Reading the Cards: Critical Chatbots, Tarot and Drawing as an Epistemological Repositioning to Defend against the Neoliberal Structures of Art Education

Eleanor Dare and Dylan Yamada-Rice

Introduction

Fleming (2021) writes that there is a "strong link between the neoliberalisation of Higher Education (HE) and the psychological hell now endured by its staff...academia once the best job in the world -one that fosters autonomy, craft, intrinsic job satisfaction… you would be hard- pressed to find a lecturer who believes that now" (blurb). In this chapter, we pick up on this sentiment in relation to the use of psychometric and behavioural evaluation algorithms within HE to show how this is just one example of how autonomy, craft and thus job satisfaction are being pushed out of the academy.

Explicitly psychometric algorithms, as well as less overt approaches to "personality" metrics, remote proctoring and classroom behaviour are now widely deployed in work and education. Indeed, the Cam- bridge Analytica scandal of 2018 centered around the apparent use of the so-called "Big Five" personality traits harvested from 87 million Facebook users. Despite their prevalence in corporate, carceral (see Benjamin, 2019; Browne, 2015) and educational contexts, psychometric approaches have long been contested with many categorising them as a pseudo-science (Murphy Paul, 2010). Hollway (1984) identified psychometric testing as a "technology of the social", representing "relations between power and knowledge" (p. 26). She went on to write how such testing is based on a reductionist dualism between society and individuals, in which "one effect of that power of psychology is to privilege the individual as the focus of activities which are in fact specific characteristics of corporate

organisations" (ibid., p. 56). Likewise, remote proctoring software (technology which monitors students and claims to identify "cheating" behaviours via biometric facial recognition (FR), room scanning and blocking of access to web pages) has been widely reported as discriminatory, modelling an ideal of bodily behaviour which excludes in relation to ethnicity, gender, disability and class. This reinforces the ideology of those who have originated such software, establishing a dominant and narrow model of normality.

In light of ongoing calls to acknowledge the systemic nature of social inequality, racism and misogyny and their entanglement with racist and sexist artificial intelligence (AI) systems, it is clear that such technologies are irreconcilable with social justice and their presentation as offering more equitable selection processes, wholly lacking in credibility. Furthermore, their emphasis on the individual, always constructed as separate from others (ridiculous if we consider that most scholarly activities are not carried out alone), reinforces a neoliberal ontology, one in which the possibility of addressing systemic discrimination and systemic privilege is negated. Neoliberalism has been framed as:

> …the defining political economic paradigm of our time- it refers to the policies and processes whereby a relative handful of private interests are permitted to control as much as possible of social life in order to maximize their personal profit.
>
> (Chomsky, 1999, p. 7)

This includes the manufacture and sale of surveillant and discriminatory psychometric software, only holding back when public pressure outweighs profit.

Even Amazon has apparently identified the discriminatory nature of its own AI-driven applicant selection algorithm. In 2018, it was 'widely reported to have scrapped its own system, because it showed bias against female applicants. The Reuters news agency said that Amazon's AI system had "taught itself that male candidates were preferable" because they more often had greater

tech industry experience on their resume' (Murad, 2020, n.p).

In our lived experience as academics, and despite these historical critiques, it has come to our attention how prevalent psychometric and behavioural evaluation is in HE, often remediated through automated, algorithmic processes provided by commercial platforms (an example of which is discussed in detail later). With the onset of proctoring technologies, such surveillance is now pervasive and these questionable constructs now deeply embedded within the everyday practices of universities, negatively impacting both staff and students. Since the declared moratorium on FR in 2020 by Amazon and apparent support for further caution by IBM and Google, the potential harm of AI-driven systems has now become much more widely de- bated, if not fully understood (see, Johnson, 2020). At the same time, the resurgence of systems which claim to generate actionable insights into human emotion, personality and behaviour has, if anything, intensified during the Covid pandemic. The move to online examination and staff candidate selection has seen AI-driven proctoring, algorithmic examination and staff candidate selection becoming pervasive. In August 2020, "A" Level school students (18-year-olds) in the UK successfully demonstrated about the unfair results generated by algorithmic exam prediction. Academics (including the authors) are currently bombarded by sales pitches for AI candidate selection and automated marking systems.

As universities moved rapidly en masse at the start of the Covid-19 pandemic, so apparently did the impetus to algorithmically monitor and by implication model the actions, intentions and emotions of on- line students. Even though intelligence and emotion are both contested subjects, technologies that claim to detect them, proliferate in the case of emotion, 'despite the continuing proliferation of books, journals, conferences, and theories on the subject of "emotion," there is still no consensus on the meaning of this term. Some even believe that it should be thrown out of psychology altogether' (Dixon, 2012). Illouz (2007) writes, "far from being pre-social or pre-cultural, emotions are

cultural meanings and social relationships that are inseparably compressed together" (Illouz, 2007, p. 95,). When AI systems claim to detect emotions, they are detecting that which is "organized hierarchically' and that which, in turn, 'implicitly organizes moral and social arrangements" (ibid., p. 122).

Such analysis and contestation does not stem the tide of systems designed to extract an instrumentally useful construct of emotion and sentiment, one which is individualised (neoliberalised) yet unsituated, whether it is through emoticons or the complex algorithms deployed in systems such as ClassDojo, a school-based "behaviour management" technology, actively "used in 95% of all K-8 schools in the U.S. and 180 countries. 1 in 6 U.S. families with a child under 14 use ClassDojo every day. Fifteen million children have learned about Growth Mind- set and Empathy with ClassDojo" (dogo.com, n.p). Amazon Web Services offer an array of AI-driven speech analysis systems for education, for example, Oleeo.com claims to use AI to "debias" application processes. It is hard to know which services are used by HE, but the authors have "stumbled" upon dashboards for systems such as Oleeo.com by mistyping university intranet addresses for which they have access. AI-driven applicant selection systems are far from straight forward; Ruha Benjamin writes of connections between:

> the cultural power we grant to algorithms with a longer geneal- ogy of symbols and sorcery, arguing that "computation casts a cultural shadow that is informed by this long tradition of magical thinking." Magical for employers, perhaps, looking to stream- line the gruelling work of recruitment, but a curse for many job seekers.
>
> (Benjamin, 2019, p. 141)

We are aware of universities piloting AI-driven student candidate se- lection systems and we believe those systems (such as SpeechX) have the potential to discriminate based on accent (which is what they are designed to do), the connection between language proficiency and accent clearly has many other

intersectional aspects, such as class, region, ethnicity and gender implications, opening the door for dis- crimination, racism, transphobia, class and disability discrimination. What follows is an analysis of how psychometric and behavioural testing has entered the domain of HE recruitment and how it has gained a new lease of life via its rebranding as a form of AI-driven insight, often cynically associated with "diversity" initiatives and with a neoliberal construct of empathy. Empathy in this context is socio- pathic, precluding systemic redress for discrimination and educational assessment gaps, as discussed within this text. The chapter also offers readers a sample of questions with which they might evaluate their own comprehension of psychometric testing. Critical chatbots and tarot, ergodic processes are presented as alternative methodologies, ones in which subjectivity and categorisation are always unstable and situated. The term ergodic is used by Aarseth (1997) to imply narratives in which the reader must work to find a path, in which "nontrivial effort is required to allow the reader to traverse the text" (p. 1–2). The word ergodic is a combination of the Greek words for work and path, which implies a high degree of agency for those who interact with such systems. We propose similarly agential approaches, ones which place agency in the hands of students and staff as a counter to the contested neoliberal ontology of desirable behaviour, emotion and aptitude. The remainder of this chapter is structured first to provide an overview of the literature in relation to the use of psychometric testing and occupational assessment. We then go on to critique this literature further by comparing AI to a critical chatbot and psychometric testing to a tarot reading. In the final section, we suggest that art practice, specifically drawing, can provide an antidote to the harm caused by AI and psychometric testing. The work we use in these sections is auto-ethnographical and we invite the reader to see how it relates to their own experiences.

