MASTERPOINT-THE-SHELF-THE-COMPONENTS-ANCHOR-ANATOMY-IN-ACTION)

THE MASTERPOINT

The masterpoint of an anchor is aptly named. It is designed to be the working focal point for anchoring, belaying, and a number of auxiliary tasks that might happen while rock climbing. Much like the Master Bedroom of a house, the masterpoint is where the residents of the anchor want to be. The Masterpoint offers the most capacious, the most secure, and the most versatile operational/organizational platform available.

Recognizing and utilizing a masterpoint is often so routine for practiced climbers, it is hard to imagine connecting to an anchor in any other way. However, alternative connection options (like the anchor shelf or components) often bewilder and confuse newer climbers. Without clear direction one way or the other, it is easy to imagine an uninformed anchor resident choosing to reside in the broom closet rather than the master bedroom.

In these sections and illustrations, we will explore why the master point is the MASTER point, variations on what a masterpoint can look like, and why and how the anchor shelf and components can be valuable connections too. Lastly, we'll examine some special cases anchors which may lack a shelf, or in some cases the actual location of the shelf might be confusing.

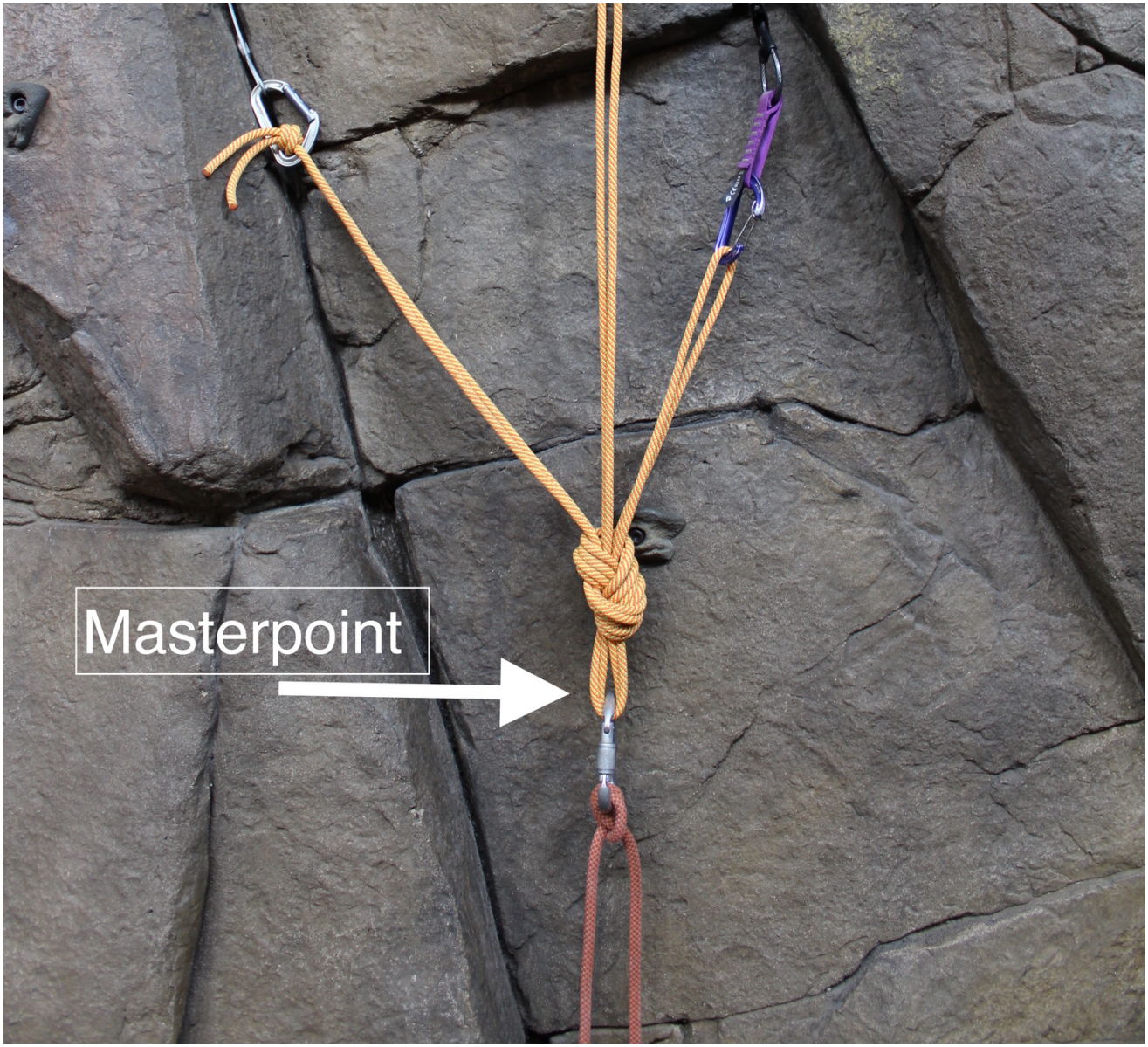
WHAT IS THE MASTERPOINT?

The masterpoint is the connection point of an anchor where all the values of the anchor are optimized and consolidated. We know that the core principles in all anchor constructions have been consistently applied in climbing applications. Those values are: Strength, Redundancy, Load Distribution, Simplicity, and Limited Extension. So, the masterpoint is the connection point where all those values are optimized and consolidated, where they all come together. Let’s look at some examples:

