Beyond 'born not made'

Beyond 'Born not made': Challenging Character, Emotions, and Professionalism in Undergraduate Medical Education

Characterising Character

In 1898 the physician Sir Dyce Duckworth delivered the Harveian oration to the Royal College of Physicians of London. Duckworth reflected on the qualities of the oration's namesake, the seventeenth-century physician, William Harvey:

> In Harvey we have indeed a splendid model of the ideal Physician, for not only have we to cultivate wide learning for its own sake, and its unquestionable influence upon us, but we have to see to it, if anything more assiduously, that we be men of the highest character (Duckworth 1898, 19)

Duckworth's speech expressed concern that his own era, the 'restless age' of the nineteenth century, would fail to uphold the overarching importance of doctors' moral character. His words harboured the wider anxieties of an era where individual moral character appeared threatened by the 'depersonalizing bureaucracy' of the encroaching modern state (Goodlad 2003, xii). Medicine too, seemed increasingly removed from doctors' individual skill and 'art' as laboratory medicine prevailed. And yet, Duckworth maintained, 'character must always be the mainstay and regulator of our conduct both amongst ourselves, and towards the public, whose servants we are' (Duckworth 1898, 19).

The idea of 'character' in medicine is not going away. Although the language is different, these requirements of the doctor, still assumed by both professional peers and a wider public, persist, weighing heavily upon the profession. We can draw a direct line from the nineteenth-century image of the doctor to that of today, whose character must fit a particular form, encompassing moral standards, personality, attributes, and emotional traits. Not only must the doctor be highly skilled, knowledgeable, and capable, able to cope with the emotional turbulence of the profession, they must also have a strong character, a supposition rooted in class strictures and educational opportunities.

We argue that medical students today should be enabled to critique the structures and conditions which shape these supposed characteristics, and armed with skills to interrogate unhealthy, unhelpful, and exclusionary aspects of medical culture. Medical humanities is precisely the means to enabling these conversations. Often, the introduction of the humanities in medical education has been framed as 'humanising the doctor'. This notion, and this phrase, is problematic on a range of levels, not least because to be 'human' is to have a range of positive and negative emotions, to be flawed, and to be fragile. This is a limiting framework for what humanities approaches can and should offer to medical students.

Alongside the emphasis on 'humanising', has been an explicit address to the management of doctors' emotions (Bleakley 2015). While this is vital, the emphasis on humanising has fastened to the cultivation of empathy, not always with productive results (Macnaughton 2009; Wear 2009; Afghani et al 2011). We seek to expand ideas of emotions, affects, and cognitive states, which are broader than a focus on empathy. We find 'character' to be a productive lens here, to explore the emotional landscape of the medical student where there is an entanglement of traits: persona; emotion; values; and beliefs. Historically, questions of suitability for medical education and, by proxy, success in the medical profession, have been articulated through this concept of character. Character has also been at the heart of discussions around access to medical education, especially in terms of assessing who is suitable for a career in medicine.

An overarching and dominating aspect of 'character' in medicine, prevalent since the late nineteenth century**,** is the doctor as an authoritative and incontestable figure. This has persisted with doctors' difficulty in admitting to error, or fear of making a mistake, and has undoubtedly contributed to stress, burnout, individuals leaving the profession, and in some cases, suicide (Radhakrishna 2015). A 2008 report by the National Audit Office showed that nearly 900,000 incidents and near misses are reported every year within the NHS (NAO 2008). The 2019 *NHS Patient Safety Strategy* report cites the financial and human cost of error, and argues that 'harm cannot be prevented simply by people striving to avoid error (the "perfection myth")' (NHS 2019, 28). A culture of blame persists in medicine, relying on a 'medical paradigm of infallibility' which is often at odds with the system itself, with structural conditions that demand excessive working hours, a lack of welfare, and which put blame on individuals rather than systems (Radhakrishna 2015). By bringing the concept of uncertainty into the conversation, we seek to counter the image of the doctor as perfect and infallible: to query how a doctor might be able to use uncertainty productively. While this might initially be seen as destabilising the doctor's relationship with their patient, who needs and expects certainty, we suggest there are ways in which a medical professional can and should develop comfort with uncertainties that can then be helpfully communicated to patients in a way which maintains trust, and may even reduce error.

This mobilisation of uncertainty works in connection with emotion, affect, and cognition. While uncertainty is not straightforwardly an emotion, it is a feeling and cognitive state that both affects and is affected by emotion. Uncertainty and emotions are interrelated, as appraisal theories of emotions posit: 'the appraised uncertainty of a situation is fundamentally linked to the experience of different emotions. For example, the emotion "sadness" might be associated with certainty about a negative outcome' (Anderson et al 2019). Typically, uncertainty is much more associated with negative emotions and affects, but in the course of this article we hope to contribute to the idea that uncertainty does not always involve restriction or limitation:

In the first two sections of this article we reflect upon the historical genealogy of modern British medical education to show the deep-rooted intersections between power, class, character and students' emotional experiences and identity. Contrary to Duckworth's concern, 'character' remained an important aspect to understanding how medical students might be 'made', and 'made' into, doctors. By the mid-twentieth century, 'character' was increasingly imagined through divisible traits, as new models of education derived from psychology and sociology became embedded in the discourse around medical school admissions. Good character remained a challenging concept, elusive in definition and yet still sought after. As we show in the third section, this remains so today, with the continued value ascribed to 'vocation', another concept which suggests the innate suitability of some more than others to medicine, and often becomes a marker of professionalism, but which, we argue, may be an exclusionary force in admissions.

In the final section we focus on how humanities may be instrumentalised to unpack the fixity and rigidity which has long been associated with the identity of medical students and, consequently, medical professionals. Approaches from humanities allow students to engage with, ambiguity and scientific and social unknowns. In particular, we stress the importance of bringing uncertainty into conversations around medicine and professional identities, showing ultimately how uncertainty can become empowering to students' understanding of professional identity. Not knowing may be implemented in a way which harnesses fact, interpretation, and ambiguity into constructive forms, and in turn empowers the patient and practitioner and their overall relationship with medical systems.

Qualities and Qualifications: Making a medical student

In September 1901, the *Lancet* issued its annual student number. A tradition that stretched back almost to the journal's beginnings in the 1820s, the special issue came at the opening of the medical schools' winter session, as a new crop of students embarked on their medical education. Front and centre of the 1901 issue was a weighty editorial directed toward the 'some 1500 young men in this country' commencing their training – the small band of women also entering into medical education that year were overlooked – which stressed the gravity of the path they were about to tread. The students were, wrote the journal with a trepidatious tone, 'entering upon a path which they will have to tread for at least five years, if they faint not by the way' (1901, 631). The periodical then journeyed through the expected qualities of the incoming student which were necessary for their progression, from the 'the absolute need for accuracy' to 'the role of imagination', and 'sympathy and discretion'. Above all, the editorial identified the importance of 'education and inclination' (1901, 631). The need for incoming medical students to have a high standard of preliminary education was given increasing importance at the turn of the century. At that time, the British Medical Association was applying pressure to the General Medical Council to uphold more rigorous standards to the preliminary

education of those entering medical school. An education that had been generalist in nature, which allowed for the study of languages, literature, history and more, was seen to make an incoming student more well-rounded, furnishing them with a spectrum of knowledge. This knowledge, the *Lancet* editorial claimed, would prove useful within the clinical sphere, even if its relation to medicine was not immediately obvious (1901, 631).

