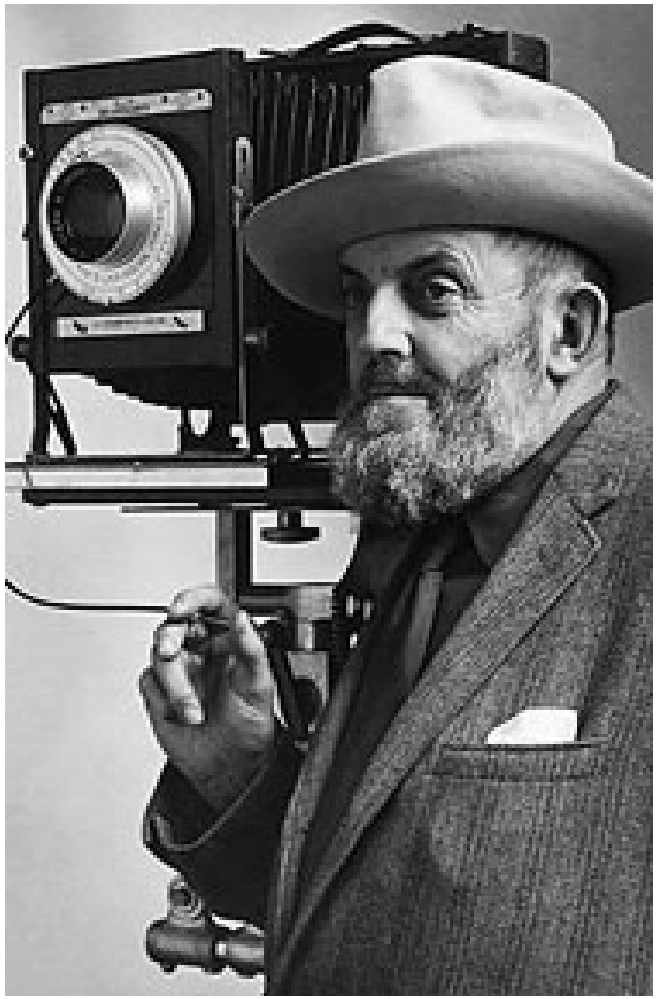
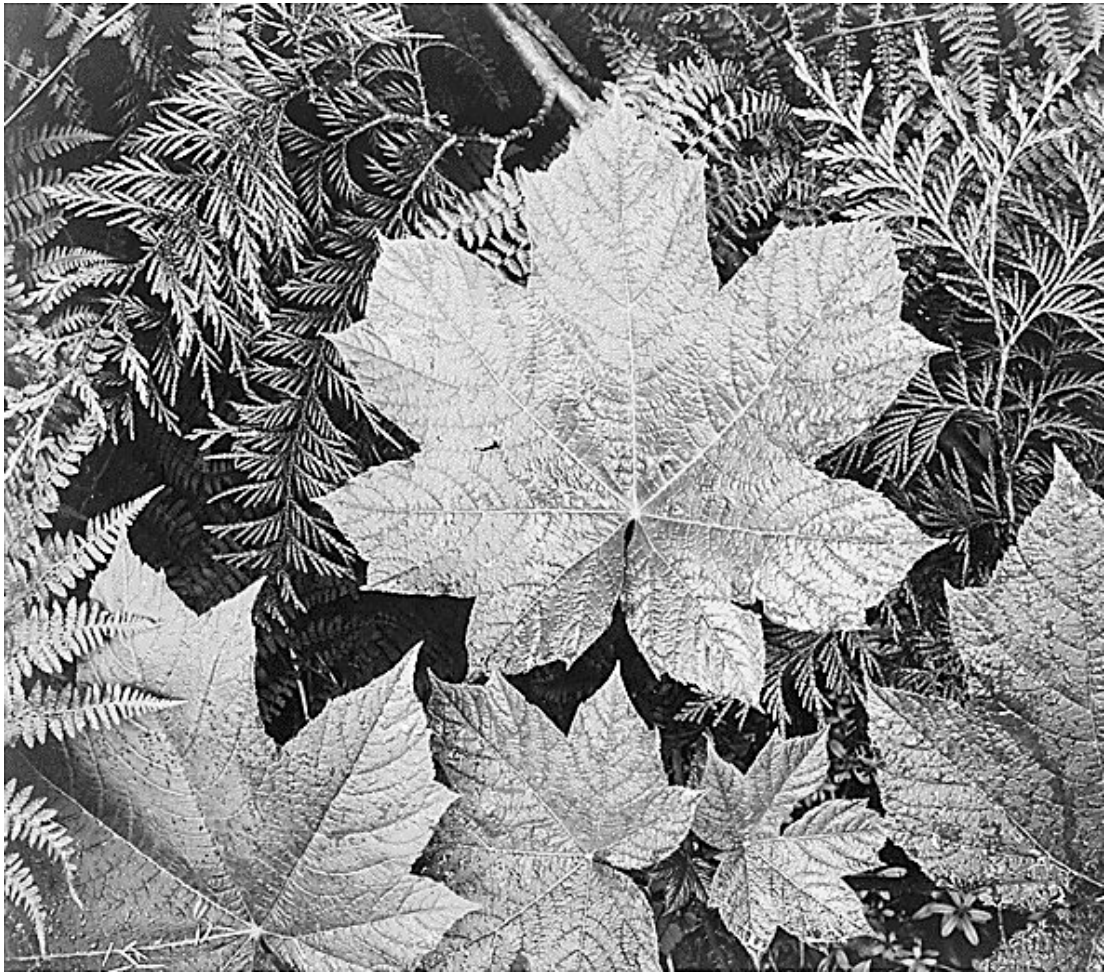
