

## **Proposal for Biased AI: Algorithms and Society**

# **Reading the cards: Tarot as an epistemological repositioning to defend against the neoliberal structures of Art Education**

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## **Abstract**

This chapter addresses the many tensions implicit in the increasing use of psychometric and behavioural evaluation algorithms within Higher Education (HE) including remote proctoring technologies often now presented as ‘AI’. These systems explicitly deploy psychometric methods as well as less overt approaches to ‘personality’ metrics and behaviour, including facial recognition, sound analysis and eye tracking. We report here on our own experiences of and research into behavioural and psychometric evaluation within HE, critiquing those approaches against tarot readings and I Ching- processual actions and processes that sit outside the neoliberal University, but which have no less scientific “validity”. We go on to suggest that art practice can be an antidote to such systems being thrust upon academics. In doing so, we invite readers to test the stability and categorisation of their own subjectivities and contrast them with the ergodic and contingent processes of these alternatives to see how they can provide a holistic view of a person in a way that current metric tests employed in HE cannot. The alternatives we present here are predicated on systematic social justice imperatives, on priorities which do not reduce to a split between individuals and others, between subjectivity and society, nor do they replicate the neoliberal imperatives of a marketised educational system. Finally, we assert that reflecting on this via art practice can help academics stay sane and question the neoliberal metrics pushed on us.

## **Introduction**

Fleming (2021) writes that there is a ‘strong link between the neoliberalisation of Higher Education (HE) & 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.' (p. X). In this chapter we pick up on this sentiment in relation to the use of psychometric and behavioural evaluation algorithms within Higher Education (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 Cambridge 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 both corporate, carceral (see Benjamin, 2019a; 2019b; 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, room scanning and

blocking of access to web pages) has been widely reported as discriminatory, modelling an idea of bodily behaviour which excludes in relation to ethnicity, gender, disability and class. Simultaneously, establishing the ideology of those who have originated such software as the dominant 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 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, 1999:7). 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 schools and universities, negatively impacting both staff and students. Since the declared moratorium on facial recognition 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 debated, 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 online students. Even though intelligence and

emotion are both contested subjects, technologies proliferate which claim to detect them, 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’ (Illouz, 2007, 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, discussed later in this paper and, according to its makers, now 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. 15 million children have learned about Growth Mindset and Empathy with ClassDojo’ (dogo.com, n.d). Amazon Web Services offer an array of AI driven speech analysis systems for education, Oleeo.com claim 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 straightforward, Ruha Benjamin writes of connections between ‘the cultural power we grant to algorithms with a longer genealogy 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 streamline the grueling work of recruitment, but a curse for many job seekers’ (Benjamin, 141, 2019). We are aware of universities piloting AI driven student candidate selection systems, 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 discrimination, racism and 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 sociopathic, 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. Tarot and I Ching, ergodic processes are presented as alternative methodologies, ones in which subjectivity and categorization are always unstable and situated. The term ergodic is used by Espen 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’ (Aarseth, 1997, p. 1-2). The word ergodic is a combination of the Greek words for work and path, it 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.

This chapter is structured firstly 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 offering two alternatives to AI and psychometric testing. These are tarot readings and I Ching. In the final section we suggest that 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 straight forward ‘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 version of the Big Five Test of Personality (1990), Cattell’s Sixteen Personality Factor Questionnaire (1945) or Hans Eysenck’s Big Three Supertraits (1947), 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), Haraway (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 behaviour which discriminate, and exclude, reproducing discrimination and reinforcing the status quo. For example, remote proctoring aims to confirm 'a student's identity and monitors him/her through a webcam. 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 favorable 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 Facial Recognition (FR) can proactively harm those who are subject to it:

'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 cooperation 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 nineteenth century model of passive learners with miscreant subjectivities. What these systems proctor is a social order, a form of capitalism that according to Illouz 'went hand in hand with the making of an intensely specialized 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' (Illouz, location, 2007, 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.’ While students with children or disabilities were similarly discriminated against by the proctoring technologies: ‘several proctoring programs 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’ (Swauger, 2020, 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? Demetrides 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), 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’ (Demetrides et al, 2020, n.p).

Psychometric evaluation of job applicants in HE and elsewhere 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 organisation – 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’ (Braidotti, 2002, 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 (1993) and Hollway (1984; 1989), 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 between body and mind and between the individual and their society.