As the *Lancet* reminded its readers, however, education alone was not sufficient for ensuring that a student would develop into the most capable of doctors:

> Quite apart, however, from this preliminary equipment in general knowledge, all are not equally suited for the practice of medicine. It may well be asked, is there no natural build of mind and body which specially fits a man for the onerous duties of medical practice, in which he becomes the arbiter of life and death to those who trust themselves to his care? Truly, there is. (1901, 631)

The coupling of 'education' and 'inclination' was not a new departure in medical thought. The interplay between the two was foundational to the identity of the modern medical practitioner. The adage that a doctor was 'born not made' had long featured in medical practitioners' rhetoric, which cemented powerful tropes about the relative mental and bodily attributes of those who became physicians and surgeons (Lawrence 1998). The perception that some were more 'naturally' inclined to enter and succeed in medicine only strengthened in the late nineteenth century within the context of Darwinian notions of the heritability of acquired characteristics (Dixon 2008, 5). In 1886, *The Hospital*, a new magazine set up by the philanthropist and hospital reformer Henry Burdett, and which sought out medical students as a part of its readership, reflected on the student of the day:

> it is not uninteresting to ask 'whence come they?' For the most part they come from the great middle-class… Coming from such a class, our medical students, as a whole, begin the race of life with inherited qualities and acquired habits of sobriety, sense, and virtue. On this foundation of birth and habit the superstructures of medical education and personal character are to be reared by such architects and builders of the circumstances of the case will afford (1886, 87).

Class, characteristics and morality intertwined in a way that meant 'education' and 'inclination' were never mutually exclusive. Michael Brown demonstrates that 'late eighteenth-century medical culture and identity were fundamentally shaped by the values of politeness, gentility and sociability and were dependent upon both an active participation in civic life and exploitation of patronage and social networks' (Brown 2011, 39). While the dependence on patronage gradually shifted by the mid-nineteenth century, as proving scientific prowess became more central to professional identity, there was still a visible perma-presence of medical 'families' within the profession. While the overt nepotism of early nineteenth-century medicine had been largely subdued, following the medical

press's exposure of surgeons like Astley Cooper who leveraged relations into high-profile hospital positions, incidences of professional and financial favouritism toward those with familial and social connections still occurred, and the especial abilities of those who had descended from 'medical' families continued to be described in favourable terms (Brown, 2014). The 'natural' qualities of medical men were always mediated by class and connection.

But what, specifically, were those qualities? The medical student archetype of the late-nineteenth century was a figure of moderation; a young man who was sensible, cool-headed, sympathetic but unswayed by the emotive settings of the sick room. The vibrant print culture of the late nineteenth-century increasingly carried these messages to wider audiences of students (Frampton 2020, 312). Laura Kelly argues that professorial addresses and lectures offer useful, although often overlooked, insight into the desired characteristics and behaviours of medical students. Contemporary student guides to the profession, for example from the 1870s onwards, as well as anthologised speeches indicate the circulating messages around character (Kelly 2017, 51-54). The ideal was manifest in William Osler's 1889 address to graduating students at the University of Pennsylvania, later published as the essay *Aequanimitas* (1904). Osler's call for a humanistic and generalist approach to medicine, in the face of increasing scientisation and specialisation, had a profound effect on both sides of the Atlantic. He ranked 'imperturbability' and 'equanimity' highest among the qualities required for medicine; the ability of the doctor to *manage* their emotions, particularly in the presence of their patients. For Osler, this also extended to the capacity to tolerate the existential predicament of medical work:

> A distressing feature in the life which you are about to enter, a feature which will press hardly upon the finer spirits among you and ruffle their equanimity, is the uncertainty which pertains not alone to our science and art, but to the very hopes and fears which make us men. In seeking absolute truth, we aim at the unattainable, and must be content with finding broken portions (Osler 1904, 7).

Osler hit upon a fundamental truth of medical practice: the doctor cannot know everything; science is incomplete, imperfect, and unstable, and sometimes there are no answers. It may take a particular strength of character, perhaps even resilience, to persist in the face of such uncertainty.

Historians have noted the toll uncertainty has exacted on doctors, and the multitudinous ways it takes shape for students and practitioners. Anne Digby's foundational work highlights the economic frailties associated with making a medical living in the nineteenth century, which led to chronic professional and financial anxieties for many practitioners (Digby 1994). To enter medicine was to embark on a journey fraught with uncertainty, which involved disappointment and failure along the way (Tomkins 2017, 2). The mental and physical effects of such were clear: nervous disease, accidents, alcoholism, and suicide were all seen as potential hazards of joining the profession, cutting

down doctors at a rate far higher than other occupations ('Overcrowding of the medical profession' 1903, 1153; Woods 1996, 29-30). While all doctors were at risk of misfortune, the image of the 'struggling young practitioner' developed as a familiar figure in cultural representations (Moulds 2021, 36). The transition from student to doctor, post-qualification, was viewed as a time when anxious uncertainty would peak, as graduation brought forth the realities of working life as a doctor, with all of its financial and professional difficulties. '[T]here is all the difference in the world between knowing that a thing ought to be done and the doing of it', observed one medical student magazine, describing the borderlands between education and qualification (Warrington 1904, 12). Students were warned of the path that lay ahead, and the necessity of having both the mental and physical capacity to deal with the uncertainties of medicine.

What then was perceived as the role of education, if anything, in the modifying or improvement of 'character' and in learning to manage the emotional experience of medicine? Potentially its effect was transformational on one's identity. Despite the rhetoric which suggested the existence of a breed of men set apart, naturally inclined to medicine, their potential still needed to be moulded through medical education: 'medical schools, licensing societies, and journals were all vehicles through which regular values could be affirmed and regular beliefs codified and transmitted' (Warner 1997, 16) Transforming one's identity from student to doctor lay less in any especial pedagogical exercise, but rather, in the inevitable effects of an intense and lengthy period of medical education. As Kelly has shown, in the context of Irish medical schools, doctors and students alike evoked the language of coming-of-age narratives to describe its effect on young men, whose transition to maturity and manliness was entangled within their educational experiences both inside and outside of the clinic (Kelly 2017, 137-8). There were aspects of medical education that acted as particular milestones in a students' becoming, for example, a student's initial encounter with the dissecting room was seen as a pivotal experience (Kelly 2017, 111). As Michael Sappol has summarised, provision of knowledge was only one function of the dissected corpse; it was also a tool of social and professional transformation, habituating the student to the dead body (Sappol 2001, 78). An exposure to death in its most immediate, vivid and varied forms hardened them to the horrors of negotiating disease and death on a daily basis.

The concept of milestones was evidently something well known and appreciated in the student's life. In the October 1901 edition of the *St George's Hospital Gazette*, a parody poem of Shakespeare's 'Seven Ages of Man' speech played on the milestones within the medical student's learning, with 'The Student's Seven Ages', by R.G.A. As players on the hospital stage, it satirises characteristics of the student throughout each year of their training: 'The First Year's student/ Gaping and giggling at each thing he sees;/ And then the slow Dissector, with his scalpel/ And rough untutored hair, learning his bones/ Unwillingly at nine' (1901, 117). Once again, we see how dissection is centred as a pivotal experience, where the student's transition from 'gaping and

giggling', perhaps immaturely confronting bodily processes and nudity, then changing to a student taking the mechanics of the body more seriously, though still reluctant for early starts. As the poem progresses, the student becomes more serious, more skilled and knowledgeable, but also more jaded: 'Last scene of all/ That ends this strange eventful history,/ Is General Practice and mere oblivion;/ Sans youth, sans health, sans cash, sans everything' (1901, 117).

