

Nico Ritschel, January 5th 2018

Not Afraid of Heights: An Introduction to Rock Climbing



Some Basic Terminology

Bouldering



Climbing



Some Basic Terminology

Bouldering



Indoor

Climbing



Outdoor



Some Basic Terminology

Mountaineering (outdoor only)



Some Basic History

As mode of transportation

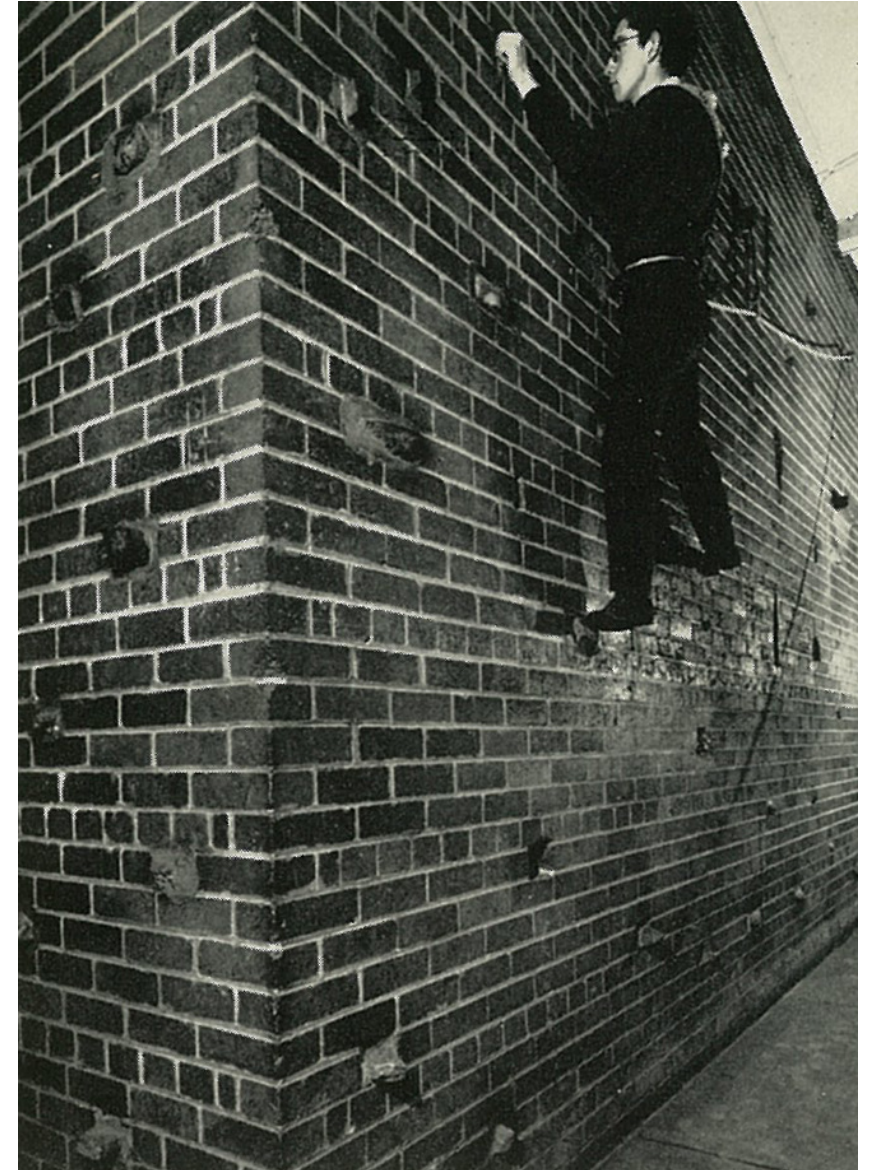
- Existed for 1000s of years

As sport

- Surprisingly new (late 19th century)

Indoor climbing

- Very recent (1964 in Europe, 1987 in the US)
- Made climbing become a mainstream sport
- Lead to drastic improvements of performance



Equipment

Climbing Shoes

- Sticky rubber sole
- Very tight fit
- Bent slightly downward

Harness

- Falls generate significant forces (up to 5kN)
- Needs to resist impact force and spread it
- Higher price for more comfort or style