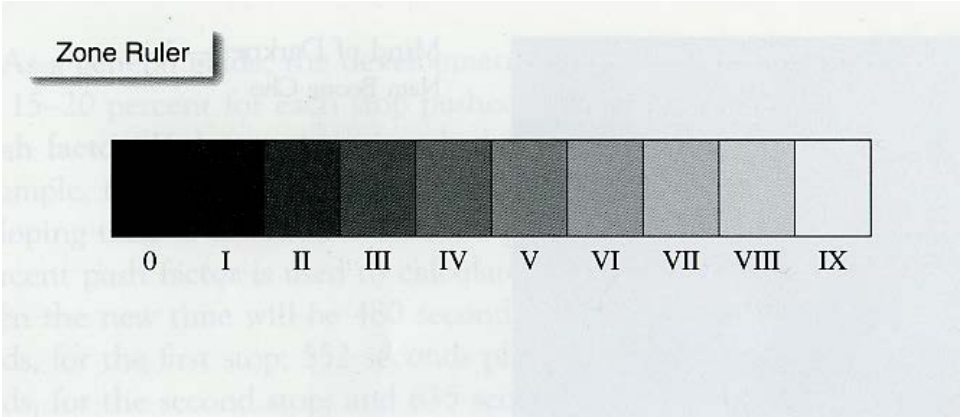
Zone System