This rhetoric of transformation, nonetheless, needs to be taken with a pinch of salt. While transformation during medical training is inevitable in terms of knowledge, skills and maturity, the modern medical profession is scaffolded upon a specific identity, character and class. It seems there are two ways of 'becoming' a doctor: either you have the innate aptitude and character for medical practice, or medical education will do the work in socialising you into the 'right' person for the role. Both, however, rely on a degree of already present social and cultural capital. These routes are not open to everyone. In the twentieth century, doctors, educational theorists, and sociologists began to more explicitly address the complex structures underpinning medical school admissions and education.

The Power of Character

Character remained a much-discussed concept within twentieth-century British medicine as doctors negotiated the complexities of selecting the 'right' people for medical training. The landmark Flexner Report, published in 1910, reported on the state of North American medical education, and quickly circulated across Europe (Bonner 1989, 475). The conclusion that medical education in the States was not well regulated, and that too many medical schools were in operation with too many students, only seemed to heighten anxieties on both sides of the Atlantic about an overcrowded profession. Cynthia Whitehead et al note that one of the key repercussions of the Report in the States was the 'closure of medical schools for African Americans and women', buttressing elitist structures that meant the 'ideal' doctor remained a white man (Whitehead et al 2013, 668).

A sea change in the relationship between social dynamics and medical education occurred in the aftermath of the Second World War, with the idea of character gaining more traction than ever. In 1944 the Planning Committee of the Royal College of Physicians published their report on medical education. Carefully scrutinising student selection, the report argued that 'in the case of the doctor character is in general not less important than ability' (BMJ 1944, 668). Interestingly, in the report, character was reworked towards a more democratic model. The Committee advocated opening up the field to a wider pool of candidates, noting that university fees prevented admission to all but the relatively monied. Ultimately, the report concluded, university fees needed to be abolished, to ensure the most suitable candidates for medicine could be located. The correspondence pages of the *British Medical Journal* suggest a degree of controversy enveloping the College's report, as a handful of practitioners wrote in to express anxiety over widening access to the profession beyond class lines. As

one particularly irate practitioner wrote: 'heredity and environment are by no means negligible factors in a child's upbringing, and therefore we tend to look for our future dustmen among the children of dustmen and our future doctors among the children of doctors' (Gourlay 1944, 96). Both the report and its response reflected broader political currents, with various factions advocating for different positions on educational access, which was mired in tensions of social mobility. With a focus on economic renewal and scientific and technological expansion, the post-war Labour government pushed for greater access to higher education with increased funding to the University Grants Committee (Mandler 2020, 74). While the Conservatives, on rising to power in 1951, saw a place for increased investment in highly-qualified talent, especially in scientific and technological fields, they were more interested in funnelling funds to fee-paying schools and those with a private education, demonstrating more concerted attention 'to the training of an elite within an elite' (Mandler 2020, 75).

Prospective students were still predominantly male. Although there is limited research into women's access to medical education during this period, the little available demonstrates access was hard fought. British Parliamentary records from March 1945 show that female students were made to sit competitive entrance exams, for a small number of places, while male students were not (HC Deb 29 March 1945 vol 409 cc1522). From 1947, all medical schools were required to reserve 15-20 percent of their spaces for women, one of several factors contributing to higher numbers of applications (Brinton 1951, 1049). Yet, still, by 1961, women were actively discouraged from applying to medicine: despite a shortage of doctors there was an overall cap on places, with priority given to men, and female applicants came under greater scrutiny with higher entry requirements (Elston 1986, 113-114). The 1968 Royal Commission on Medical Education (The Todd Report) put an end to the quotas on female medical students, eventually leading to higher numbers being able to enrol, coinciding with wider reforms in medical education provision (Elston 1986, 387). The quota on female admissions also existed in North America, and impacted the pool of applicants in much the same way. One study into the differences between male and female applicants at the University of Toronto in 1974, which reiterated no discrimination on the basis of sex, found that there were slight differences in personality traits: based on psychological tests, men scored higher in 'dominance, exhibition, and order', while women 'scored higher on harmavoidance, impulsivity, nurturance, understanding and need for change' (Fruen et al 1974, 142). The UK's 2009 Report on *Women in Medicine*, shows a significant increase in female admissions: 'from 492 (24.4% of the total admissions) in 1960/61 to 4,583 (56.2% of the total admissions) in 2008/09' (Donaldson 2009, 2).

On giving the prestigious Bradshaw Lectureship in 1951, on the selection of medical students, Denis Brinton, former Dean of the Medical School at St. Mary's Hospital, stated: 'Candidates for our medical schools are nowadays expected to have traits suitable for a doctor and the kind of intelligence for a university training. To define these is not an easy task' (Brinton 1951, 6693). Medical schools began to use a range of approaches in their admissions process, often drawing on

techniques used within selection processes for other occupations, such as the civil service, where interviews, intelligence tests, and essays were used to screen character. The discourse was increasingly influenced by new theories and models of education derived from sociology, psychology and anthropology that were unfolding, with North America leading the field (Fox 1957; Dewey 1938; Spindler 1955; Whitehead et al, 2013). This intellectual shift once again had implications for the placing of 'character' in medical education. Whitehead et al have noted that by the 1960s, in the North American context at least, there was a significant linguistic shift from 'character' to 'characteristics' in discussions, as the medical student was 'dissected into discrete separable parts' by modes of assessment which regarded intelligence and character traits as separate entities (Whitehead et al, 2013, 695).

Yet, there was a sense of something lacking in that none of these approaches could give a full indication for how a student would perform or what their character could be (Brinton 1951, 6693-6694). While Brinton showed that doctors were more openly critiquing processes of admission and the difficulty of identifying the 'right' candidates, the assumption remained that a candidate's ability to succeed in medicine was already well determined by their existing characteristics – the question was whether these individuals could be discovered through the selection process for medical schools. More rigorously applied selection processes were required, particularly during the interview stage, which, arguably, offered the best indicator of character. In 1953 the First World Medical Education Conference took place in London, attracting speakers from across the globe, where doctors shared their difficulties in managing selection processes and their patent limitations in ensuring those with the right characteristics were accepted. As one American doctor reflected: '"I look for a quality which, for want of a better term, I call 'warmth,' but I feel wholly unequal to the task of trying to tell you how I arrive at a decision in this matter"' (1953, 556).

Professionalism, 'Vocation', and Identity

Recognition that education was a sociocultural process allowed for the identification of the 'hidden curriculum' from the late 1960s onwards (Martimianakis et al 2015, S5). At the same time, there was a bigger turn towards reconsideration and reform of the human aspect of education and practice in light of the increasing technologisation of medicine. The London Medical Group paved the way for inclusion of medical ethics within the curriculum, and the 1968 Todd Report argued for more recognition of patient-centred care (Bates 2017). By classifying the 'commonly held "understandings", customs, rituals, and taken-for-granted aspects of what goes on in the life-space we call medical education,' educational and sociological theorists revealed and conceptualised latent and implicit expectations of the student (Hafferty 1998, 404). In other words, it was the hidden curriculum that 'taught' behaviour modelling, professional values, and characteristics which the student and future doctor must then absorb and adapt. Such behaviours, values, and characteristics were often

used to uphold the power which was invested in the organisational structure of medicine and training, and it is significant that these aspects of the curriculum were more 'hidden' for some than for others, and cannot be considered an attempt at creating a level playing field (Hafferty 2000, 23-24).