The following two sections critique these technologies. Firstly by reflecting on the iching and Dare's work developing chatbots which attempt to deconstruct Cartesian dualism while critiquing the idea of personality types. Secondly 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 file of cards was again connected with The Devil, already set in that place by the previous narrator' (Calvino, 23, 1977).

Dare's work with chatbots and AI driven psychometric systems started in 2005, with an Expert System for matching readers to books, the system developed deployed rudimentary psychometrics, generative of absurdity and misunderstanding. This work was further developed as part of a PhD in Arts and Computational Technology (2007-2011), culminating in a critical psychometric system for exploring constructs or artificial intelligence and subjectivity. Post-doctoral 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, unsituated AI can replicate but cannot grasp. According to Stengers, humour does not have to be 'merely the guardrail of scientific passions. It can be the constitutive condition of these passions. And this will be the case if demands 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, 166, 2000).

Dare's chatbot Lent was developed over three years, from 2007-2011, the chatbot was framed as both a character and a surveillant worker which has spent its (or 'his') working life immersed in the raw material of CCTV footage, extrapolating meaning from it, both 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 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, 164, 2000). 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 ideologies of its makers) but also in formulating different ways of being and of recognising myriad subjectivities.

Stengers writes that both 'the strength and the weakness of statistics reside in what they show and what they ignore' (Stengers, 7, 2015). Dare's chatbot Lent cannot grasp subjectivity, emotions or personality traits beyond the rote learnt patterns in the data Dare

gave the Lent program and which its algorithms scrapped from the Web. The chatbot character Lent is both a software agent and the fictional protagonist of Road, which could be described as an agent-based psychometric text adventure. Lent is not a helpful agent in the sense evoked by Maes (1995). Lent is a troublesome servant, with his own needs, needs that are not always congruent with those of his ‘masters’, or readers. Lent is arguably closer to an un-idealised 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 human subjects. To paraphrase Russell and Norvig, Lent makes his decisions based on the things he believes in and the things that he wants (Russell and Norvig, 2002: 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 (Dare, 2007-2011) believes he needs alcohol, this is different from the knowledge-base that was embedded in the Expert System 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 ‘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). The more Lent drinks the less coherent he becomes, the less servile and arguably the less useful as an indentured digital servant. The less he drinks, on the other hand, 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 weaknesses inherent in the conventions followed in production of such programs. Although Michael Mateas's 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 for example, that machines reason and process language, instead of covering up errors and asymmetries of understanding between computers and humans? What would it be like to cultivate those qualities as cultural traits and medium specific, distinct materialities, of the agent medium, and even more radically, of psychometrics and proctoring software?

