Commentary

Solving tensions within Technical Rescue in England and Wales

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In all of the 48 independent charities that constitute Mountain Rescue in England and Wales, there are a number of clearly delineated professions, such as medicine, as well as a host of less clearly defined but well-established communities of practice, such as those that form around climbing and technical rescue. That these groups all come together within Mountain Rescue (MR) to produce an effective rescue on the hill, come rain or shine, on a voluntary (pro bono) basis is something they share, but these different groups do not share the same status, and neither do they operate in the same ways. In this paper, I investigate those differences and discuss ways in which we may better utilise the learning of the aforementioned communities of practice in order to increase the effectiveness of MR in England and Wales.

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Context

There is increasing academic interest in the work of all kinds of emergency services as a result of growing concerns about a seemingly expanding range of biological, environmental, and social threats, concerns that may have been amplified by the Covid pandemic, but which clearly predate it too (Caduff, 2015). Couple this with the fact that in the UK, emergency services are often partly privatised, partly state-run, and partly voluntary, how it all works is of interest to a range of academics, including sociologists, observers of organisations, and management specialists. Consequently, the scope of such studies has expanded to encompass issues like workloads and stress (Noordegraaf, 2015), gender (Woodfield, 2016), identity (Charman, 2017), ethnicity (Joseph-Salisbury et al, 2021), and coping strategies (Young et al, 2014), although relatively little of this attention has been given to MR specifically (Clark, 2008, Yarwood, 2010).

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In this paper, the author will use the idea of professionalization as a way of exemplifying the differences between certain aspects of MR in England and Wales, as there is currently an element of professionalisation pressure, occasioned by growing calls for more regulation, minimum standards, and recognised qualifications, since people increasingly expect that if they make a 999 call, someone competent will turn up regardless of whether the call is made from a city street or atop a mountain, despite the fact that in the city, someone is paid to do it and on the mountain, they are not. There is also a corresponding desire for demonstrable efficiency and value for money, as although MR services are not primarily government-funded, the fact that everyone in MR is a volunteer no longer guarantees immunity from the scrutiny of working practices, training, and culture, and a need to be 'accountable' that is being felt across the emergency services sector (Noordegraaf, 2015). This creates a number of conflicts with a bottom-up voluntary service that has traditionally been governed by the rules of each separate geographical MR team, with their individual histories, ways of working, and variations in the landscapes in which they operate, which have resulted in a proliferation of traditional practices that may, or may not, meet the challenge of alternative evidence-based ones. In the case of medicine, which is governed by a strict professionalisation ethos set externally to MR, local practices have given way to professionalisation both in terms of deference to medical hierarchy and in establishing a uniform medical training process for all 'Casualty Carers' within MR. That something similar should happen in regard to climbing is the central question in this paper, as, unlike medicine, climbing is not professionalised and is a relatively unique aspect of MR emergency work that, unlike other fairly unique specialisations, such as micro-navigation and searching for missing persons, is still done much as it was when MR teams were first formed.

Technical Rescue

The term technical rescue refers to the setting up of ropes, anchors, harnesses, and other climbing equipment to effect a rescue from steep or vertical ground. There is no completely agreed way this should be done, although there is increasing pressure on teams to justify the way they choose to do it (Clark, 2008), due to increasing regulation from government 'working at height' regulations (2005) and more guidance from the representative organisation -Mountain Rescue England & Wales (MREW)- as well as from firms selling 'best-practice' tools and techniques, and also possibly because of more frequent inter-team working insofar as this encourages dialogue and the reduction of unnecessary differences in practices in order to maximise joint-working efficiency. This is not to say that all differences are likely to

be eliminated anytime soon, however, as it is unlikely that in technical rescue one size will fit all, due to variations in the landscapes in which different teams operate, with teams working in open moorland focusing on anchor deployment while those in more wooded areas are blessed with abundant anchorage. It is also the case that, as with any complex system, different solutions will have different pros and cons, and in MR there are additional considerations to factor into the equation such as the weather, cliff heights, carrying capacity of personnel, limits on training time for volunteers, and so on and so forth.

In deciding what to do about this, the status of the technical rescuer and the status of climbing as a community of practice has therefore become an issue, since although teams may routinely assume that their technical training is adequate, the status of experts who would normally be able to confirm this formally beyond question based on the agreed evidence is unclear, as climbing is -to cut a long story short- relatively unprofessionalized. This contrasts markedly with the expert status of other subgroups within Mountain Rescue such as blue-light drivers, and in particular medics, where paper qualifications are essential and where well-researched evidence is employed to ensure that what is learnt and practised within a team conforms to national standards and is always, therefore, of demonstrably similar quality. In contrast with climbing, while we find a clear 'community of practice' in the usually accepted sense (following Lewin, 1946), we do not find what could reasonably be called a 'profession,' (notwithstanding the variations in quite what this means). In what follows, it is the difference between the two in terms of learning issues in particular that will form the focus of the discussion, since it is this learning that MR needs to capitalise on.