Behaviour modelling couched in terms of professional development and identity comes with potential harm, and perpetuates a medical culture in which not everyone can equally take part. Inexplicit expectations of behaviour, customs, and hierarchies can quickly propagate harmful environments, founded on intolerance, discrimination, and inequalities (such as: racism, sexism, misogyny, transphobia, homophobia and ableism) (Benderley 2014; Fallin-Bennett 2015; Leong and Ayoo 2019). If professional behaviour and identity are always based on what has come before, then this perpetuates the 'ideal' of the 'gentleman physician': white, male, able-bodied, and usually from a wealthy and comfortable, middle-class background, as well as having a traditional, linear route into medicine. The doctor stereotype persists, becoming an exclusionary force. In Carrie Yang Costello's research into professional identity crises, she identifies 'identity dissonance', a feeling of having to 'carry' oneself differently in order to be considered part of the profession, most often experienced by persons from less privileged backgrounds and marginalised groups (Costello 2005). Despite greater inclusivity and diversity initiatives, white men, often from privileged backgrounds, continue to outperform their peers. Those who are not considered as naturally fitting into the profession must then balance, and expend further energy and resources on, changing themselves to fit in, while also trying to maintain who they are (Costello 2005; Sullivan 2007). Much of this is caused by inherited and embedded identities and ideas about how a profession should function, and who it is that can seamlessly become the right kind of professional. Holding on to these inherited structures means that medical culture is harder to change, and instead it is generation upon generation of new doctors who inevitably follow the behaviours of their seniors, often inheriting biases and bad habits. Although there are aspects of modelling within the hidden curriculum that can be constructive and beneficial for the student, the invisibility of underlying structures and expectations can prolong inequalities. While on the one hand the social expectations a student is subjected to must be made explicit, the very nature of these categories means it should not become a box-ticking exercise (Brown et al 2020). These realities demonstrate the need for professional underpinnings to be made visible, especially in ways which enable students to critically engage with medical and workplace cultures.

Much of this is tied to professionalism: an amorphous concept still poorly taught and understood in medical schools today. The Royal College of Physicians' (RCP) working definition of professionalism is: 'a set of values, behaviours and relationships that underpin the trust the public has in doctors' (RCP 2005, 45). It is intrinsically tied to character and traits, which are then manifest in behaviours and actions. With the invisibility of the hidden curriculum, even in twenty-first century education, professionalism has also remained an elusive, invisible concept, and has only recently

become a formal facet in medical education in the UK. In 2009, the GMC explicitly included it in *Tomorrow's Doctors*, their outcomes and standards for undergraduate medical education, with the expectation that it would develop into a core part of the curriculum (GMC 2009, 20). However, dictations for what a student should learn in medical professionalism curricula is generally poorly articulated, often falling back on the language of malpractice, legal boundaries, ethical imperatives and medical jurisprudence. In reality, and what some recent works on medical professionalism are beginning to show, is that professionalism is about medical culture, and how character develops and how individuals can have a role in actively crafting what professionalism is (Tweedie et al 2018; Joseph et al 2017; Hodges 2016). Perhaps one of the flaws thus far is that 'professionalism' has been considered a static term, when actually given the ever-changing nature of modern healthcare, it also needs to be reconsidered.

The integration of medical professionalism curricula in the UK has met some hurdles. While medical schools are beginning to address it, there continues to be divergent viewpoints of whether professionalism can be taught. In a 2013 study of foundation doctors' views on the integration of professionalism teaching, there were suggestions that:

> "A lot of the prejudices people have took root when they were young and by the time they get to Medical School, which for most people, would be about age 18 – 20 years, the prejudices are deeply seated and it is not going to be possible in the 5 years of Medical School to uproot something that has been that deep seated" (Esen 2013, 554).

There is the perception that the teaching of professionalism has no effect, or that it is the job of professionalism teaching to undo negative traits. Furthermore, we see that approaches taken so far seem ineffective, and if not half-heartedly introduced, are rarely taken seriously by students, especially given that it is something so difficult to assess and measure. One of the foundation doctors admitted:

> "Attendances were always really, really poor but you would go to all the other lectures you knew you were to be examined on, but with professionalism you knew this was something which you were not going to be assessed on. It is not something we really need to be bothered about, because it was common sense as well. I don't know if it would be worthwhile doing an assessment in it" (Esen 2013, 555).

The teaching of medical professionalism is caught in a paradox: to make students and educators accept it as part of the curriculum it needs to be assessed, but at the same time it is considered either unimportant or impossible to teach such things, claimed to be 'common sense'. Furthermore, to actively assess professionalism, is to deindividualize students and doctors, and dilute the complexities involved, including, at the basic level, that the multifarious definitions of 'professionalism' suggest that values, behaviours, and attributes are all interchangeable (Hafferty 2016).

There is a great deal of dissatisfaction in how professionalism is taught. It can be a struggle to get medical schools and senior clinicians to take it seriously, and these educators often model disinterest to students, implying it is secondary to clinical skills and knowledge. In some cases, the guidelines set down by the GMC are taken each in turn and ticked off along the way. Students feel they are being made to cover things they are already well aware of, and such guidelines seem to perpetuate the idea that 'professionalism' is always only about right and wrong (Stockley and Forbes 2014).

> Educational and appraisal meetings have been described as 'tick-box' exercises, devoid of purposeful interaction and meaningful development. The changes seem to assume that there is just one way of being a doctor; doctors in training describe it as "the conveyor belt of medical training" (Tweedie et al 2018, 80).

Professionalism, like everything, has grey areas, and there are aspects of historical and modern medicine which should be actively critiqued by students, so that they feel they are a part of crafting and upholding a medical culture which works for practitioners and patients. A didactic, 'do this', 'don't do that' approach shuts students down. Most definitions of and approaches to teaching professionalism do not address the emotional landscape of the individual.

The Royal College of Physicians' 2018 *Advancing Medical Professionalism* report argues for a humanities-led approach to the teaching of professionalism, which in turn could redress the dissatisfaction and failures of professionalism education UK medical schools are experiencing (Tweedie et al 2018, 99). The development of humanities within medical education has been growing since the 1980s. In the UK, this has primarily evolved around a core directive of improving communication. The focus on communication quickly became attached to the idea of cultivating empathy and 'humanising' the doctor. This approach has met with some success and its utility recognized by pockets of the profession, for example around arts-based interventions, and recognition for the value of narrative competence, especially as it relates to narrative medicine. However, the 'humanising the doctor' discourse, as numerous scholars have shown, has significant limitations, and is not really working. Leading UK educator and researcher in embedding humanities into medical education, Alan Bleakley, argues that 'Patently, educating for a virtuous character through a liberal education has never humanized medical practice – and "humanizing" is a cloudy term in danger of slipping into piety' (Bleakley 2015, 9). To 'humanise' does little to challenge the very embedded idea that there is an ideal character for a doctor. Not only does this de-individualise the doctor, but it willingly ignores the intersections of class, race, gender, sex, and sexuality. This model inhibits students defining their identity on their own terms.

