As Strong as the Weakest Link  
Competence, Authority and Interaction within the Team

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This talk focuses on the way that members of a team function together. Key points that will be discussed are:

- Defining levels of responsibility
- Recognising and acknowledging competence
- Establishing, naming and admitting authority
- Recognising “latent errors” in the system
- Recognising “risky shift”
- Encouraging a positive discussion culture

The quality of the interaction within a team is a major factor determining the efficiency, productivity (in terms of work done as well as in financial terms) and safety of the activities being performed. Central points that play into this quality are the level of competence in the team and of its members and the levels of authority and interaction amongst the team members. The analogy of the chain the title refers to – that the weak link is the point where a chain will fail - can be applied to a team: The person with the lowest level of training and/or competence represents the weak link where the chain is likely to fail. Is this taken into account sufficiently when considering team constellations, or are maybe financial considerations often the more immediate argument when hiring a new worker, especially ground personnel?

In the field of practical tree work there are many areas a worker has to be proficient in: Climbing techniques, diagnosing tools, machinery, biological and legal aspects, to name but a few. So when does somebody become competent? Is a climber competent when he or she know enough to be able to climb a tree? The platform-operator when he or she is able to operate the machinery?

Competence, according to the Concise Oxford Dictionary, is a) ability, the state of being competent or b) an area in which a person is competent, a skill.

In his 2005 article, “UK’s New Work at Height Regulations - What the Fall Protection Hierarchy Means in Practice”, which was originally published in Health and Safety International, Martin Holden’s definition of competence is much broader:

“A competent person is a person who can demonstrate that they have sufficient professional or technical training, knowledge, actual experience, and authority to enable them to:

- carry out their assigned duties at the level of responsibility allocated to them;
- understand any potential hazards related to the work (or equipment) under consideration;
- detect any technical defects or omissions in that work (or equipment), recognize any implications for health and safety caused by those defects or omissions, and be able to specify a remedial action to mitigate those implications.

The level of responsibility will dictate the degree of competence required e.g. more will be expected of managers and supervisor/foremen than a worker. To actually work at height the above definition implies that you ought to be able to demonstrate that:

- you know (at least) what the regulations require of you as an individual;
- you understand what the equipment you are using is actually designed to do;
you know how the equipment should be used and checked before use, (and if you personally look after it how it should be stored, maintained and when it should be formally inspected); and
you are able to recognize safe and unsafe situations associated with the work you are doing and the equipment you are using (preferably before they occur!).”

It follows, according to this document, that in order to become truly competent a person has to tick many more boxes than just one basic level of competence or one set of skills. A competent person is someone capable of viewing the larger picture, based on a solid foundation of in-depth understanding in regards to the tools and techniques employed. In the “Lifting and Mechanical Handling Guidelines” by Step Change in Safety a further distinction is made between a “responsible person” and a “competent person”:

“3.1 Responsible Person
The Responsible Person is the person who has overall responsibility for work activities. This person may be the Shift Supervisor, Base Manager, Project Engineer or Toolpusher, for example. The Responsible Person recognises, or is advised of, the need for a lifting activity and either notifies the Competent Person or appoints a Competent Person to plan the lifting operation.”

“3.2 Competent Person
The Competent Person is someone who has the required level of competency to plan and supervise lifting operations. He must have the practical skills, theoretical knowledge and ability to carry out risk assessments, (...) The Competent Person may or may not supervise the lifting operation but is the (...) authority for the technical aspects of the lift.
He must know his competency limitations, work within them and know when technical support is needed. (...) The Competent Person is responsible for appointing the team to complete a lift. He must ensure that the team members have the competencies to complete the job and the tasks entailed.”

The document continues by discussing the competent lift team and the technical support. What is striking is the way that responsibility and competence are distributed evenly throughout the team, with each team member bearing a part of the responsibility - in accordance with their position - and contributing part of the over-all team-competence. In other areas, such as aviation industry or air-forces, this is a widely used concept known as crew resource management, where steps are taken to use all the assets a team has to offer and to increase safety by integrating cross-checks and back-ups in safety-relevant areas on many levels of their operations.

A term in the documents quoted above is that of authority. In the post-68 era for many authority has a negative stigma attached to it. Antje Schrupp, a journalist and political scientist from Frankfurt specialising in philosophy, feminism, religion and the history of socialism, in her essay “Weibliche Autorität - oder wie man der Macht etwas entgegensetzt” (Female Authority - or on how to oppose power) differentiates between violence, power and authority. When violence is used, for instance by an oppressive regime, the will of a small group is imposed upon a majority, for instance through use of weapons or through physical superiority of a stronger person against someone weaker. The person forced to do something by violent means is consciously doing so against their own will.
Unlike violence power needs the consent of the majority. Hannah Arendt, the German political theorist refers to German nationalism that could only function due to support from a large proportion of the population. Authority, however, is not dependent on the opinion of a majority.

