MAT Medicine Anthropology Theory

COMMENTARY

Making Apprenticeship Training Visible

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During a class discussion a few years ago, a pair of undergraduates studying science, technology and society contended, half facetiously, that everything one needs to know can be learned on the internet. I asked in reply if they would like their surgeon to learn how to do an operation from the internet. The question made them pause. The exchange reveals the conflation of information (knowing that) with knowledge (knowing how) that is common in this moment, when information is so very visible and know-how is embodied, relatively invisible, and can require years of dwelling and practicing within a specific community to achieve. Surgical education, for example, begins with years of practicing surgery under the close supervision of more experienced surgeons (Prentice 2013). Trainees typically prepare for surgery by studying the bodily geography of patient anatomy and the algorithmic steps of a particular procedure. But medical students, residents, and surgeons attest that anatomy and procedure actually come into view (literally and figuratively) under the guidance of those more senior. This kind of knowledge—the formal and informal learning that takes place within a community of practice—is what is typically termed 'apprenticeship'. The scope and significance of this form of learning often remains underappreciated.

The *Oxford English Dictionary* defines an apprentice as, 'A learner of a craft, one who is bound by legal agreement to serve an employer in the exercise of some handicraft, art, trade, or profession, for a certain number of years, with a view to learn its details and duties, in which the employer is reciprocally bound to instruct him' (Oxford English Dictionary 2022). Conceptually, apprenticeship appears to define a training and labour arrangement from an earlier era—better, perhaps, to

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describe a Renaissance Venetian glassblower than the more standardised, institutionalised, and bureaucratised forms of learning typical of twenty-first century professionals. And yet, learning craft and professional skills within communities of practice remains common, and necessary, despite the current mania for online learning, short courses, multiple certifications, and audit cultures. The need remains to examine how craftspeople and professionals acquire skills and what kinds of assumptions and relations this mode of learning incorporates. Scholars of early modern apprenticeship acknowledge that much more than craft knowledge was transmitted in these relations: 'It was a moral and political socialization as much as it was an initiation to the trade' (Farr 2000, 245). A challenge for scholars studying education and professionalisation now is to deepen our understanding of this kind of training relationship, particularly by exploring how apprenticeship shapes and is shaped by new sociopolitical formations and changing state interests, as well as how apprenticeship intersects with new pedagogical techniques, especially those related to information technologies. Extended ethnographic engagement with communities of practice remains an important methodology for scrutinising forms of learning that cannot easily be captured by algorithms, flowcharts, protocols, or other methods of scripting human actions.

Training in which inductees move progressively deeper into a community of practice exists across many spheres of human action, from training in care settings, as elaborated in the articles in this special section, to formalised craft apprenticeships in building trades in the United States, and even to trainees learning to use visions induced by herbal medicines while practising at the feet of Venezuelan shamans (Robb 2018). Anthropologist Cristina Grasseni (2007, 2009) examines the skills and sensibilities that apprenticeship education cultivates. Grasseni demonstrates that, among northern Italian cattle breeders, farmers, and cheese makers, apprenticeship education shapes 'specific skills of perception, relation and cognition, which are in turn instrumental to justify and reproduce specific contexts of action' (2009, 11). She argues that embodiment of skills, engagements with artefacts**,** and development of identity are integral to apprenticeship education (2009, 12–13). Elsewhere, Grasseni argues that communities of practice train ways of seeing and sensing that are shared within and are often unique to these communities (2007). The visual skills she focuses on are embodied, relational, and contextual. Grasseni's focus on trainee development as embodiment of ways of knowing, ways of sensing, and ways of thinking that develop in relation to experts and environments captures the depth and significance of this type of education.

Apprenticeship education involves uniquely intimate supervision by one or more experts. In surgical education, for example, a surgeon might place their hand over a resident's to guide the movement of a knife. Or a surgeon might patiently explain

a simple task to a new resident to create a shared ground of knowledge from which the pair can work (Prentice 2013, 154–155). But the close supervision entailed in apprenticeship training is both technical and social. At clinical rounds, for example, a gathered group of residents might critique a resident's unshaved appearance, sending strong messages about professional comportment that can be accompanied by joking, derision, or other types of mortification (idem, 114). Senior experts model technical, social, and cultural norms for trainees and assess the trainees on factors that go well beyond their technical skill, including their ability to fit seamlessly into the social matrix of a group, to display common sense, and to ask questions or stay silent as appropriate. This form of education trains a physician's perception, affects, judgement and ethics (idem, 8). Apprenticeship training develops skills and constructs professional subjects.