The continued pervasiveness of this model is clear in the idea of medicine as a 'vocation', for example. 'Vocation' is continually invoked to make sense of and uphold professional identity. The Royal College of Physicians' 2005 *Doctors in Society* report articulated that:

> Medicine is a vocation in which a doctor's knowledge, clinical skills, and judgement are put in the service of protecting and restoring human well-being. This purpose is realised through a partnership between patient and doctor, one based on mutual respect, individual responsibility, and appropriate accountability (RCP 2005, 45).

That they foreground, unambiguously, that 'medicine *is* a vocation', demonstrates how there is very little flexibility in how a new doctor can conceptualise and come to be a part of medicine on their own terms. 'Vocation' assumes a calling; that one is predestined to become a doctor. The RCP's definition excludes the option that medicine might not be considered a vocation for some (although it certainly is for many), but in its phrasing and didacticism, insists that doctors must adhere to a set of long-ago developed characteristics. The dedication that 'vocation' suggests can become analogous to a 'totality of being'; while some may relish this, a vocational pull and idea of being constantly on duty does not appeal to or sit comfortably with many entering the profession (Youssef et al 2016, 372). Recent studies which engage with medical students' perceptions of professional identity show a strong trend of resentment for the vocational model, wanting medicine to be a job, a part but not a totalising whole of their lives; a part of their identity, but not the whole of it (Youssef et al 2016). Studies also suggest that the notion of a vocation or calling is particularly troubling to female medical students, concerned that 'self-sacrifice might turn into self-effacement' (Johansson & Hamburg 2007, e3). The sense of vocation as a requirement to the world of medicine likely has a serious impact on who feels they can enter the profession, which is not an insignificant issue given the disproportionate entry of those from higher socioeconomic backgrounds to medical education (British Medical Association 2009, 1). Some students may find that 'the call' to medicine can grow from familial and social connections as an inherited vocation, however, this is often a route of privilege, and can be an exclusionary force. A vocational calling to the medical profession early in life is not the experience of all students and may even be a deterrent to those considering a medical career, especially through non-traditional routes, such as graduate entry courses.

The medical profession sets a tone of rigidity, where ingrained messages around character and professional identity are immovable. Potential medical students may be put off by a career which demands strict ideas around character traits and qualities, and limits personality and agency. Such traits feed into what is expected of the professional role: the doctor as embodying mastery, control, and exuding certainty. In addressing the role of empathy in medical education, Johanna Shapiro gestures towards the problems around the socialisation of certainty:

> The dominant medical discourse into which students are socialized lacks a consistent element of reflection and self-awareness. Further, it encourages students to adopt somewhat limited professional roles emphasizing mastery, control, and an aspiration toward perfectibility, in the sense of becoming increasingly fearful of making mistakes, thus forcing them to reject or deny more flawed aspects of themselves (Shapiro 2008, 5).

This is role modelling enduring conditions of toxicity, which is founded on the assumption that to demonstrate uncertainty is to suggest you are not in control; that mastery and perfectibility are fundamental tenets of being a doctor. The world of medicine is one of rigid ideas, in which students are not encouraged to self-reflect, and by extension deterred from critiquing dominant discourses and preconditions of one's place in medicine. Shapiro shows us that such a perpetuation, where students and young doctors refuse to recognise their flaws, is ultimately harmful to medicine. Furthermore, Shapiro demonstrates that such rigidity leads to characteristics which heavily rely on certainty and non-ambiguity. This propagates not only the assumption that doctors cannot make mistakes, but also limits agency in forming one's professional identity.

Embracing Unknowns

How could humanities help students wrestle with expectations around medical character and professional identity, while also being active in the creation of their professional medical culture? Effective integration of humanities in the curriculum 'can reinforce students' sense of agency in developing their own professional identities, understanding their own special influence on healthcare practice and delivery, and accepting their own responsibility in how caregiving is both taught and modelled' (Jones et al 2014, 8). The tools and methods of humanities can enable students to interrogate the concepts of character and professionalism, and how this relates to their own identity. One of the ways in which students can be empowered to critique the linear, sermonising professionalism narrative is to become comfortable with embracing ambiguity and tolerating uncertainty.

Uncertainty is everywhere in medicine, and yet so much is done to ignore and shroud the unknown. There is uncertainty in: diagnosis; treatment outcomes; patient reactions to medication, therapies, or absence of; uncertainties of patients and their family's reaction to news, and their emotions; uncertainty brought on by new working environments, and new colleagues; uncertainties brought on by changes in procedure (Montgomery 2006; Hatch 2016). Many of the uncertainties are expected and inevitable; a student does not know everything, and indeed even long qualified doctors will always have gaps in their knowledge. As we explored in the first section, medical professionals have long been aware of the importance of being able to tolerate uncertainty, and have advised students to acquire the ability to do so (Osler, 1904, 7). Sociological interpretations, prevalent since the middle of the twentieth century, further revealed the significant place of uncertainty in medicine.

Field-shaping medical sociologist Renée Fox considered uncertainty a defining concept in her work, especially drawn from her observations of medical students. Fox observed students undertaking 'the training-for-uncertainty sequence' where they learnt to adapt to the current limits of medical knowledge as well as the limitations of their own skill-set (Fox 1980, 5). Fox identified that awareness of the pervasiveness of uncertainty did not lead to comfort with or ability to handle the condition of uncertainty: 'that students made numerous jokes about uncertainty [...] indicated that this continued to be a source of stress' (Fox 1980, 7-8). An emphasis on training tolerance of uncertainty and ambiguity has grown in recent years, with significant growth in studies within the last 6 years, and further compelled by the COVID-19 pandemic (Domen 2016; Simpkin and Schwartzstein 2016; Wooster and Maniate 2019; Herzog 2020; Lee et al 2020). However, very little is discussed with regard to how the humanities can, and must, play a role in teaching these things. Although Bleakley has suggested that 'medicine must collaborate with the arts and humanities if only to reap the rewards of learning about tolerance of uncertainty and ambiguity', there is still a way to go before this is fully integrated within medical school curricula, and we wish to extend this proactively (Bleakley 2015, 55).

Firstly, we need to eradicate the science and arts divide: demonstrate that nuance, ambiguity, changing facts and evolving knowledge are not enemies, but mutually beneficial. In fact, the differences between science and art are vital for their 'productive tension': while science might struggle to handle ambiguity, the arts and humanities thrive on it (Bleakley 2015, 211). Students then need to become part of the conversations around these things: we need to encourage them to articulate doubt and uncertainty, to communicate contradictory facts, and reconcile themselves to differences in opinion. We want them to consider the social and cultural determinants of medical character and professional identity and what this means to them. All humanities subjects have a role to play in this.

Histories of medicine and healthcare for example, can be drawn on to unsettle static visions of medical knowledge, showing instead how facts, theories and practices of medicine have been disputed, rejected, and sometimes re-accepted. Pedagogical tools from object-based learning to gamification can (and have) been used to enhance these conversations (Allan et al 2016; Chaney and Frampton 2019). Reflecting on the development of the profession, which might initially be perceived as a rather dry undertaking, also has the potential to initiate rich discussion. It enables reflection upon the expectations of character, commitment and obligation that have been layered within medical education historically. Seeing how doctors have addressed uncertainty, ambiguity, and identity crises aids us in understanding the landscape of medicine more clearly, showing the development of a culture of medicine that in many respects remains unchanged.

