's exoskeleton all emerged as objects of the body, as real productions linking the body to knowledge. All these productions have scientific applications and a commercial value, but when the technical extensions are devices that directly measure, track and represent the organism and its processes as encoded information, then we are in the realm of devices of surveillance capitalism. Data that represents users' moods, habits, health and opinions has become a high value commodity. Devices like Josh's watch and skin suit become highly desirable as does his skill set in developing them. It is important to consider the common ground between the autistic ideal in terms of regulation, prediction and control, and the objectives of surveillance capitalism. It is here that we can observe the cycle and the mechanism of the coder/code/user behavioural cycles, and the concept of algorithmic infusion described at the beginning of this thesis.

This chapter has demonstrated several important functions of the mode of the coder, which as a collective ultimately determine the level of attenuation that one might observe in terms of the subject's functionality. This includes the evolution of an object in line with the development of specialist knowledge, which later develops into an islet of competence. This is in direct parallel with Joey, who's machines evolve over time, from tubes to the rectifier, in line with a specialist knowledge that leads to a degree in electrical engineering and potential employment. This highlights that social and economic utility are potentially important aspects of the mode and function as a primary conduit to social life. Also highlighted here is the importance of the apprehension of the laws of the stabilising system. It is an integral aspect of the mode that a particular scientific principle and mode of calculation functions as an organising principle with which to routinise jouissance. This chapter also illustrates in very contemporary terms, the reach of the coder's inventions in society, particularly in terms of the recording, commodification, and utility of data. The apprehension of a means of symbolic representation of enigmatic body phenomena results directly in technological advancements that have the potential to profoundly alter the social fabric.

Chapter 8: The Drone and the science of the crowd

Sur-veil-lance Cap-i-tal-ism, n

'**1.** A new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction, and sales; **2.** A parasitic economic logic in which the production of goods and services is subordinated to a new global architecture of behavioural modification; **7.** A movement that aims to impose a new collective order based on total certainty;'. [Zuboff, The Age Of Surveillance Capitalism, 2019]

In this chapter I will use a second piece of case material from Microsoft. This case material builds on the previous chapters in the thesis by continuing to demonstrate the singularity of the subject's mode of jouissance while also highlighting its collective structural features. Primarily thought, this chapter builds on the last in terms of exploring the economic utility and social impact of the coder's inventions within the context of surveillance capitalism.

I want to comment on surveillance capitalism specifically in relation to autistic modes, separating it from, or at least isolating it, as a delineated branch of general capitalism. A key distinction between the two and how they have been revolutionised can be made in the following way: 'Ford's inventions revolutionised production. Google's inventions revolutionised extraction' (Zuboff, 2019, p.87). In essence, while industrial capitalism demanded economies of scale to achieve high throughput with a low unit cost, surveillance capitalism demands economies of scale in the extraction of behavioural surplus (Zuboff, 2019). This is a huge topic, and worthy of a thesis of its own. However, it is of interest because the data surplus driven by surveillance capitalism provides the raw materials for organ-isation of bodies, both personal and social. It is this data that appears to provide poles of orientation, functors or co-ordinates that amount to the coming of the number one in the place of the master signifier (Brousse, 2013). Bentham was surely a pioneer of surveillance capitalism. He made no secret of his desire to codify behaviour, extrapolating the gaze to impose order according to his own social calculus. It is easily observable in Bentham's work that this was about stasis, not too much pleasure, not too much pain. Balance and homeostasis could be achieved through the application of laws and the utility of a surveillance machine to modify and regulate the social order. The panopticon was a social

rectifier, driven by gaze, and voice as the super-egoic upholders of the law. Hence Bentham's machine situates a surveillance device at the core of his philosophy and his identity. Prediction, calculation, organisation and control are all defining aspects of his panoptic philosophy and of the surveillance culture to come. In Josh's case too, we can see the connection between the extraction of data and the organisation of his body. Bodily phenomena were parametrised, metricised and brought into order. The body thus emerged as a data body, a codified body, organ-ised by the productions of surveillance capitalism. Of course not all technology is surveillance technology. Surveillance technology is defined by the process of extraction in terms of data, wearable technology being just one example. What autistic testimony, and indeed contemporary practices in relation to technology in general, tell us, is that surveillance practices correlate directly with bodily practices, with the real and with subjectivity. This case study, I feel, is exemplary in this regard.

Shoshana Zuboff (2019, p.3) starts her book *The Age of Surveillance Capitalism* by revisiting an old question. 'Are we all going to be working for a smart machine, or will we have smart people around the machine?' Mark, a software engineer at a leading global technology organisation, finds the concept of a distinction between the two both amusing and confusing. 'Those questions are antiquated and have been for a long time. Where is the line between the person, whether smart or stupid, and the machine? When I talk about neuro-synaptic prosthesis, which are already advanced in design and application, people recoil in horror at the ethical implications of such a practice. They do not recognise the level to which they are already integrated with their technical devices, to the degree in which they influence and are influenced by algorithms'. Mark has a diagnosis of Asperger's syndrome and classifies himself as having high functioning autism (HFA). He was diagnosed at 8 years old. His developmental milestones were relatively normal. He walked at 15 months and started to talk a couple of months later. He was not prone to wild outburst as a child and, while he certainly had a 'taste for order', he was able to tolerate environmental changes that were not planned. He did not respond anxiously when people came to the house, or when his mother and father took him to the shops or for relatively spontaneous day trips. In fact, Mark liked people, or at least he was extremely curious about them and their behaviour, especially in group transactions. He liked to observe them more than he liked to speak with them.

What stood out as 'strange' behaviour that caused concern for his mother was the marked avoidance of any eye contact, even with family members, his reclusive nature (he did not like to

interact directly with people very much), and how, from the age of about 4 years old, he used to look at everything through a camera, which both separated and connected him to the world around him. Such was the a-typical nature of his presentation, that both his mother and his teachers felt that a consultation with a psychologist might be necessary. 'I don't remember suffering from a lot of anxiety or anything like that, except when I was in direct conversation with someone, and I felt there was an expectation to make eye contact. The camera was like a filter. It allowed me to see things, to capture them, study them and process them. It was anthropological', Mark tells me. As well as issues with eye contact, there was the common feature of his acquisition and use of language. Mark had a huge vocabulary at an exceedingly early age, which spanned multiple languages, but often presented as overly technical or bizarrely random. 'I could recite facts and dates all day long. If someone were talking about a particular subject or time period, I would start to produce all kinds of quotes and facts that related to it, especially in relation to music. I think they found it quite weird, and I remember a teacher saying to my mum that it was 'mechanical'. Or I would come up with sentences that didn't make any sense. All the words were legitimate, but they didn't quite go together. This became a problem when I started school. I felt really isolated and alienated. People would seek out conversation with me for their own amusement because they knew certain trigger words would set me off'.

There are some particularly interesting features here, concerning Mark's symptomatic presentation. The first is his exceptionally logical approach to his particular issue regarding eye contact. Initially he avoids it, as a means of regulating the uncomfortable affect that it provokes, and then he discovers an object kernel of sinthomatic inventions to come, in the form of the camera. This could be classed as the subject's first autistic object in terms of its utility and function. We can think of the autistic object in many ways, but one of its primary functions is as a type of valve that opens and closes, regulating the subject's experiences and interactions through a controllable interface. I will cite Maleval here; 'By placing the autistic object between the subject and the desire of the Other, the autistic puts a means of protection in place that seeks to ensure that he or she remains out of reach. On the other hand, and this has been less emphasised, provided that he is able to keep control of his autistic object, the autistic can, precisely through its intervention, open themselves to the world' (Maleval, 2012, p.44). This is an apt description of the objects that make up the evolving series of supplementary organs in the structuring of the autistic sinthome. Like the blood pressure cuff utilised by Josh, the camera introduces a means of regulation that enables increased functionality in the social sense, odd as it may appear. Like the blood pressure cuff or the fan, it functions to produce local cohesion, which in turn allows a greater exposure to potentially anxiety provoking environments. 'I liked

the camera because I could control the field of vision through adjusting the lens. If I was feeling a bit overwhelmed, I could narrow the field and focus in on a particular object in minute detail. By cutting out peripheral vision and zoning in I could shut out whatever was bothering me' Mark tells me. I asked Mark for an example. 'I remember going to a baseball game with my dad. We would sit way up in the rafters because it wasn't too busy there, and neither me nor Dad liked to be in big crowds too much. I took my camcorder and my camera. I would watch some plays without the camera but, if the noise built up, I would watch through the camera and I would feel calmer. One time there was a Mexican wave going round the stadium, I found it unsettling, so I zoomed in on the pitcher with my camera. It narrowed my perception field right down and everything else that was going on was faded out'.

Here, again, we can see the utilisation of a technical device through which the subject can localise overwhelming phenomena and I will discuss this further in a moment. Before I do, I would like to draw attention to the linguistic features of Mark's presentation, particularly in relation to meaning and sense. We can see how Mark is 'inside language but outside sense', in terms of meaning/semantic sense, rather than countable/syntactic sense (Voruz, 2012, p.208). Mark's language can be divided into two categories; on the one hand there are facts, quotations and technical knowledge, his recitation of which was deemed 'mechanical', and on the other, language that functioned outside of any syntax operation and which emerged as non-sense. There is a huge vocabulary, which is operative outside of any organising field i.e. the Other, and thus outside of civilisation or discourse. This was at the route of Mark's feelings of isolation and alienation as he moved into education. He is attesting to this when he refers to himself as an 'anthropologist'. Anthropology is of course the study of humans, human behaviour and societies, of cultural practices, meaning, values and norms. In his words he could 'see things, capture them, study them and process them'. This, it seems, is an extension of contemporary surveillance practices pervasive in discourse. It is perhaps the very feeling of being outside of civilisation or discourse that drives his need to study and understand it. Technical or factual language is in the domain of syntax and countable sense and is an area in which Mark functions very well. However, it strikes his peers and his teachers as out of place, as mechanical. As such, Mark had to find a way to encode civilisation or discourse through a process he describes as 'anthropological algorithm processing', which essentially amounts to filtering out semantic and enigmatic aspects of discourse and interpersonal transactions and subjecting them to an operational syntax. 'This is what started to really improve my functioning', Mark tells me. 'I was always classed as high functioning. But what does that mean when you have no friends and feel like an alien at school. I was a complete outlier and not in a good way. I could score 100 percent

in a math's exam but couldn't hold a conversation with a classmate or ask someone over to my house. I studied people's behaviour in detail and picked out certain patterns, certain group orchestrations etc. I learned the code of human behaviour in the same way I learned Python and Pearl'.