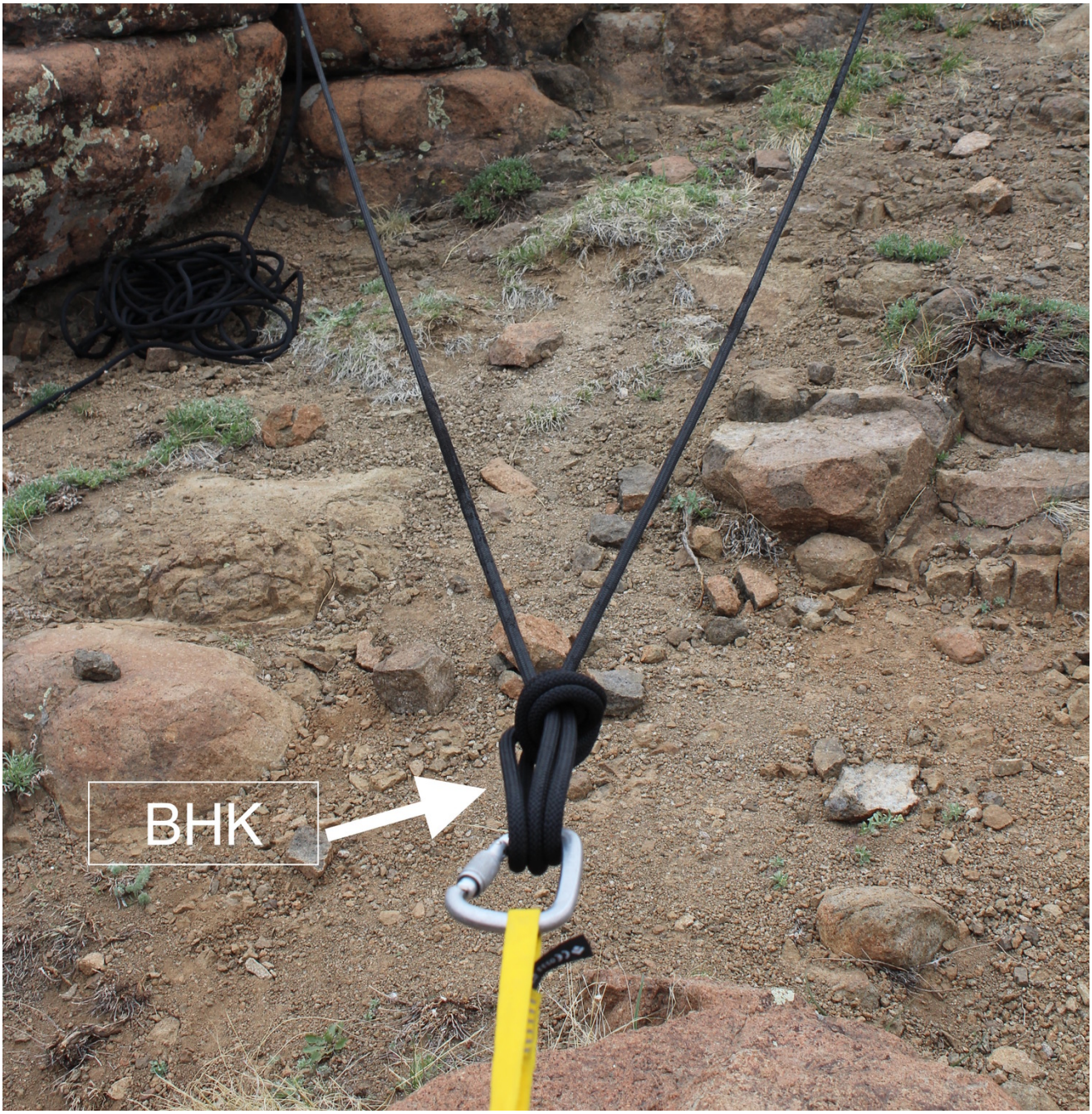
The Ponytail Anchor is common. Using a 4’ Nylon sling it creates all the values climbers have come to expect from an anchor. It is redundant, it distributes load evenly to the components, it is strong, and it is easy to build and take apart.

The Masterpoint is where all those values come together.

Similarly, a simple ponytail anchor with a cordellette provides a masterpoint with the effective strength of four strands of 7mm nylon cord.



The three piece anchor that is so common in trad climbing also provides a working masterpoint. Here, a 7mm nylon cord effectively produces a 21mm masterpoint and combines all the values needed for an effective anchor: strength, redundancy, load distribution, and simplicity.