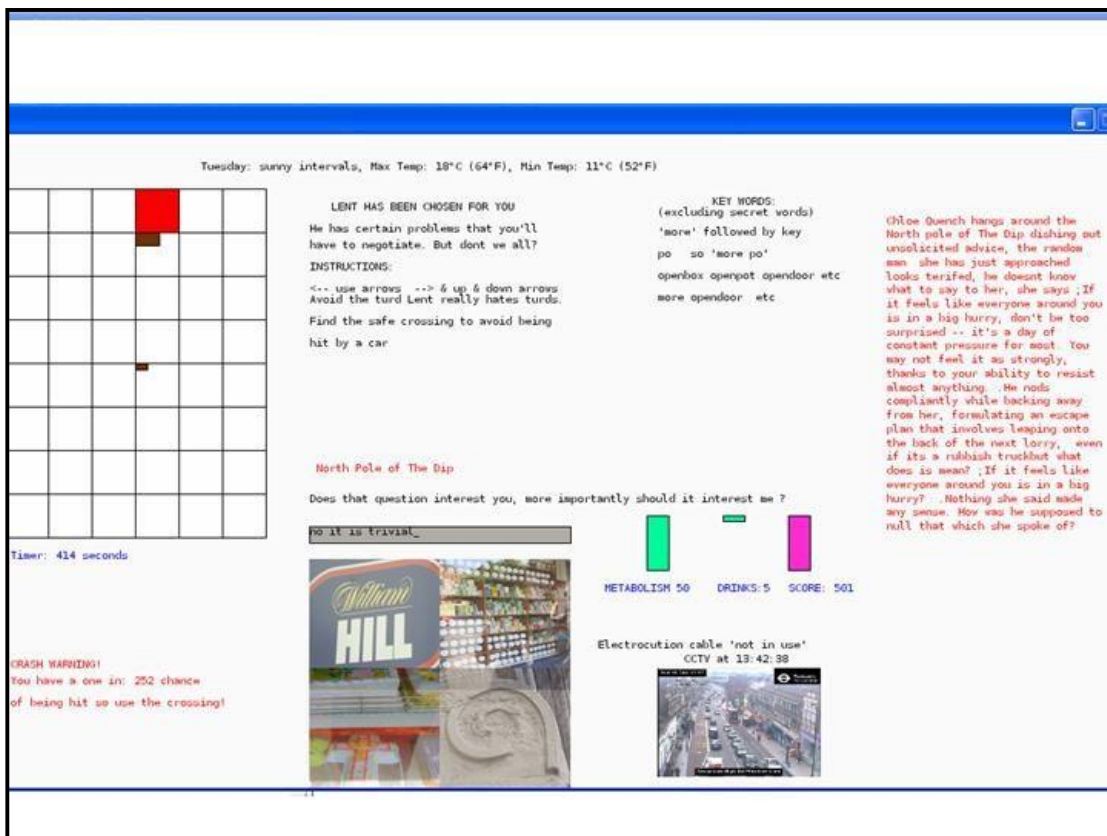


Figure 1: A screenshot from Road, a deliberative agent interface that uses expressive text-to-speech (Dare, 2007-2011)

Dare's work with systems which attempt to generate subjective insight and which are therefore in some ways close to psychometric systems, includes working with The I Ching, or Book of Changes, (edited by Confucius, 551-479 B.C.) The I Ching is a divination system which treats events as both processual and contingent. The mathematical structure of the I Ching (based on a biased random number generating system) influenced Gottfried Leibniz in the development of the binary numeral system. Its emphasis upon the mutable and relational nature of events pinpoints the Book of Changes as a significant reference for work critiquing occupational metrics and seeking

more ergodic forms of meaning making. The Book of Changes also establishes a complex balance between authorship and interpretation that generates a uniquely situated new narrative. While writing this paper Dare posed the following question to an automated I Ching system online (cafeausoul.com): ‘What is personality?’ The response identified ambiguity and methodological contention:

‘There can be conflicting messages when an I Ching reading delivers multiple changing lines. Some oracle readers view the progression from bottom to top and consider the topmost line as the prevailing line. Others observe Line 5 as the highest expression in activating the message of the hexagram because at line 6 changing, the message of the Hexagram becomes exhausted. If line 6 appears in a multiple line reading, the Secondary Hexagram might be more relevant.’ (cafeausoul.com). The interpretation was up to Dare, not hard coded into the Book of Changes. This seems ethically and methodologically far from the oppressive structures and outcomes of proctoring and psychometric applicant filtering. In the wider domain of digital technologies Illouz identifies a paradoxical entanglement with a construct of emotion, in which ‘the process of making the self into an emotional and public matter finds its most potent expression in the technology of the Internet, a technology which presupposes and enacts a public emotional self and in fact even makes the public emotional self precede private interactions and constitute them’ (Illouz, location 133, 2007). Surveillant classroom technology such as ClassDojo, as well as policing children and enforcing a normative model of behaviour upon them, is also presented as empathetic, as conducive to students learning desirable affective traits. But who has defined such traits as desirable and what function does empathy serve within such a monitored technological system? The following section looks in more detail at the ClassDojo program.

## **Personality Testing Vs. 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, undertaken 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 and Clark, 2008) 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) metrics vs. images.

### The Whole Self

The first point to note is that the tarot reading began with an overview of Yamada-Rice's general personality traits (Figure 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.



**Figure 2:** Personality Traits

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 characteristics you possess against this

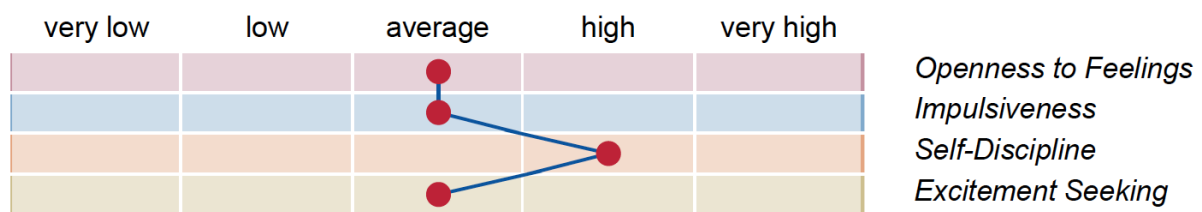
group. If we had used a different group for comparison, the analysis of your results might have turned out differently.