This is the same process described by Grandin who would 'build her knowledge of the species in a purely logical process' and could recall 'mental videos of how people behaved in a range of different circumstances' (Sacks, 1995, pp.177-178). For Grandin, and indeed for many others with high functioning autism, this is a fundamental aspect of the identification with computers, cyborgs and other such technologies. Human interactions are subjected to a codification. Transactions of the semantic order, of meaning in the traditional linguistic sense, are malleable. They are open to interpretation and reinterpretation, to being broken down and reformed. This is the process exposed in analysis to a degree, where the 'lying truth operation' is instituted and the subject is satisfied, at least for a while. However, for the autistic subject, semantic functions are traumatic and anxiety provoking. Therefore, it stands to reason, and is indeed a wonderful process of logic, that the codification of emotion driven semantic transactions and discourse, that is its overwriting with syntax, not only reduces anxiety, but brings satisfaction related to the efficiency of its function. From Maleval's perspective, this perhaps upholds the disconnection between the signifier (S1) and jouissance (a) (Voruz, 2012, p.207). I feel, however, that it is of an entirely different order in which the object has a regulatory and organ-ising function that is connected to the number. In such a subjective position the object does not amount to a substitution, but rather an extension whereby the gnomonic character follows a mathematical logic that evolves without being exchanged. As such, it is less multiform and often follows a lineage that is not veiled. Blood pressure cuff, Garmin, body sensors, robotics. What is at stake is often clear for the subject. Jouissance is produced and organised in a pure operation of logic.

I have been able to observe the clear difference in animation between the autistic subject enduring small talk, with clearly escalating anxiety or the fatigue of exhausting masking and the subject caught up in the sheer enjoyment of talking about their specialist technical subject. Mark, for example, could be experienced as very flat in his intonation, as if he could barely summon the energy for conversation. However, when he was talking about surveillance technology or music, he was animated, energised. He could recite every Nirvana song, its duration, the year it was recorded, which album it was on, the track number and the guitar chords used in the song. Watching this change in dynamism, one could be forgiven for thinking

that the process of 'plugging in' was literal. The success of applying one's system of encoding correlates directly, it seems, to the satisfaction experienced by the subject, and thus to the consistency of their subjective structure. These satisfactions 'involve a reconciliation; they all bring into play the dimension of a new subjective option' (Soler, 2016, p.130). The sinthome is the process by which jouissance is encoded, the process by which the real, symbolic and imaginary dimensions are shaped and bound by the knot at the core of the structure and of identity. Sinthomes that are built up in layers, that are constantly subjected to more advanced coding, yet follow a gnomic trajectory, appear to result in the most stable forms of sinthomatic knotting and the most stable identities.

We can see that for Mark the camera provided the device through which he could reduce overwhelming affect and record the material for his study of culture and civilisation. This was the device that functioned as a filter for the codification of the world and hence for the regulation of affect. Again, we can see here the camera as symptom, sign and solution. Mark's use of the camera would soon evolve. Mark attached a camcorder to the top of a remote-controlled jeep using industrial tape and cable ties. He would drive it around at the park recording group activity from a safe distance. 'I had a couple of favourite spots in the park where I could sit and pretty much drive the jeep around the whole park. I would record kids playing basketball or soccer and, at other times, I would just kind of park it close to a group who were sitting and talking. It allowed me to sit a little further away from them but still to capture what was going on. Then I would watch the films and listen to the audio over and over. I would study the conversations and group behaviour in micro detail. I must have collected hundreds of hours and studied it to the point where I could accurately predict the behaviour and perform it. This gave me a little more confidence to engage and I also felt like it gave me a sense of safety because I felt I knew what was coming next'.

This is a common part of autistic presentation and is driven by a need for familiarity and prediction. Neurodiverse recruitment processes include similar methods into their programs, where the candidate has access to a virtual tour video of exactly how their interview process will unfold, from coming into the car park, to the process itself. There is a recognition that the subject would like to reduce unpredictability to a minimum and get as close to guaranteed outcomes as possible, which is an ideal the autistic subject shares with surveillance capitalism operations. We must consider the power of the dominant and organising discourses here. I have discussed some of the important theories laid out by Lacan, and Lacanian analysts, regarding the

function of discourse in the organisation of civilised bodies. It is this, as Brousse (2013) points out, that allows us to consider radical shifts in symptom formations in line with the discourses that accompany them. In an epoch surely predicted, and even initiated, by Jeremy Bentham, in which surveillance is used as a means of prediction, coercion and control, it is very difficult not to think about how subjects might function as an extension of such a discourse. Let us take Mark's assertion that, through the mass collection and study of data, he was able to predict the outcomes of human transactions according to his own calculations of probability. Even more interesting, perhaps, is his assessment that this gave him a kind of power of prediction, from which he could modify the outcomes of certain situations. I am not suggesting here that there is sinister motive, but simply drawing attention to the correlations to the definitions of surveillance capitalism highlighted by Zuboff and the mode of structuring identity and reality that can be observed in Mark. Let us take the definition which states that surveillance capitalism is a 'new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction, and sales' (Zuboff, 2019, preface). This is commonplace practice in terms of the constant monitoring of our behaviour and choices through gadgets and machines, that results in predictive algorithms personalising interfaces to modify, regulate and control consumer behaviour. This is so pervasive that is has been classed as a 'new global architecture of behavioural modification' (Zuboff, 2019, preface).

Such definitions could have been written about Bentham's panopticon. Bentham's motivation was not commodification of human experience as such, but it was certainly aimed at its modification through the process of observation. Indeed, Bentham's panopticon fits within the domain of surveillance capitalism, in that it is 'a movement that aims to impose a new collective order based on total certainty' (Zuboff, 2019, p.1). This perhaps raises questions about the functioning of gadgets in contemporary society and their potential role as master-organs i.e. organ-isational tools of surveillance capitalism. In this sense, the panopticon as sinthome is multiplied so that nearly every subject has it in his pocket, on his wrist, woven into his clothing and sitting on his desk. It is always watching and records everything, predicting, directing and orchestrating the subject, civilisation and discourse under the guise of utility, function and convenience. We only have to observe the radical shifts in cultural practices since the advent of the smart phone, with nearly all experiences being filtered, captured, shared and replayed through devices. One wonders how Lacan (2019, p.108) would answer his own question, 'Will gadgets gain the upper hand? Will we ourselves really come to be animated by gadgets? It seems unlikely to me, I have to say. We will not actually get to a point where gadgets are not symptoms'. Do these contemporary gadgets that function as organs and which appear so

structurally inherent in autistic subjectivity, and indeed to generalised autistic modes, simply occupy the position of the phantasmatic symptom? Or are we now in the epoch of mass produced sinthomatic devices? Lacan's question is perhaps more relevant today than it was when he originally posed it in the mid 70's. Mark, like Josh, is adamant that technology is inherent in his structure, and that the plethora of recording devices that have formed part of his own series of supplementary organs, are intrinsically linked to every aspect of his being. In an epoch where the Name-of-the-Father is apparently foreclosed, it seems that the subject is increasingly reliant on the gadgets of surveillance capitalism to organise and regulate reality. Let us take the common theme of the case studies that I have laid out in this thesis, of the attempt to achieve a technological homeostasis through mathematics and algorithms. Karl Friston, a mathematical neuroscientist and psychiatrist, states that 'stable systems need to sample their environment for relevant information', something which is essential for the organism's survival (Holmes, 2020, p.22). However, the 'advancing real' and the declining efficiency of the symbolic results in increasingly unpredictable and disparate information that overwhelms the subject and functions outside of any meaning that would render it useful in terms of regulation. Hence, probability theory, predictive algorithms and corporate driven mass behaviour modification has emerged from the 'zero meaning' of the real to organ-ise, predict and commodify cultural practices in what Zuboff (2019) calls the 'behavioural futures markets'. The powerhouse of such markets is a new organ-ising discourse and its objects, which cover the social body in a sensor skin akin to the wearable body suit designed by Josh. The social body thus becomes organ-ised by the amalgamation of the data they produce. It is a Gaussian process.

Thomas Bayes (1702-1761), one of the founders of probability theory, has had his theorem described as 'math's on top of common sense' (Holmes, 2020, p.21). There is no separation between common sense and countable sense, other than its subjection to statistical analysis, which in turn perpetuates its very commonness. What surveillance capitalism does is provide us with an additional sense organ/s, like Josh's wearable technology, or Mark's behavioural analytic software, which essentially extrapolate behavioural data models for the purpose of behavioural modification. Such models increase the efficiency of the techno-capitalist ideal of a collective order with total certainty (Zuboff, 2019). This is the nexus of techno-capitalist discourse, the subjective effects of which, at least in part, are the collective modes of autistic jouissance highlighted by Soler (2016). These organs of surveillance capitalism become embodied, functional and organ-ising extensions connecting bodies to the cyber-organ-isational power of technology giants such as Microsoft and Google. We can see, perhaps, in Mark's case, the utility of such organs in dealing with the disorder and overwhelming affect of the real. The desire for

total certainty and the utility of advanced machine learning algorithms, as well as the behavioural modification it facilitates, offer Mark a means of entering the flow of common, and thus countable, discourse. The organ objects already comprise the elements of the autistic sinthome; quantification/countable sense, science (JA) and the object organ (a). In terms of Maleval's concept of the autistic rim, we can perhaps see that it is complete, already packaged and ready for use. It functions as a barrier and as a conduit to the world, it has its own discourse providing all the material for the construction of a synthetic Other and an islet of competence. In fact, the synthetic Other requires no construction. It is already constructed and ready to plug into. It is logic based, predictable and functions outside of meaning. Mark, by his own admission, was not concerned with meaning, he was concerned with predicting the right response and what will happen next in human interactions. It was the ability to utilise organs to facilitate this that stabilised the disorder in his body, that structured his experience and identity.