The coldest of intimacies: HE, business and psychometric/proctoring surveillance

The belief in a core, rational and "true" self, and with it, a desirable set of behaviours and traits, is arguably modelled to reflect the interests and values of those who hold power, apparently predicated "on a naïve scientific realism, in which the psychometrician presumes that his or her quantification corresponds to some underlying thing, which exists unmediated in nature, simply waiting to be measured" (Ferraro, 2014, n.p). Hollway (1984) asks this question of occupational assessment and readers might want to ask them of their own experiences:

> Does it work? The question immediately begs two others. First, what is 'it'? Second, what constitutes 'working'? In answer to the first question, it can be recognised more readily that psychological assessment is not a homogeneous body of knowledge when we see it as a production in various diverse sites.
>
> (Hollway, 1984, p. 27)

Hollway (1984) frames the conception of the individual within occupational assessment as a "social technology enabling the administration and regulation of employees" (p. 28). Within institutional assessment practices, it is naïve, in her terms, to look for a straightforward "progress towards truth" (ibid., p. 27). Hollway (1984) emphasises the historical motivation within what was then called occupational psychology, to aid organisations with "the complex problems of maximizing profitability" (ibid., p. 29). It is important to note the connections between personal psychology and commercial interests, and here, to make overt the connections between psychological assessment methodologies and the marketisation of HE trait-oriented tests, such as Costa and McRae's (2006) version of the Big Five Test of Personality, or Hans Eysenck's (1947) Big Three Supertraits, which are all predicated on more or less monolithic notions of personality traits such as

extraversion-introversion, neuroticism and psychoticism.

In 1955, the personality theorist George Kelly wrote: "the aspirations of the scientist are essentially the aspirations of all men" (p. 43). Kelly's approach is a precursor to cognitive theories of personality, in which an individual's social-cognitive style or adaptation is the key to assessing their individual psychology. It is an approach that is close to the information processing paradigms critiqued by Hayles (1999), Har- away (1991), Barad (2007) and Benjamin (2019). Additionally, in framing "all men" as tantamount to the idealised figure of "the scientist", it is important to ask what types of knowledge and what types of men or indeed what types of people this statement rejects. It is also important to remember, as Henriques et al. (1984) state, that Personal Construct Theory does not take account of the Experimenter Effect, in which the experimenter's own feelings, attitudes or expectations change the outcome, nor does it take any account of wider constructs of rationality beyond Neo-Platonic idealisations. Personal Construct Theory ignores inconvenient or messy variables that are not reconcilable with a narrow conception of rationality or of rational subjects. Most significantly, Personal Construct Theory is based on a conception of the rational and unitary individual, who may be influenced by social forces or social contexts but is nevertheless distinct and separate from their society. Despite the repeated failures and flaws of these systems, HE continues to rely on models of personality traits and normative be- haviour which discriminate, and exclude, reproducing discrimination and reenforcing the status quo. For example, remote proctoring aims to confirm "a student's identity and monitors him/her through a web- cam. The video recorded during a remote proctored exam helps to flag any suspicious activity or behaviour" (proctortrack.com, 2020). This particular proctoring company site goes on to declare:

Both the public and private sectors widely use online remote proctoring. More than 500 universities in the US consider remote proctoring as a viable option. Consequently, schools and colleges switch to user-friendly technologies for conducting online exams.

Due to this, remote proctoring is gaining favourable momentum in the global educational sector.
(proctortrack.com, 2020, n.p.)

Perhaps it is not surprising that no mention is made of the discriminatory impact of this technology beyond a nod towards the danger of discomfort or intrusion which can be addressed, they claim, by acclimatizing students to being proctored. But FR can proactively harm those who are subjected to it due to:

> …an overreliance on standardized visual cues of engagement-precisely the kinds of indicators FR depends on- can be ineffective or even detrimental, and there is further evidence that excessive surveillance can erode the environment of trust and co- operation that is crucial to healthy learning environments and positive student outcomes.
>
> (Demetriades et al., 2020, n.p)

The language used on sites which advertise remote proctoring technologies is of "integrity", "personalized learning", "suspicious activities" and of being "cheat-proof". These words characterise students as transgressive, as opponents who must be surveilled and caught in the act of cheating. In turn, the kind of learning implicated in such transgression is predicated on a banking model of knowledge, in which facts are poured into students and reproduced without recourse to such disobedient strategies as reading a website; it implies a reversion to rote learning by drilling facts into students, it is conservative and regressive in its conception of how learning takes place, taking us back to a 19th-century model of passive learners with miscreant subjectivities. What these systems proctor is a social order, a form of capitalism that according to Illouz (2007):

> went hand in hand with the making of an intensely specialised emotional culture and that when we focus on this dimension of capitalism – on its emotions so to speak – we may be in a position to uncover another order in the social organization of capitalism.
>
> (p. 122)

Swauger (2020) reports on the extremely negative impact on students of remote proctoring technologies, describing how:

> a Black woman at my university once told me that whenever she used Proctorio's test proctoring software, it always prompted her to shine more light on her face. The software couldn't validate her identity and she was denied access to tests so often that she had to go to her professor to make other arrangements. Her white peers never had this problem.
>
> (n.p.)

While students with children or disabilities were similarly discriminated against by the proctoring technologies, "several proctoring pro- grams will flag noises in the room or anyone who leaves the camera's view as nefarious. That means students with medical conditions who must use the bathroom or administer medication frequently would be considered similarly suspect" (ibid., n.p). Trans-students also experience being "flagged up" by proctoring technologies, which are predicated on a narrowly normative modelling of what a body should or should not look like during an exam. Despite the negative impact, the use of such technologies is on the increase and unlikely to be abated, as neoliberal governments push to keep courses online or blended after the pandemic. Why, we might ask, do HE and other organisations persist with technologies which are rife with controversy? Demetriades et al. suggest it is because these "increasingly sophisticated tools offer a veneer of control and efficiency in their promise to pluck individuals out of a mass of data and assign categories of identity, behaviour, and risk" (2020, n.p.), but even more significantly, universities:

> bear significant power to influence our collective future through the students they prepare, the insights they generate, and the way they behave. In light of this unique dual role of both academic and civic leadership, we must begin by recognizing the reality of

> deeply rooted systemic racism and injustice that are exacerbated by surveillance technologies.
>
> (Demetriades et al., 2020, n.p)

Psychometric evaluation of job applicants in HE is similarly driven by a desire to spot those with undesirable traits as well as recruiting those who match an institutionalised construct of appropriate personality. This is despite the fact that even some of the companies who developed such technologies have admitted their faults:

