

Mt.'s are produced by forces from plate tectonics and Continental Drifts.

[Go to Front Pg. (Pt.) side]

Rock weathers = decomposes and physically Breaks Down Due to Chemicals from Rain (weak acids)
weak acids work = on iron and Aluminum Rocks - and turns that part to Clay

[SAND of Beach comes from the weathering of Rocks.]

AGENTS OF EROSIONS =

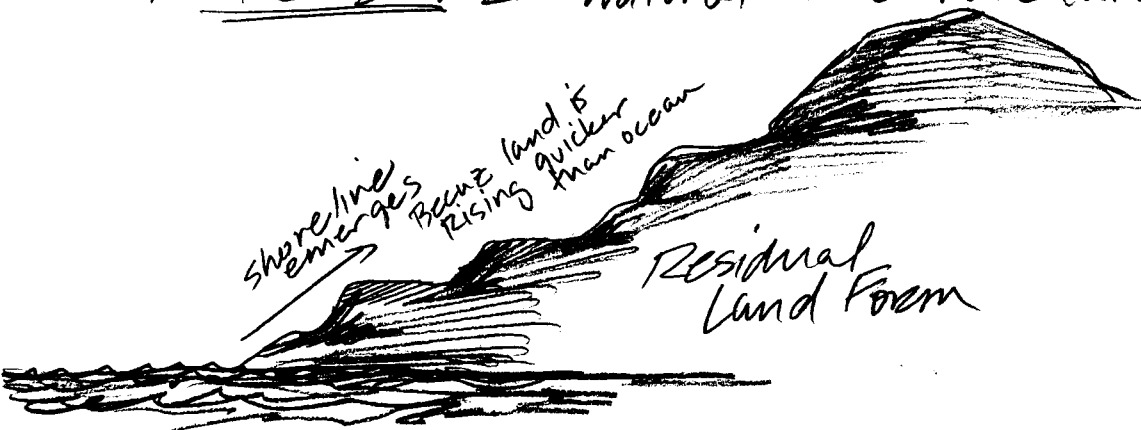
- Streams (-wind)
- Glaciers
- Waves

EROSIONAL LANDFORM = is the Hole in the Ground.

LAND-FORMS {

- Erosional = hole in Ground
- Residual = is landform that is left
- Depositional = Streams will Dump the Ground Material that gets washed away and Carried to an area.

MARINE TERRACE - Natural waves have Carved side of Mt.