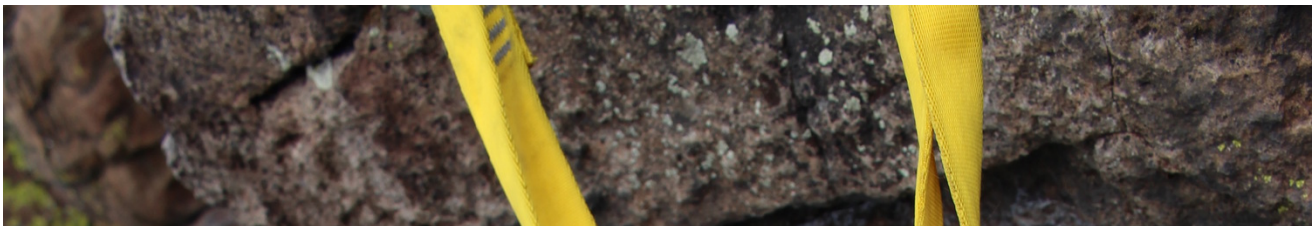


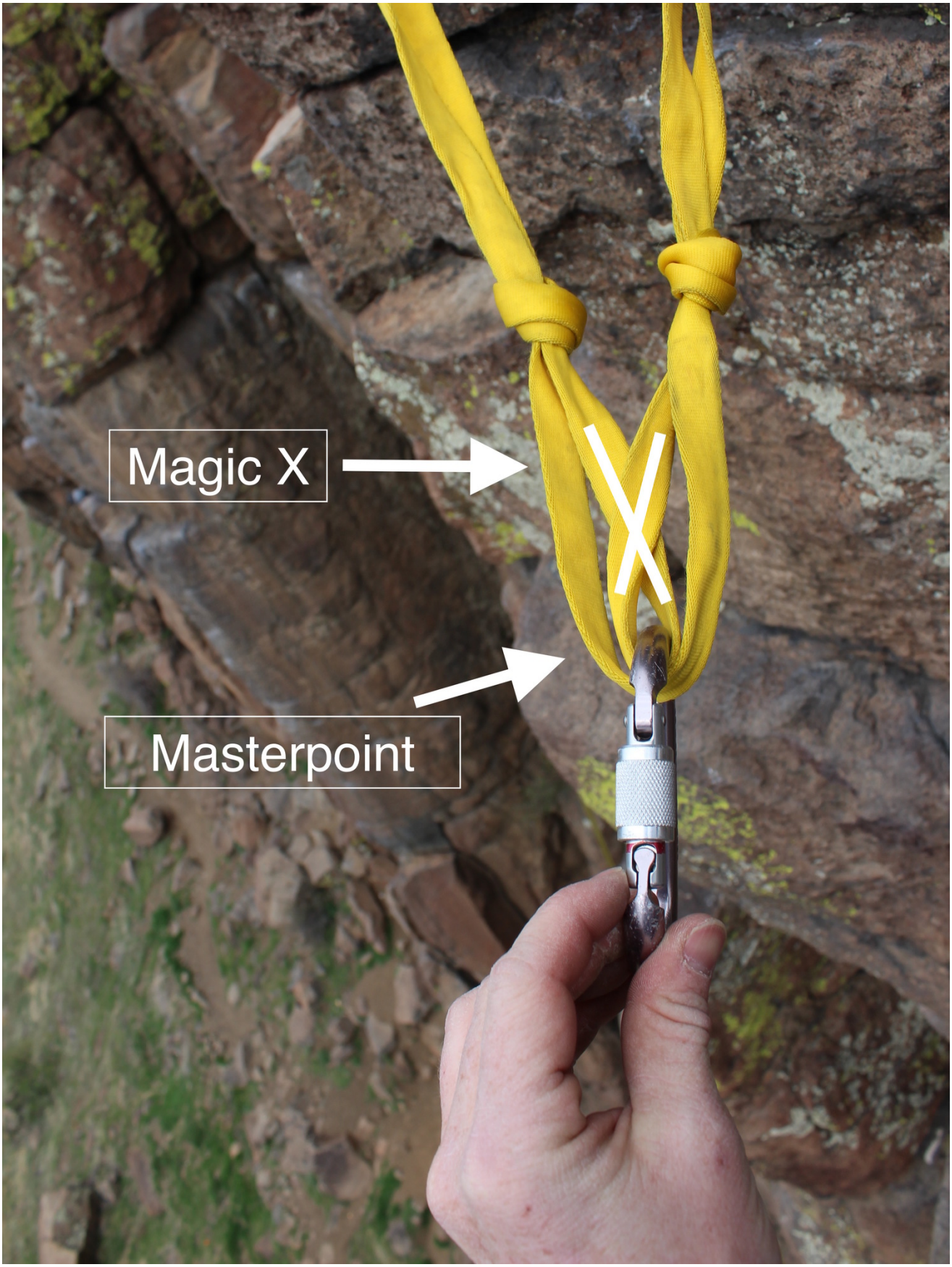
An 11mm static rope can be used to combine components in the terrain that may be far apart from each other.

Once tied off, the anchor builder has to select a knot that combines the strength of the components, and retains all the values of an effective anchor. Here, a BHK is an ideal choice. It creates a redundant masterpoint.

The quad is a self-adjusting anchor system, and it is commonly applied to anchors where the direction of load changes direction.

The effective masterpoint uses three of the four strands in the nadir of anchors arc. The fourth strand captures any carabiners or connections if one of the components were to fail.





Similar to the quad, a 4’ nylon sling is also commonly used to create a self-adjusting anchor.

Here the masterpoint is inside the Magic X connection point, combining the effective strength of two isolated strands of the nylon sling. The masterpoint is both strong and redundant, but the two overhand knots can be difficult to untie after heavy loads are applied to the anchor.

WHAT IS THE SHELF?

The shelf is an auxiliary attachment point that has almost the same values as the Masterpoint. Imagine it as a finished attic, relative to a Master Bedroom. A finished attic has many of the amenities of the Master Bedroom, but it would be weird to move in to the attic and leave the Master Bedroom empty. It would also be weird to sleep in the Master Bedroom, but dress in the attic. In other words, the shelf is a good place to put something that might not otherwise be functional in the masterpoint. For argument's sake, the shelf should also present an attachment point that has redundancy, strength, and distributes load to the components. As a result, some anchors don't even have a shelf. Let's looks at some examples:

The shelf of the anchor has the same essential properties as the masterpoint.

For the ponytail anchor with 4' nylon sling, the shelf clips both legs of anchor above the Masterpoint

For the cordellette ponytail anchor, there are four strands of 7mm nylon in the masterpoint. To create that same kind of connection point, the shelf must clip both legs of the anchor above the masterpoint.

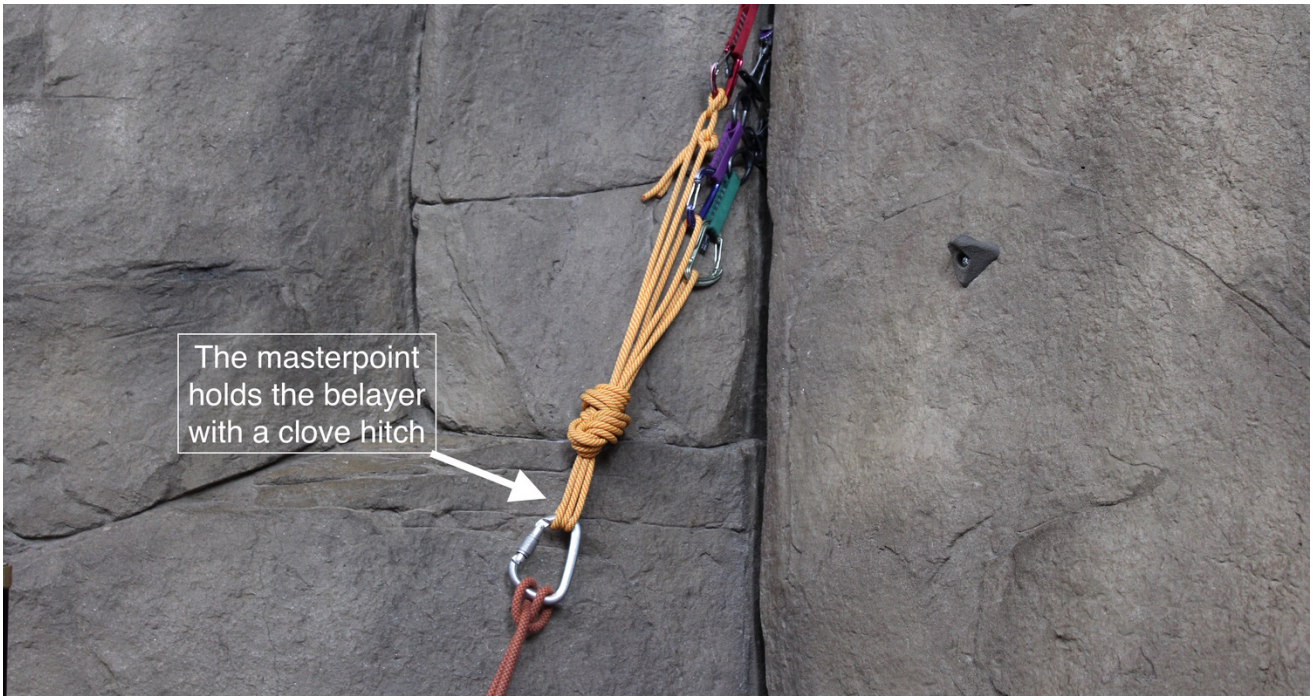
That means that two stands of each leg effectively creates the anchor's shelf.