> VIA – an American psychology organization- recently admitted that their personality test is a failure and told a UK government agency to stop using it on jobseekers. After flunking its scientific validation, the test was discredited and put out of use. To reiterate, this was a test being used by an official UK government agency.
>
> (Abercombie, 2015, n.p)

Braidotti (2002) is energetic in the call for "more innovative and creative energy in thinking about the structures of subjectivity at a time in history when social, economic, cultural and symbolic regimes of representation are changing very fast" (p. 73). But Braidotti also asks, is the:

> model of scientific rationality a suitable frame of reference to express the new subjectivity? Is the model of artistic creativity any better? How does it act upon the social imaginary? Will mythos or logos prove to be a better ally in the big leap across the post-modern void?
>
> (ibid., p. 173)

It is interesting to note that a writer who so keenly identifies the dangers of either/or thinking should create, albeit rhetorically, an opposition between scientists and artists, as if art and science are binary constructs and as if art can represent everyone any more than science can. Writers such as Braidotti (2002), Alcoff and Potter (1993), Hollway (1984) and Ansari (2020) have cogently argued that Western notions of the subject have been predicated upon

universalising and damaging sets of dualisms, and in doing so, these dualisms have shaped almost every aspect of Western culture, establishing entrenched, polarised forms of knowledge production. Foremost in the oppositions established by a Western conception of the subject are the separations be- tween body and mind and between the individual and their society.

The following two sections critique these technologies. First, in relation to AI by reflecting on Dare's work developing critical chatbots which attempt to deconstruct Cartesian dualism while critiquing the idea of personality types. Second, through comparing the results of a psychometric test administered as part of an academic job application against a tarot reading of the same questions.

Flawed chatbots surface the absurdity of AI-driven psychometric systems

At this point the !le of cards was again connected with The Devil, already set in that place by the previous narrator.
(Calvino, 1977, p. 23)

Dare's work with chatbots and AI-driven psychometric systems started in 2005; with an Expert System for matching readers to books, the system deployed rudimentary psychometrics, generative of absurdity and misunderstanding. This work was further developed as part her PhD in Arts and Computational Technology (2007–2011), culminating in a critical psychometric system for exploring constructs or AI and subjectivity. Postdoctoral work by Dare continues to explore the limits of such systems as well as their absurdity and entanglement with discriminatory models of normative subjects. In this work, humour is deployed as an embodied presence, reminding us of that which disembodied, un-situated AI can replicate but cannot grasp. According to Stengers (2015), humour does not have to be:

…merely the guardrail of scienti!c passions. It can be the constitutive condition of these passions. And this will be the case if de-

mands are invented where scientists could become the "measure" of becomings that do not authorize the separation between the production of knowledge and the production of existence.
(Stengers, 2015, p. 166)

Dare's chatbot called Lent was developed over three years, from 2007 to 2011, and was framed as both a character and a surveillant worker which had spent its (or "his") working life immersed in the raw mate- rial of CCTV footage, extrapolating meaning from it – forensic, psychometric and epistemic. Lent's obsession with creating an ontology of digital vision and subjective insight was chaotic and often contradictory, enabling something akin to what Stengers (2015) articulates as the 'humour that would permit us to treat the avatars of our belief in the truth as contingent processes, open to a reinvention with "other givens," it seems to me, is vital for resisting the shame of the present' (Stengers, 2015, p. 164). The shame of the present is colonial domination, discrimination and social injustice; our work critiquing psychometrics and proctoring is committed to both surfacing the ways in which that injustice is embedded in technologies (reflecting the ide- ologies of its makers), but also in formulating different ways of being and of recognising myriad subjectivities.

Stengers (2015) writes that both "the strength and the weakness of statistics reside in what they show and what they ignore" (p. 7). Dare's chatbot Lent cannot grasp subjectivity, emotions or personality traits beyond the rote learnt human patterns Dare gave the program, including data scrapped from the Web. The chatbot character Lent is both a software agent and the fictional protagonist of a book and website called "Road", which could be described as an agent-based psycho- metric text adventure in both of its forms. Lent is not a helpful agent in the sense evoked by Maes (1994), but a troublesome servant with his own needs that are not always congruent with those of his "masters" or readers. Lent is arguably closer to an unidealised human servant as opposed to an idealised software servant or agent entity who would follow orders without complaint, conflict or fatigue. He is also closer to the notion of a believable agent as defined by Mateas (1997), one

that has a rich personality and social interactions that are consistent with his character, motivations and goals. Mateas is keen to emphasise that believable agents are not to be confused with truth-telling, functional agents such as those who filter us for job applications or spot us "cheating" in exams:

For many people, the phrase believable agent conjures up some notion of an agent that tells the truth or an agent you can trust. But this is not what is meant at all. Believable is a term coming from the character arts. A believable character is one who seems lifelike, whose actions make sense, who allows you to suspend disbelief. This is not the same thing as realism (Mateas, 1997). Lent was created in response to the failings of Dare's work with a purely Eliza-style agent, the main technical frame of reference in attempting to construct a more stimulating, less deterministic character, and to test if it could generate insights into humans. To paraphrase Russell and Norvig (2002), Lent makes his decisions based on the things he believes in and the things that he wants (p. 584). Unfortunately for his readers, the thing Lent wants most in the world is alcohol. Lent's dependence on alcohol (purely algorithmic, of course) creates an immediate point of tension with his readers, who initially perceive him as a helper agent in the vein of Microsoft's paperclip, "Clippy" or "Office Assistant". Readers are led to believe that Lent is this type of helper agent, one who can provide information and advice while they try to navigate the virtual world of the interface. Though Lent is an extremely simple agent, Dare differentiates "'him" from an even simpler reactive agent (which reacts in a way that is almost reflexive to its environment), in that Lent maintains an internal state relating to "his" levels of alcohol consumption. Lent is consistent with the requirements for a deliberative agent and with Wooldridge's (2009) requirements for an intelligent agent, in that "he" or it is:

- Situated – "he" is embedded in an environment.
- Goal directed – "he" has goals that "he" tries to achieve.
- Reactive – "he" reacts to changes in "his" environment.
- Social – "he" can communicate with other agents

(including humans).

Lent believes he needs alcohol; this is different from the knowledge base that was embedded in the Expert System that Dare used for an earlier psychometric project, in that Lent's beliefs are subjective and do not have to be "true", accurate, helpful or immutable. Lent also believes in a lot of information about South London. However, Lent's desires or motivations are conflicted; he "wants" to talk to readers in a way that usefully conveys the information he knows, but he also

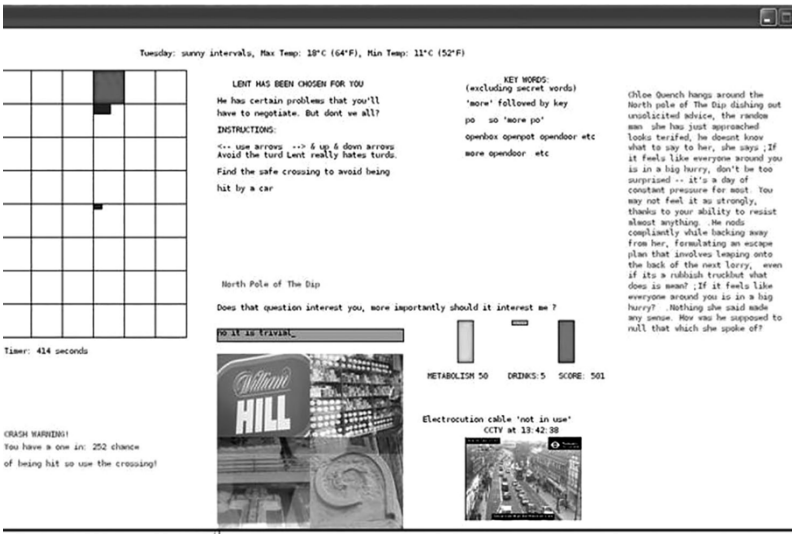

Figure 3.1 A screenshot from 'Road' a deliberative agent interface that uses expressive text-to-speech (Dare, 2007–2011).