A comparative look at the role of climbing expertise in Mountain Rescue

We know that in many ways people are an organization's most important resource, and this is particularly true of experienced climbers in the technical rescue scenario, but we also know that organizations don't always make the best use of staff, and one reason for this is that the learning and skills of groups within organisations often occur within communities of practice (Lave & Wenger, 1991) that are only loosely connected or controlled by said organisation. Since in this paper the concern is to improve the alignment between MR organisations and the climbing community of practice that operates within them, and thereby better utilise the knowledge that climbers have, it is essential to consider that learning qualitatively. The reason for this evaluative approach is that although great benefits may accrue to an organisation from accessing otherwise tacit knowledge -as Brown & Duguid (2000) famously

showed- in intrinsically dangerous situations as might occasion a technical rescue, we need also to consider if there are any downsides to the learning approach within the climbing community of practice that may impact on the efficiency or safety of such a rescue.

Within Mountain Rescue teams, there is a noticeable subsection of climbing experts in the same way that there is a notable community of medics, as not all MR volunteers are experienced climbers, although all will be trained in the basics. The issue here is what delineates, standardises, and maintains that difference, and whether that expertise can be formally relied upon in a technical rescue situation in the same way that a medical qualification can be relied upon in a trauma situation, and if it cannot, whether MR should consider introducing its own qualification. That it might not be is partly because technical rescue is not specifically covered in climbing syllabuses, and there are points of divergence as well as a lot of overlap, and partly because what qualifies someone to be a part of the climbing community of practice in the UK is not entirely clear. For one thing, the representative body – the British Mountaineering Council – and the awarding bodies are separate entities, and the awarding bodies, in their turn, act largely independently of each other. Things are further complicated by 'working at height' regulations, which cover - to one degree or another - all climbing and mountaineering activities, which means that as well as counting the four main awarding bodies; the Mountain Training Association, the Association of Mountaineering Instructors, the British Association of International Mountain Leaders, and British Mountain Guides, we should really add bodies such as the Royal Society for the Prevention of Accidents, which provide working at height qualifications. Sticking with the four main bodies, the qualifications provided include the Mountain Leader qualification, which is guide-related, and the more climbing-specific Rock Climbing Instructor qualification, which is normally the minimum required to work as a climbing instructor at a climbing centre or outdoor centre, and which is comprised of a two or three-day assessed course with a pre-requisite attached requiring all candidates to do a specified number of (self-certified) climbs. There is no specific rescue-related qualification, although the ability to self-rescue is taught as a part of all climbing and mountaineering courses, and various commercial organisations, such as the US-based Rigging for Rescue LLC, have sprung up in recent years to provide more specialist training in this area.

Implications for learning and effectiveness

The fact that there are various - largely uncoordinated - sources of certification in climbing and no formal requirement to understand the underlying physics means that the tendency noted by Duguid

(2005) in regard to other communities of practice, in which hearsay and word-of-mouth constitute a more significant part of the learning than would be the case within a profession, may apply. This is not to say that the diversity of learning approaches does not have merits (Brown & Duguid, 1991), merely that its prevalence in determining practice can lead to a failure to properly assess the evidence - as the following cases suggest. The first case relates to abseiling, which is to say the lowering of someone down a cliff with a rope, which in the MR context may be done so that a medic can attend to a casualty before a stretcher can be rigged, or before a helicopter arrives. The issue is to do with avoiding death when any of the gear that attaches the climber to said rope fails, (rather than the relatively rare case of the rope itself failing). For example, and in particular, protection is used to try and mitigate the effect of a break in the material 'belay loop' of the climber's harness, or of a failure in the piece of metal that is normally attached to it, which in combination connects the abseiler to the rope. One traditional way to do this is to also attach the rope to a different part of the harness, usually the leg loop. Yet by 2007, more than half of the top dozen (by Google rank) climbing websites were cautioning against this, following concerns regarding what happened to a well-known climber, Todd Skinner, who tragically fell to his death following the failure of his belay and leg loops. The tragedy was heightened by the fact that he had ordered a new harness but did one last climb on his old (rather threadbare) one. The lesson that seemed, in the immediate aftermath at least, to be learned was not to trust leg loops, but the validity of this advice is unclear, given that there is plenty of evidence of people being saved by such an arrangement, and a test by the magazine 'Rock & Ice' using the actual harnesses of their readers found that even the weakest leg loop would take a 1,058-pound fall before it broke (Rock & Ice, 2007).