(Costa & McCrae, 2006)

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 sub groups, which are not explicit in the test itself, but ‘are in fact specific characteristic of corporate organisations (Hollway, 1984, p.56).

*Feather Tarot* stated that the underlying personality traits (Figure 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 factors 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 of Yamada-Rice towards her work.

The psychometric test report presented the answer in the format of a graph shown in Figure 3:

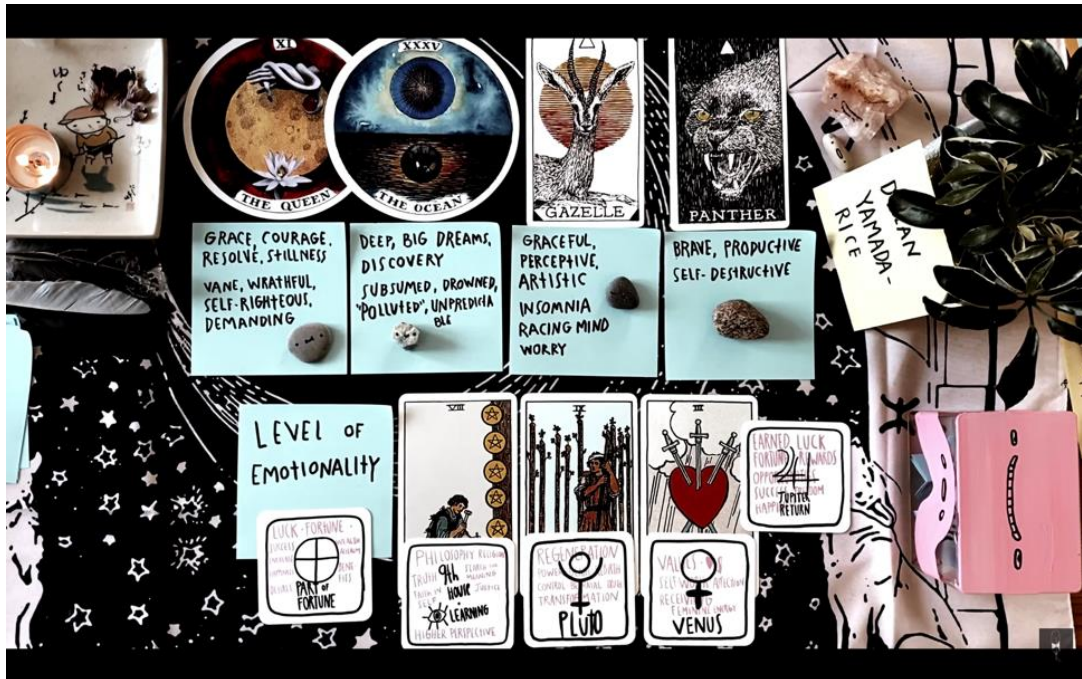


**Figure 3:** Level of Emotionality (NEO-PI-R Personality Test)

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)*

Whereas, analysis of the tarot card reading (Figure 4) was more complex and indicated the level of emotional impact her work could take on her:



**Figure 4:** Level of Emotionality: Tarot reading

*“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.”*

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. Thus, considering only the relationship of employee impacting on their work and institution as one-way 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.

ADD IN EXAMPLES WHERE FEATHER TAROT TALKS ABOUT THE IMPACT OF EXTERNAL THINGS OUT OF MY CONTROL.