Both Grasseni and I remain focused on how communities of practice function and sustain themselves. The articles in this special section on therapeutic apprenticeship engage with training in settings where workers provide institutionalised care. They bring attention to long-standing aspects of apprenticeship training, such as how trainees develop specific ways of seeing and interpreting, while adding uniquely contemporary concerns, such as a state's insistence on the production of high-value research publications (Wong); how national gender ideologies intersect with specialised communities of practice (Nading); the development of relations not just between trainees and experts, but also with documents (Ansari); and the affective components both of learning to see (Baim) and of looking away (Doering-White). All these articles show how practitioners in the authors' areas of interest develop their identities, but they also reveal how training experiences can be influenced by forces other than those produced within the immediate community. Here, I use this rich and provocative set of articles to explore this form of becoming in relation. I argue that studies of twenty-first century apprenticeship require close attention to how apprenticeship education is open to the social and political environments and concerns of twenty-first century life.

Therapeutic apprenticeships in biomedical settings typically involve learning unique ways of seeing and perceiving bodies. Baim's article describing how ophthalmology trainees learn to see the eye's structures and pathologies explores the affective dimension of learning, as residents experience the frustrations and pleasures of learning to see. Baim describes the frustrations of learning to use a slit lamp biomicroscope and other tools of ophthalmological investigation, and the terrors of wrestling with the technologies in front of supervisors and patients. But wonder and awe also play an important role as residents learn to identify structures and pathologies. While Ansari's article focuses on uncertainty as a productive tension for therapists in training, Baim shows that certainty—the certainty of

making a definitive diagnosis—is a source of pleasure and satisfaction for residents. The inner mysteries of an ophthalmologist's craft and the whimsical language used to describe the eye's structures contribute to the awe residents feel as they pursue this specialisation. Supervisors clearly contribute to residents' fears, but the article raises a question about whether senior clinicians play a role in structuring the positive affects associated with learning ophthalmology. In other words, do senior clinicians engage in a form of 'affective scaffolding' (Prentice 2013, 120) that, in addition to contributing to their fears and frustrations, also structures residents' wonder and pleasure?

Apprenticeship training typically develops unique practices of sensing. In Grasseni's work, 'skilled visions'—techniques of seeing specific to a community—challenge critiques of Euro-American ocularcentrism by situating vision and the training of vision by localising and contextualising visual skills (Grasseni 2007, 2–8). Doering-White (this issue) builds on Grasseni's work arguing that workers in a Mexican migrant shelter choose to exercise what he calls 'shelter vision', a form of emotional restraint and occasional looking away from signs of smuggling or trauma that helps workers avoid racialised discourses of traumatic contagion that often accompany Mexico's policies of 'compassionate repression'. Shelter vision incorporates what workers see and how they comport themselves. This is the cultivation of emotional restraint that outsiders sometimes read as numbness or compassion fatigue. Doering-White does not deny the possibility of trauma among shelter workers, but he also reads shelter vision as a means of collaborating with migrants in navigating spaces both of compassion and violence.

Grasseni says the specific skills of perception and cognition that apprentices develop are used to justify these contexts of action (2009, 11). Doering-White presents a fascinating example of this when he, as a shelter worker, had to justify his own seeming indifference to shelter conditions as something other than trauma. Narratives of biomedical training often describe how medical residents can become hardened to the very patients they treat (Bosk 2003; Shem 1978). In contrast, Doering-White describes shelter workers hardening themselves against discourses about migrants, migration, and contagion that might make the work of care and of 'feeling with' more difficult. This article implicitly adds a new dimension to the study of learning within a community of practice: as inductees develop unique ways of seeing, they may also be developing ways of not seeing; that is, shelter vision may shape some ways of seeing and foreclose others.

Grasseni argues that engagement with artefacts is a significant dimension of apprenticeship training. Ansari's article (this issue) reveals how an artefact that is uniquely significant to twenty-first century bureaucratic ways of working—a paper form—can change relations between trainees and practitioners. As Ansari

describes, therapists-in-training in a French mental health clinic for migrants presented psychiatric patients to senior clinicians and a social worker using a form which they filled out by consulting referral documents. Ansari draws on the extensive literature on clinical case presentations to show that the forms he examines allow trainees to streamline their presentations while creating distance between trainees and patients. Trainees use referral documents created by other practitioners, rather than contact with patients, to fill out the presentation form. Without seeing patients, the trainees struggled to translate the information contained within the referral documents onto the forms required for the presentation. Ansari's detailed ethnography shows how the forms helped trainees learn the language of mental health professionals even as they experienced uncertainties related to their inability to shadow clinicians. The interplay between autonomy and discipline is a hallmark of apprenticeship education. In this case, clinicians encouraged therapists-in-training to speculate about patient conditions but also channelled and disciplined those speculations. What makes this case different from the dance of autonomy and discipline found in other fields is that it took place in reference to a form and not to an actual patient. This clinical work at a remove is likely to have increased trainee uncertainty, possibly beyond the point of useful tension.

One area where studies of apprenticeship bear more scrutiny is how they connect to broad social concerns and trends. Both Nading and Wong (this issue) begin the work of showing how concerns that exist outside the confines of apprenticeship training shape trainee experience, as well as professional choices and options.