"desires" alcohol and is motivated by the desire to steer his readers towards the pub, where he can top up his alcohol levels (as indicated by the central bar chart in Lent's interface; see Figure 3.1). The more Lent drinks, the less coherent he becomes, the less servile and arguably the less useful as an indentured digital servant. However, the less he drinks, the more forceful he becomes in his

efforts to make readers visit the pub. The speech that the system generates is modulated to reflect the current behavioural state of Lent. If he is "drunk", his speech will become slower, if he is agitated, his speech will accelerate and its pitch is raised.

Although there are aspects of this psychometric chatbot agent that Dare found useful, such as the authoring of a less deterministic deliberative agent, the greater value of creating this prototype has been in enabling Dare to identify its weaknesses and the weak- nesses inherent in the conventions followed in the production of AI programs. Although Mateas's (1997) point that believability is not the same as realism is strong, Lent's anthropomorphised subjectivity is the central weakness of this program or indeed the disadvantage of its entire raison d'être. What would a program be like that attempted more profoundly to explore the asymmetries of machinic knowledge generation, the way that, for example, machines reason and process language, instead of covering up errors and asymmetries of under- standing between computers and humans? What would it be like to cultivate those qualities as cultural traits and medium-specilc distinct materialities of the agent medium and even more radically of psycho- metrics and proctoring software?

Dare's work with systems which attempt to generate subjective insight and which are therefore in some ways close to psychometric systems and allow us to ask what is personality and ethically and methodologically question the normative model of behaviour trust upon us and ask who has defined such traits as desirable and what function does empathy serve within such a monitored technological system. The following section considers these questions further in relation to personality testing and the tarot.

Personality testing versus the tarot

In this section, we present the findings of our investigation into the notion that Personal Construct Theory ignores inconvenient or messy variables that are not reconcilable with a narrow

conception of rationality or of rational subjects. To do so, we approached *Feather Tarot*, a Berlin-based professional card reader, to ask if she could put the questions asked of Yamada-Rice during a personality test, under- taken during the application process for an academic role in a UK university, to the tarot. The intention was to understand the similarities and differences between the two sets of outputs and critique the so-called validity of such psychometric testing in HE. The areas asked to the tarot were the same as those in the NEO-PI-R Personality Inventory (Costa & McCrae, 2006) that Yamada-Rice completed first. These were:

1 Effectiveness at organising thoughts
2 Open-mindedness and originality
3 Confidence in problem-solving
4 Action Orientation
5 Conscientiousness
6 Openness to possibilities and alternatives
7 Social energy
8 Attitude to others
9 Quality of relationships
10 Level of emotionality
11 Pattern of emotions

Feather Tarot did not know Yamada-Rice had undergone the NEO-PI-R Personality Inventory (Costa & McCrae, 2006) and was also not privy to the results obtained before her reading. During the tarot reading, *Feather Tarot* placed a note with one of the 11 areas outlined above on a table in front of her. After consulting the tarot, she arranged the cards that answered the questions face up on a table in front of her. *Feather Tarot*'s readings were video-recorded from a bird's-eye view angle. Then, in order to compare them with the results of the NEO- PI-R Personality Inventory test which were disseminated as a written report with graphs, the video data were transcribed verbatim and still images of each hand of cards inserted into the transcript. Once this was done, both the report and the transcript were treated as individual datasets and both were analysed comparatively using thematic analysis (Braun

& Clark, 2006) to draw out emerging themes. The remainder of this section reports on four themes that emerged from this analysis: (1) the whole self, (2) sole responsible for your actions, (3) differences in what is valued and (4) the metrics of dissemination. These are discussed next.

The whole self

The first point to note is that the tarot reading began with an over- view of Yamada-Rice's general personality traits (Figure 3.2). *Feather Tarot*'s reading of the cards presented Yamada-Rice as a being with two sides: on the one hand, the positive traits that can come when she is "feeling well and supported", and on the other, the negatives that arise when the opposite is true. *Feather Tarot* stressed that these traits are the fundamental principles on which Yamada-Rice's actions are framed.

By comparison, the psychometric analysis was concerned with Yamada-Rice in relation to other people it considers a comparable "reference group":

Your responses have been compared with those of a reference group named: 'Total Sample (UK working population and job applicants). In this way we have been able to bench mark various

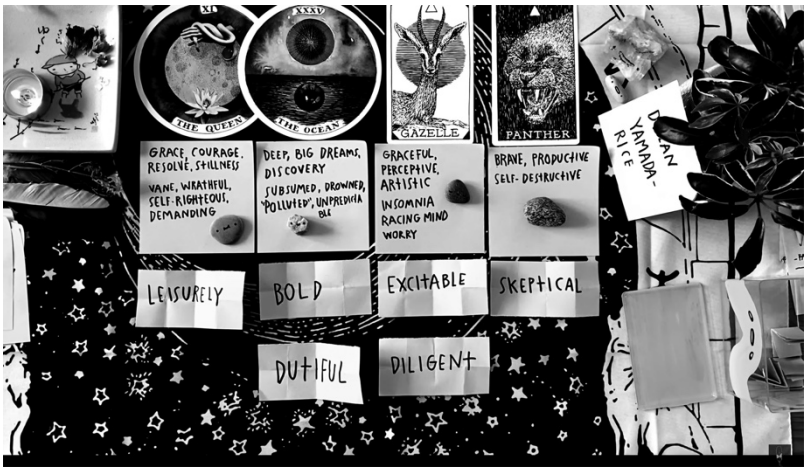

Figure 3.2 Tarot reading: personality traits.

characteristics you possess against this group. If we had used a different group for comparison, the analysis of your results might have turned out differently.
(Costa & McCrae, 2006, n.p)

As was stated in the literature review, making comparisons is problematic because the algorithms on which the test is based are not made up of the population at large but of subgroups, which are not explicit in the test itself, but "are in fact specific characteristic of corporate organisations" (Hollway, 1984, p. 56) and unclear to the examinee.

Feather Tarot stated that the underlying personality traits (Figure 3.2) are needed in order to understand the responses to the questions that will be asked of the cards about specific aspects of Yamada-Rice's approach to work. In other words, the personality traits offer insight into the reasons for the outcomes of the questions asked to the tarot about her attitude to her occupation. By comparison the NEO-PI-R personality test responses were not concerned with any external fac- tors that might be involved in

Yamada-Rice's way of responding to different aspects of her work. An example of this is in the response to the question of the level of emotionality Yamada-Rice has towards her work.
The psychometric test report presented the answer in the format of a graph shown in Figure 3.3.