With three of four piece anchors, the shelf clips into each leg, loading three strands, just like the masterpoint.

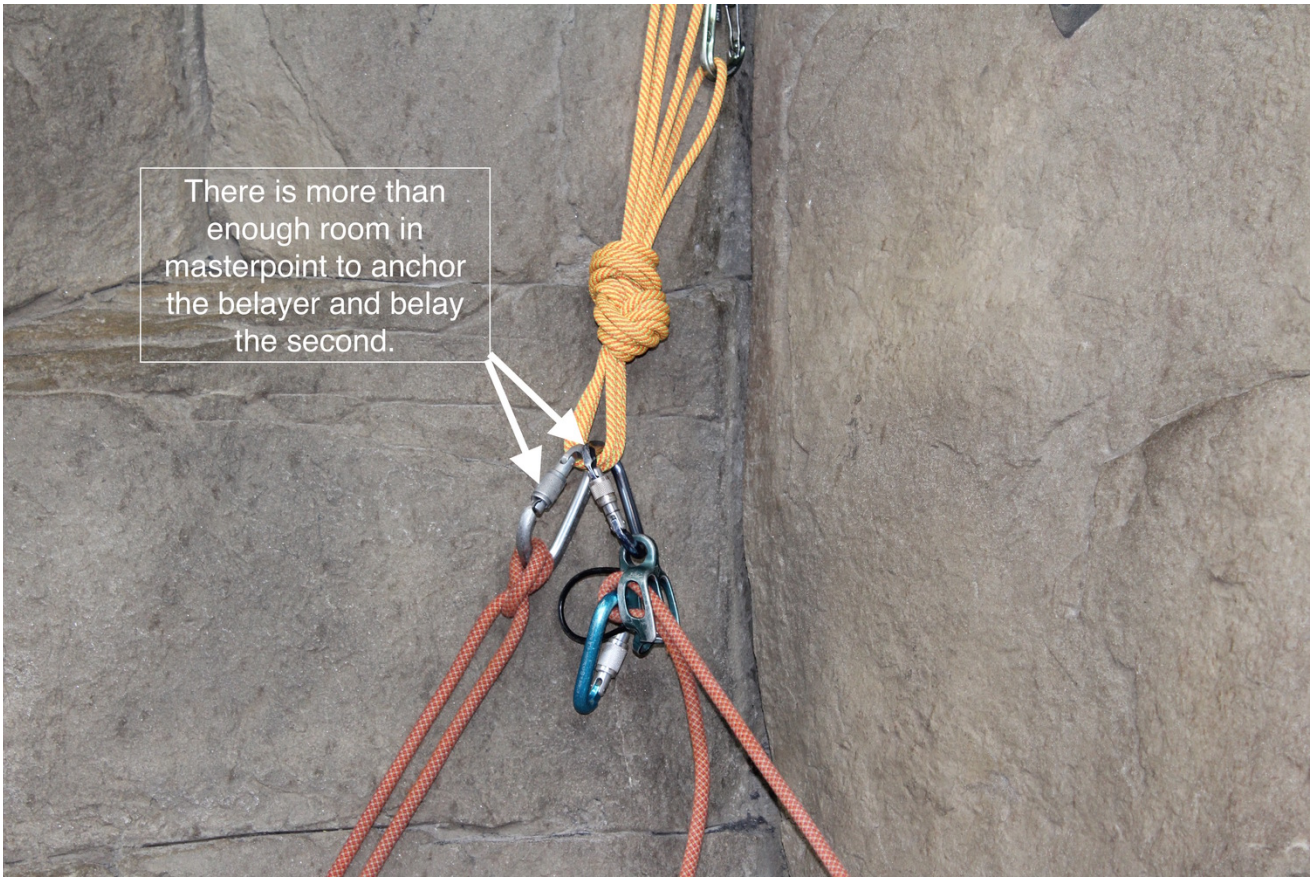
WHAT ARE THE COMPONENTS ON AN ANCHOR?

The components are the things that connect the anchor to the rock, snow, or ice. Components can be something as simple as a tree or large vegetation. It could be a piece of removable protection, like a cam or a nut. Or, it could be a fixed anchor, like a bolt. Usually an anchor combines the strength of its components to create a masterpoint, and therefore no single component every really duplicates the values that are found at the masterpoint. A component is like a cabinet or closet, relative to the master bedroom. It would be weird to do anything more than storage in a space like that. In some cases, especially in climbing, it might be dangerous to do anything important on a single component.

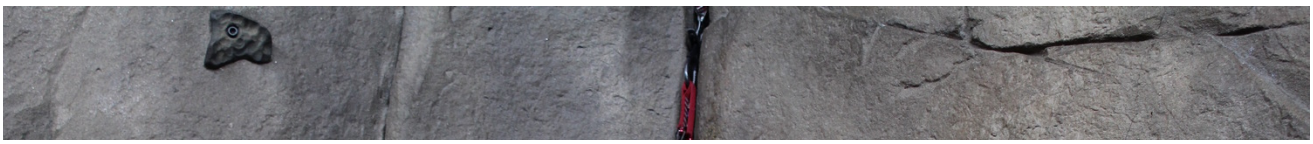
Let's watch the masterpoint, the shelf, and the components at work. Look at how the master bedroom, the attic, and the closet are used to categorize the importance of the space according to things the climbing team places there.