The continued refinement of his sinthomatic solution soon led to his discovery of drone technology, which gave him more freedom to capture data, and to study human behaviour. 'My dad bought me my first drone when I was about 10. I loved that drone. I still have it. That's when I got really interested in the technology, hardware and software. I built a collection and would strip them down and rebuild them, constantly upgrading their systems. I would kit them out with more powerful magnification cameras, high tech lithium batteries to improve flight time etc. As I got more into drone technology, I started to buy magazines and books about its military and security utilisation. I had always been interested in crowd behaviour, so was naturally drawn to the function of drones in the monitoring and prediction of crowds. 'I was a self-taught coder with a ton of expertise in human and crowd behaviour, so nobody was that surprised that my first job was developing AI that enabled drones to accurately predict behaviour in various crowd situations. I had already been developing analytic software with my dad and we were trialling it through monitoring crowd flow before Mariners games. We would fly our drones over the main arterial routes running from the city towards the stadium and could establish the flow of people coming from different areas of the city on foot. It was not too complex but could have been useful for policing, crowd control etc. I was really becoming a behavioural scientist by this point. I knew that by understanding crowd behaviour you could control it'.

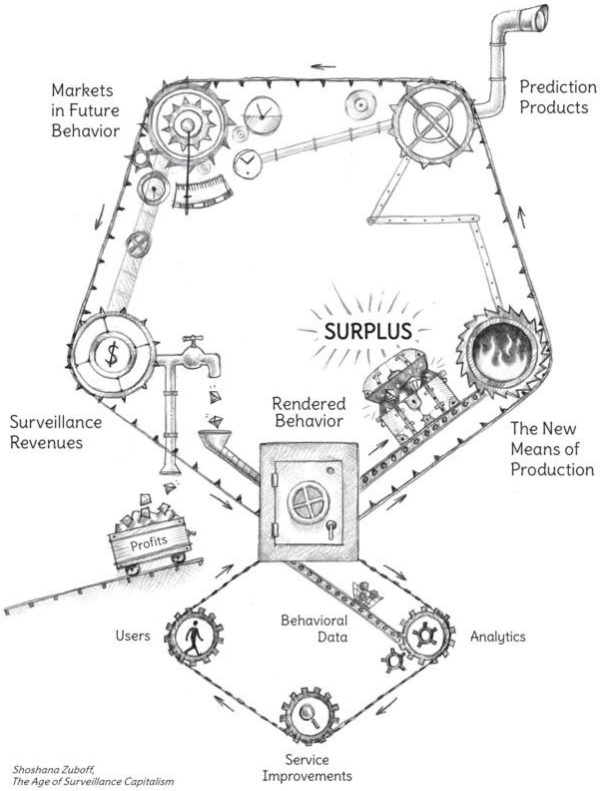
We can see here, the familiar evolution of objects, gradually becoming more refined and more complex in line with the acquisition of a specific technical knowledge operative as a facet of the dominant techno-scientific discourse. What started as a gadget for local coherence, rapidly

becomes a master organ that modulates, organ-ises and parameterises jouissance, affect and identity. What can be seen in the cases of Joey, Grandin, Josh and Mark is that science provides the organising discourse and objects from which the subject constructs their sinthomatic inventions, which are simultaneously general and idiosyncratic. In all the documented cases the subject becomes part of the chain of production, developing products that will enter the market for mass consumption. I may be taking a liberty in the case of Joey, who we know achieved a degree in electrical engineering and who built his own rectifier, but do not know his fate thereafter. However, we know that Grandin, Josh and Mark all enter the capitalist and scientific domains through the mass production of the offspring of their Sinthomes. Of course, it may be true, that these are solutions to disorganised bodies and dysregulated drives, but contemporary solutions are increasingly pre-formulated, already circulating elements of surveillance capitalism. What we are perhaps seeing is the deliberate circulation of master organs that are encoded with AI algorithms that personalise their interfaces, that are designed to enmesh them with the organism, and that propose to fix the very problems they create. Mark's is a personalised solution, but he did not invent it. He merely appropriated what was already there, refining it and personalising it to the particularities of what was most real and most at stake for him in terms of the scopic drive, disordered jouissance and enigmatic affects.

The systems and information for the monitoring, learning, and prediction of human behaviour, including language, which was confusing and alien to him, were already pervasive in the social conditions in which Mark grew up. This is the case in much of the globe but is particularly relevant in the technical hotbed of Seattle and Redmond, which is home to Microsoft, Amazon, Boeing, Nintendo and a plethora of other tech big players. The ability to study, calculate and predict, by Marks own admission, was not only fundamental to the stabilisation of his bodily phenomena and experience, but also to his socialisation, employment and identity, which for him is inseparable from his work as a surveillance software specialist. As such, he becomes both a production of and a producer of the master organs that function in society in the same way as the body suit covered in modules designed by Josh. Mark's expertise in predictive software was developed through a need for certainty that is inherent in the autist's taste for order. In the same way that Josh's biotech sensors allowed him to locate and calculate what was enigmatic in terms of his body, so too do Mark's predictive algorithms allow him to organise what is confusing and enigmatic about human interactions, thus also achieving a regulation of his own body as well as the social body. In both cases the islet of competence, the achievement of independence and employment, comes from the commodification of bodily and behavioural data. Both become part of the behavioural futures market where 'any actor with an interest in purchasing probabilistic information about our behaviour and/or influencing future behaviour can pay to

play in the markets where the behavioural fortunes of individuals, groups, bodies, and things are told and sold' (Zuboff, 2020, p.96).

It is worth, I think, representing diagrammatically what Zuboff means when she talks about the commodification of behavioural surplus, to compare and correlate it to the sinthomatic organisation outlined in the case studies presented in this material. Below is Zuboff's (2019, p.97) diagram representing the Behavioural Value Reinvestment Market.



Here is what Zuboff (2019, p.97) says about this cycle; 'Surveillance capitalism begins with the discovery of behavioural surplus. More behavioural data are rendered than required for service improvements. This surplus feeds machine intelligence – the new means of production – that fabricates predictions of user behaviour. These products are sold to business customers in new behavioural futures markets. The Behavioural Value Reinvestment Cycle is subordinated in this new logic'.

I want to relate this directly to the technology adopted and developed by Josh and Mark. The utility and development of tech organs that produced data that could be considered as akin to

making ‘service improvements’ i.e. the device was refined over time to better address what was enigmatic and overwhelming for the subject, produces a surplus potential. Both the biotechnology designed by Josh, and the drone technology designed by Mark, produce data that has immense value across multiple sectors. It is the behavioural data, along with its predictive and ordering potential, that introduce countable sense for the subject and the means to organise the body and structure an identity. It seems that employment is a crucial aspect of identity in this regard. Grandin, for example, tells us that ‘my life would be horrible if I did not have my work’, while Josh and Mark openly state that their work is inherent in their sense of who they are (Saks, 1995, p.178). This relates directly to the islet of competence, but perhaps what facilitates the jump from an islet of competence to employment in the tech sector in such cases, is that the competence has such a high commercial value in terms of data trading. Mark, for example, has gone on to develop surveillance software that is used by police and military for crowd control purposes and tactical decision making in situations of ‘mass disorder’. I do not need to labour the point, in terms of the correlation between the need for Mark to organise the disorder of the real of his own body, and the utility of his devices in organising and controlling the disorder of the social body. Mark attests to the ability of his designs to organise and modify behaviour. ‘We are coding a social architecture for sure, and everyone benefits. The more chaos and disorder that we see through changes in natural phenomena, and the effects of climate change etc., the more we need the ability to maintain order, to predict and overcome. This is where the concept of algorithmic infusion comes in. As an organisation and as individuals, we infuse the algorithm with our vision, with our ethics. Behind every interface and line of code there is a huge team of engineers who have thought very deliberately about it. This doesn’t include just coders, but cognitive neuroscientists, behavioural scientists, as well as extremely skilled engineers and coders like me. The thing about algorithmic infusion is the importance of the cycle it perpetuates. We infuse the algorithm, the algorithm influences the user, and so the user assimilates the algorithm in a way. In the process they produce data which automatically refines the algorithm, as well as producing data that will define the direction of our technology and services’.

To close this case study, and prior to discussing the concept of an autistic society defined by collectivised autistic modes of jouissance, I want to relate the concept of algorithmic infusion to autistic subjectivity in general. As a reminder, it was while discussing the benefits of autistic hiring programs that are becoming commonplace in companies like Microsoft, SAP, IBM, Ford and the like, that a senior director suggested that the cycle of algorithmic infusion produced autistic tendencies, in that more children and subsequently adults, are glued to their devices,

mediating their experiences and interactions through them, that communication and health were now regulated through new codes and languages that are directed by machines and gadgets. 'It all works in a big cycle. People with autism like to systemise things. They are attracted to IT with its logic, rules, and predictable interfaces. The operating systems that are on your phone, PC etc. are all autistic. If you operate outside of these systems these days, you are on the fringe. The OS mirrors the autistic mind, and the user mirrors the OS. We see children as young as 8 coding in our coding workshops. They have grown up on a diet of technology'. Within the general rubric of surveillance capitalism this statement takes on greater significance. The concept of the sinthome encompasses the distribution of functors to routinise and systematise a particular configuration of jouissance, or rather a particular encoding. As such, it becomes structurally inherent. If we are to take seriously the assertion that discourse, which is now dominated by science and capitalism, structures the subject, and constitutes reality, then we also must take seriously the organisational power of the algorithms deployed in the devices that have become the preserve of the contemporary subject. It is also true that these devices modify our behaviour. Even the most technocentric social commentator would admit to that. As I will come on to in the next chapter, this has produced many notable effects, not least the paradox of being always connected while feeling increasingly isolated. Soler, and many others, point out the autistic nature of the jouissance this produces, outside of meaning and of any classical conception of a social bond. While such gadgets seemingly produce autistic modes of functioning, they also appear to offer a solution, which plays out in the utility of objects as laid out in these case studies, and in the young autistic coders blissfully tapping out lines of code that predict, organise, and routinise everything. Lacan, in highlighting the effect of discourse on the subject, perhaps foretold the concept of algorithmic infusion, where the symbolic order and associated discourses mortify jouissance and structure the subject. It is no surprise that autistic subjects bring particular skills in this area, considering what is at stake for them. We can even separate, as I will in the next chapter, different autistic modes, and consider how they could be produced by, and indeed produce, the algorithms that are so pervasive in contemporary society. With all of this in mind, we should perhaps take seriously such statements, especially when they come from the upper echelons of large tech organisations.