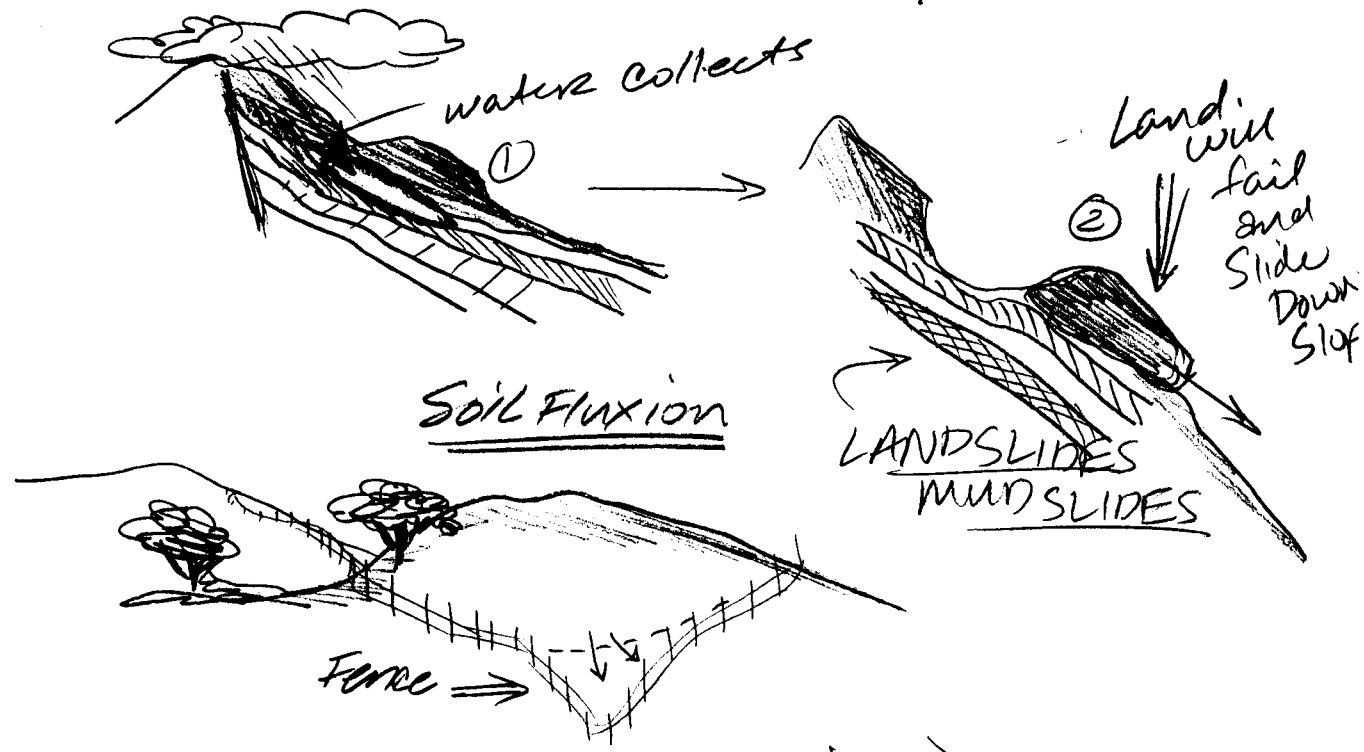
WATER

- ① streams = Erosion
- ② Gravity Also plays a Role



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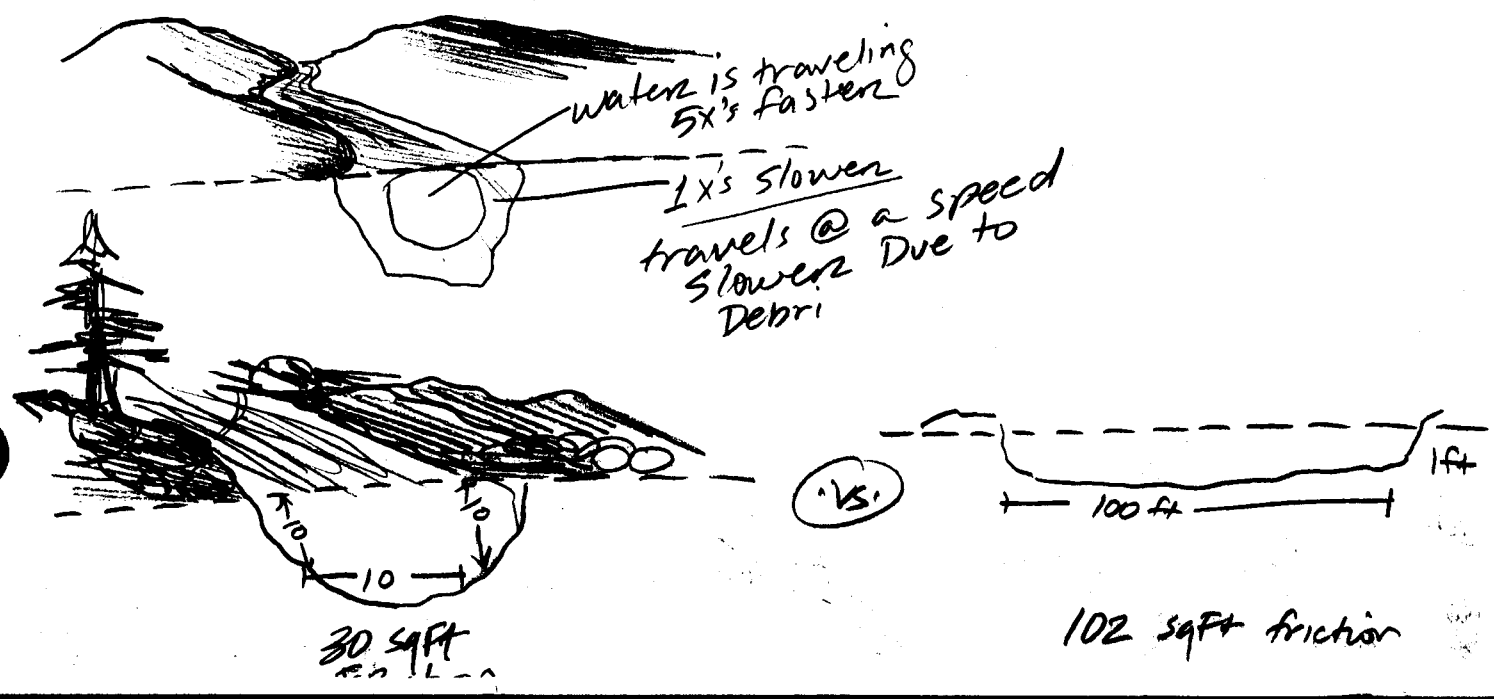
Water - also acts like a LUBRICANT / and will collect