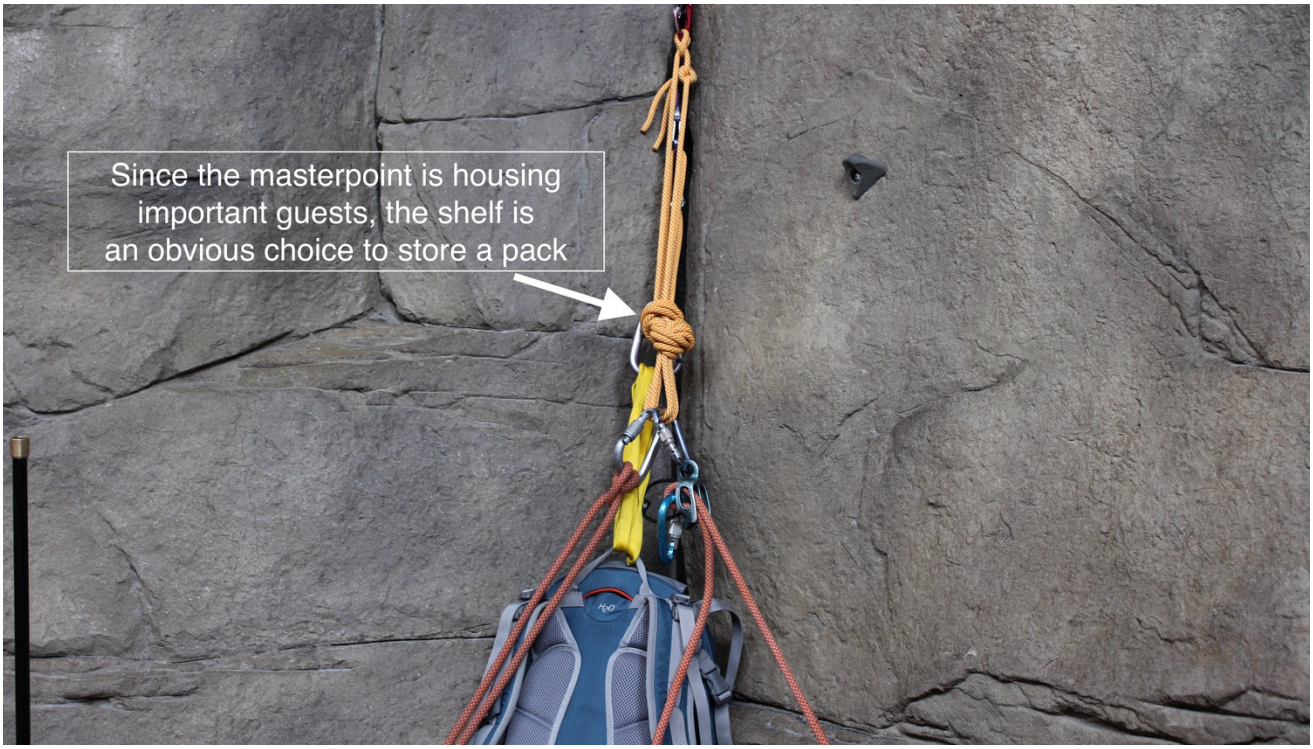


The belayer is anchored to the masterpoint because the masterpoint is the master bedroom.