This chapter demonstrates how the autistic coders inventions are absorbed into the world of surveillance capitalism and behavioural modification. This frames the concept of algorithmic infusion and offers a theoretical basis for thinking about the relationship between coder and user, and indeed the 'autistic cycle'. I have drawn attention to the shared pursuit in autism and surveillance capitalism, of prediction and control, and the different motivations behind these aims.

Conclusion

Autistic society

In the final chapter of this thesis, I will further consider the mode of the user as a separate autistic mode of jouissance that arises in response to the coders inventions but is grounded in the imaginary and semantic dimensions. This is in order to consider the concept of an autistic cycle as encompassing two separate yet distinct subjective modes, and to connect the two through the idea of algorithmic infusion, which I attempt to schematise and lay out in more detail.

Consumers and the semantic dimension

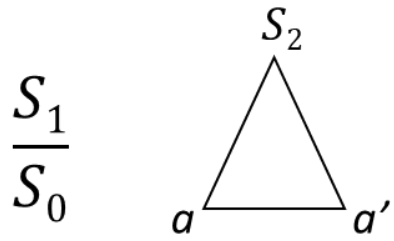
I have attempted, in the previous chapters, to lay out a detailed formulation for a mode of autistic jouissance defined by syntax and cybernetics. This is a subjective mode that functions as a production of the exact sciences which, Lacan (1991, p.305) tells us, 'do nothing other than tie the real to syntax'. In the case study examples I have laid out in this thesis, I have attempted to outline a hypothesis in which scientific discourse and algorithm are used as material for idiosyncratic productions, which encode jouissance within a circuit through which the jouissance of the real can be metricised and routinised. In such a subjective mode, meaning makes way for function and countable sense. The predictable nature of a jouissance that turns up in the same place and is localised within a system of calculation, brings a satisfaction. Language and sign systems are simply devices of jouissance, and as Miller (2019, p.154) says, 'language does not exist to make truth emerge in the real, language is for jouissance'. The subject's production, which 'ties the real to syntax', is a sinthome, and while its objects run in a series, the underpinning axioms often follow a highly traceable trajectory. The sinthome and its objects are embodied, structurally inherent, and the subjects sees no division between who they are and what they produce. Capitalist discourse, as Soler (2014, p.177) points out, 'consists in trying to make all jouissances enter into the mad machine of production-consumption'. We can see this, perhaps, in the syntactic autistic mode of jouissance. There is a consumption in the form of scientific discourse and the all-powerful utility it carries in terms of an organising function. This is put to use as a body of algorithmic knowledge that underpins the subject's inventions. As such we could perhaps characterise the syntactic autistic mode of jouissance by way of production, function and satisfaction.

I also want to propose a second distinct mode of autistic jouissance, which in stark contrast to the syntactic mode, is characterised by consumption and dissatisfaction. This is the semantic

autistic mode and it is a mode in which there is an imaginary dominance. Semantics is described by Lacan (1991, p.305) as the 'concrete languages, those we deal with, with their ambiguities, their emotional content, their human meaning'. We can already see here the stark contrast to scientific discourse, cybernetics and syntax, which have a distinct absence of ambiguity, emotional content and human meaning. As such, any question of function in a utilitarian sense is somewhat contentious. We could perhaps interpret Bentham's codification of the law as an exercise aimed at eliminating the semantic dimension from its discourse. Syntax, then, functions as a direct relation between the symbolic in the form of sign systems, and the real, which introduces a dimension of function and countable sense. Semantics is the domain of meaning because it concerns the way that the symbolic hooks the imaginary onto a locus of law and discourse i.e. the Other. For Lacan, the locus of law came in the form of the Name-of-the-Father and the signification of the mothers' desire. In the epoch of generalised foreclosure, the imaginary is not structured in relation to the law. Without the efficacy of the Name-of-the-Father functioning as a socially sanctioned sinthome, the imaginary ex-ists as a symptom of the real, as such. This can be written as I◊r. The subject is thus left seeking an alternate means of regularising jouissance. This can be sought through what Lacan (1991, p.306) called the 'inertia in the imaginary which we find making itself felt in the discourse of the subject, sowing discord in the discourse, making it such that I do not realise that when I mean someone well, I mean him ill, that when I love him, it is myself that I love, or when I think I love myself, it is precisely at this moment that I love another'. The subject, then, remains caught up in the 'imaginary confusion', where the image itself constitutes a type of prosthesis for the regulation of jouissance. I◊r is also one of the fundamental passions described by Lacan in Seminar I. In a previous chapter I used the matheme S◊r to denote the autistic coder, which is Lacan's matheme for the passion for ignorance. I◊r denotes the passion for hate. Incidentally, the third passion of being is the passion for love and is represented by the matheme I◊S. In Seminar XX Lacan relates the passion for love, hate and ignorance to jouissance, rather than to being. Love is attached to semblants, while hateful passion aims at the real and, thus, takes precedence over love for approaching the Other. I◊r, which I have used to denote the autistic jouissance of the user, becomes the most fundamental passion or delusion in the context of foreclosure from the Name-of-the-Father. In the contemporary age of virtual reality and social media this mode goes beyond discord and is more of the order of hainamoration (hate-loving), a term Lacan (1999) used to describe the extreme ambivalence of the love hate relation. Lacan locates hatred as an effect of 'being rejected', the point of differentiation from the mother. Describing this point in Lacan's teaching Eric Laurent (2020, p.259) states that Lacan 'dispenses with the fiction of the Name-of-the-Father to found the fundamental affect of the relation of the Other. He founds it directly on the relation with jouissance as a point of rejection, of expulsion of the Other, which goes back to the

Ausstossung [banishment], to the primordial expulsion that places the subject in front of the Other'. In Encore Lacan (1999, p.100) describes how 'hatred springs forth from jealoussance'. In other words, there is a hatred of the other enjoying the nipple at my expense. Hatred, of course, has emerged as the primary affect founding the relation between the 'unarities' (the ones-all-alone), the users of social media locked into their devices and isolated in the position of troll, hater or conspiracy theorist. The autistic mode of the user is thus dominated by the hainamoration of the Other that functions in the place of the Name-of-the-Father as the basis for the relation the Other.

How does this semantic dimension produce an autistic experience, or a collectivised mode of autistic jouissance? Let us consider the user who increasingly mediates their relationships through technological devices. In the context of the quote from the senior director at Microsoft, who suggested that the user assimilates something of the coder through the algorithm and that we can perhaps see autistic cycles in the production-consumption chain of tech objects, the semantic autistic mode would be at the consumer end of this cycle. As such consumer behaviour is driven by the algorithmic platforms that are designed to stimulate high usage. This is the process described by Zuboff (2019), which she classifies as 'surveillance capitalism', in which human behaviour is commodified and codified and traded on behavioural futures markets. The value from such markets comes from the potential capital they generate in terms of prediction, coercion, and control through widespread behavioural modification. The engine for such markets is the various platforms, which are now multiform, that generate data and pull users into behavioural patterns driven by AI powered tailored flows of information. Facebook, Instagram, snapchat etc., are just some of the platforms that have driven radical shifts in social behaviour over the last fifteen years and they are characterized by the fact that they operate in an entirely imaginary zone. The autistic aspects of this are thus: it is a zone of solitude, outside of any social bond, the Name-of-the-Father is foreclosed and as such an alternative mode of regulating jouissance is required. It has other consistent characteristics, namely anxiety and difficulty with social interactions and face-to-face conversation. It is this cross section of characteristics that have seen it labelled as a type of induced autism, which has been dubbed as a 'flight from conversation' by Social scientist Sherry Turkle (2015). Turning back to the structural aspects of such a mode, let us consider again Miller's (2005) thesis in 'The Invention of Delusion'. Here, the empty symbolic register (S2) absorbs the structure of the imaginary (a-a'), which Miller symbolises as follows:



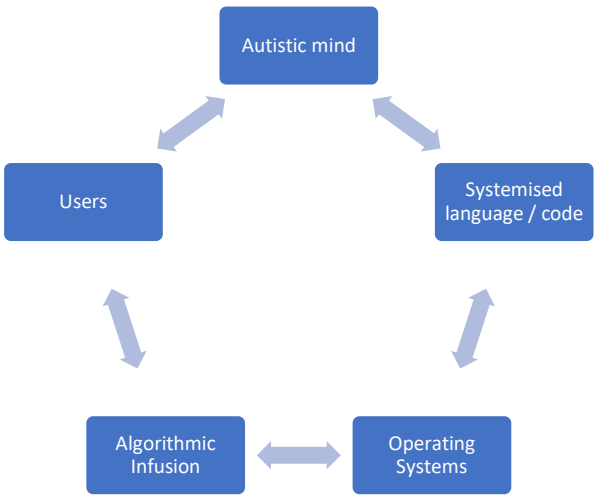
So let us say, in line with Miller's thesis here, that without the Name-of-the-Father, which is foreclosed, that in what Miller (2005, p.24) describes as the 'initial moment' that arises as elementary phenomena, there is an absence of an (S2), which produces the 'emptiness of signification'. Here, I feel, is the critical distinction between syntactic and semantic modes. In a syntactic mode, the subject utilises a sign system to ground and organise the real of the body within a system of precise calculation. While there is an imaginary dimension here, to some degree, the structure is characterised by symbolic metricising of the real. The body in this regard is a coded body, with its functionality determined for the subject by the information turned out by algorithms and systems of measure. In the semantic mode, the symbolic absorbs the structure of the imaginary and the subject experiences wild fluctuations of mood as they oscillate between the two poles (a-a') 'creating an unhindered state of ambivalence that can charge a frenzy of interpretive delusions (S2)' (Wilson, 2017, p.11). This (a-a') structure constitutes the imaginary confusion described by Lacan. The user who spends hours in 'The Facebook Zone', as Turkle (2015) calls it, operates in a lone space where all connection is virtual and without symbolic mediation. They are caught up in the objective confusion and are left alone with the anxiety-inducing mysteries of one's real body. The raft of new symptoms that this brings about are labelled in all kinds of ways in the great book of disorders i.e. the DSM V. The wild oscillations may be labelled as bi-polar, the isolation, solitude and anxiety might be labelled as autism and, if we are unsure, then there is no rule against co-morbidity in contemporary psychiatric discourse.