We should expose students to acts of interpretation, through art, film, and literature, and help them to develop the skills to articulate certainty and uncertainty, with tact, consideration, humility,

and generosity. In the recent collection, *From Reading to Healing: Teaching Medical Professionalism through Literature* (2019), Catherine Belling proffers an exercise in uncertainty. By reading the short story, 'Perspective Shift', about the ambiguities of a CT scan, she withholds the final paragraph, asking students to write their own ending. Belling introduces this as an exercise that 'will make participants read more carefully than usual, for they are being asked, as doctors are, to do something with the information they have, even though it is inconclusive' (Belling 2019). By writing, they imagine, and then they articulate. The exercise 'entails applying two different kinds of knowledge: about what happens next in a clinical encounter and about how narratives end' (Belling 2019). This is but one of many ways in which literature and narrative can generate discussions around uncertainty and require students to actively participate in reflections and conversations about how they communicate it. Neepa Thacker, Jennifer Wallis, and Jo Winning's recent work in undergraduate medical education offers a case study in handling uncertainties via engagement with graphic medicine. In an exercise which requires students to collaboratively deconstruct and reorder the graphic frames, they are encouraged to attempt narrative understanding. The exercise moves 'away from a positivist model of factual knowledge to the more complex terrain of subjective emotions, in which the affective experience of uncertainty is located' (Thacker et al 2021, 5). Thacker et al argue that 'collaborative learning about uncertainty, using humanities' materials and skill sets, has a profoundly productive bearing on professional identity formation in the medical context' (Thacker et al 2021, 6). As well as articulating the benefits of and developing aptitude in narrative, we can see that creative, interactive, and novel pedagogical activities, especially when interpersonal and collaborative, can improve skills in articulating uncertainty and developing comfort in living with it.

Such approaches do not need to stop with medical students: we see the highest quality of professionalism teaching for practitioners being interprofessional in scope. Following on the heels of integrating a professionalism focus is an emphasis on interprofessionalism teaching, which would have a wealth of positive impacts, not least assisting in the multidisciplinary team. The 2020 Academy of Medical Royal Colleges report *Developing professional identity in multi-professional teams*, outlines concern about evolving professional roles and responsibilities: 'the introduction of new roles or new ways of working can be perceived as a challenge or threat to pre-existing professional identities', which has led to confusion and uncertainty about roles and identities, dissatisfaction with workplace cultures, and increased professional protectionism (Academy of Medical Royal Colleges 2020, 7). Health Education England's *The Future Doctor Programme: A co-created vision for the future clinical team* (2020), tied to the NHS People Plan and NHS Long Term Plan, emphasises the importance of a transformed and empowered multi-professional team. A recent study of interprofessional education in geriatric medicine, examining medical and nursing students, demonstrated statistically significant improvements in collaboration and professional identity (Thompson et al 2020). Understanding the reasons behind long-standing divisions among members of

the healthcare team can inform how such divisions are replicated today; historical reflections, philosophical perspectives and literary narratives will enable interrogation of such issues. COVID-19 has highlighted that the provision of effective healthcare includes often overlooked critical roles, such as porters and cleaners. Exposure to histories of nursing, paramedicine, social care, as well as support services, for example, would help teams understand respective responsibilities and approaches to professional identity, and how these have evolved in modern practice.

There are fundamental benefits for the doctor-patient relationship. If a doctor can effectively articulate their uncertainty, in a way which maintains trust, this can strengthen their relationship. Laying out the potential benefits and shortcomings of treatment options, even when there are unknowns ahead, can empower patients, through knowledge, giving them key roles in decision making and informed consent (which is a strengthened legal requirement since the Montgomery Judgement of 2015). Such things are crucial to professionalism, as outlined in the aforementioned RCP *Advancing Medical Professionalism* report, which suggests one of the seven vital characteristics/roles of the doctor is that of Patient Partner. Although the chapter does not explicitly address the idea of cultivating tolerance with uncertainty, a sense of it exists in its explanation of integrity:

> integrity centres on putting the patient's interests first. Being competent and skilled to do the job is an important component of acting with integrity, as is remaining up to date with advances in practice. However, integrity also encompasses humility and a willingness to seek answers when needed. Professionals who act with integrity recognise and are truthful about the limits of their competence (Tweedie et al 2018, 31).

Reading between the lines, this suggests that it is an imperative skill that doctors admit when they do not know, consult others for help and advice, and recognise that being 'skilled to do the job' is not just about knowing the answers but also about navigating deference, humility, and cementing trust in the relationship: 'Acknowledging that you don't have the answer to everything can feel uncomfortable, but it is how it is done that matters' (Tweedie et al 2018, 31). To the credit of recent developments in medical education, a great deal has been put into communication skills, and this is something which is actively assessed. However, the ability to communicate clearly and effectively is just one step. Before they can fully communicate possible treatment options, the unknowns of a diagnosis, and doubt about outcomes, the doctor must also be capable of managing doubt, disappointment, failure, and not knowing. There is a better route to a cooperative and productive relationship between doctors and patients.

Conclusion: Empowering uncertainty in undergraduate medical education

Certainty is a tool of power and authority in medicine. Expectations of the profession uphold that doctors must seek answers and solutions. Yet this imparts modelling that uncertainty somehow means

a lack of control. There is a fear of disempowerment by being seen to not know or be fallible. Although 'Physicians are trained to aim for maximal certainty,' little room is given within undergraduate curricula to allow students to explore tolerance of uncertainty as it pertains to communicating with patients and colleagues (Montgomery 2006, 4). With such an overstuffed curriculum, it can be hard to persuade institutions to make space for humanities; they 'should not be "add-on" but integrated,' with emphasis on their invaluable contributions to thinking, skills, and practice (Bleakley 2015, 41). Professional identity, peer relationships and patient experience are potentially undermined when the doctor cannot face ambiguities and uncertainties. Striving for perfection, control, and infallibility is harmful to medicine, and to the care of patients. Instead, confidence can be gained with the literacy of nuance, complexity, ambiguity, and uncertainty.

The weight that has been given, historically, to the idea of 'character' makes its presence felt today. Clearly, passion, aptitude and interest are important in working towards qualification in medicine, however the perpetuation of specific, ideal 'character' traits can have exclusionary, harmful, and discriminatory consequences. Whether 'born' or 'made', medical students enter an educational culture that remains in thrall to the idea that there is a set of 'right' characteristics that one either already has or must strive for: they must be resilient, unperturbed, sympathetic and steady. Acknowledging and dissecting how these ideas circulate in medical culture is a vital means to enabling students and doctors to shape their place in medicine. While there are many ways that the humanities have, and could, be brought into these discussions, they have mostly had tepid results. Yet, there are undoubtedly productive means through which humanities can aid the empowerment and confidence of medical students to critique professional identity, and the perceived demands of a medical character.

With medical education governance and policy increasingly including explicit expectations for the teaching of professionalism and interprofessionalism, this must involve better guidance on educational development from key institutional bodies, as well as recognition for the value of the humanities (GMC 2009; Tweedie et al 2018; Academy of Medical Royal Colleges 2020). While we are not suggesting all medical schools have the same curricula, as different places have their unique strengths and local resources, there is a place for greater knowledge-exchange between different institutions nationally. In our experience of teaching humanities-led professionalism there are numerous ways to teach it, but assessment has been the biggest hurdle, not only because of the elusiveness of professional identity and concepts, but also because of how it is treated in the wider curricula: if something is not assessed in medical education, it is often not taken seriously by students and their educators, who will likely focus on those skills which *will* be assessed. And yet, if it is assessed, it risks becoming a box-ticking exercise.