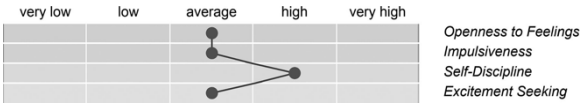

Figure 3.3 NEO-PI-R Personality Test: level of emotionality.

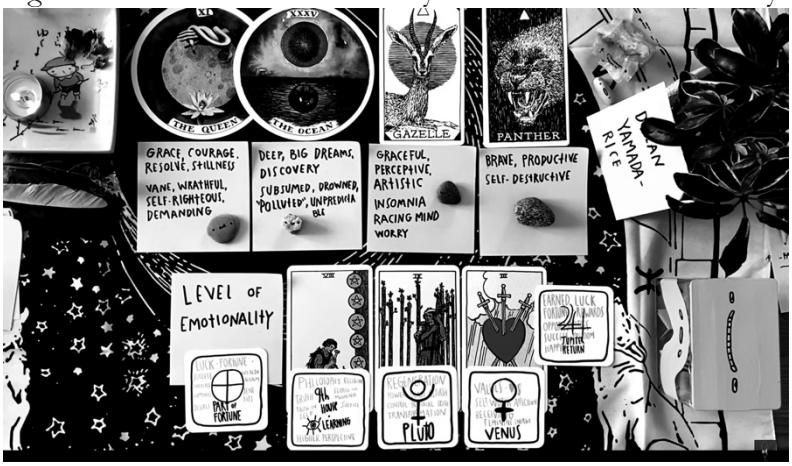

Figure 3.4 Tarot reading: level of emotionality.

And a written statement:

You are as attuned to your emotions as most people. Your feelings are likely to be a factor in the decisions you make, but you are not overly emotional. You are not an impulsive person nor are you overly controlled. You can tolerate frustration, and delay satisfaction of your needs, to the same extent as most people. Your level of need for environmental stimulation and excitement is within the average range for the reference group.
(NEO-PI-R personality test report for Yamada-Rice)

Whereas, analysis of the tarot card reading (Figure 3.4) was more complex and indicated the level of emotional impact her work could take on her:

Her emotions do not deter her from working no matter what but she is very

affected by work. Work can really hurt her. She has heart breaking pain because of past work experiences. (Feather Tarot)

Fleming's (2021) book "Dark Academia" describes the extremity of the pressures faced by contemporary academics, even outlining the above-average statistics of self-harm and suicide in the sector. As a result, only considering the one-way effect of an employee on their work and institution should be seen as unethical. This is highlighted in more detail in the next section, which considers differences between the tarot and NEO-PI-R Personality Test in framing responsibilities for behavioural actions.

You are wholly responsible for your actions

The next striking difference between the two "tests" was that the tarot places some of the responsibility for how the human responds to work on factors outside of their control, whereas the psychometric test frames it as the entire responsibility of the academic:

Human characteristics have the potential to be both assets and liabilities. The important thing is to recognise how you can capitalise on the benefits while minimising the disadvantages. The extent to which any particular characteristic is an advantage or a liability will depend on the context in which it is being applied. This report takes no account of contexts is it will be up to you to decide the extent to which the impact of your style in advantageous to the situation you are in (or aspire to be in).
(Costa & McCrae, 2006)

This follows a trend in the neoliberal academy of placing all responsibility, even that of employee well-being, away from the institution and on to individual staff, while Fleming (2021) writes that universities desperate to be 'construed in a virtuous light [put on] "R U OK Day" and well-being programmes are celebrated by HR' (p. 36). Our experience is that these amount to little more than online mandatory well- ness training videos that advocate for stretching and breathing well. Indeed, during Mental Health Awareness Week 2021, while struggling to be paid as Visiting

Lecturers due to the poorly managed financial systems of our institutions, we received an en masse HR email stating that it could be good for our mental well-being to take our online work meetings in nature that week.

Differences in what is valued

Analysis of the tarot in comparison to the psychometric test also il- lustrated that the values and traits included were not the same as one

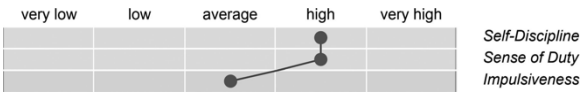

Figure 3.5 NEO-PI-R Personality Test: conscientiousness.

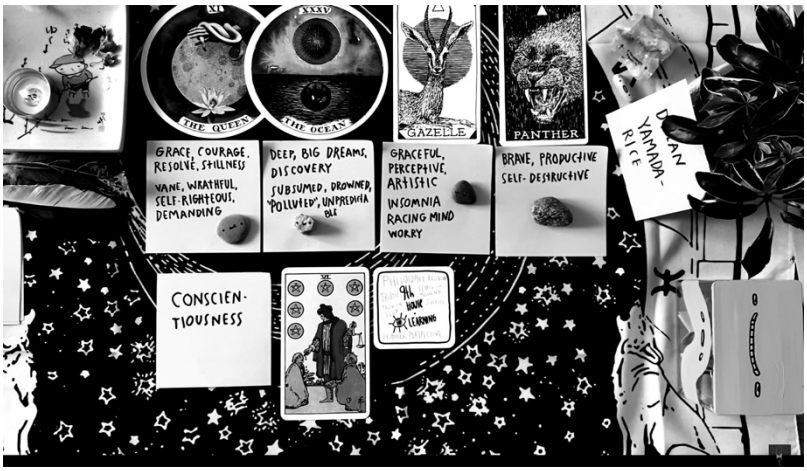

Figure 3.6 Tarot reading: conscientiousness.

another. The language used in the NEO-PI-R test was focused on productivity. For example, Figure 3.5 shows how in relation to the trait of conscientiousness the NEO-PI-R Personality Test was interested in how the employee's personality would affect

work output, however the tarot reading focused on this in relation to colleagues and self- fulfilment (Figure 3.6).

The psychometric test report stated:

You are unlikely to be deterred from carrying tasks through to com- pletion. Your self-discipline ensures that you will follow through de- spite any boredom or other distractions. You have the motivation to get the job done.
(NEO-PI-R personality test report for Yamada-Rice)

Indeed, the NEO-PI-R test report showed that within every category, Yamada-Rice was compared to others:

When interacting with others, you are likely to be as friendly as most people.
(NEO-PI-R personality test report for Yamada-Rice)

Further, in all areas, this was quantified on a scale of "very low", "low", "average", "high" and "very high". This reflects differences in the epistemological and ontological framing between the two, with the NEO-PI-R framed as the rational and the tarot as irrational:

These cards may be consulted as subliminal objects, separate from rationality; they give access to magical environments…and entail a liberation from the rational corporeal form.
(Carrington, 2020, p. 11)

Such ideas link with the last theme about differences in the means of disseminating the outcomes of the psychometric test and tarot.