An interesting facet of the feeling of dissatisfaction and isolation experienced by the consumer, is that it manifests in what Turkle (2015, p.68) calls 'disconnection anxiety' which results in the subject turning with increasing frequency to their devices. There is an additional dimension to this. Instruments of hyper-connection, that we carry with us all the time can be invasive and generate an anxiety where the subject can feel overwhelmed by too much connection, as well as by too little. This generates what Turkle (2015, p.265) describes as 'the goldilocks effect' in which the subject seeks a barrier, a mediator, a regulator of relationships, a filter for the real desire of the Other, that enables them to keep 'their connections not too close, not too far, but just right'. This is a type of control and regulation seen in the autistic subject, where relationships and the

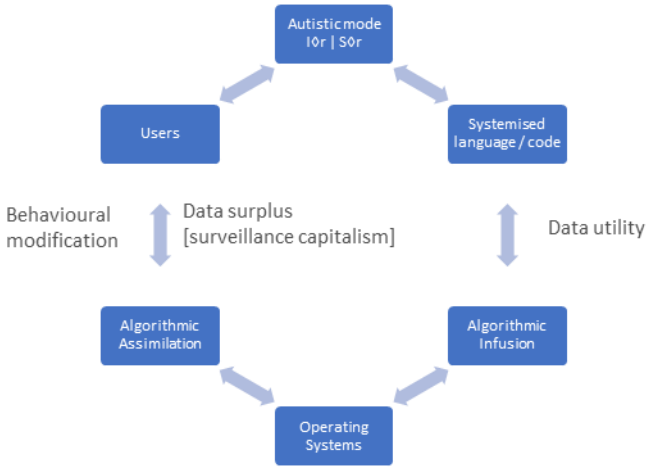
environment in which they take place needs to be predictable, safe and, most importantly, under their control. In terms of behavioural modification towards autistic modes of collectivised jouissance outside of classical social bonds, it is perhaps nicely captured by Turkle's (2015, p.28) description of what she refers to as 'cockpit syndrome'. 'A senior partner at a Boston law firm describes a scene at his office: Young associates lay out their suite of technologies: laptop, tablet, and multiple phones. And then they put their earphones on. Big ones. Like pilots. They turn their desks into cockpits. With the young pilots in their cockpits the office is quiet, a quiet that does not ask to be broken'. Worryingly, says Turkle (2015, p.29), they are 'actively finding ways around face-to-face conversation'. This paints an image that is echoed by Joe, a senior software engineer at Microsoft, who has a diagnosis of Asperger's Syndrome. 'One of the biggest changes for me over the last fifteen years working for Microsoft is that you can't tell an autistic coder from any other coder anymore. I know that sounds ridiculous, but trust me, I could pick out a fellow aspie a mile away: baseball cap pulled down, headphones on, moving a little awkwardly through the crowd, locked into their tech at lunch. Now that is pretty much every coder. Look around the campus. It has become standard operating procedure. Which is kind of cool for me'.

What is interesting here is that, left alone with the traumatic dimension of the real of one's body, the subject still turns to technology as a consumer to try and control, master, and regulate jouissance and overwhelming affect. Turkle (2015, p.81) describes this as 'The Algorithmic Self'. She states, 'The list of candidate technologies is already long: a computer programmed to behave in the manner of a therapist; devices that help you track your physiology for patterns that will help you understand your psychology; programs that analyse the words in your diary and come up with a diagnosis of your mental state. These last are certified as the 'real you' because they are based on what is measurable about your behaviour, your 'output'. They are served up as your quantified or algorithmic self'. We should note here that the tools of the quantified self are, by their nature, tools of surveillance capitalism and they generate a surplus of data which supplies the behavioural futures market. As such we can perhaps see two autistic modes, S◊r, which concerns how the symbolic ritualises the real and I◊r in which the symbolic register absorbs the imaginary structure (a-a') and is in essence a symptom of the real. At the observational level they look strikingly similar but, at the structural level, I propose are vastly different. The concept of metricising the real of the body has functioned in a gnomic trajectory for Josh for example, and it is traceable through his series of objects (cuff, watch, data fusion algorithms, body sensor suit), which are underpinned and overwritten by a codified sign system. I have already traced out the structural effects in terms of his subjectivity and I would locate Josh within the syntactic mode S◊r. Then we have the user who is isolated in an imaginary and

transitive zone. The symbolic absorbs the structure of imaginary (a-a') and they experience rapid oscillations in mood, enigmatic affect and the anxiety connected with the trauma of the real of the body. As such they turn to the objects of the 'quantified self' which might well be the offspring of the autistic coders own sinthomatic inventions. Wearable technology, such as the suits designed by Josh, is one example of technology that functions as a mode of representation and that offers some sort of metric by which the disorientated subject can try and impose some order. This is the autistic mode of the user, the hainamoration, the one-all-alone and is of the semantic order I◊r. Below is the diagram drawn for me by the senior director to represent how he understood the process of algorithmic infusion:

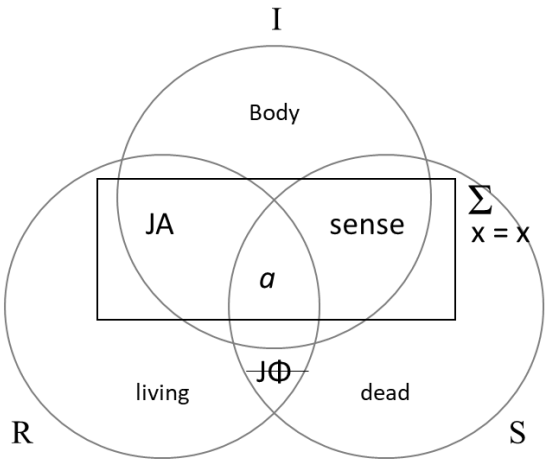


We can perhaps make some small additions to the diagram to try and locate the syntactic and semantic domains of autistic modes of jouissance.



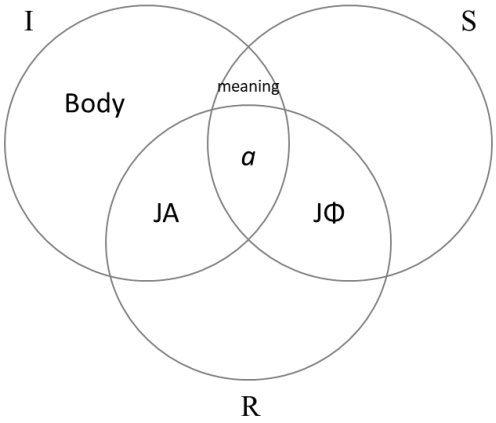
In the modified diagram I have changed the term autistic mind for autistic modes to reflect the different modes of autistic jouissance and the structural differences I have laid out in this thesis. I have also differentiated between algorithmic infusion which, in essence, is what is present of the coder in the algorithm, and algorithmic assimilation, characterised by the potential effects of the algorithm on the user i.e. the ability of carefully crafted machine learning algorithms to tailor your content and modify your behaviour. The fact that in both modes science can enter the equation to produce a quantified self and a means of ordering the chaos, is indicative of the dominance of techno-capitalist and scientific discourse in general.

One can perhaps utilise and modify the knot from the 'The Third' in the following way, to demonstrate in schematic form the difference between the autistic modes. The first knot is one that I laid out in a previous chapter and demonstrates the sinthomatic knot that ties the RSI together in a particular way. The first, as previously stated, shows the sinthomatic elements that form the basis of a refined system in which science (JA) and quantification/countable sense are utilised to produce objects (a) along a gnomic trajectory, in the form of a series or evolution of supplementary organs. The crucial part here is how those elements come together to form a knot in which syntax is tied to the real and the body is a direct production of a system of calculation.



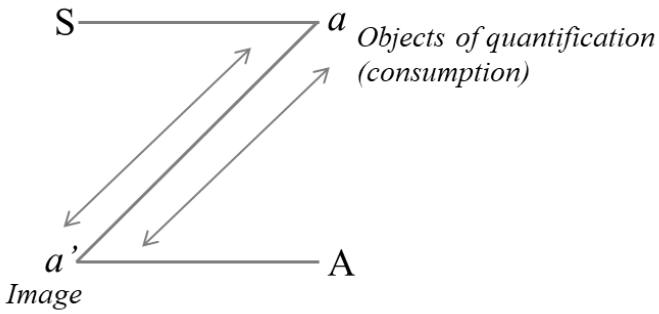
In the semantic autistic mode there can still be a utility of objects of quantification, but it is the image and the associated imaginary confusion and ambivalence which dominates, and objects of quantification are utilised rather than produced. It is in the imaginary couple of the subject and his image that we can trace the 'inertia' in Lacan's teaching, which is linked to his discovery of what he called the mirror stage in which the infant finds joy and a promise of future unity in his own reflection (Miller, 2011, p.57). The imaginary axis (a-a') is where Lacan located ego psychology and object relations in which there is a lack of attention in terms of the symbolic

dimension and its role in putting the brakes on the imaginary relationship (Miller, 2011, p.57). 'Lacan's entire teaching consists of opposing the inertial imaginary couple and the symbolic intersubjectivity, which is dynamic' (Miller, 2011, p.58). If there is a decline in what some might call 'symbolic efficiency', amidst an epoch of generalised foreclosure, the subject is left in this inertial dynamic of the imaginary couple (a-a'), which is of course inherently unstable, and furthermore threatens to leave the subject without a means of regulating jouissance. Science intervenes here too; in that it is the dominant discourse and produces the objects that increasingly mediate the subject's relations and facilitate new modes of representation and new clinical symptoms.