Authority exists between two actual, specific people, one of whom possesses knowledge or abilities the other lacks, and is therefore recognised by the other as an authority. Unlike power, authority is given freely and can be withdrawn at any time. It can make sense to grant authority, in order to attain competence - if this is not allowed, the overall level of the sum of things said will sink to the level of the lowest common denominator. One cannot “possess” authority as a person, it has to be constantly renegotiated. It follows that authority cannot be claimed as of right, or invoked; one can only establish whether authority is present or not. Authority cannot be imposed by titles or other external signs.

In this respect one could also say that authority is neither an entity nor an object, but rather a quality of relationship.

Authority should not be seen as a confirmation, but rather as a challenge, it cannot be institutionalised, but when it is present it can be perceived, then it is a matter of establishing and admitting it. Authority makes people do things they would not do of their own accord - but are nonetheless beneficial to them. According to Schrupp’s definition an anonymous group of people cannot grant a person authority, this would then become power. Such a person might then be referred to as a “guru”. So in a team authority can be a positive thing if based on trust and freely granted. A hierarchy on the other hand imposes power and not necessarily authority, although of course the one does not exclude the other!

Boston surgeon Atul Gawande discusses amongst other things the term “expert” in his book “Complications, A Surgeon’s Notes on an Imperfect Science”. He writes:

“Repetition changes the way one thinks. A defining trait of experts is that they move more and more problem-solving into an automatic mode. With repetition a lot of mental functioning becomes automatic and effortless, as when you drive a car to work. Novel situations usually require conscious thought and “workaround” solutions, which are slower to develop, more difficult to execute and more prone to error. A surgeon for whom most situations have automatic solutions has a significant advantage.”

On the topic of errors the British psychologist James Reason writes in his book “Human Error”:

“Our propensity for certain types of error is the price we pay for the brain’s ability to think and act intuitively - to sift quickly through the sensory information that constantly bombards us without wasting time trying to work through every situation anew.. Thus systems that rely on human perfection present “latent errors” - errors waiting to happen. You can also make the case that onerous workloads, chaotic environments and inadequate team communication all represent latent errors in the system. Disasters do not simply occur, they evolve. In complex systems, a single failure rarely leads to harm. Human beings are impressively good at adjusting when an error becomes apparent, and systems often have built-in defenses. But errors do not always become apparent, and backup systems themselves often fail as a result of latent error.”
Based on Reason’s theory of “latent errors” and returning to the analogy of the chain one could therefore say that when an accident occurs the protagonist is often only the final link in a chain of events that set him or her up to fail. Error experts therefore believe that it is the process, not the individuals in it that requires closer examination and correction, i.e. to recognise latent errors in the system and procedural failures. It would however be wrong - based on statistical evidence - to give up the belief in human perfectibility. Effort, attention to detail and diligence can make a difference and it’s important not to forget this - the human factor - due to focusing too much on systems problems, quality improvement and optimisation.

One interesting term when discussing team-dynamics and interaction is “risky shift”. Risky shift describes the shift in behaviour and perception in groups, where group-dynamics and peer-pressure can lead to more or less subtle changes in opinions or views. A group of people discussing a topic might start a discussion with the individual members of the group initially having quite moderate opinions about the matter being discussed. But in the course of the discussion the positions become increasingly extreme, due to repetition of arguments and the fact of having stated a view “in public”.

Risky shift can frequently be observed in groups of young people, in extreme sports, but also in other areas, such as the financial world, where protagonists in groups behave in a fashion deemed acceptable by the group due to a shift in perception: risky shift. This is surely also one of the explications why a team or a group working in isolation without outside input may adopt techniques or accept practices that seem from outside may seem inappropriate, dangerous or wrong, but within the group this is risky shift at work.

What is striking in reading the relevant legislation, the texts and the documents mentioned in this talk is the way the necessity for communication is emphasised again and again. Communication is - to a high degree - the problem, but also the solution! A team that is unable to communicate will also be unable to move forwards on any of the points mentioned above. On the other hand, a team which is able to communicate can, by recognising and rewarding competence, admitting, naming and allowing authority, by taking remedial actions against latent errors in the systems used and by recognising risky shift make their work place a more interesting, dynamic and safe place.

List of literature:


Holden, Martin: UK’s new Work at Height Regulations - what the new fall protection hierarchy means in practice.


Schrupp, Anje: Weibliche Autorität - oder wie man der Macht etwas entgegensetzt. URL: http://www.antjeschrupp.de/autoritaet_und_macht.htm [last viewed 14 May 2008].