The much-needed call for explicit professionalism teaching in UK medical education must also come with awareness of the continued impact of past medical culture on the present, and how it continues to shape medicine. Critical engagement with professionalism can also play a role in improving diversity and equality in medical education. This long-standing fastening to 'character' persists in the message of suitability and belonging, often seen to determine the emotional landscape, the moral codes, and personal values of doctors. Present-day medical culture needs to reckon with these perpetuations in order to keep up with modern medicine, society, and evolving identities.

Reference List

Academy of Royal Medical Colleges. 2020. *Developing professional identity in multi-professional teams.*

Afghani, B, S Besimanto, A Amin, and J Shapiro. 2011. 'Medical Students' Perspectives on Clinical Empathy Training.' *Education for Health* 24(1). http://www.educationforhealth.net/

Allan, Charlotte L., Maria Grazia Turri, Kate Stein, Felipe N Da Silva, and Jim Harris. 2016. 'Exploring psychiatry through images and objects.' *Medical Humanities* 42(3): 205-206.

Anderson, Eric C., R. Nicholas Carleton, Michael Diefenbach and Paul K. J. Han. 2019. 'The Relationship Between Uncertainty and Affect.' *Hypothesis and Theory* November 12, doi: 10.3389/fpsyg.2019.02504

A, R.G. 1901. 'The Student's Seven Ages.' *St George's Hospital Gazette,* October 4 1901, 9(7): 117

'An Address to Students.' 1901. *The Lancet*, September 7 1901. 631-634.

Bates, Victoria. 2017. 'Yesterday's Doctors: The Human Aspects of Medical Education in Britain, 1857-93.' *Medical History* 61(1): 48-65

Belling, Catherine. 2019. 'Medicine and the Silent Oracle: An Exercise in Uncertainty.' In *From Reading to Healing: Teaching Medical Professionalism through Literature*, edited by Susan Stagno and Michael Blackie. Kent, Ohio: Kent State University Press. n.p. Ebook.

Benderly, Beryl Lieff. 2014. 'Is abuse a part of medicine's hidden curriculum?' *Science* Sep. 9, https://www.sciencemag.org/careers/2014/09/abuse-part-medicine-s-hidden-curriculum

Bleakley, Alan. 2015. *Medical Humanities and Medical Education: How the Medical humanities can shape better doctors*. London: Routledge.

Bonner, Thomas Neville. 1989. 'Abraham Flexner as critic of British and Continental medical education.' *Medical History* 33(4): 472-479

British Medical Association. 2009. 'Equality and Diversity in UK Medical Schools.' London: BMA Marketing & Publications.

Brinton, Denis. 1951. 'Selection of Medical Students.' *The Lancet* Dec. 8 1951: 1047-1052

Brown, Megan E. L., Oluwafemi Coker, Annabel Heybourne and Gabrielle M Finn. 2020. 'Exploring the Hidden Curriculum's Impact on Medical Students: Professionalism, Identity Formation and the Need for Transparency.' *Medical Science Educator* 30: 1107-1121

Brown, Michael. 2014. ''Bats, Rats and Barristers': The Lancet, libel and the radical stylistics of early nineteenth-century English medicine.' *Social History* 39(2): 182-209.

Brown, Michael. 2011. *Performing Medicine: Medical culture and identity in provincial England, c.1760-1850*. Manchester and New York: Manchester University Press

Chaney, Sarah and Sally Frampton. 2019. 'Mind-Boggling Medical History: creating a medical history game for nurses.' *Science Museum Journal* 11. https://doi.org/10.15180/191104

Costello, Carrie Yang. 2005. *Professional Identity Crisis: Race, Class, Gender, and Success at Professional Schools*. Nashville, TN: Vanderbilt University Press

Dewey, John. 1938. *Experience and Education*. New York: Collier Books.

Digby, Anne. 1994. *Making a Medical Living: Doctors and Patients in the English Market for Medicine, 1720-1911*. Cambridge: Cambridge University Press.

Dixon, Thomas. 2008. *The Invention of Altruism: Making Moral Meanings in Victorian Britain.* Oxford: Oxford University Press

Duckworth, Dyce. 1898. *The Influence of character and right judgment in medicine: the Harveian oration delivered before the Royal College of Physicians*, October 18. London: Longmans, Green.

Domen, Ronald e. 2016. 'The Ethics of Ambiguity: Rethinking the Role and Importance of Uncertainty in Medical Education and Practice.' *Academic Pathology*: 1-7

Donaldson, Liam. 2009. ‘Foreword.’ In *Women doctors: making a difference*. Department of Health. 2-3

Elston, Mary Ann C. 1986. ‘Women Doctors in the British Health Services: A Sociological Study of Their Careers and Opportunities.’ PhD Dissertation. University of Leeds

Esen, U. I. 2013. ‘Foundation doctors’ views of medical professionalism.’ *Journal of Obstetrics and Gynaecology*, 33(6): 553-556

Fallin-Bennett, Keisa. 2015. ‘Implicit Bias Against Sexual Minorities in Medicine: Cycles of Professional Influence and the Role of the Hidden Curriculum.’ *Academic Medicine* 90(5): 549-552

‘First World Conference on Medical Education: Proceedings of Sections.’ 1953. *British Medical Journal*, 2 (4835) 5th September: 556-565.

Fox, Renée, 1957. ‘Training for Uncertainty.’ In *The Student-Physician; Introductory Studies in the Sociology of Medical Education*, edited by Robert K. Merton, George G. Reader and Patricia L. Kendall. 207-241. Cambridge: Harvard University Press

Fox, Renée. 1980. ‘The Evolution of Medical Uncertainty.’ *Milbank Memorial Fund Quarterly* 58(1): 1-49.

Frampton, Sally. 2020. ‘“A Borderland in Ethics”: Medical Journals, the Public, and the Medical Profession in Nineteenth-Century Britain.’ In *Science Periodicals in Nineteenth-Century Britain: Constructing Scientific Communities*, edited by Gowan Dawson, Bernard Lightman, Sally Shuttleworth, and Jonathan R. Topham. 311-336. Chicago and London: University of Chicago Press.

Fruen, Mary A., Arthur I. Rothman, and Jan W. Steiner. 1974. ‘Comparison of Characteristics of Male and Female Medical School Applicants.’ *Journal of Medical Education* 49: 137-145

General Medical Council. 2009. *Tomorrow’s Doctors*.

Goodlad, Lauren M. E. 2003. *Victorian Literature and the Victorian State: Character and Governance in a Liberal Society*. Baltimore; London: Johns Hopkins University Press

Gourlay, R. John. 1944. ‘Character and Personality in the Medical Student.’ *BMJ* 2(4358) July 15, 96.

Hafferty, Frederic W. 1998. 'Beyond Curriculum Reform: Confronting Medicine's Hidden Curriculum.' *Academic Medicine* 73(4): 403-407

Hafferty, Frederic W. 2000. 'In Search of a Lost Cord: Professionalism and Medical Edcuation's Hidden Curriculum.' In *Educating for Professionalism: Creating a Culture of Humanism in Medical Education*, edited by Delese Wear and Janet Bickel. 11-34. Iowa City: University of Iowa Press

Hafferty, Frederic W. 2016. 'Socialization, professionalism, and professional identity formation.' In *Teaching Medical Professionalism: Supporting the Development of Professional Identity*, edited by Richard L. Cruess, Sylvia R. Cruess and Yvonne Steinart. 54-67. Cambridge: Cambridge University Press.