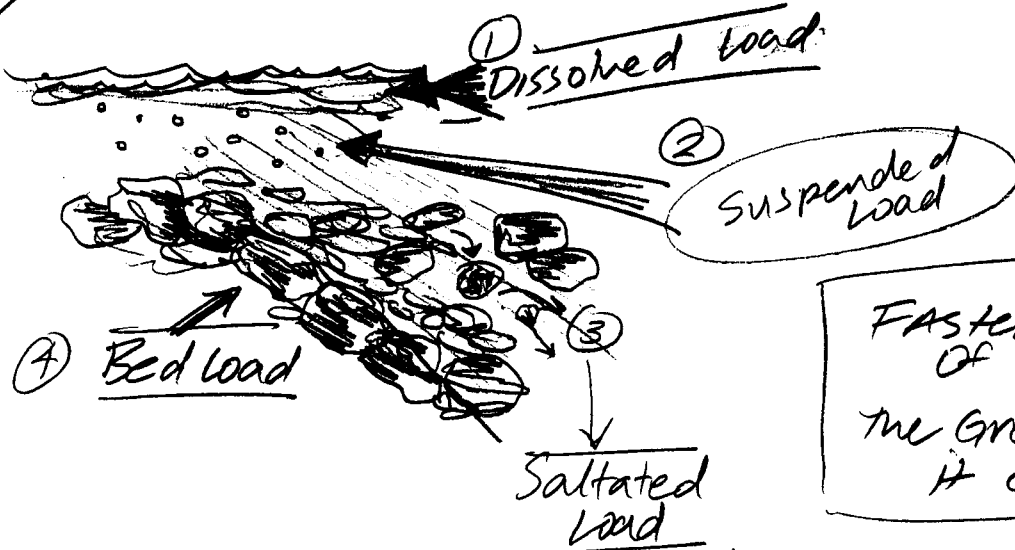


WATER FLOWING - (Streams/Rivers) - cut/groove Rock

- Laminar - Think Drive way water lays flat along Drive way and is less likely to make a groove or path
- Stream flow - water finds its path as to which way its going to travel.

Water will cut deeper and deeper as it travels





Faster the Speed of H₂O the Greater it weights it can carry

Rocks that bounce around because they are too light to be Bedload and too heavy to be suspended load. ⇒ Rocks become rounded

SPRING FLOOD = cuz water is greater & moving faster.

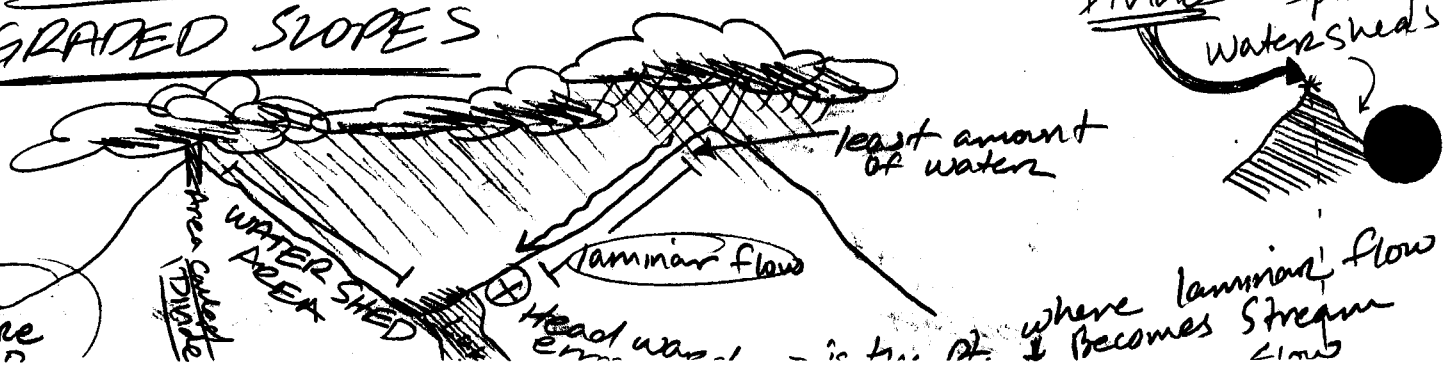
Saltated load ⇒ Becomes suspended load
 Bed load ⇒ Becomes saltated load.

GOLD RUSH (1848) > gold came from Mt's.