Other examples are not difficult to find; at a demonstration by a commercial US-based company in 2018, the anchor (belay) setup shown in Figure 1, where one rope is wound around three picket anchors, was touted to MR teams as a safer version of the traditional two-anchor system, despite the fact that it might not be, as the physics behind it suggests that in fact any shock-loading (as occasioned by a fall on the rope attached at point X) would mostly affect one picket, B, since the rope to B is - of necessity - doubled and thus can stretch less than it does for pickets A and C, and since B is closer to X than A or C, it will also get 'hit' first.

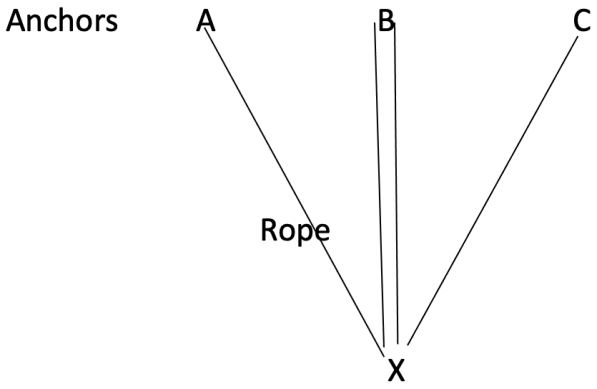

Figure 1.

This example points to the fact that while it may be true that when climbing a cliff-face it is always true that the more protection you can get into the rock in terms of pieces of metal attached to crevices, or screwed into ice, the better, this doesn't always apply in the technical rescue situation where anchors need to be built away from the edge, especially where other factors such as the weight of kit and ease of use come into play.

Another case in point is the apparent fixation when configuring an anchor system with avoiding the so-called 'death triangle' - as it is commonly called in the USA, and thanks to YouTube (where in 2022 there were at least 20 videos highlighting this danger), increasingly everywhere else too (figure 2). The sobriquet 'death triangle' no doubt serves an instructor well in their desire to instil in their students the need to avoid putting anchors too far apart, but the warning is now routinely extended beyond the original observation of a rope forming an equilateral triangle to include ropes around anchors where they don't, but where the anchors are sufficiently far apart to visually form such an equilateral triangle, as shown in figure 3. This is not necessarily bad advice, as the greater the angle, the greater the load, but it is an extension from one case to an entirely different case for which it is probably less significant relative to other types of misplacement of anchors (Beverly et al, 2005) and again exemplifies both the point that there are some unique considerations when dealing with technical rescue as opposed to climbing per se, and that the learning in this field can develop inconsistencies that could potentially be reduced by increased professionalization insofar as that leads to more standardisation, control, and agreement on what the evidence is actually telling us.

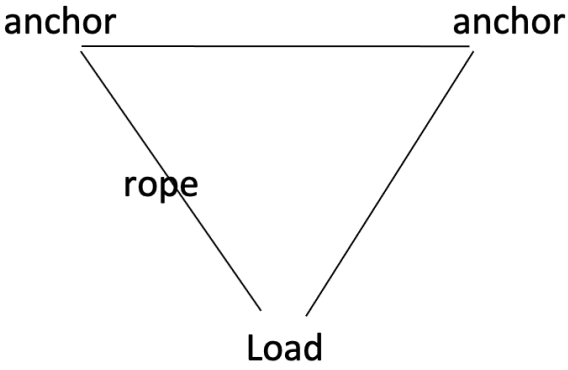

Figure 2.

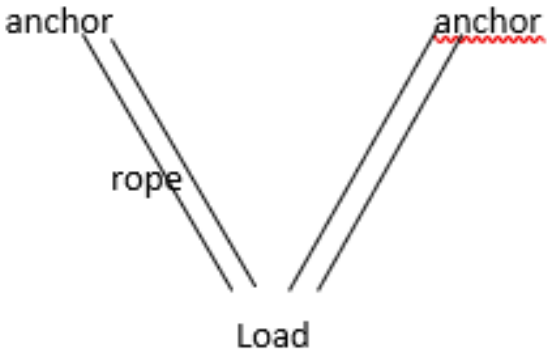

Figure 3.

Before moving on to solutions, I think it is worth reiterating that the point of this example is not to criticise climbing instructors for being too cautious, or even to suggest that other perhaps more crucial elements in the safety chain are being crowded out of consideration by the dramatically named triangle; it is merely to note how drama (for want of a better word) can trump evidence when the generation of evidence and its dissemination is not subject to professional validation and policing, (despite the fact that the USA has probably gone further along the professionalization route than we have in the UK).