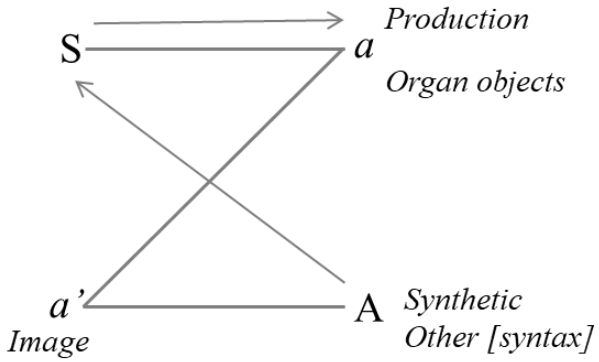


We can also return to Lacan's (2006, p.458) L schema here. As a reminder, 'the schema signifies that the condition of the subject, S (neurosis or psychosis), depends on what unfolds in the Other, A'. In the semantic mode of autistic jouissance we could say that the subject is caught up along the imaginary axis (a-a'). The subject, according to Lacan (2006, p.459), 'is drawn to the four corners of the schema: namely, S, his ineffable and stupid existence; a, his objects; a', his ego, that is, his form as reflected in his objects; and A, the locus from which the question of his existence may arise for him'. We can locate scientific discourse within the domain of A, or the Other. The tech objects that isolate the user in the imaginary zone through various social media platforms, as well as the objects of quantification, are in the domain of (a), i.e. the objects in which his image or form is reflected. This is the zone of consumption or user in which the subject's ego (a') is entangled, confused and supported by their objects (a). I have added additional arrows to demonstrate the dominance of the imaginary axis, as well as the oscillation between the imaginary poles which, at the extreme, constitutes the bi-polar presentation, where the high of validation through strong imaginary identifications, can quickly be replaced by feelings of extreme hatred of the other's jouissance. Whatever the subject constructs, in the form of identity, can seem fragile and ephemeral. Scientific discourse, cognitivism, neuroscience, and the like, provide a discourse that offers a narrow and reductionist means of self-report, and

increasingly dominates how the subject understands themselves and the dissatisfaction that comes with the fluctuations of isolated imaginary zones. It can be framed as a disorder, a cognitive or neuronal misfiring to be corrected or modified. We could say that perhaps the subject is an effect of discourse as it is assimilated through the objects that govern their existence, in terms of algorithmic assimilation.



In the syntactic mode of autistic jouissance I have placed the synthetic Other in the place of (A), or the Other. This is to demonstrate the narrow and highly specific syntax by which the subject chooses to orientate their experience and to impose some order. I have added an arrow that runs from the synthetic Other to the subject (S) to try and show its very deliberate utility as a mode of production in terms of the autistic's inventions (a'). I have labelled these as organs, to demonstrate their functional characteristics in the organ-isation and structuring of a body, and of its drive circuits. The schema here forms a type of circuit, in that the inventions and syntax through which the subject structures an identity (x=x), a body, an islet of competence, come to define their subjectivity, while often resulting in an evolved syntax in the form of a contribution to scientific knowledge. As this develops and expands the subjects synthetic Other, it can often yield further productions, which are increasingly functional, efficient, and satisfying, thus further enhancing the subject's position in the common discourse.



Scientific discourse – Neuropsychoanalysis and The Free Energy Principle

In contemporary neuroscientific discourse and increasingly in psychoanalytic discourse, there is the tendency towards framing the sinthomatic device, particularly in the highly syntactic form in which I have laid it out in this thesis, in relation to the free energy principle (FEP) which, as I will explain, has distinctly Freudian routes. It is important because, in the epoch of the dominance of science, its hegemony is coming to dominate contemporary understanding of the subject, how they are recorded in terms of systems of measure, how they report and represent themselves and indeed how they are modified, conform, or are otherwise diagnosed as disordered. In FEP, energy is considered to be either 'free, or bound' (Holmes, 2020, p.7). The terms 'free' and 'bound' are provocative for many psychoanalysts because of their Freudian connotations. Even at the very end of his research Freud stated that 'We seem to recognise that nervous or psychical energy occurs in two forms, one freely mobile and another, by comparison, bound' (Holmes, 2020, p.17). At the risk of over simplifying Freud's body of work, unbound energy, or 'Q' as Freud symbolised it (which later transmuted into libido), was associated with primary process i.e. uninhibited psychic activity operative outside of social prohibition and reality. The modification and socialisation of unbound energy into bound energy comes through the effects of civilisation and reality on the subject. Freud's notion of homeostasis as it applied to human biology, was that the stability of the internal milieu, which he considered the condition for a free life, was achieved through the limiting of unbound energy. He states, 'The purpose of the mental apparatus is to keep as low as possible, the total amount of excitations to which it is subject' (Holmes, 2020, p.16). The free energy principle concerns itself with the neuroscientific and neurobiological study and understanding of how the subject maintains internal stability through what is referred to as 'predictive error minimisation' or 'PEM' (Holmes, 2020, p.15). PEM describes the process by which the subject utilises information from the external world to create internal world models, thus assisting the subject in minimising the element of surprise in their experience and the disruption to the internal milieu. It is these concepts that underpin the advancing field of Neuropsychoanalysis which attempts to use scientific systems of measure and reporting to frame Freudian concepts relating to the homeostasis of energy or libido in the subject. As a result, 'we are promised the foundation of a new 'science of mental life'' that is supported by the breakthroughs achieved by cognitive neuroscience (Vanderveken, 2019, p.3). Cognitivism, which tends to dominate the therapeutic landscape in the UK today, precisely due to its quantifiable components is, in essence, a repackaging of the once discredited behaviourism. Behaviourism met with much resistance due to 'its totalitarian uses of conditioning and what resulted from them' (Vanderveken, 2019, p.3). It has experienced a resurgence, armed with empirical data concerning the functioning of the brain, through neuro-imaging techniques and scientific methods of recording neurobiological functions. It is a means

of re-installing its position of dominance under the promise of deciphering a 'new materialism of subjectivity by applying the mathematical model to it' (Vanderveken, 2019, p.3). This mode of materialism has been imposed on the psychical field and it is the dominant discourse of subjectivity. It is widely accepted that the subject is a bundle of neural formations and biological processes which can misfire and go awry but, that with the right drugs and behavioural modifications, normal functioning can be restored. In essence, the human can be debugged. Vanderveken (2019, p.4) describes this as an 'attempt to take power in the health system and in the master's discourse' in which the psychologist or other such practitioner, is put at the service of what has become the 'major globalised signifier: namely generalised productivity'. This, he says, 'is part of the logic of quantification'. Here, everything is taken up, including the psyche and subjectivity in general, in the register of efficiency, of production, 'which crushes the human'. Under such materialism the brain is reduced to a computer, an information processing machine akin to a Turing machine. This is not to minimise the findings or the potential utility of neuroscience, neurobiology and emerging fields of psychoneuroimmunology. Like psychoanalysis they touch a real, 'but this real is not the same. And there is no intersection between the two' (Vanderveken, 2019, p.7).

From the perspective of Lacan, and indeed of Freud, such theories, their systems of measure, and indeed the subject's mode of representation and of reporting oneself, are all effects of discourse and, more precisely, scientific discourse. This is what Lacan (2006, p.730) was alluding to when he said, 'sciences man does not exist, only its subject does'. While Freudian concepts of energy, cathexis or binding, as well as Lacan's emphasis on mechanism and algorithm, lead many analysts to neuroscientific theories such as the free energy principle, we should remember that the true Freudian discovery in his study of the paralysis of hysterics was that they did not belong to an organic zone, but that they 'touched, concerned, and covered areas of the body taken up or defined by language' (Vanderveken, 2019, p.7). It was the very removal of these symptoms from the field of the organic, and their putting back into the field of speech and language, 'that an effect was obtained on these bodily symptoms' (Vanderveken, 2019, p.8). It is interesting here to think about the somatic dimension that emerges as enigmatic, or of a field or unregulated jouissance, which troubles the autistic subject. Through numerical laws and the application of syntax, an ordering takes place, but importantly, through science the body is represented in a language of signs, outside of metaphor and metonymy. We must also remember that jouissance was not analogous to energy. Lacan was consistent on this. Energy is 'nothing other than the numerical value of a constant', that the physicist needs to work and to make his calculations (Lacan, 1990, p.18). The numerical constant underpins processes of calculation and prediction

and as such we can see both its appeal and its utility in relation to the real. However, Lacan (1990, p.19) is clear when he states, 'the primary process in the unconscious isn't something to be numerically expressed, but to be deciphered. I mean: jouissance itself. In which case it doesn't result in energy and can't be registered as such'. Jouissance is enciphered in accordance with certain modes of jouissance and discourse through which real-ity is organ-ised (Brousse, 2019).