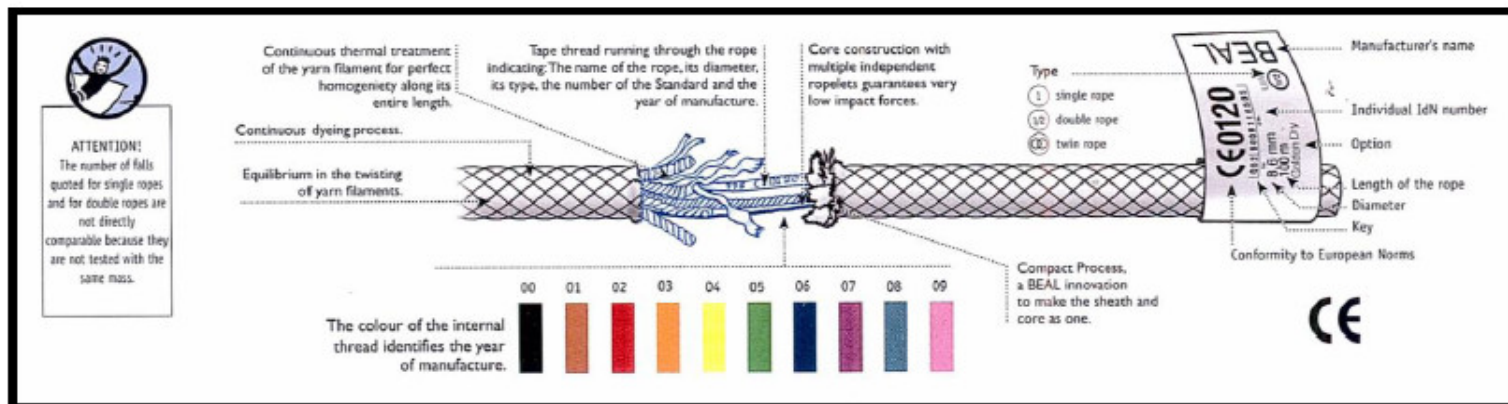
Equipment

Climbing Rope

- Needs to be dynamic (stretchable)
- Diameter ranges from 8.9mm to 10.7mm
- Lengths range from 20m (indoor) to 100m (outdoor)

Carabiner

- Special climbing-grade carabiners
- Protected against usage mistakes



Equipment

Belay device

- Dozens of different models
- General trade-off:
 - Higher price/complexity for more comfort and more protection against mistakes

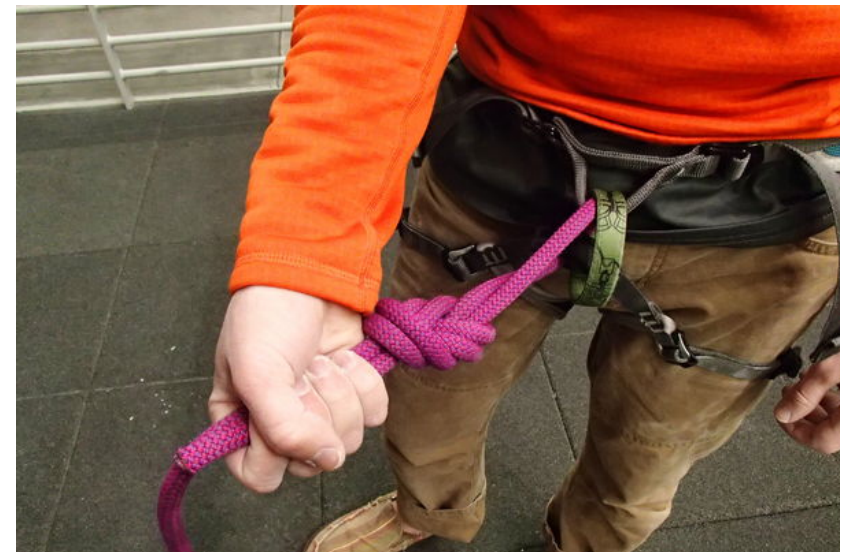
Other devices

- Quickdraws
- Nuts and Hexes
- Braking resistors
- ...



Belaying

- Rope is running through belay device
 - Belay device is connected to carabiner
 - Carabiner is connected to harness
-
- Climber is directly connected to rope through harness
 - End of rope is secured using a special know (e.g. “figure eight knot”)