In her article, Nading[1] opens up the gendered nature of medical practice in Ukraine,[2] showing how non-surgical specialisations are dominated by women. Female-dominated fields include those which are highly prestigious, such as neurology, that have generally not been feminised in other countries. According to Nading, non-surgical medical specialisations hook into the 'cult of motherhood and family' that has characterised Ukrainian political cultures for generations. In this reading of apprenticeship, medical practices other than surgery become an extension of women's roles as mothers, as though women treat 'the body of the nation'. By tying the feminisation of medical practice to Ukraine's gender ideology, Nading shows in detail how gender identities and ideologies that extend far beyond a specific professional sphere can permeate that sphere. Nading convincingly shows how gendered divisions of physician specialisation emerge both from tropes that exist within those specialisations—such as the violent nature of surgery as justification for a dearth of women surgeons—but also from national discourses

1 As I write this commentary, Ukraine is under sustained attack by the Russian armed forces. I can only write about the Ukraine that Nading describes in the hope that the Ukrainian people will be able to experience autonomy and self-determination in the years ahead.

about femininity, beauty, and gendered divisions of labour within the family. Although the gendered nature of some medical fields is well documented (see Cassell 2000), Nading effectively shows how national gender ideologies can shape seemingly more narrowly defined areas of medical practice.

The Chinese state's demands for research that enhances the state's reputation is one factor influencing surgical education, as explored in Wong's article. Wong shows how surgical training has been subjected to many reforms in China, but lack of standardisation of education leads attending surgeons to mistrust the abilities of newly arrived surgeons at all levels, leading to extended periods of traineeship as attending surgeons reassure themselves of their charges' skills, often asking them to demonstrate what they know one technique at a time. Some trainees appreciated the opportunity to spend more time gaining experience and learning from those more senior. That slow apprenticeship then is made more difficult by demands that surgeons publish research articles in prestigious international journals. At least one surgeon suggested that the demand to develop longitudinal data on their patient population was integral to being a good doctor, but this kind of thinking also played into the national push for research data. While such tensions exist elsewhere, the pressure to practise surgery and conduct research is exacerbated because it feeds into national pressures to prove that 'China is best'. Wong calls this lengthy and gruelling system a 'cruel apprenticeship'. Wong's article reveals the importance of outside governance to what happens inside apprenticeship relations. The Chinese state's demand for international prestige in research and relative neglect of professional standards lengthens surgical training time and renders it 'cruel'.

Each of these articles reveals a significant aspect of identity formation within a therapeutic apprenticeship. None of these aspects of training would fit neatly into a textbook or training manual, but they all have a profound impact on trainee development—shaping professional identities, career choices, and affective relations with clientele and fellow practitioners. These articles raise excellent questions about training within communities of practice that merit future research. What insights could more exploration of uncertainty as a negative and a positive aspect of education yield? When does belonging to a community of practice foreclose ways of seeing and feeling? What is the role of positive affect, such as wonder and awe, in clinical and scientific inquiry (see, for example, Daston and Park 2001)? What role do gendered professions play in reinforcing national gender ideologies; that is, how do gender ideologies move between local environments and national discussions? And how do professionals resist state demands or push for state-level change that affects their professions in situations of neglect or repression? More broadly, how do those engaged in these forms of training and the communities they produce resist and adapt to social pressures, political

demands, and mandates from organisations and states? And what are the best means of studying forms of education that, whether formal or informal, contain tacit, embodied, and invisible knowledges?

About the author

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References

Bosk, Charles. 2003. *Forgive and Remember: Managing Medical Failure.* Chicago, IL: University of Chicago Press.

Cassell, Joan. 2000. *The Woman in the Surgeon's Body.* Cambridge, MA: Harvard University Press.

Daston, Lorraine and Katherine Park. 2001. *Wonders and the Order of Nature: 1150–750.* New York, NY: Zone Books.

Farr, J. R. 2000. *Artisans in Europe, 1300-1914*. Cambridge, UK: Cambridge University Press.

Grasseni, Cristina, ed. 2007. *Skilled Visions: Between Apprenticeship and Standards.* New York, NY: Berghahn Books.

Grasseni, Cristina. 2009. *Developing Skill, Developing Vision: Practices of Locality at the Foot of the Alps.* New York, NY: Berghahn Books.

Oxford English Dictionary. 2022. 'Apprentice'. *Oxford English Dictionary.* Oxford, UK: Oxford University Press.

Prentice, Rachel. 2013. *Bodies in Formation: An Ethnography of Anatomy and Surgery Education*. Durham, NC: Duke University Press.

Robb, Robin. 2018. 'Piaroa Shamanic Ethics and Ethos: Living by the Law and the Good Life of Tranquility'. *International Journal of Latin American Religions* 2: 315–33. https://doi.org/10.1007/s41603-018-0059-0.

Shem, Samuel. 1978. *The House of God.* New York, NY: Dell.