Lacan outlines four modes in The Third and in The Sinthome namely: phallic jouissance, the jouissance of the Other, the object (a), and sense (Lacan, 2019). I have highlighted JA which, according to Lacan, is where the field of sciences emerges and countable or quantifiable sense as interrelated modes and means of enciphering jouissance in the autistic sinthome. As such, scientific discourse and the body are intrinsically linked. However, this does not render jouissance calculable. Rather, the subject utilises the discourse as an approach to reality, as an ordering mechanism which animates the subject and organises the body in a particular way, in line with algorithms, machines and gadgets which function in the place of the foreclosed machine of the Other and the socially sanctioned sinthome of the Name-of-the-Father. 'The dominant discourse functions as the real' (Brousse, 2019, p.117). Lacan, many years before the advent of portable smart devices, commented on the connection between science's subject, the quantified body and the bodily manifestations of the hysteric. 'I conclude that scientific discourse and the hysterics discourse have almost the same structure, which explains our error, induced by Freud himself, in hoping that one day there would be a thermodynamic able to provide – within the future of science – the unconscious and its posthumous explanation. We can say that after three-quarters of a century, there is not the slightest hint of such a promise bearing fruit' (Lacan, 1990, p.19). In the free energy principle, we can see how scientific enquiry, in particular Shannon's development of information theory, is applied to human sciences as a means of calculation. Psychoanalyst and academic Jeremy Holmes (2020, p.32) writes 'Shannon saw that probability could be recast as surprise – the less probable an event, the more surprising it is, and vice versa. Friston's breakthrough was to realise that Shannon's equations for informational uncertainty (aka surprise), entropy and 'free energy', could and indeed must, equally apply to the brain'. As such 'free energy' or unbound energy, is akin to statistical noise, and the subject's goal is to 'bind' this energy to external information to limit surprise through constantly evolving probability and recognition calculations (Holmes, 2020). There is the temptation to merge this with Lacan's thesis that the unconscious is 'structured, articulated, ordered by mechanisms', i.e. signifying mechanisms including the notion of automatism. 'Mechanism involves the dimension of algorithms, rules, procedures, and matrices. It is here that one can grasp how certain psychoanalysts feel seduced by and attracted to neuro-cognitivist algorithms, how they abandon

the signifying dimension of such mechanisms, too rhetorical for them, in order to replace them with a mechanics supposed to be specific to the brain, a neuronal mechanics' (Vanderveken, 2018, p.3). In his later teachings Lacan, as I have previously stated, deconstructs the structures that he had spent decades developing, and elaborates more liquid forms of the Other in the form of the Borromean clinic. The important point here though, is that these seductive forces of law, rules and structure, 'absorbed psychoanalysis' incredibly early on (Vanderveken, 2018, p.3). As such, science, psychoanalysis and the subject are becoming increasingly empirical zones in western culture.

I want to close this thesis with a comparison between the psychanalytic treatment of the subject and the structuring of the autistic sinthome. The act of interpretation in the analytic treatment should, according to Lacan's teaching, aim to undo the sense or meaning that the subject spontaneously gives to a formation of the unconscious, 'because it is somehow encrypted, deformed, so that the ego (or self) does not recognise the repressed desire that is at play in it' (Vanderveken, 2018, p.5). Interpretation then, is not about fixing a meaning, but rather an opening up, so that 'the stream of meaning that continues to flow through and into analysis may eventually be reduced to the algorithm that is the basis of the production of the meaning of life for this analysand' (Vanderveken, 2018, p.5). While this means that the analyst should never pass on a construction to the analysand, the deciphering process itself remains a construction process on the side of the analysand. It is the construction of a meaning and of a knowledge about it 'not by accumulation, but by a reduction of the identifications that cover it' (Vanderveken, 2018, p.5). This is not a truth operation. Lacan determines that any construction and sense of meaning of a formation of the unconscious is an attempt to cover up or close down the effect of truth that has arisen. There is an incompatibility between jouissance and meaning. In light of Lacan's later teachings, Miller indicates that psychoanalysis now is 'less an expectation of the emergence of truth, than the expectation of a satisfaction' (Vanderveken, 2018, p.7). What is more important is that Miller determines that this satisfaction 'is appropriate – and in a certain way, it is afterwards that obtaining this satisfaction gives rise to the elaboration of a truth' (Vanderveken, 2018, p.7). The pass, which is the procedure invented by Lacan to account for one's analysis is in essence the achievement of a 'satisfaction that can be enhanced by a signifying construction where the correlation is made between the procurement of satisfaction and the course of truth' (Vanderveken, 2018, p.7). The end of an analysis is not a designated point, a point of truth, rather it is simply the understanding that there are more or less satisfying configurations of jouissance and that the analysand arrives at a point of satisfaction, perhaps from which a lying truth can be established. This is not a psychoanalysis of a rigid signifying structure but 'that of

the flexible Borromean knot' and the end of analysis is determined by a decision made by the analysand. Vanderveken (2018, p.8) states 'the end of analysis depends on a decision by the analysand where he can demonstrate his ability not to say the cause that determines him, since that is impossible, but to allude to it by means of a construction that convinces and demonstrates its effects'. What is crucial about this view of analysis is the acknowledgment of the subject's ability to modify and construct a more satisfying configuration of jouissance, and that this satisfaction can then be attributed a lying truth.

The autistic sinthome is also a construction that satisfies and alludes to a cause, but that is of a different order. The elaboration of an algorithmic sinthome is not a truth operation. It is a process of construction on the side of the subject, underpinned by axioms and laws that bring with them a functionality, a numerical constant, that yields satisfaction. The constructions I have laid out in this thesis can be traced as an evolution of satisfaction, in which the utility of scientific laws produces increasingly satisfying configurations of jouissance. They are also clearly enhanced by a signifying construction, in that the subject can talk about their jouissance, perhaps to the point where, as Lacan (2018, p.146) said of Joyce, 'jouissance is the sole thing in his text on which we can get a purchase'. One could certainly say of Josh's body suit that the sensors that form a special part of his skills as an engineer, and whose functionality both elevate him and bring him satisfaction, both produce and map jouissance in accordance with his own idiosyncratic configuration. His position as subject is constructed without any help from the Name-of-the-Father. What the gnomonic factor introduces is often a highly observable process of increased satisfaction which is not without its turbulence of course. Similarly, we can see how Grandin's subjectivity is structured over a period which ultimately correlates with her discovery of a particular utility of science and the evolution of her inventions correlates with an evolution of her satisfaction. I have argued, in this thesis, that when the productions/constructions are of the level documented here, that they are highly refined systems, or perhaps a better description would be highly refined configurations of jouissance. The autistic Sinthomes emergence as a production that ties the real to syntax can be approached from Miller's formulation that the real is contingent. The symbolic order captures what is not organised and imposes on it an organisation. 'There', states Miller (2019, p.152), 'in this transmutation of contingency into necessity, the lying truth insinuates itself' in which a rationalisation takes place, and a 'rational lie' is imposed on the absurd that emerges in one's life. It is a lie that makes sense, whether this is in the form of meaning or in the autistic's case, countable sense. Calculation makes sense of the body, what was disordered and chaotic becomes organised by the autist's constructions. Science can name something of the real, of that there is little doubt. However, as Vanderveken

(2019, p.2) points out, 'the discoveries made in the field of cognitive neuroscience, are always made with great noise, very well relayed by the media, they are invariably accompanied with grand promises of major developments and therapeutic applications to come. But once this is done, we hasten to say that nothing is done yet, that it is not sure, that it is certainly to come, but probably much later, because all this is at the same time very complex; you will see this gimmick resurface every time! These are mostly promises, some of which shatter very quickly on the wall of reality'. Such a statement perhaps alludes to the fact that the structure of science itself is a construction that has an element of the lying truth about it but, what is important in its relation to the autistic sinthome, is that its formulations are seen to work and are functional. We could perhaps say that the numerical constant that is central to the scientific formulation functions as a rational lie that produces a 'superior homeostasis under the guise of a functioning' and, as such, a superior satisfaction (Miller, 2019, p.147). As long as calculation is central to the discourses through which the subject approaches reality, so too will it be central to the subject's modes and configurations of jouissance.

Summary of key findings and avenues for future research

Through the research presented in this thesis, I have attempted to develop and evidence a particular subjective mode, which I have referred to as the 'autistic mode of the coder'. This is a mode that is defined by the non-incorporation of the symbolic, and the subsequent invention of a substitute symbolic body that the subject plugs into. The mode of the coder brings the body into direct relation with scientific discourse, using it as a means of regulating and metricising the real. I have demonstrated through the examples of Joey, Grandin, and the contemporary case studies, how the coders inventions evolve in line with the accumulation of knowledge in a particular domain. As the coder's specialist knowledge increases, so to does the sophistication of their inventions and seemingly their ability to regulate the excess excitation that invades the body. The coder develops a mode of functioning around this knowledge, utilising it as an anchor or central point of cohesion for the development of an identity, that in many cases was experienced as lacking before. A key aspect of this is the social and economic utility of the specialist knowledge. In the cases that I have highlighted in this thesis, the utility of the coder's skill set is an important factor in the overall success of the sinthome. Grandin, Josh, and Mark have all built a life around their work, and an identity around scientific knowledge.

This also brings the coder's inventions in direct relation to a social body of users. This is where the concept of algorithmic infusion is interesting. The suggestion that the coder influences the user by way of the algorithm is not a debate in itself, but how and to what degree it becomes

structurally imperative to the subject is an area that warrants further research. How could we come to understand the mode of the user in relation to the coder's inventions? Of course, the coder is also a user. They all picked up a piece of technology; a fan, a blood pressure cuff, a cattle holder, and used it as a creative kernel with which to approach subjectivity and reality. However, I have highlighted, I hope, a crucial difference between stabilisation and creation in foreclosure, and the responsive nature of the behavioural modifications seen in the user. A deeper understanding of the mode of the user would require careful consideration of what characteristics define this mode and to what degree they can be attributed to technological devices and networked communication systems.

I hope that this thesis has developed a concept that will be of interest to others in the analytic field, both theoretically and clinically. In my own clinical work, and that of my peers, it has been useful to observe and to understand how the autistic subject can utilise an interest that might be classed as unhealthy or pathological and use it to construct a life for themselves. This has informed our interventions and the way in which we support the subject to find their way in life and to build an identity. Theoretically, I hope it may be of interest to students of media theory, as well as psychoanalysis. There are many ways to read and understand the relation between the subject, the machine, and digital media that I have highlighted here, and I would like to think that aspects of this thesis can contribute to future thinking in this area.

Bibliography

Bentham, J. (1995) *The Panopticon Writings*. London: Verso.