PLACER DEPOSIT = gold becomes concentrated in the stream beds. and sinks because gold weighs more than another sediment of the same size

very low H₂O
 less H₂O
 high H₂O = more H₂O

GRADED SLOPES



WATER

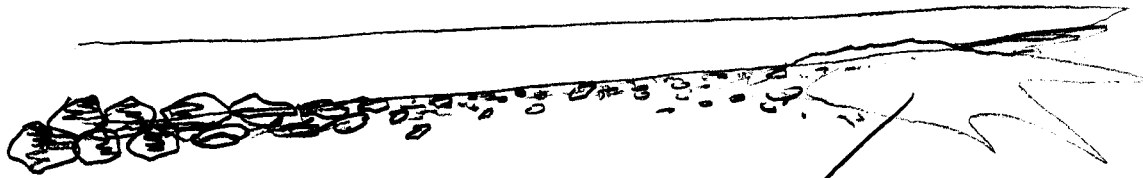
25-4

STREAM Degrades = carries more material than it dumps

STREAM Agrade = it dumps off more than it can carry

When Streams travel into very flat Areas it will

is *Remains*



Alluvial Fan = material clogs up Stream/River and soon Fans out.

A lot of Alluvial Fans together make a Bajada

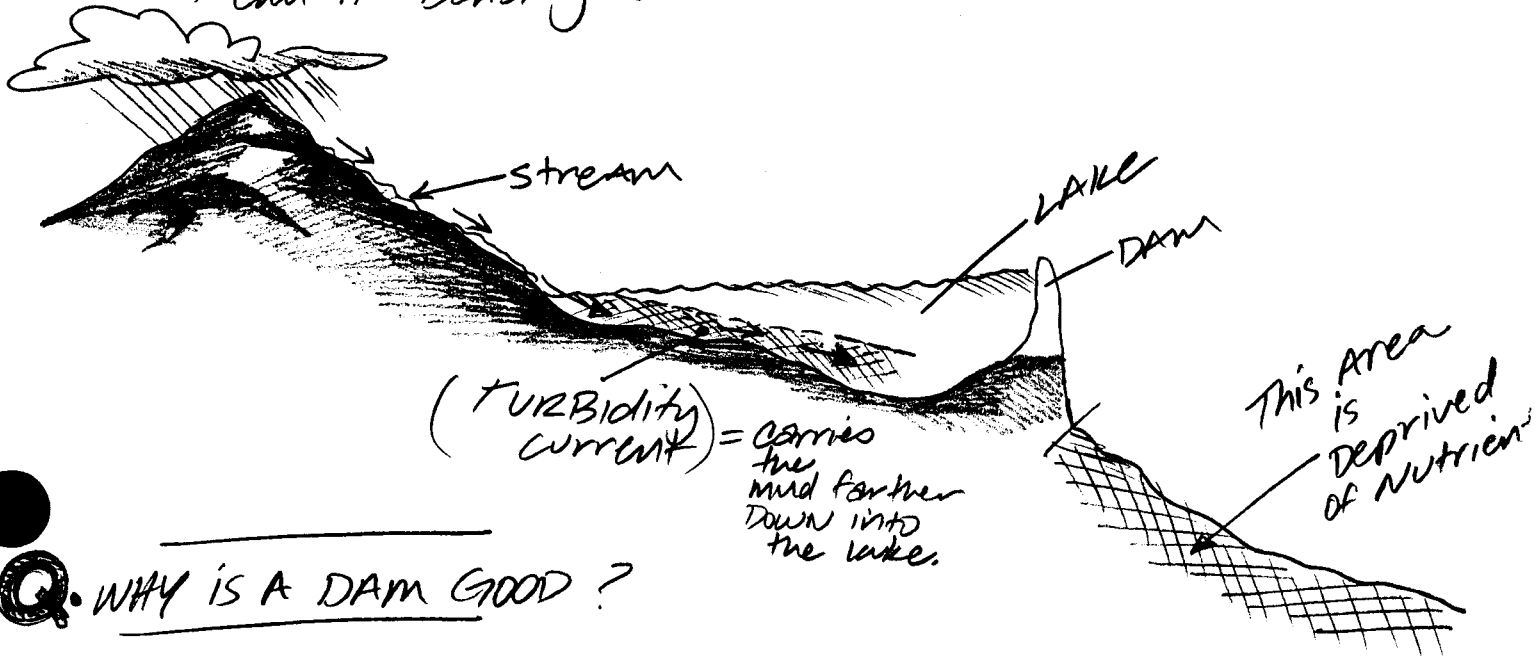
Streams will Degrade and Change to Agrade Depending upon the Season.