Professionalization

I think it is fair to say that the climbing part of the division of labour is not professionalised in many key ways, (the specifics of which will be explored below), and fails even to achieve occupational closure

(Weber, 1946) by having no definitive exclusionary practices. This state of affairs contrasts markedly with other activities within MR, although not with MR itself, and it is interesting to note that professionalization of MR itself is resisted by many within it, as was found when many team members refused to wear free jackets provided by MREW as they were deemed to be akin to putting on a uniform and part of a plot by MREW to pull members away from the ideals of volunteering and towards a centrally controlled activity, like the Coastguard and the RNLI (lifeboats), which have substantial paid workforces.

On the other hand, the professionalization of subgroups within MR has seldom raised any concerns, and in the case of climbing, we should perhaps begin by discounting the ulterior motive behind many professionalization attempts by noting that professionalization would not allow climbers to better monopolize a part of the division of labour (Weber, 1946) and thereby push their wages up, since in the rescue context, all climbers are unpaid volunteers (although it might add to their status within MR, of course). In some respects, climbers within MR already seem to fit the definition of a profession insofar as they have "a unique or special knowledge" (Bryan-Brown & Dracup, 2003, p. 394), from which it might not take long to develop the professional "mindset with which individuals view their occupation" (Dinger et al., 2015, p. 282). On most definitions, as things stand, they currently fall a long way short of the ideal, however, since the definitions often draw attention to institutional factors such as the existence of a single recognised professional body, shared attitudes, and agreed working practices, all of which might prove to be a stumbling block as far as climbing is concerned, particularly as for many participants it is a hobby or sideline. A well-known definition of a profession outlined by Hall (1968) lists, for example, the establishment of a training school, the formation of an association, the establishment of an accepted code of shared ethics, and attitudes that being part of such a body engenders, including a sense of duty and responsibility. More recent definitions derived from looking at all kinds of different professions around the world support this idea that the collegiate feeling and the declaration and sharing of ethical codes are crucial (Kerr et al., 1977; Bartol, 1979; Akhtar-Danesh et al., 2013). In what follows, rather than cobble together an agreed definition from the literature, I have simply picked a popular version to illustrate where climbing currently sits and to illuminate where the differences between current practice and the professional ideal lie.

Brante (1988) provides one such example, based on:

1. The use of skills based on theoretical knowledge.
2. Education and training in these skills.
3. Competence ensured by examinations.

4. A code of conduct developed.
5. The tasks undertaken have a large common good element.
6. A professional body organizes its members.
7. Members have a feeling of identity and shared values.
8. A common language is used within the group that can be only partially understood by outsiders.

From this list, I conclude that while climbing has a knowledge base, is for the public good (particularly in the technical rescue situation), engenders a feeling of identity, and has a partially opaque common language, there are nonetheless some obvious gaps. In particular, what is missing is on the institutional side; ranging from the literal lack of a formal institution, but more importantly, the ubiquity and exclusivity of standardized and homogenous exams and the policing that comes with them. Williams (2002) asserts that such certification provides both symbolic value and social capital and is vital, as Habenstein (1963) pointed out, in legitimizing the idea that the activity is a profession.

Conclusions and policy recommendations

In terms of specific policy recommendations, one simple approach that would get things moving in the direction of professionalization would be for Mountain Rescue to validate their own technical rescue climbing qualification. With such an option, there would, however, be an element of treading on the toes of the current awarding bodies within climbing, and an obvious alternative would be to work with one or more of them, although the politics of this might be problematic. Even with a determined effort by teams, or indeed MREW, it has also to be acknowledged that the kind of full professionalization that we see in medicine is unlikely ever to be mirrored in the case of climbing, since it is a relatively small part of the division of labour even within the work of MR and because of the need to maintain an element of local discretion given different geographies. An alternative is for teams to establish groups within their number to take additional responsibilities in terms of technical rescue, with commensurate additional learning to be formally logged, as this would allow for a degree of certification and formal recognition of the knowledge of this particular community of practice while allowing for a degree of localised autonomy and variation.

Further Research

In this paper, I have employed an action research (Lewin, 1946) oriented approach to help solve a particular problem within an activity in which I am a participant. However, on reflection, there remains a

nagging doubt in my mind that what works for one activity (medicine) can be applied to a wholly unrelated activity (climbing) merely by virtue of proximity within a third activity (Mountain Rescue). My suggestion for further research is, therefore, to augment this possibly overly subjectivist approach (Angen, 2000) with more quantitative "inquiry from the outside" (Evered & Louis, 1981), on the basis that a bit more detachment may help address my doubts (or confirm them) before any decision is made on pushing ahead with an initiative that could lead to irreversible changes in both MR and possibly climbing education too.

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