The metrics of dissemination

The NEO-PI-R disseminates its data through a series of charts and written statement, whereas:

In a tarot deck, the minor arcana may or may not be painted with images; however, the major arcana are almost always illustrated with fanciful, mythological, spiritual, and cultural imagery.
(Sosteric, 2014, p. 360)

The differences between illustration/paintings and graphs/writing are important when we consider Kress's (2010) notion that each mode of communication affords certain possibilities for the dissemination of information, and crucially that this is why certain histories and cultures favour some modes of communication above others. It is likely therefore that the differences in means of dissemination are not coincidental, but rather reference these historic and cultural values. Specifically, that graphs and writing represent the "rational" and that the illustrations in the tarot represent the irrational. This is what Campagna (2018) calls "technic" and "magic" terms he uses to illustrate opposite epistemological and ontological understandings of the world.

This section has attempted to critique the use of psychometric testing in HE by using an alternative form of personality testing in the form of tarot dating back to 1332 (Butler, 1975). Indeed, the history of the tarot shows how it came about:

…to ease the transition from pre-industrial structures of power and authority to industrial and bureaucratic structures. That tarot, associated as it was with the emergence of elite Freemasonry, helped provide new ideologies of power and ways of existing within new tightly structured, bureaucratic organizations.

(Sosteric, 2014, p. 357)

We used the tarot not to ease the transition into the neoliberal structures of the university from what has gone before, but to highlight them. This was done to show the ridiculousness of using metrics to evaluate academics for roles in academia by showing how such tests, with their murky comparisons to reference groups that are not defined anywhere, should be held up to wider criticism. This is particularly important given Scott Galloway's prediction that the future of HE is in the collaborations that top universities will make with massive tech companies (Walsh, 2020), who routinely apply such data collection and analysis methods in their practices. Art universities, like the ones we belong to, are likely

more susceptible than ever to such collaborations as they look to tech companies to help them fill the cut in funds made by governments.

The section has also shown how one of the most convenient omissions from the psychometric tests is the emotional side of being human. By contrast, we have shown how the tarot frames humans as emotional beings. In his book "Dark Academia", Fleming (2021) writes of the huge emotional and physical toll faced by academics as they navigate the neoliberal structures of contemporary HE. He is clear to state that this is because the current structures have been taken from business and marketing and are at odds with the traditional values of academics which are autonomy, research for the sake of knowing and slow thinking. In the next section, we show how drawing is a perfect medium for emotional expression and how it has acted as a mechanism for remaining sane within the neoliberal academy by allowing us to record our emotional responses to metrics and neoliberal structures.

Drawing: the antidote

In order to navigate the neoliberal structures of HE and the metrics we have been critiquing in this chapter, we have both at various points

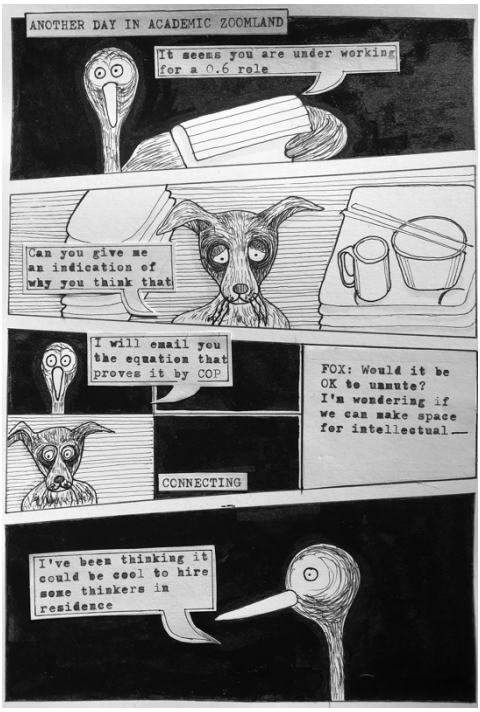

Figure 3.7 Work allocation frameworks, Yamada-Rice.

during our working lives used drawing as an antidote. For Yamada- Rice, this takes the form of comics that record events and her emo- tional responses to them (Figures 3.7 and 3.8). As our discussion of psychometric testing in the last section suggests, the contemporary HE institute does not want the emotions of staff to enter the work- place. Yet the tarot frames humans clearly as emotional beings that can go in and out of balance depending on the pressures they face. Drawing has been described by many (e.g. McCloud, 1993) as afford- ing the possibility for making emotions, which cannot be seen from the outside, visible.

Figure 3.7 records a conversation between an academic and their line manager in relation to metrics used to measure the allocation

of their working time and the shift in duties of academics away from intellectual inquiry, which Fleming (2021) describes as being increasingly seen by their employers as an "indulgence" (p. 58):

Unlike values and language highlighted in the analysis of the NEO-PI-R Personality Inventory described previously, the drawing in Figure 3.7 feels more attune to Fleming's (2021) description of the relationship between staff and metrics:

After purchasing the advertised services from the brochure, the student- consumer is nominally 'empowered'/ They expect good grades and a well-paying job no matter what. This not only changes the relationship between teachers and student, but also academics and administrators. Given that customer satisfaction is essential, professional services staff invariably switch into de facto supervisors, sending a raft of demands, requests and requirements with firm deadlines.
(Fleming, 2021, p. 39)

Essentially, Figure 3.7 and Fleming are addressing the same point, but what is made visible is different. Kress (2010) talks about how the affordances of different modes enable the dissemination of some aspects of information but not others. Thus, it follows that drawing works to counteract the metrics used in the neoliberal university by making visible the parts of the system that they cannot show because "graphic representations can depict both concrete objects and symbolize abstract concepts at the same time" (Bowen & Evans, 2015, p. 53). With regards to comics specifically, Sousansis (2017) writes, "I knew well the sort of complex stories and ideas that could be addressed in comics" (p. 190).

In relation to his seminal graphic novel "Unflattening", Sousansis (2015) writes:

> For Unflattening (as first conceived as a dissertation), I set myself some particular constraints from the start. I would name nothing. No field. No discipline. No philosophical

> movement. That didn't mean I wouldn't address them, but I would do so without using their language.
>
> (Sousansis, 2015, p. 193)

In Figure 3.8, Yamada-Rice lifts the language of HE and places it in the wider context of world events to show how out of context they are with what is happening outside the academy:

Suwa and Tversky (1997) suggest that drawing provides a way of having a conversation with yourself. For Yamada-Rice, this opportunity to have a conversation with herself through drawing allows her to

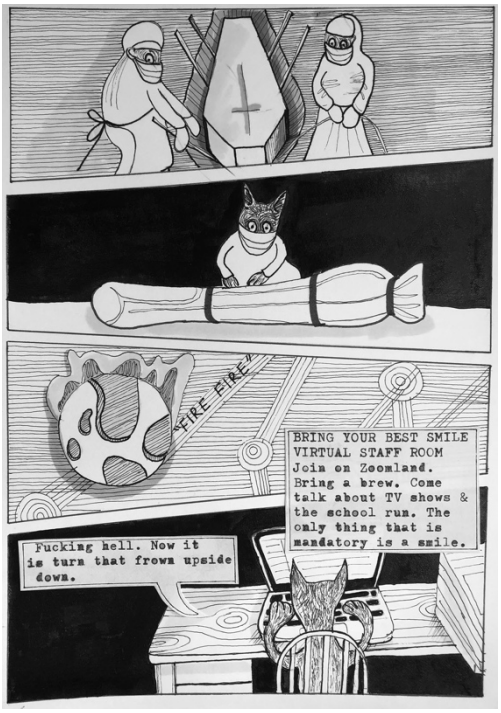

Figure 3.8 Smile and the pandemic, Yamada-Rice.

make clearly visible that the underlying conditions in contemporary HE are not sustainable (e.g. Figure 3.9). This is important when we consider that between 2017 and 2019, UK universities spent £87 million on NDAs to prevent staff talking out about the harm done to them at work (Croxford, 2019). Work such as ours, shared here, stands in op- position to this, making the traumas suffered by academics visible.