DIRT
2 1/2 to 3x's denser → than H₂O

MUD = H₂O + DIRT

→ Call it Density Solution

MUD weighs more than H₂O



Q. WHY IS A DAM GOOD?

REASONS - * Electricity -
weight of water creates energy as it falls ⇒ HYDROELECTRIC POWER
[cheap & clean]

* FLOOD CONTROL -
most dams have been built to help regarding floods

* WATER FOR DRINKING & AGRICULTURE - Storing H₂O
* Recreational - Boating, waterski etc.

* You can provide for a large fishing community
- you can regulate how much H₂O is let out.

Q. WHY DAMS ARE BAD?

25-6

2

REASONS = * Lose nutrients - and deprive valley of nutrients.

* BAD FOR AGRICULTURE

* Failure of A DAM - Has liabilities for failure that can be very costly.

↳ what would cause failure

* Earthquakes

* Design - manufacturing

* CREATES Thermal Barrier warm water w/ DAM (LAKE)

* FISH ARE LOST (FISHERY'S DISAPPEAR)
- NO SPAWNING

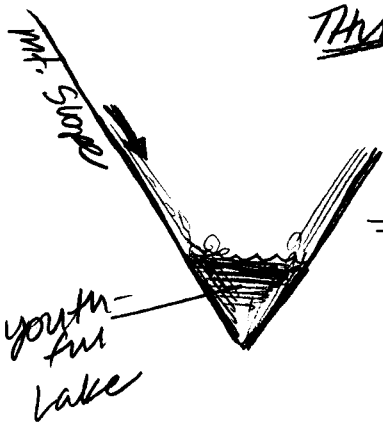
FISH also need Gravel to lay their eggs in
* if fish lay in MUD - the eggs are deprived of O₂ and DIE.

ON SIDE =

[SILT - small fine textured grains of material]

WHEN MT. IS NEW ^(young) → its going to be as tall and as steep as it will ever be.

THUS, the water (streams) will flow faster due to the slope of the mt.



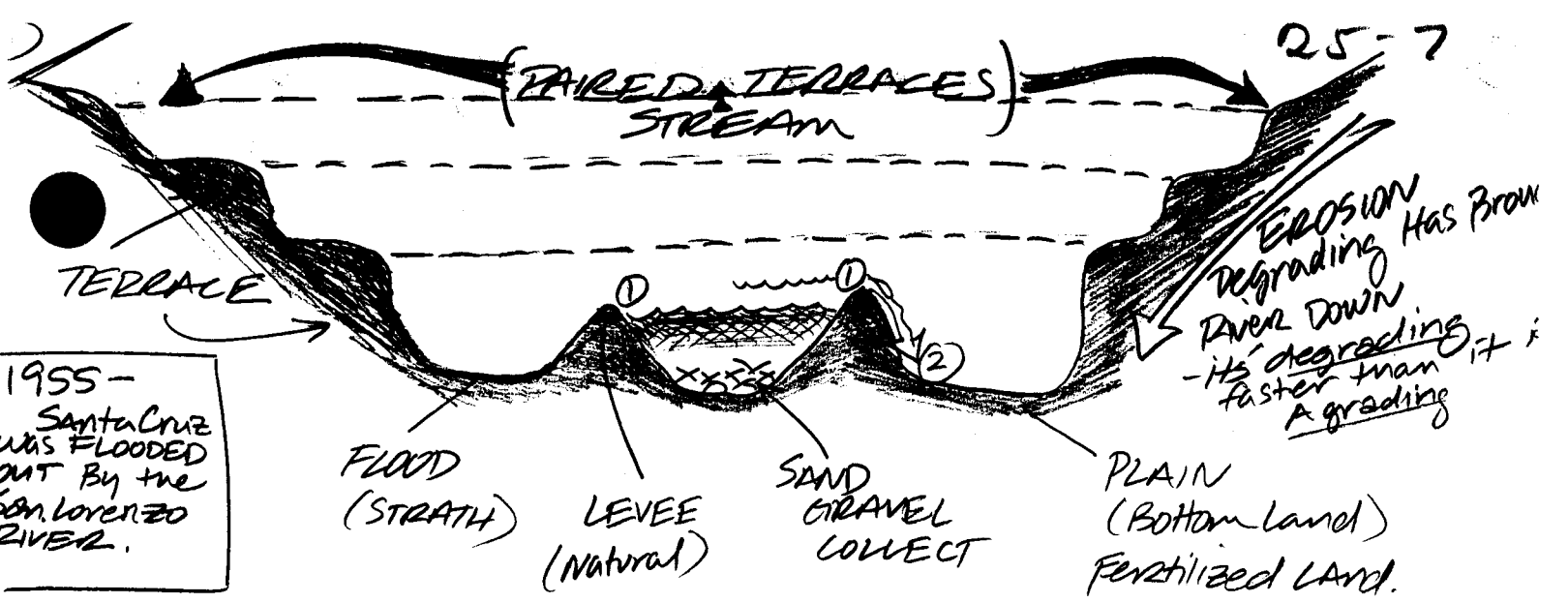
⇒ YOUNG/NEW STREAM

YOUTHFUL STREAMS CALLED = CONSEQUENT STREAMS.