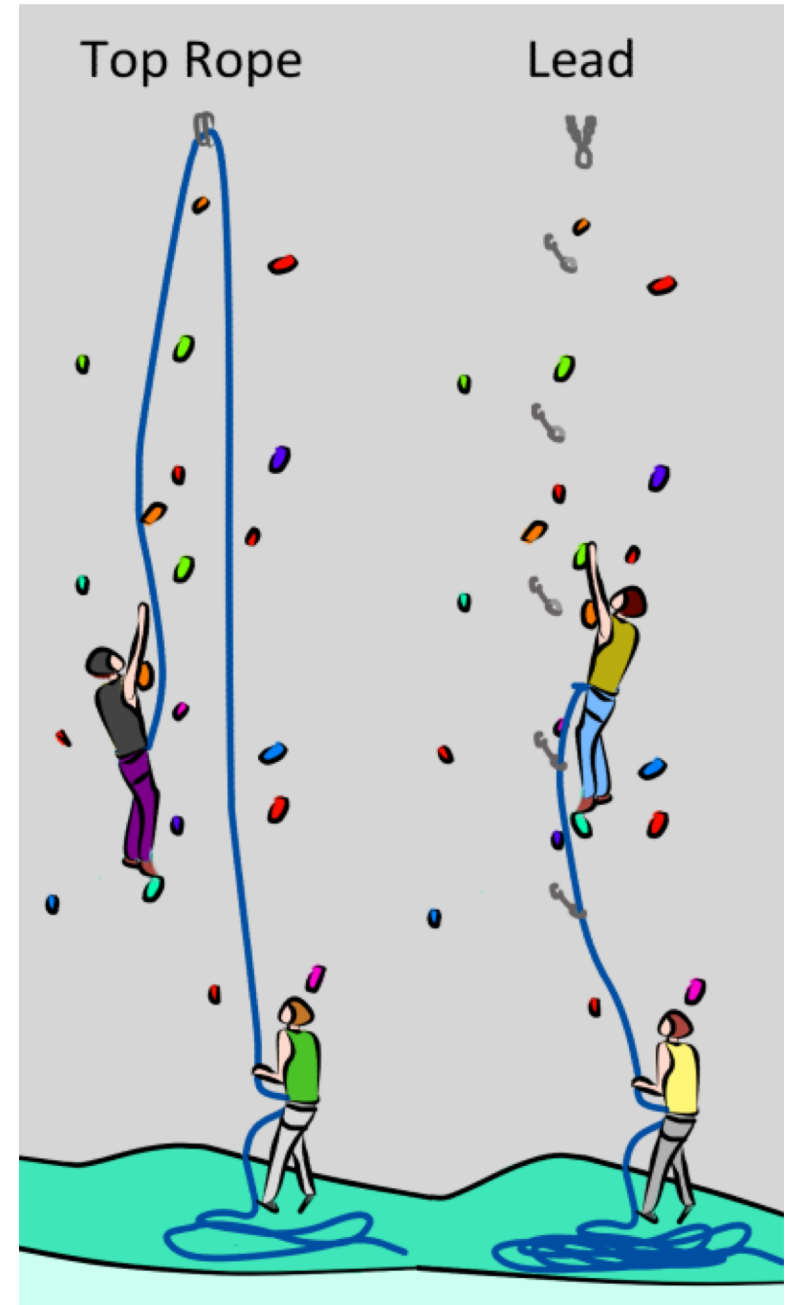
Top Rope vs Lead Climbing

Top Rope

- Rope is already set up at top
- Belayer pulls rope as climber ascends and slowly releases it to let them back down

Lead Climbing

- Climber clips rope into quick draws while ascending
- Belayer gives just enough rope for climber to continue but be safe in case of a fall



Difficulty Grades

- “Standardized”

Free Climbing Grading Systems									
YDS (USA)	British Tech/Adj		French	UIAA	Saxon	Ewbank (Australia, NZ & South Africa)	Finnish	Norwegian	Brazilian
2nd class			1	I	I				Isup
3rd class			2	II	II	11			II
4th class			3	III	III	12		3	IIsup
5.0-5.4	4a	VD	4a	IV	IV	12		4	III
5.5		S	4b	IV+	V	13	5-	5-	IIIsup
5.6	4b	HS	4c	V	VI	14	5	5	IV
5.7	4c	VS	5a	V+		15			
5.8		HVS	5b	VI-	VIIa	16	5+	5+	IVsup
5.9	5a	E1	5c	VI	VIIb	17		6-	V
5.10a			6a	VI+	VIIc	18	6-	6-/6	VI
5.10b	5b	E2	6a+	VII-		19		6	VI/VI+
5.10c			6b	VII	VIIa	20	6	6+	Visup/VI+
5.10d	5c	E3	6b+	VII+	VIIb	21		7-	Visup
5.11a			6c		VIIc	22	6+	7	7a
5.11b			6c/c+	VIII-		23		7	7b
5.11c	6a	E4	6c+		IXa	24	7-	7+	7c
5.11d			7a	VIII	IXb				7c
5.12a		E5	7a+	VIII+	IXc	25	7+	7+/8-	8a
5.12b			7b			26	8-	8-	8b
5.12c	6b	E6	7b+	IX-	Xa	27	8	8	8c
5.12d			7c	IX	Xb	28	8+	8/8+	9a
5.13a		E7	7c+	IX+	Xc	29	9-	8+	9b
5.13b	6c		8a				9	9-	9c
5.13c		E8	8a+	X-		30	9+	9-/9	10a
5.13d		E9	8b	X		31	10-	9	10b
5.14a	7a	E10	8b+	X+		32	10	9/9+	10c
5.14b		E11	8c			33	10+	9+	11a
5.14c	7b	E12	8c+	X0-		34	11-		11b
5.14d			9a	XI		35	11		11c
5.15a			9a+	XI+					12a
5.15b			9b						12b