Hatch, Steven. 2016. *Snowball in a Blizzard: The Tricky Problem of Uncertainty in Medicine*. London: Atlantic Books

HC Deb 29 March 1945 vol 409 cc1522

Herzog, Lindsay. 2020. 'COVID-19: Unveiling the Role of Uncertainty in Medical Education.' *MedEdPublish*. https://doi.org/10.15694/mep.2020.000166.1

Hodges, Brian D. 2016. 'Professional identities of the future: invisible and unconscious or deliberate and reflexive?' In *Teaching Medical Professionalism: Supporting the Development of Professional Identity*, edited by Richard L. Cruess, Sylvia R. Cruess and Yvonne Steinart. 277-287. Cambridge: Cambridge University Press.

Johansson, Eva E and Katarina Hamberg. 2007. 'From calling to a scheduled vocation: Swedish male and female students' reflection on being a doctor.' *Medical Teacher* 29(1): e1-e8.

Joseph, Kimera, Karlen Bader, Sara Wilson, Melissa Walker, Mark Stephens, and Lara Varpio. 2017. 'Unmasking identity dissonance: exploring medical students' professional identity formation through mask making.' *Perspectives on Medical Education*. 6: 99-107

Jones, Therese, Delese Wear, Lester D. Friedman, and Kathleen Pacucki. 2014. *Health Humanities Reader*. New Brunswick, NJ: Rutgers University Press

Kelly, Laura. 2017. *Irish Medical Education and Student Culture, c.1850-1950*. Liverpool: Liverpool University Press

Lawrence, Christopher. 1998. 'Medical Minds, Surgical Bodies.' In *Science Incarnate: Historical Embodiments of Natural Knowledge*, edited by Christopher Lawrence & Steven Shapin. 156-201. Chicago: University of Chicago Press

Lee, Ciara, Katherine Hall, Megan Anakin, and Ralph Pinnock. 2020. 'Towards a new understanding of uncertainty in medical education.' *Journal of Evaluation in Clinical Practice*. 1-11. https://doi.org/10.1111/jep.13503

Leong, Renata, and Kennedy Ayoo. 2019. 'Seeing medicine's hidden curriculum', *Canadian Medical Association Journal*, 191(33): E920-E921.

Macnaughton, Jane. 2009. 'The dangerous practice of empathy.' *The Lancet* 373: 1032-1033.

Mandler, Peter. 2020. *The Crisis of the Meritocracy: Britain's Transition to Mass Education since the Second World War*. Oxford: Oxford University Press.

Martimianakis, Maria Athina, Barret Michalec, Justin Lam, Carrie Cartmill, Janelle S. Taylor, and Frederic W. Hafferty. 2015. 'Humanism, the Hidden Curriculum, and Educational Reform: A Scoping Review and Thematic Analysis.' *Academic Medicine* 90(11): S5-S13

'Medical Education: Royal College of Physicians' Report.' 1944. *British Medical Journal* 1(4349) May 13, 668-669

'Medical Students, their Schools and Schoolmasters.' 1886. *The Hospital* 1(6) November 6 1886. p.87.

Montgomery, Kathryn. 2006. *How Doctors Think: Clinical Judgment and the Practice of Medicine*. Oxford: Oxford University Press.

Moulds, Alison. 2021. *Medical Identities and Print Culture, 1830s-1910s.* Basingstoke: Palgrave Macmillan.

National Audit Office. 2008. *Patient Safety*. The Stationary Office London

National Health Service. 2019. *The NHS Patient Safety Strategy*

Osler, William.1904. *Aequanimitas, with other addresses to medical students, nurses and practitioners of medicine*. London: H.K.Lewis.

'Overcrowding of the medical profession.'1903. *BMJ,* May 16 1903. 1152-1153

Radhakrishna, S. 2015. 'Culture of blame in the National Health Service; consequences and solutions.' *British Journal of Anaesthesia* 115(5): 653-655

Shapiro, Johanna. 2008. 'Walking a mile in their patients' shoes: empathy and othering in medical students' education.' *Philosophy, Ethics, and Humanities in Medicine* 3(10). doi:10.1186/1747-5341-3-10

Simpkin, Arabella L. and Richard M. Schwartzstein. 2016. 'Tolerating Uncertainty – The Next Medical Revolution?' *The New England Journal of Medicine* 375(18): 1713-1715.

Spindler, GD. 1955. *Education and Anthropology*. Stanford, California: Stanford University Press.

Stockley, Amelia J, and Karen Forbes. 2014. 'Medical professionalism in the formal curriculum: 5th year medical students' experiences.' *BMC Medical Education* 14(259) doi:10.1186/s12909-014-0259-0

Sullivan, William M. 2007. 'Review: Carrie Yang Costello. *Professional Identity Crisis: Race, Class, Gender, and Success at Professional Schools*.' *The Review of Higher Education* 30: 336-337

Thacker, Neepa, Jennifer Wallis, and Jo Winning. 2021. '"Capable of being in uncertainties": applied medical humanities in undergraduate medical education.' *Medical Humanities*. 1-10. doi: 10.1136/medhum-2020-012127

Thompson, Sanja, Kiloran Metcalfe, Katy Boncey, Clair Merriman, Lorna Catherine Flynn, Gaggandeep Singh Alg, Harriet Bothwell, Carol Forde-Johnston, Elizabeth Puffett, Caroline Hardy, Liz Wright, and James Beale. 2020. 'Interprofessional education in geriatric medicine: towards best practice. A controlled before-after study of medical and nursing students.' *BMJ*, 2019. Open Access 2020. doi:10.1136/bmjopen-2017-018041

Tomkins, Alannah. 2017. *Medical Misadventure in an Age of Professionalisation, 1780-1890*. Manchester: Manchester University Press

Tweedie J, Hordern J, and Dacre J. 2018. *Advancing medical professionalism*. London: Royal College of Physicians

Warner, John Harley. 1997. *The Therapeutic Perspective: Medical Practice, Knowledge, and Identity in America, 1820-1885*. Princeton: Princeton University Press. Reprint Edition, 2014

Warrington, George. 1904. 'The Land of Promise.' *Manchester Medical Students Gazette*, Jan, 4(37): 12-13

Wear, Delese. 2009. 'The Medical Humanities: Toward a Renewed Praxis.' *Journal of Medical Humanities* 30: 209-220

Whitehead, Cynthia R, Brian D. Hodges and Zubin Austin. 2013. 'Dissecting the doctor: from character to characteristics in North American medical education.' *Advances in Health Sciences Education* 18: 687-699.

Woods, Robert. 1996. 'Physician, Heal Thyself: the Health and Mortality of Victorian Doctors.' *Social History of Medicine* 9(1): 1-30

Wooster, Elizabeth M. and Jerry M. Maniate. 2019. 'Reimagining Medical Education: Part Two – Practicing in an Age of Uncertainty and Change.' *Archives of Medicine and Health Sciences* 7: 92-95.

Youssef, Valerie C., Dexnell Peters and Farid F. Youssef. 2016. '"It's All About How You Carry Yourself About": How Medical Students Conceptualize Professionalism in Trinidad & Tobago.' *Teaching and Learning in Medicine* 28(4): 367-374.