BIRDS EYE VIEW OF

(RIVER LOOK'S LIKE A TREE) →

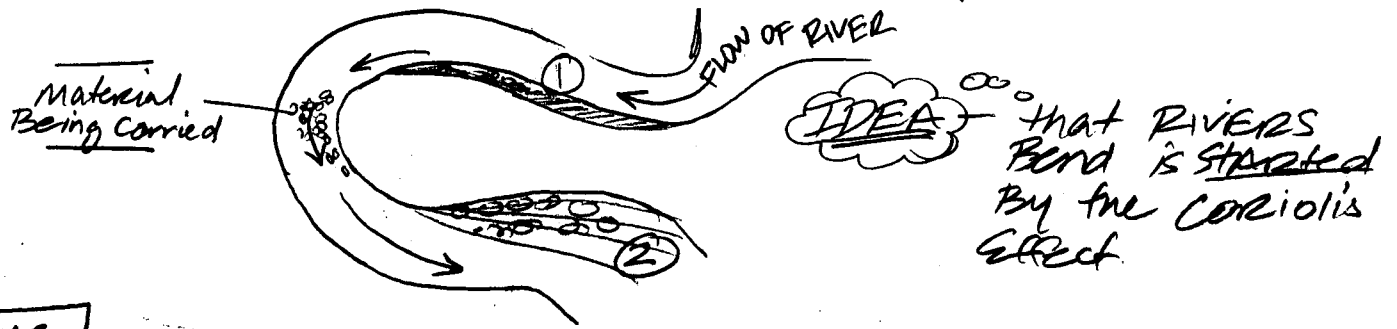




- ① if lake/river rises over levee, the sand and gravel will collect along to top of the levee and slowly build up levee.
- ② water now overflows, and now reaches the flood plain - BRINGING Fertilized/Nutrients to Dirt.

MEANDERS

- ① * WATER is going to speed up as it goes around the Bend. → thus, it will undercut the slope.
- ② * At the slip off Area on other side of Bend that is where the material which was undercut gets Deposited.
- ③ * OX BOW LAKE
RIVER cut itself off due to the slip-off slope



DAMS

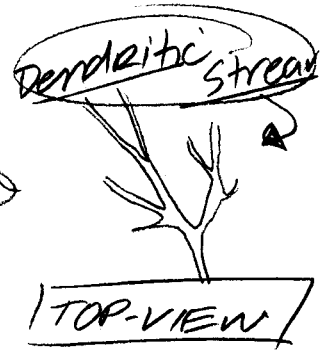
* At the end of the Raining Season the goal is to have the Reservoir FULL. → thus use H₂O during the DRY Season.

26-1
 (Go up N. Main Street to Budhist Temple) 40-ft. Water Fall (OVERFLOW)

ENTRENCHED MEANDERS - A RIVER that cuts into its MEANDERS ON THE FLOOD PLAINS.