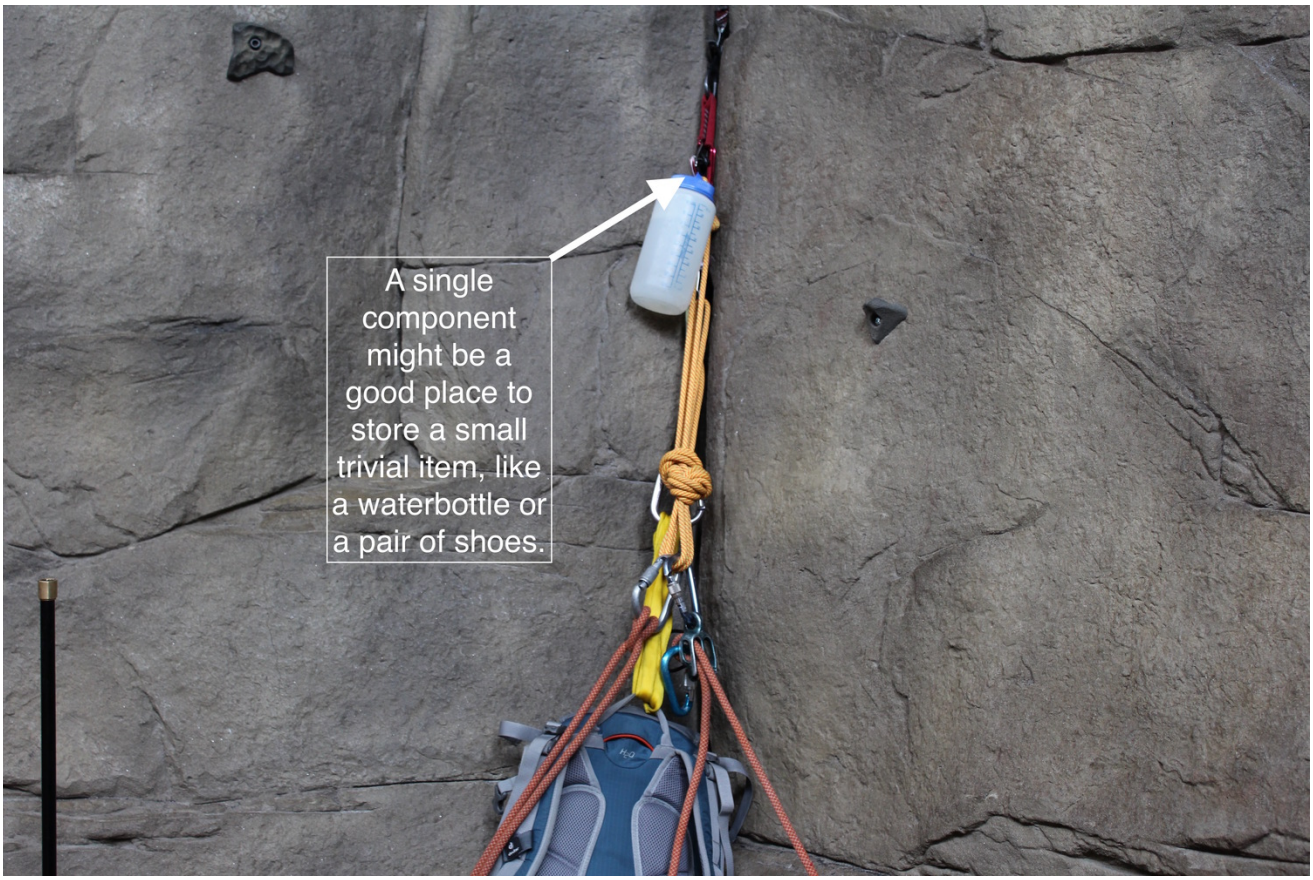


There is no need to use the shelf because the masterpoint can hold both anchored belayer and accommodate the belay device. But, when the belayer starts storing things that are less vital, the shelf starts to present itself as a valuable auxiliary attachment point.





If the climbing teams needs an auxiliary attachment point that has the same values as the masterpoint, the shelf is always available. The backpack, for example, is not a primary resident of the anchor, but it might be heavy and have vital equipment inside.



Finally, if there is an object that just needs to be stored somewhere for a moment, something non-vital where the load-bearing properties and the security of the attachment are irrelevant, a single component acts like cabinet or a closet. It stores something small, temporarily.

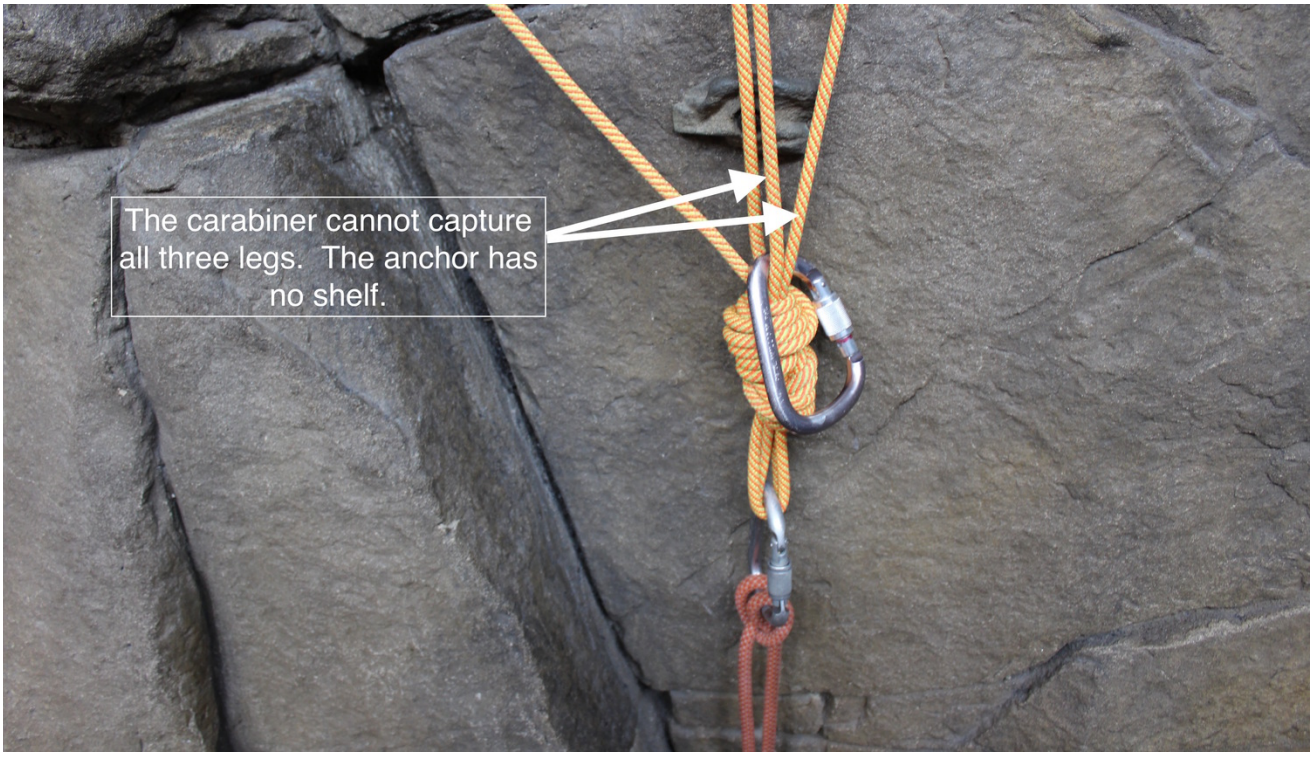
TRICKS, TRAPS, AND CONUNDRUMS WITH MASTERPOINTS AND SHELVES

Many anchors don't have a shelf and it takes a clear headed understanding about what a masterpoint and shelf are, and what they are for, to sort out which anchors have a shelf and which do not. Let's have a look at a few examples.

Many Toprope anchors that are built with a static rope effectively do not have a shelf.

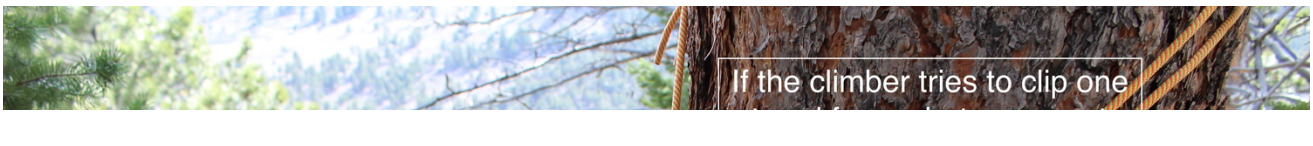
Looking closer, it is clear that clipping above the BHK on this anchor does not have the same material redundancy as the BHK itself.

Similarly, when the cordellette is untied and the anchor is configured by working the cordellette from end to end, the shelf cannot have the same qualities as the masterpoint.