As a final example, when recently asked to provide a linear account of her career, Dare produced Figure 3.10.
Dare's working life and practice has been far from the neatly discrete model found in psychometric and institutionalised constructs of subjectivity and work. Dare's work is positioned as

diagrammatic, closer to an assemblage, a flow of data positioned between chaos and order. These are the conditions that Deleuze (1981) describes as being necessary for generating the new, in which the "diagram is indeed a chaos, a catastrophe, but it is also a germ of rhythm. It is a violent chaos in relation to the figurative given" (p. 72). Our experience of HE

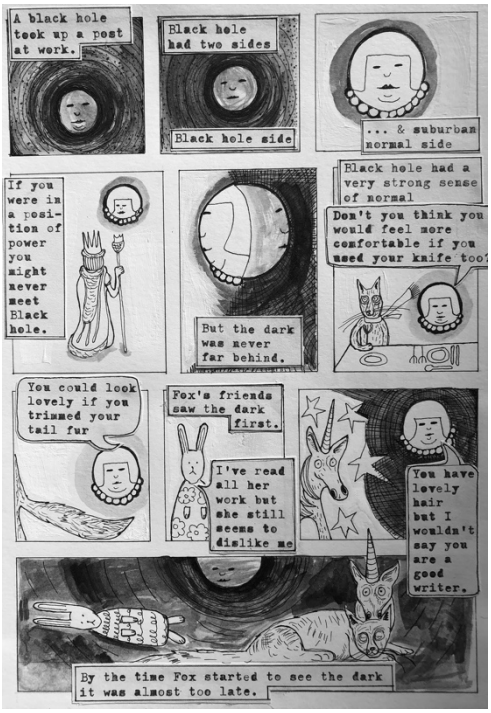

Figure 3.9 Black hole, Yamada-Rice.

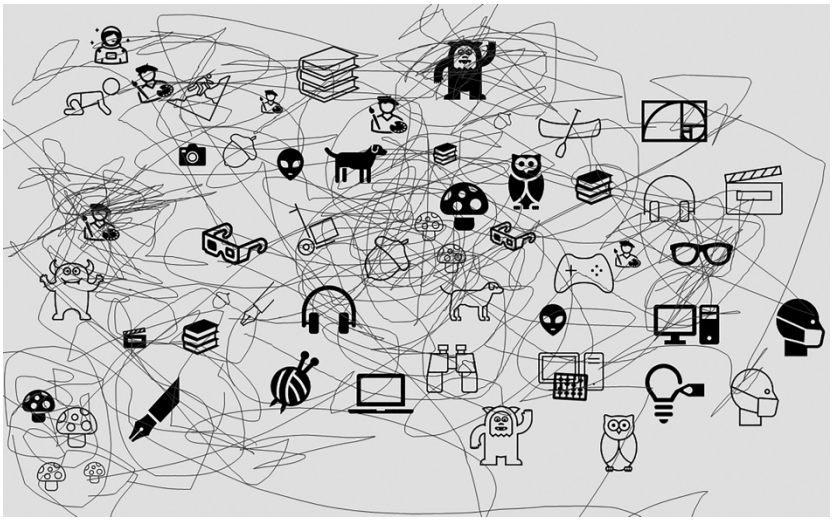

Figure 3.10 Academic career trajectory, Dare, 2021.

and its surveillant mechanisms has indeed been one of violent chaos, masked by an illusion of objective order.

Drawing like the chatbot created by Dare and the tarot reading undertaken by *Feather Tarot* offer mechanisms for knowledge that sits outside of mainstream metrics and AI systems increasingly being adopted by HE institutions. Yet, these three means of knowing the world also have a much deeper and longer history for meaning- making. In relation to drawing, Hoffman and Wittmann suggest that drawing is a common cultural technique and skill developed in childhood that it is so well known it "falls into the category of tacit knowing" (Hoffmann & Wittmann, 2013, p. 207). A tacit means of knowing, which Biederman et al. (2021) suggest, can be used as part of 'a "Great Refusal", the protest against that which is…that through art and this space of alterity enabled by an aesthetic dimension, a newly transformed world is possible' (p. 277). A view we feel offers hope to art schools in particular.

Conclusion

We began writing this chapter concerned with the neoliberal structures in universities, with a particular focus on the value attached to pseud scientific psychometrics and algorithms used to determine the value of its work place. Working together in an art school, where our practice as artists was important to our teaching and research out- puts, we began to see how our preferred ways of knowing such as making, drawing and experimenting with materials, what Ingold (2013) calls knowing through our hands, were not valued in the structures that governed our outputs. However, these alternatives, coupled with others such as the development of critical chatbots and the tarot, are needed more than ever to critique HE practices because as others such as Fleming (2021) and Boyd (2020) are showing the current pandemic is highlighting the extreme extent of the weaknesses in the neoliberal structures we are working within. Like

Boyd (2020) we believe that we are at a point in time where we need to consider 'what kind of world we want? …Nobody knows what is going to happen and that is all the more reason to fight for humane post-capitalist visions of the future' (n.p.).

References

Aarseth, E. J. (1997) *Cybertext: Perspectives on Ergodic Literature*. Baltimore: John Hopkins University Press.

Abercombie, R. (2015) *What No One Tells You about Psychometric Testing*, Recruiting Blogs, available at: https://recruitingblogs.com/pro!les/blogs/ what-no-one-tells-you-about-psychometric-testing [Accessed 02/08/21].

Alcoff, L. and Potter, E. (eds) (1993) *Feminist Epistemologies (Thinking Gen- der)*. New York: Routledge.

Ansari, A. (2020) 'White Supremacy & Epistemic Colonialism in Design Discourse, Scholarship, & Practice: A Basic Primer', *Thread Reader*, avail- able at: https://threadreaderapp.com/thread/1293262346761179137.html. [Accessed 02/08/21].

Barad, K. (2007) *Meeting the Universe Halfway, Quantum Physics and the En- tanglement of Matter and Meaning*. Durham: Duke University Press.

Beiderman, K., Dare, E., Gordon, L., Ikoniadou, E., Lewis, M., Pochodzaj, J., Wee, C. and Yamada-Rice, D. (2020) 'Exercises in Exorcism- Ways of Healing (Through Art Eduction)' In: Benjamin, Ruha. *Race After Technol- ogy*. Medford, MA: Wiley. Kindle Edition.

Benjamin, R. (2019) *Race after Technology, Abolitionist Tools for the New Jim Code*. Cambridge: Polity Press.

Bowen, T. & Evans, M. M. (2015) 'What Does Knowledge Look

Like? Drawing as a Means of Knowledge Representation and Knowledge Construction', Education for Information, Vol. 31 (1–2), pp. 53–72.