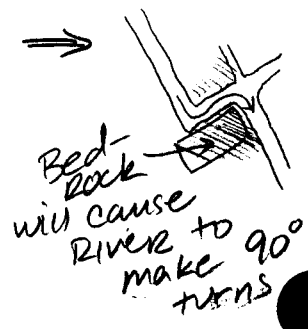
TYPES OF STREAMS

1. Youthful Streams = Consequent Stream
 - very steep topography



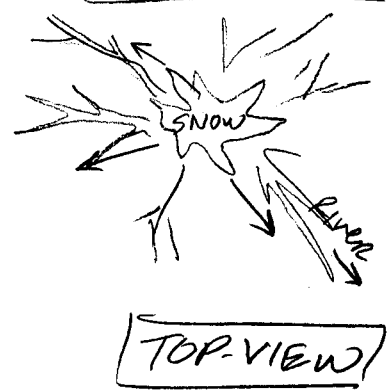
2. SUBSEQUENT STREAMS

Rectangular patterns →



3. RADIAL DRAINAGE - water flows down the mt. on all of the sides

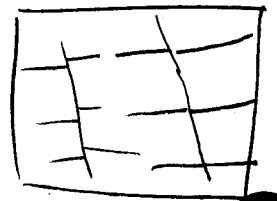
Radial patterns



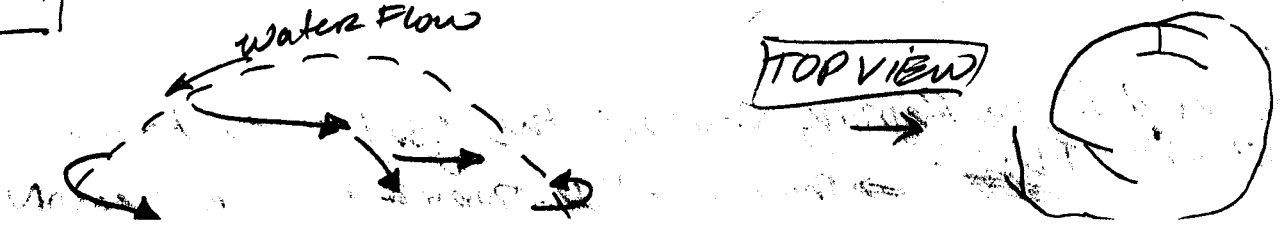
FOLDED M.T.S



also called = Trellis patterns



DOME M.T.S
 water flow



15) COLORADO RIVER → up in GRAND CANYON = YOUTHFUL RIVER
→ RIVER was there before the Plateau went up

ANTECEDENT STREAM = is there before the land rose / land form.

SUPERPOSED STREAM = Stream over the flood plain doesn't carve thru the harder sediments

< 4 kinds of streams — Consequent Stream
Subsequent Stream
Antecedent Stream
Superposed Stream >

< What's the difference between a Salt H₂O lake and a FRESH H₂O LAKE

A fresh water lake has an outlet which salt is able to leave lake. — THROUGH DRAINAGE.

< Where lakes evaporate ⇒ you get Salt Flats.

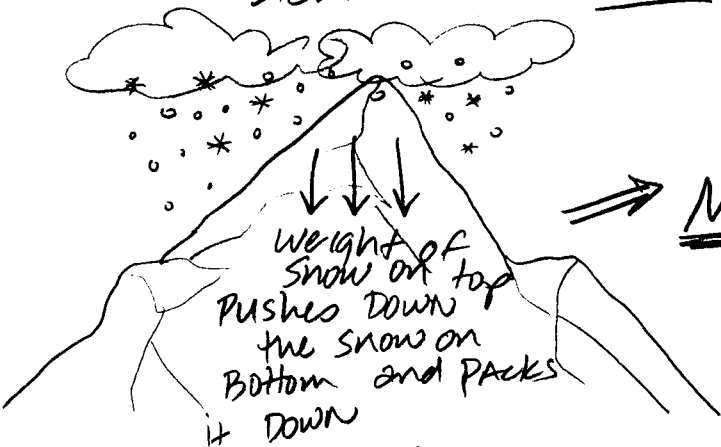
Fluvial Geomorphology ⇒ People who study the movement of H₂O.

→ Earth has more Fluvial Erosion (STREAM) vs. Glacial Erosion (GLACIERS)

GLACIERS = make a trough
→ FOUND @ HIGH LATITUDES N° & S°
& @ HIGH ALTITUDES / ELEVATION

GLACIER - (Hard H₂O)

Starts off as SNOW - More Snow Fall than melts



Néve - is the process which Glaciers are formed

→ 3 types of Glaciers

① Continental Glaciers DON'T HAVE Sides.

② Mt. Glaciers — They Do have Sides
Valley Glaciers — " " Because they change shape
Alpine Glaciers — " " from Slopes of Mt. Side

③ PIEDMONT GLACIERS


Ice field

→ made up of
 a Bunch of Glaciers
 Ex: Mt. Glaciers
 Valley Glaciers
 Alpine
 (Etc)

① 5.4.00

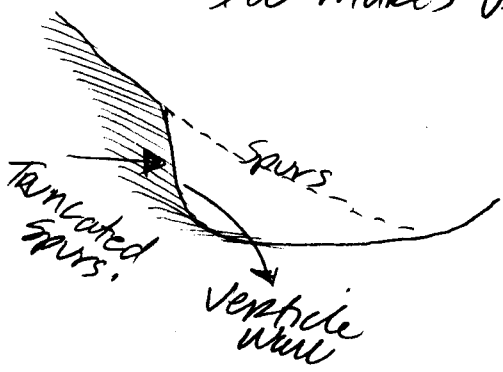
Glaciers (Cont.)