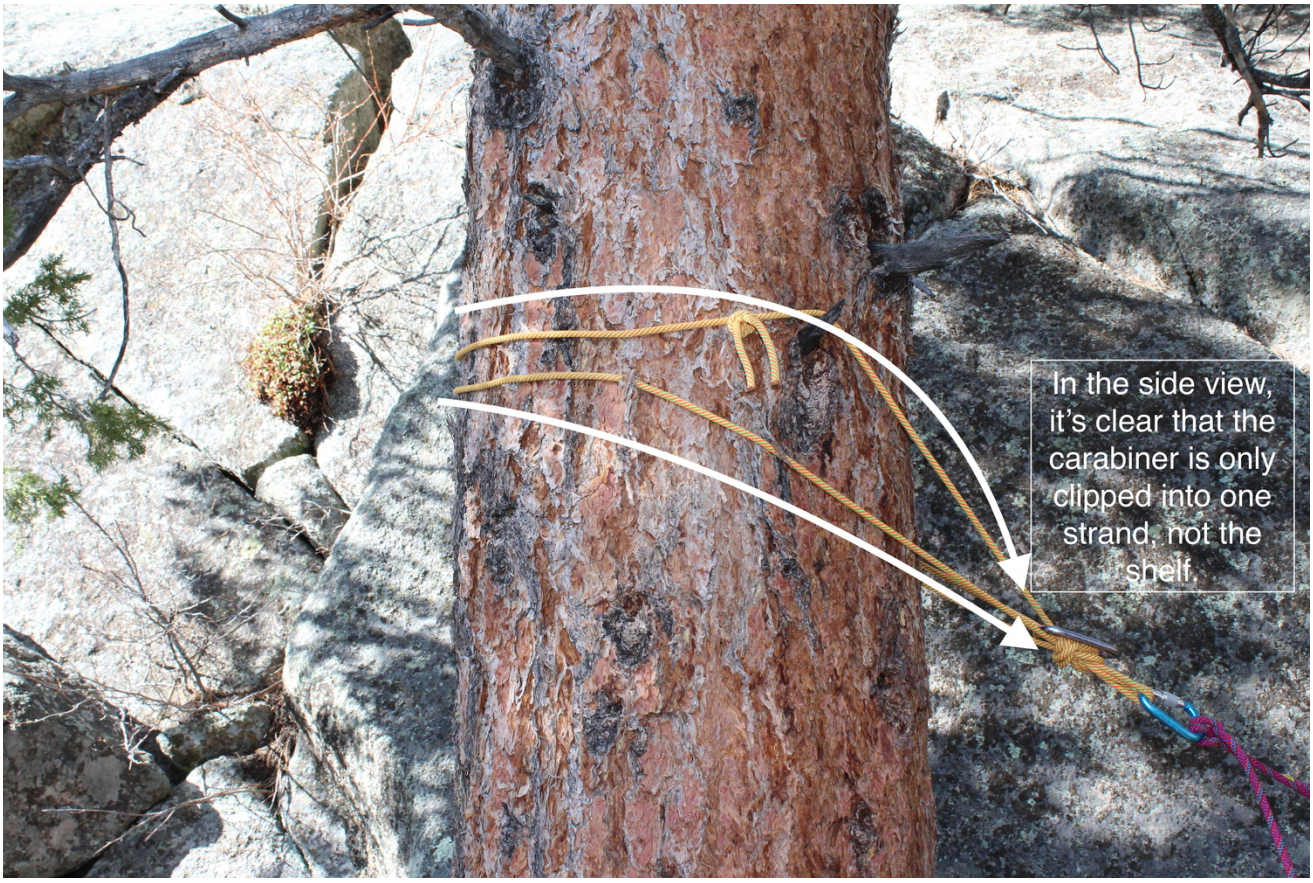


This anchor effectively has no shelf.

A monolithic anchor easily deceives the eye when a climber tries to clip the shelf in the same manner as they may be accustomed to while using three piece anchors.