Bentham, J. (2012) *Jeremy Bentham Wikipedia Page*. Available at: www.en.m.wikipedia.org/wiki/jeremy_bentham

Bettelheim, B. (1972) *The Empty Fortress*. New York: Free Press.

Brousse, M. (2013) 'Ordinary Psychosis in the light of Lacan's Theory of Discourse', 'Psychosis Today' *Psychoanalytic Notebooks 26: Psychosis Today*, pp: 23-31. London: New Lacanian School.

Brousse, M. H. (2019) 'Ordinary Psychosis', *The Lacanian Review 07: Get Real*, pp. 113-118. Paris: New Lacanian School.

Brousse, M. H. and Poliakoff, C. (2019) 'Cold Fire', *The Lacanian Review 07: Get Real*, pp. 7-8. Paris: New Lacanian School.

Buchanan, AC. (2018) 'Cyborgs, Luddites and To-Do List Apps: An Autistic Use of Technology', *Knowing Why – Adult-Diagnosed Autistic People on Life and Autism*, pp. 128-141. Washington: The Autistic Press.

Cottet, S. (2013) 'Online with Serge Cottet', *Hurly Burly*, (10), pp.119-131. Paris: New Lacanian School.

Daly, G. (2004) 'Slavov Zizek: A Primer', *Lacan.com*. Available at: www.lacan.com/zizek-primer.htm

Fink, B. (1995) *The Lacanian Subject: Between language and jouissance.* West Sussex: Princeton University Press.

Foucault, M. (1991) *Discipline and Punish – The Birth of the Prison*. London: Penguin.

Freud, S. (2001) *Beyond the Pleasure Principle*. London: Vintage

Grandin, T. (1986) *Emergence: Labelled Autistic*. Novato: Arena Press.

Grandin, T. (2006) *Thinking in Pictures*. London: Bloomsbury.

Guyonnet, D. (2019) 'One the Issue of Verbal Hallucination', *The Lacanian Review 07: Get Real*, pp. 123-130. Paris: New Lacanian School.

Hayles, N. (1999) *How We Became Post Human*. Chicago: University of Chicago Press.

Haynes, D. (2021) 'West faces 'moment of reckoning' in technology threat from China, warns GCHQ head', *Sky News*. Available at: https://news.sky.com/story/west-faces-moment-of-reckoning-in-technology-threat-from-russian-and-china-warns-gchq-head-ad-12285073

Holmes, J. (2020) *The Brain has a Mind of its Own*. London: Confer.

Kanner, R. (1943) 'Autistic Disturbances of Affective Contact'. Available at: http://neurodiversity.com/library_kanner_1943.pdf

Lacan, J. (1990) *Television*. London: Norton.

Lacan, J. (1991a) *The Ego in Freud's Theory and in the Technique of Psychoanalysis, The Seminar of Jacques Lacan Book II.* London: Norton.

Lacan, J. (1991b) *Freud's Papers on Technique, The Seminar of Jacques Lacan Book I*. London: Norton.

Lacan, J. (1997) *The Psychoses, The Seminar of Jacques Lacan Book III*. London: Norton.

Lacan, J. (1999) *Encore, The Seminar of Jacques Lacan Book XX*. New York, UK: Norton.

Lacan, J. (2006) 'On a Question Preliminary to any Possible Treatment of Psychosis', *Ecrits*, pp. 445-485. London: Norton.

Lacan, J. (2007) *The Other Side of Psychoanalysis, The Seminar of Jacques Lacan Book XVII*. London: Norton.

Lacan, J. (2018) *The Sinthome*, *The Seminar of Jacques Lacan Book XXIII.* Cambridge: Polity.

Lacan, J. (2019) 'The Third', *The Lacanian Review 07: Get Real*, pp.83-109. Paris: New Lacanian School.

Laurent, E. (2012) 'Autism and Psychosis', *Psychoanalytic Notebooks* 25: *Autism*, pp. 11-26. London: New Lacanian School.

Laurent, E. (2014) *Lost in Cognition*. London: Karnac.

Leader, D. (2012) *What Is Madness?* London: Penguin.

Liu, L. (2010) *The Freudian Robot*. Chicago: University of Chicago Press.

Lucas, P and Sheeran, A. (2006) 'Asperger's Syndrome and the Eccentricity and Genius of Jeremy Bentham', *Journal of Bentham Studies*, 8. Available at: https://core.ac.uk/download/pdf/1887786.pdf

Maleval, J. (2012) 'Why the Hypothesis of an Autistic Structure', *Psychoanalytic Notebooks 25: Autism*, pp.27-49. London: New Lacanian School.

McKean, T. (1994) *Soon Will Come the Light*. Texas: Future Horizons.

Metzinger, T. (2010) *The Ego Tunnel*. New York: Basic Books.

Miller, J. (2011) 'The Economics of Jouissance', *Lacanian Ink*, pp. 6-63. New York: Lacanian Ink.

Miller, J. (2019a) 'Psychoanalysis Has a Structure of Fiction', *The Lacanian Review 07: Get Real*, pp. 137-148. Paris: New Lacanian School.

Miller, J. A. (1987) 'Jeremy Bentham's Panoptic Device', *MIT Press*, 41, pp. 3-29. Available at: www.jstor.org/stable/778327

Miller, J. A. (1990) 'Microscopia: An Introduction to the Reading of Television', *Television. A Challenge to the Psychoanalytic Establishment*, pp. xi-xxxi. New York: Norton.

Miller, J. A. (2005) 'The Invention of Delusion', *International Lacanian Review*. Available at: www.lacanianreview.com.br/artigosg.asp

Miller, J. A. (2013) 'Ordinary Psychosis Revisited', *Psychoanalytic Notebooks* 26: *Psychosis Today*, pp. 33-48. London: New Lacanian School.

Miller, J. A. (2013) 'Other Without Other', *Hurly Burly* 10: pp. 15-29. Paris: New Lacanian School.

Miller, J. A. (2019b) 'The Lost Object of Language', *The Lacanian Review 08: Nightmare*, pp. 137-148. Paris: New Lacanian School.

Miller, J. A. (2020) 'Paranoia, Primary Relation to The Other', *The Lacanian Review 10: Paranoia*, pp. 55-89. Paris: New Lacanian School.

Monnier, J. L. (2019) 'Extension of the Domain of feminine Jouissance', *The Lacanian Review 07: Get Real*, pp. 131-134. Paris: New Lacanian School.

Mui, C. (2011) *Five Dangerous Lessons to Learn from Steve Jobs*. Available at: www.forbes.com/sites/chunkamui/2011/10/17/five-dangerous-lessons-to-learn-from-steve-jobs/amp/

Nazeer, K, (2007) *Send in the Idiots*. London: Bloomsbury.

Perrin, M. (2012) 'Construction of an Autistic Dynamic', *Psychoanalytic Notebooks* 25: *Autism*, pp. 65-91. London: New Lacanian School.

Saks, O. (1995) *An Anthropologist on Mars: Seven Paradoxical Tales*. Available at: www.booksvooks.com/an-anthropologist-on-mars-seven-paradoxical-tales-pdf.html

Schreber, D. P. (2000) *Memoirs of My Nervous Illness*. New York: NYRB

Shannon, C. E. (1963) *A Mathematical Theory of Communication*. Illinois: University of Illinois Press.

Silberman, S. (2001) *The Geek Syndrome*. Available at: https://www.wired.com/2001/12/aspergers/

Silberman, S. (2015) *Neurotribes*. London: Allen & Unwin.

Soler, C. (1984) 'The Body in the Teaching of Jacques Lacan Translated by Lindsay Watson', *JCFAR*, 6, pp. 6-38 (95). Available at: www.jcfar.org.uk/wp-content/uploads/2016/03/the-body-in-the-teaching-of-jacques-lacan-colette-soler.pdf

Soler, C. (2014) *Lacan – The Unconscious Reinvented*. London: Karnac.

Soler, C. (2016) *Lacanian Affects*. London: Routledge.

Tendlarz, S. (2003) *Childhood Psychosis – A Lacanian Perspective*. London: Karnac.

Turkle, S. (2015) *Reclaiming Conversation*. New York: Penguin.

Vanderveken, Y. (2013) 'Clinical Points of Perspective', *Hurly Burly*, (10), pp. 112-116. Paris: New Lacanian School.

Vanderveken, Y. (2018) *Structuring and Destructuring of Psychoanalysis*, 4(3). Available at: www.lacaniancompass.com

Vanderveken, Y. (2019) 'The Unconscious and the Brain: Nothing in Common', *The Lacanian Review 09: Still Life*, pp.198-213. Paris: New Lacanian School.

Vanheule, S. (2016) *Capitalist Discourse, Subjectivity and Lacanian Psychoanalysis*. Available at: www.frontiersin.org/articles/10.3389/fpsyg.2016.01948/full

Voruz, V. (2012a) L'autiste et sa voix, Jean-Claude Maleval', *Psychoanalytic Notebooks* 25*: Autism*, pp.207-209. London: New Lacanian School.

Voruz, V. (2012b) 'Ethics and Morality in the Time of the Decline of the Symbolic', *Psychoanalytic Notebooks* 25: *Autism,* pp.167-177. London: New Lacanian School.

Weiner, N. (2013) *Cybernetics or Control and Communication in the Animal and the Machine*. New York: Martino Fine.

Wikipedia (2021) *Weak Central Coherence Theory*. Available at: https://en.wikipedia.org/wiki/Weak_central_coherence_theory

Williams, D. (1992) *Nobody Nowhere*. London: Jessica Kingsley.

Wilson, S. (2017) *Nikola Tesla and the Science of a Successful Paranoia*. Available at: Language and Psychoanalysis Online: http://dx.doi.org/10.7565/landp.v6i2.1570

Wright, C. (2014) 'Happiness Studies and Wellbeing', *Culture Unbound*, 6, pp. 791-813. Available at: www.cultureunbound.ep.liu.se

Zuboff, S. (2019) *The Age of Surveillance Capitalism*. London: Profile Books.