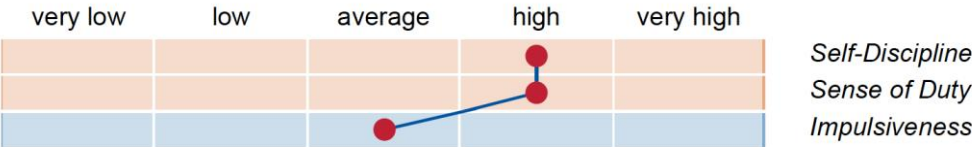
Human characteristics have the potential to be both assets and liabilities. The important thing is to recognise how you can capitalise on the benefits while minimising the disadvantages. The extent to which any particular characteristic is an advantage or a liability will depend on the context in which it is being applied. This report takes no account of contexts as it will be up to you to decide the extent to which the impact of your style is 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 individual staff. While, Fleming (2020) 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 wellness 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 institution, we received an en masse HR email stating it could be good for our mental wellbeing 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 showed that the values and traits included were not the same as one another. The language used in the NEO-PI-R test was focused on staff. For example, Figure 5 below shows how in relation to conscientiousness NEO-PI-R Personality Test was interested in how the employees personality would affect work output, however the tarot reading focused on this in relation to colleagues and self-fulfilment (Figure 6):



**Figure 5:** Conscientiousness (NEO-PI-R Personality Test)



**Figure 6:** Tarot reading: conscientiousness

The analysis report of the psychometric test stated:

*You are unlikely to be deterred from carrying tasks through to completion. Your self-discipline ensures that you will follow through despite any boredom or other distractions. You have the motivation to get the job done.*

Indeed, the NEO-PI-R personality 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 inventory report)

Further that 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 each test, with the NEO-PI-R framed as the rational and the tarot as:

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.

(Carington, 2020, p.11)

Such ideas linked with the last theme which was differences in the means of disseminating the outcomes of the two tests.

### **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, graphs and writing are important when we consider Kress'(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 references these funds of knowledge. Graphs and writing representing the 'rational' and the illustrations in the tarot representing the irrational. What Campagna (date) calls 'technic' and 'magic' that 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, date). Indeed the history of the tarot shows how it came about to

This investing [in the tarot] became part of a larger strategy of discipline and indoctrination 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)

This was done to show the ridiculousness of using metrics and to evaluate academics for academic roles by showing how such tests, with their murky comparisons to reference groups which 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 offered by governments.

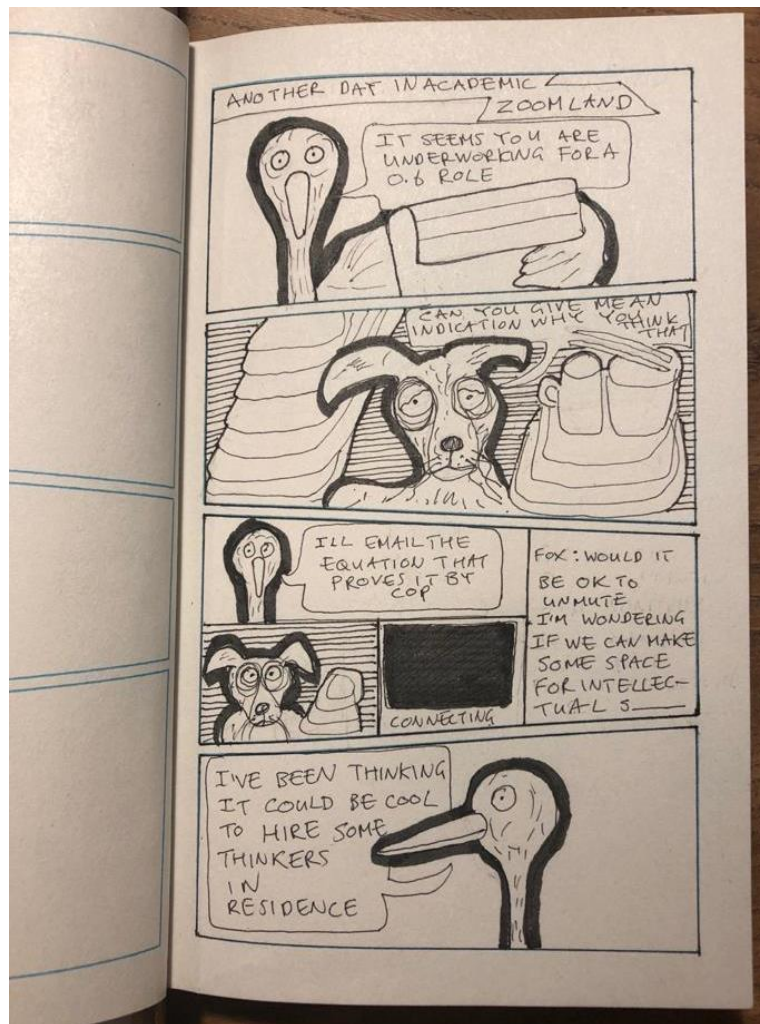
This section has shown how one of the most convenient omissions from the psychometric tests is the emotional side of being human. By contrast we have seen how the Tarot frames humans as emotional beings. In his book 'Dark Academia', Flemming (2021) writes of the huge emotional and physical toll faced 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 them to record their emotional responses for themselves or to be shared with other academics.