Difficulty Grades

- “Standardized”
- Most common in North America: YDS
 - Two numbers: X.Y
 - X = Level of “danger”:
 - 1 = walking
 - 3 = scrambling
 - 5 = climbing
 - Y = Difficulty of climb:
 - 5.0-5.7 = rather easy
 - 5.8-5.10 = intermediate
 - 5.11+ = advanced
 - 5.10 and higher have sub-grades with letter suffixes

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5.10c			6b	VII	VIIa	20	6	6+	VIsup/VII+
5.10d	5c	E3	6b+	VII+	VIIb	21		7-	VIIsup
5.11a			6c		VIIc	22	6+	7	7a
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5.15a			9a+	X0+					12a
5.15b			9b						12b

Record Categories

On-sight

- Finish route on first try with no breaks and without any prior knowledge

Flash

- Finish route on first try with no breaks

Redpoint

- Finish route with no breaks

Hangdogging

- Finish route with breaks or after falling

Some Techniques

- **Crimping**



Some Techniques

- Crimping
- **Pinching**



Some Techniques

- Crimping
- Pinching
- **Crack climbing**



Some Techniques

- Crimping
- Pinching
- Crack climbing
- **Flagging**



Some Techniques

- Crimping
- Pinching
- Crack climbing
- Flagging
- **Hooking**



Some Techniques

- Crimping
- Pinching
- Crack climbing
- Flagging
- Hooking
- **Smearing**



Some Techniques

- Crimping
- Pinching
- Crack climbing
- Flagging
- Hooking
- Smearing
- **Stemming**



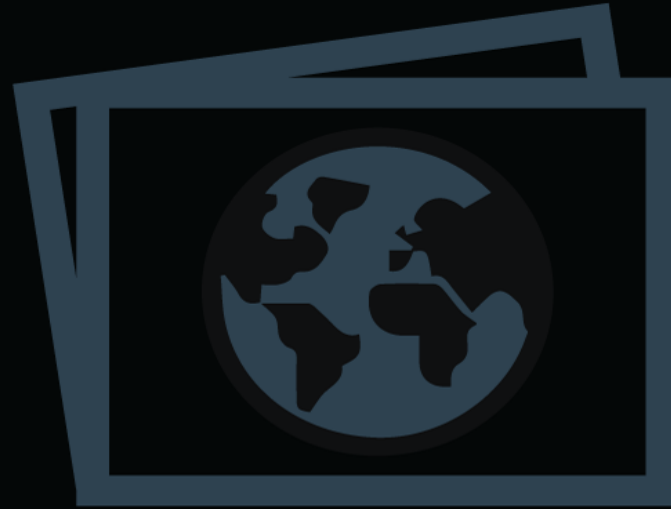
Some Techniques

- Crimping
- Pinching
- Crack climbing
- Flagging
- Hooking
- Smearing
- Stemming
- **Dynamics (Dynos)**



Action Directe(5.14d)

First Redpoint: Wolfgang Güllich (1991)



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La Dura Dura (5.15c)

First Redpoint: Adam Ondra (2013)



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Silence (aka "Project Hard", 5.15d) First Redpoint: Adam Ondra (2017)



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Try It Out: Where?

Indoor Climbing

- UBC Aviary (\$10 per day, free first-time rentals, \$25 for whole term)
- Commercial gyms (closest one: Cliffhanger, \$19 per day, \$10 rentals)

Indoor Bouldering

- Commercial gyms (closest one: The Hive, \$21 per day, \$5 rentals)

Outdoor Climbing/Bouldering

- Tons of great spots around Vancouver and Squamish
- Technically free, but often not beginner-friendly
- Should go with experienced partner or book (commercial) day trip

Try It Out: How?

Bouldering

- Technically no course needed, but without (experienced) partner(s) getting started might be rough
- Commercial gyms offer rather cheap beginner technique courses

Climbing

- Needs partner and basic top rope belay knowledge required
- UBC Aviary offers free lessons
- Commercial gyms offer rather cheap lessons or belaying by staff
- Typically no techniques covered, but additional courses offered by commercial gyms



Questions?