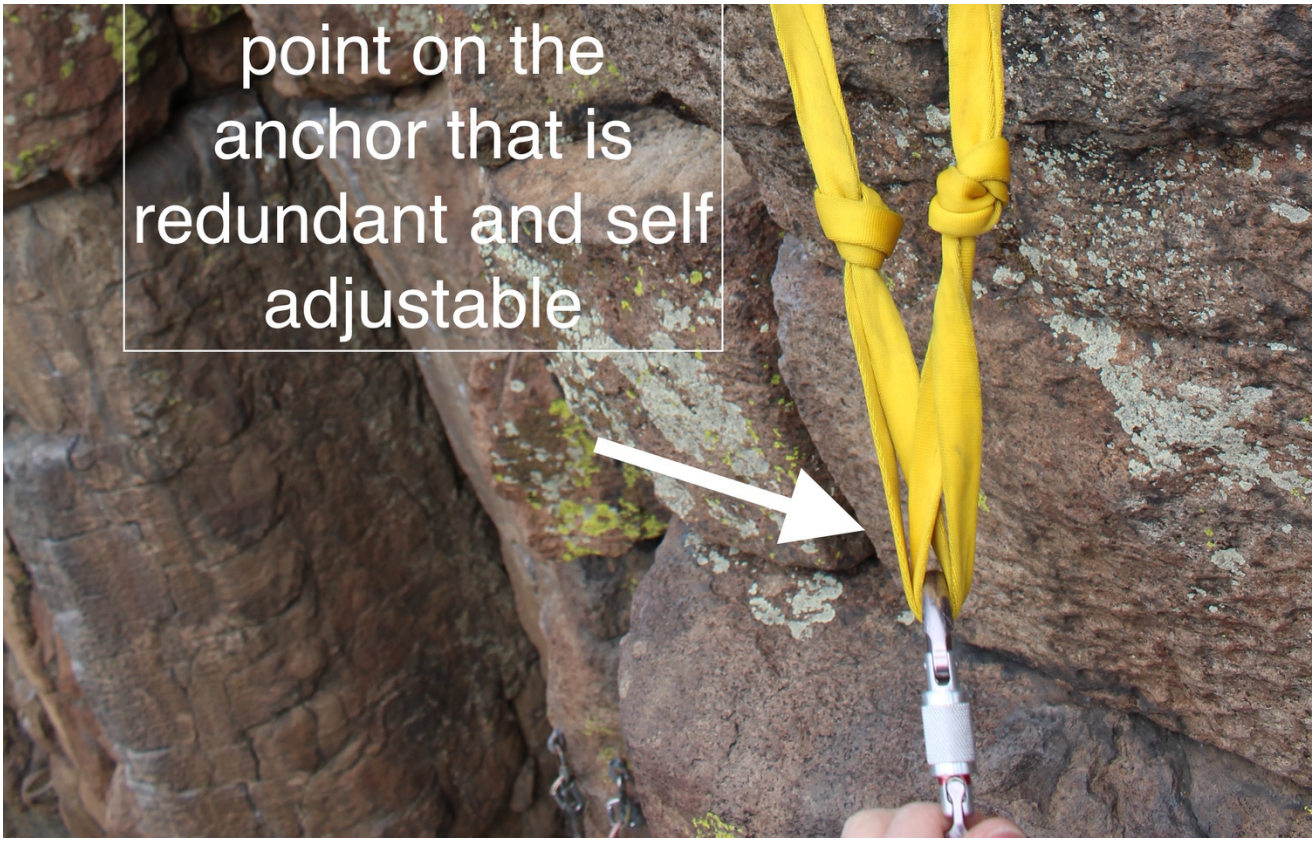


The climber accustomed to simply grabbing two strands may not be clipping the shelf. It might be a false shelf.



In profile, it becomes clear that the false shelf is only connecting to one of the two strands.

The actual shelf on a monolithic anchor looks like this.

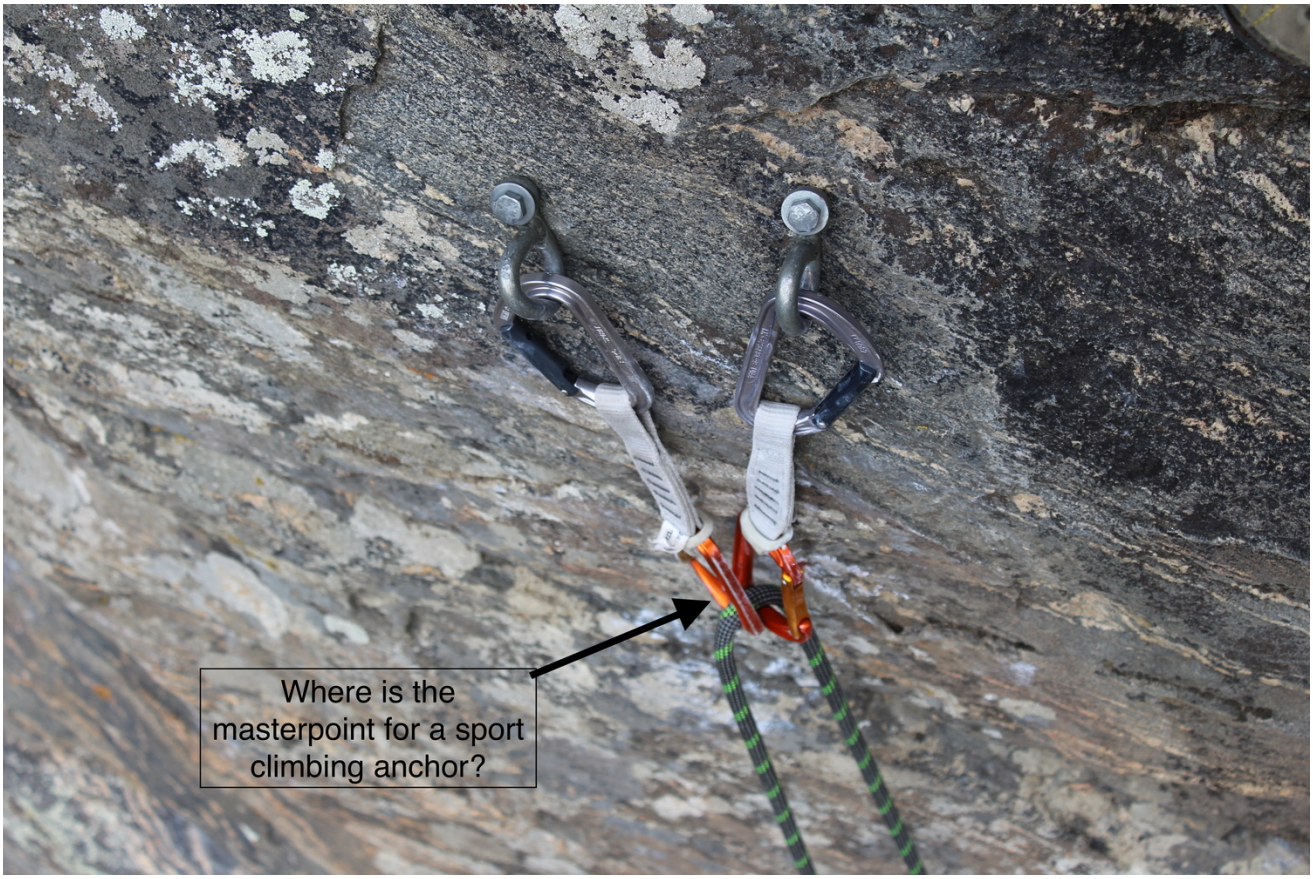


Self Adjusting anchors like the Magic X with Load Limiting Knots or the Quad, don't really have a shelf. The Magic X only offers one point that boasts material redundancy and loads the components equally through a range of motion.

The Quad, by comparison, offers four strands of material that hang between the load-limiting knots. Which means that there are few options to designate a masterpoint. Using three strands as the effective masterpoint offers optimal strength (loading three strand of cordellette at all times) and the remaining strand creates redundancy behind the load limiting

knots. But, clipping three strands effectively negates the opportunity to use an anchor shelf. There is no other point on the anchor that has the same self-adjustment and load-bearing strength as those three strands of cordellette.

Instead, clipping two stands of the Quad offers two connection points that have identical strength, self-adjustment, and redundancy properties.



A sport climbing anchor, commonly just a pairing of quickdraws, also has a masterpoint that is difficult to identify.

Clipping into both carabiners right alongside the rope is effectively the masterpoint of a sport anchor. Luckily, sport climbing rarely necessitates the use of a masterpoint.