Boyd, R. (2020) 'Zoom and Gloom: Universities in the Ace of COVID-19'. *Los Angeles Review of Books*, available at: https://www.lareviewofbooks.org/ article/zoom-and-gloom-universities-in-the-age-of-covid-19/ [Accessed 02/08/21].

Braidotti, R. (2002) *Metamorphoses: Towards a Materialist Theory of Becom- ing*. Cambridge: Polity Press.

Braun, V. and Clark, V. (2006) 'Using Thematic Analysis in Psychology', *Qualitative Research in Psychology*, Vol. 3 (2), pp. 77–101.
Browne, S. (2015) *Dark Matters, On the Surveillance of Blackness*. Durham and London: Duke University Press.

Butler, B. (1975) *Dictionary of the Tarot*

Calvino, I. (1977) *The Castle of Crossed Destinies*. New York: Secker & Warburg Ltd.

Campagna, F. (2018) *Technic and Magic: The Reconstruction of Reality*. Lon- don: Bloomsbury.

Carrington, G. W. (2020) Leonora's Inner Compass, in Aberth, S. and Arcq, T. *The Tarot of Leonora Carrington*. New York: Fulgur Press.

Chomsky, N. (1999) *Pro.ftt Over People*. New York: Seven Stories Press. Kin- dle Edition.

ClassDojo (n.d) about, https://www.classdojo.com/

Costa, P. T. and McCrae, R. (2006) *NEO PI-R NEO Personality Inventory*, Revised UK edition, available at: https://www.hogrefe.com/uk/shop/neo- personality-inventory-

revised-uk-edition.html [Accessed 01/08/21]

Croxford, R. (2019) UK Universities Face Gagging Order Criticism. *BBC*, available at: https://www.bbc.co.uk/news/education-47936662 [Accessed 29/7/21]

Deleuze, G. (1981) *Francis Bacon: The Logic of Sensation*. London: Continuum. Demetriades, S., Kwong, J., Pearl, A. R., Thrupkaew. N., Maclay, C. and Pearlman, J. (2020) 'The Post-Pandemic Panopticon: Critical Questions for Facial Recognition Technology in Higher Education', Post-Pandemic University, available at: https://postpandemicuniversity.net/2020/10/11/ the-post-pandemic-panopticon-critical-questions-for-facial-recognition- technology-in-higher-education/ [Accessed 02/08/21].

Dixon, T. (2012) "Emotion": The History of a Keyword in Crisis. 'Emotion Review. *Journal of the International Society for Research on Emotion*, Vol. 4 (4), pp. 338–344.

Eysenck, H. J. (1947) *Dimensions of Personality*. New Brunswick: Transaction Publishers.

Ferraro, D. (2014) Archives of a Divided Subject Psychology & Psychoanalysis in the 21st Century 'A Note on Psychometrics: A Critique of CBT as Ideology', available at: https://melbournelacanian.wordpress.com/2014/02/07/a- note-on-psychometrics-a-critique-of-cbt-as-ideology-part-4/ Accessed 05/01/2020. [Accessed 02/08/21].

Fleming, P. (2021) *Dark Academia: How Universities Die*. London: Pluto Press. Haraway, D. (1991) *'The Cyborg Manifesto', from, Simians Cyborgs and Women: The Reinvention of Nature*. New York: Routledge.

Hayles, K. N. (1999) *How We Became Post Human*. Chicago and

London: The University of Chicago Press.

Henriques, J., Hollway, W., Urwin, C., Venn, C. and Walkerdine, V. (1984) *Changing the Subject: Psychology, Social Regulation and Subjectivity*. Lon-don: Routledge, Reissued 1998.

Hoffmann, C. & Wittmann, B. (2013) 'Introduction: Knowledge in the Making: Drawing and Writing as Research Techniques', *Science in Context*, Vol. 26 (2), pp. 203–213.

Hollway, W. (1984) 'Fitting Work: Psychological Assessment in Organisations', in Henriques et al., *Changing the Subject*. London: Routledge, 1984, 1998, pp. 26–59. (reissued).

Illouz, E. (2007) *Cold Intimacies: The Making of Emotional Capitalism*. Cam- bridge: Polity. Kindle edition.

Ingold, T. (2013) *Making: Anthropology, Archaeology, Art and Architecture*. London: Routledge.

Johnson, K. (2020) 'Amazon Imposes One-year Moratorium on Police Use of Its Facial Recognition Technology', *Venturebeat.com*, available at: https:// venturebeat.com/2020/06/10/amazon-imposes-one-year-moratorium-on- police-use-of-its-facial-recognition-technology/ [Accessed 02/08/2021].

Kress, G. (2010) *Multimodality: A Social Semiotic Approach to Contemporary Communication*. London and New York: Routledge.

Maes, P. (1994) 'Agents that reduce work and information overload', *Commun. ACM 37*, 7 (July 1994), 30–40.

Mateas, M. (1997) 'An Oz-Centric Re- view of Interactive Drama and Believable Agents', *cmu.edu,* available at: http://www.cs.cmu.edu/~michaelm/publications/CMU-CS-97-156.pdf

Mateas, M. (2001) 'Expressive AI: A Hybrid Art and Science Practice', *Leon- ardo*, Vol. 34 (2). p. 147–153.

McCloud, S. (1993) *Understanding Comics: The Invisible Art*. Northampton, MA: Tundra.

Murad, A. (2020) 'The Computers Rejecting Your Job Application', *BBC News*, available at: https://www.bbc.co.uk/news/business-55932977

Murphy Paul, A. (2010) *The Cult of Personality Testing*. New York: Simon and Schuster.

proctortrack.com (2020) proctortrack.com, available at: https://www.proc- tortrack.com/blog/article/7-things-you-should-know-about-remote- proctoring/

Russell, S. and Norvig, P. (2002) *Arti.ftcial Intelligence: A Modern Approach (*2nd Edition). London: Prentice Hall Series in Arti!cial Intelligence.

Sosteric, M. (2014) 'A Sociology of Tarot', *The Canadian Journal of Sociology*, Vol. 39 (3), pp. 357.

Sousanis, N. (2017) 'Thinking in Comics: An Emerging Process', in: *Arts- based Research in Education*, Chapter 16, pp. 190–200

Sousanis, N. (2015) *Unflattening*. Harvard: Harvard University Press.

Stengers, I. (2015) *Women Who Make a Fuss: The Unfaithful Daughters of Virginia Woolf*. Minnesota: Univocal Publishing.

Suwa, M. and Tversky, B. (1997) 'What Architects and Students Perceive in Their Sketches: A Protocol Analysis', *Design Studies*, Vol. 18, p. 385–403.

Swauger, S. (2020) 'Software That Monitors Students during Tests Perpetuates Inequality and Violates Their Privacy', *MIT Technology Review*, August 7th 2020, available at: https://www.technologyreview.com/2020/08/07/1006132/software-algorithms-proctoring-online-tests-ai-ethics/

Walsh, J. (2020) The Coming Disruption: Scott Galloway Predicts a Hand- ful of Elite Cyborg Universities Will Soon Monopolize Higher Education/ New York Magazine, available at: https://nymag.com/intelligencer/2020/05/ scott-galloway-future-of-college.html

Wooldridge, M. (2009) *An Introduction to Multi-Agent Systems*. New York: John Wiley and Sons.