## **Drawing: the Antidote**

In order to navigate the neoliberal structures of higher education and the metrics we have been critiquing in this chapter, we have both at various points during our working lives used drawing as an antidote. For Yamada-rice this takes the form of comics that record events and her emotional responses to them (Figures 7-8). 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 workplace. 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, DATE) as affording the possibility for making emotions that cannot be seen from the outside visible.

Figure 6 records a conversation between an academic and their line manager in relation to metrics used to measure the allocation of their working time:





**Figure 7:** Work allocation frameworks, Yamada-Rice

Unlike, the framing of the psychometric test of the HE institution and structures to its academic staff, the drawing in Figure 7 feels more attune to Fleming’s (2021) description of the 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. )

Essentially, Figure 7 and Fleming’s are addressing the same point but what is made visible is different. Kress (2010) talks about how the affordances of different modes make visible different information or aspects of information. It then makes sense perhaps that drawing works to counteract the metrics used in the neoliberal university to make visible the parts of the system that they do not show.

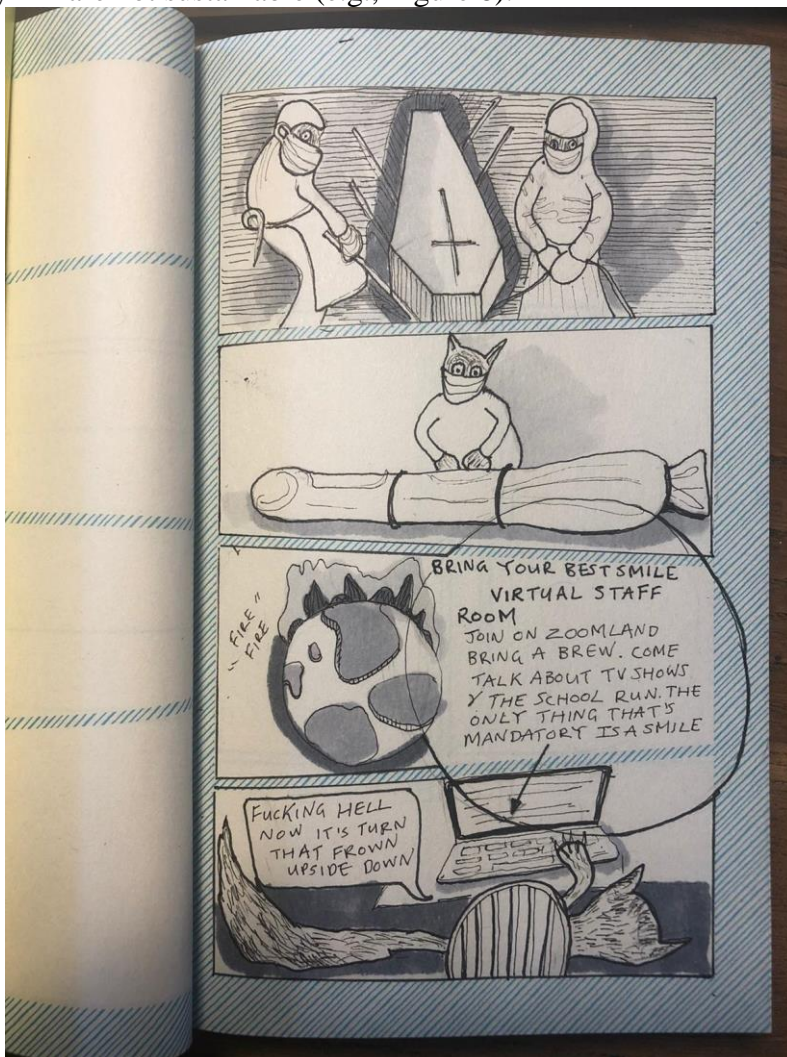
In relation to his seminal graphic novel ‘Unflattening’ Souansis (2015) writes:

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.