● Usually Glacier occupies old Stream Valley.

[look @ pg. 9] Glacier carves out Valley from a V-shape
TOP to a  = U-shape

Ice makes Vertical walls

↳ Faceted walls
Truncated Spurs



Hanging fall - enters valley from side DOWN.

↳ Yosemite Falls (EX)

< HANGING VALLEYS >

● Back of Valley is lower than Front

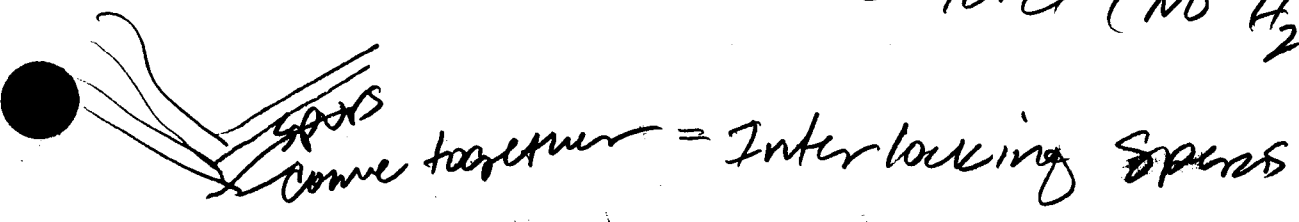
- and creates alluvial Filling

CRACK w/in ICE called CRAVAS

BERGSCHNUND - where valley ^(high) Ends of Glacier Begins

Deep Soil - Glacier Removes

Accordant + Valley Floors - streams come together @ same level (NO H₂O falls)

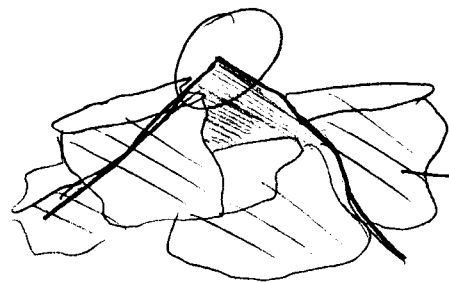


19) Glacier makes mt. more jagged

26-5

Peak, Spitz or Horn - Mt. that is surrounded by glaciers

Matterhorn Peak - glaciers all around Mt. / carved all around Mt.

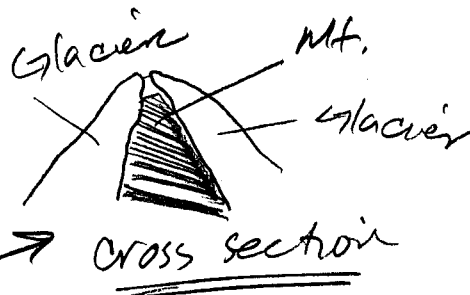
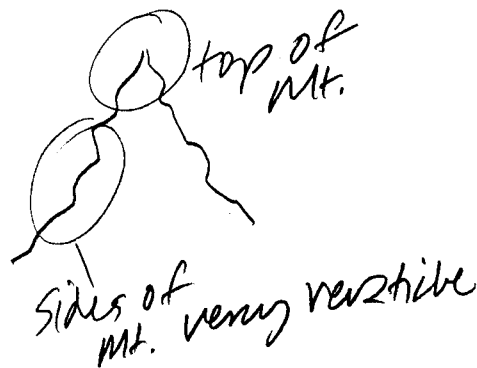


Glaciers → Glaciated (ridge top of mt)

Arête - group of rocks ^{knife like} that divide two glaciers valleys

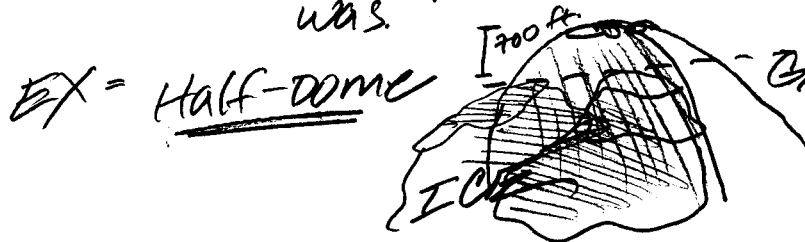


Carve into called a Col two glaciers which were so thick that they grow over the top of ridge and start eroding the mt.



Nunatak - equivalent to a Bath tub Ring.

→ tells you how thick the ice / max. elevation was.



Glaciers came within 700 feet of top of (1/2) domes

Neveton = Snowfields turning into ICE