(Souansis, 2015, p.193)

In figure 7 Yamada-Rice, allows the words to be lifted directly from the neoliberal university and uses them in exactly their language. However the drawing allows the words to see how out of context they are with what is happening outside the academy:

Suwa and Tversky's (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 make clearly visible that the underlying conditions in contemporary HE are not sustainable (e.g., Figure 8).



**Figure 8:** Smile and the pandemic, Yamada-Rice

Drawing, like I Ching and tarot reading offer mechanisms for understanding that sits outside of the mainstream metrics and AI systems ever increasingly 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 'fall into the category of tacit knowing' (Hoffmann & Wittmann, 2013, p.207).



Figure 9

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)

Biderman et al, 2021 take this a step further suggesting 'that art constitutes 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.' (Biderman et al, 2021, p.277)

"graphic representations can depict both concrete objects and symbolize abstract concepts at the same time; and drawing is a form of knowledge production that can be used to support learning and further understanding complex or abstract concepts through the production of shared graphic objects and symbols." (Bowen & Evans, 2015, p.53)

'I knew well the sort of complex stories and ideas that could be addressed in comics' (Sousanis, 190)



‘The moral is simple: only partial perspective promises objective vision, this is an objective vision that invites rather than closes off, the problem of responsibility for the generativity of all visual practices. (Haraway, 198, 1991).

‘The question is thus one of knowing what “we no longer believe” can make us capable of: what sensibilities, what risks, what becomings can it engage us in? Can we confer a positive meaning to “what we no longer believe”? Can we transform the shame of what our beliefs have permitted into a capacity to problematize and invent — that is, to resist?’ (Stengers, 151, 2000).

There are ‘movements underway to ban proctoring software and ban face recognition technologies on campuses, as well as congressional bills to ban the US federal government from using face recognition. But even if face recognition technology were banned, proctoring software could still exist as a program that tracks the movements of students’ eyes and bodies. While that might be less racist, it would still discriminate against people with disabilities, breastfeeding parents, and people who are neuroatypical. These products can’t be reformed; they should be abandoned.’ (Swauger, 2020)

This trend in using algorithms to determine staffs suitability of a post is in keeping with the changes that have taken place to the wider structures of academia: ADD in quote p.14 Flemming

In this chapter we have attempted to address our concerns and questions about the use of metrics and AI in HE systems:

- Why does HE use systems which are discredited as pseudo-science?
- What is the impact of these systems on students and staff?
- Is it possible or desirable to measure personality or emotions?
- Are there different forms of evaluation available to us and different categories of enquiry?

As an alternative to essentialist personality testing methodologies, ontological self-presentation (Illouz, 2018) and datafication, we present an approach to re-imagining our relationship to work and subjectivity. The chapter is informed by Yamada-Rice’s drawing and research with children and play and surveillance, by Dare’s work with chatbots and flawed AI systems, by Rodrigues tarot readings and work with children, and by our collective verbal and non-verbal communication methods and research. The chapter also draws upon Calvino’s *The Castle of Crossed Destinies* (1977) a novel in which a group of travellers lose their ability to speak, but instead use the imagery of Tarot cards to communicate their narratives. The verbal and non-verbal articulation of our encounter with chaotic and often surreal systems of neoliberal power at work are framed here as a form of generative research practice. As stated, readers are invited to extend the themes of this chapter through a range of exercises, articulating and intersecting our encounter with the systemic bias now deeply entangled with computational models of workplace subjectivity.

‘The questions, and your answers to them, are designed to evaluate several aspects of a jobseeker's personality and intelligence, such as your risk tolerance and how quickly you respond to situations. Or as Pymetrics puts it, "to fairly and accurately measure cognitive

and emotional attributes in only 25 minutes". Its AI software is now used in the initial recruitment processes of a number of multinational companies, such as McDonald's, bank JP Morgan, accountancy firm PWC, and food group Kraft Heinz.' (Murad, 20200)

“These days, the most respectable way to present the art of divination would be as an attempt to explain the world where science seems unable to work (Maitre & Becker 1966), as a tool for developing the ‘inner eye’ (Noddings & Shore 1984), or perhaps a way to tap into the knowledge contained in the unconscious (Bala 2008).” (Sosteric, 2014, p.360)

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