Ansel Adams

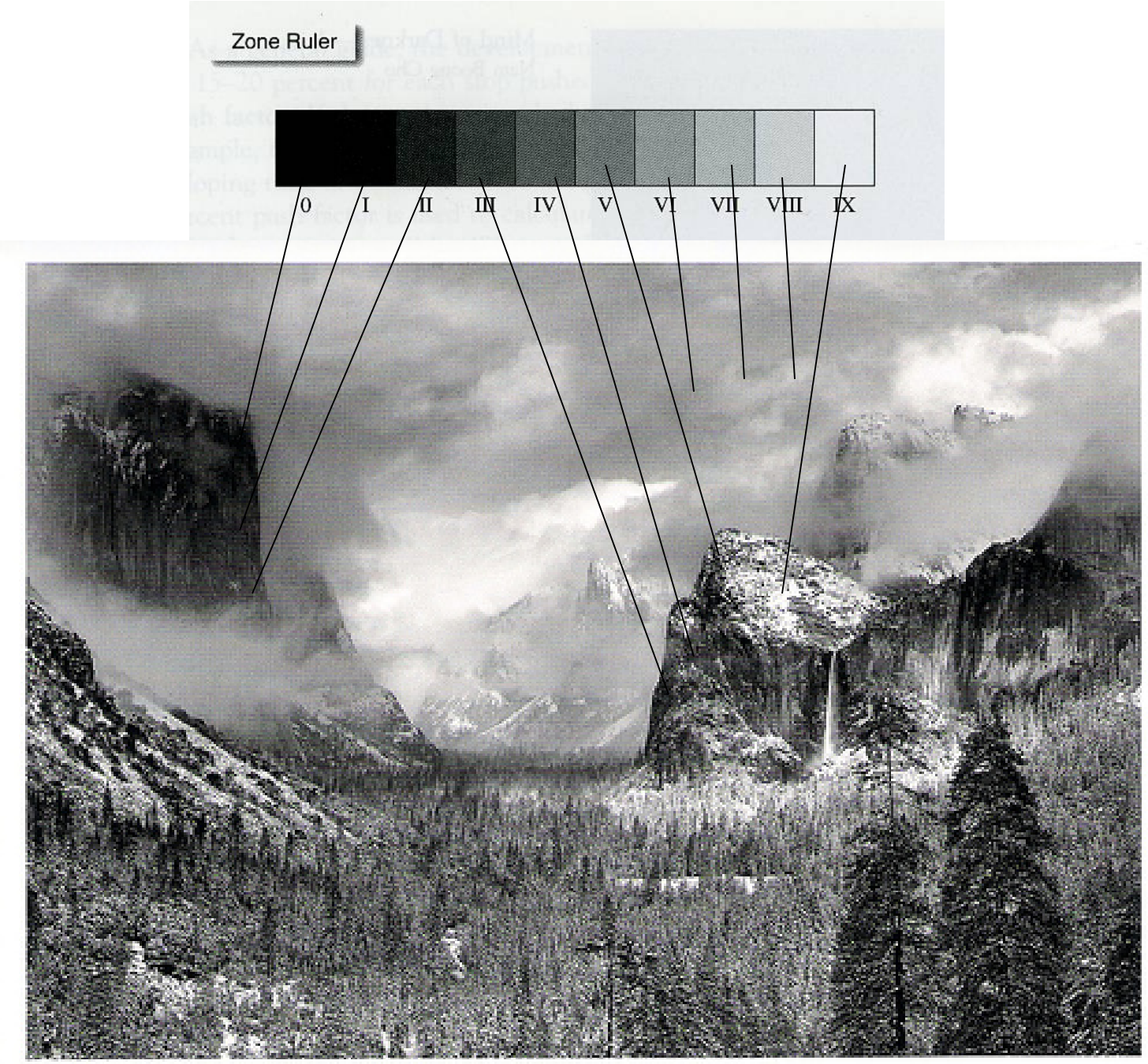



Ansel Adams - Tetons and The Snake River, Grand Teton National Park, 1942
desktop by artwallpapers.net





ZONE	DESCRIPTION
0	Maximum black
I	The first tone distinguishable from black with no detail
II	The first visible texture in a very dark area
III	Black with detail—a highly textured dark area with distinct detail; this zone is considered the shadow detail area for average value metering
IV	Dark gray
V	Middle gray, with 18 percent reflectance
VI	Light gray
VII	White with detail; the lightest area in the photograph that will have distinct texture or detail; this is the highlight area for the average value method
VIII	The brightest tone distinguishable from white
IX	Paper white


Zone Ruler
0
I
II
III
IV
V
VI
VII
VIII
IX

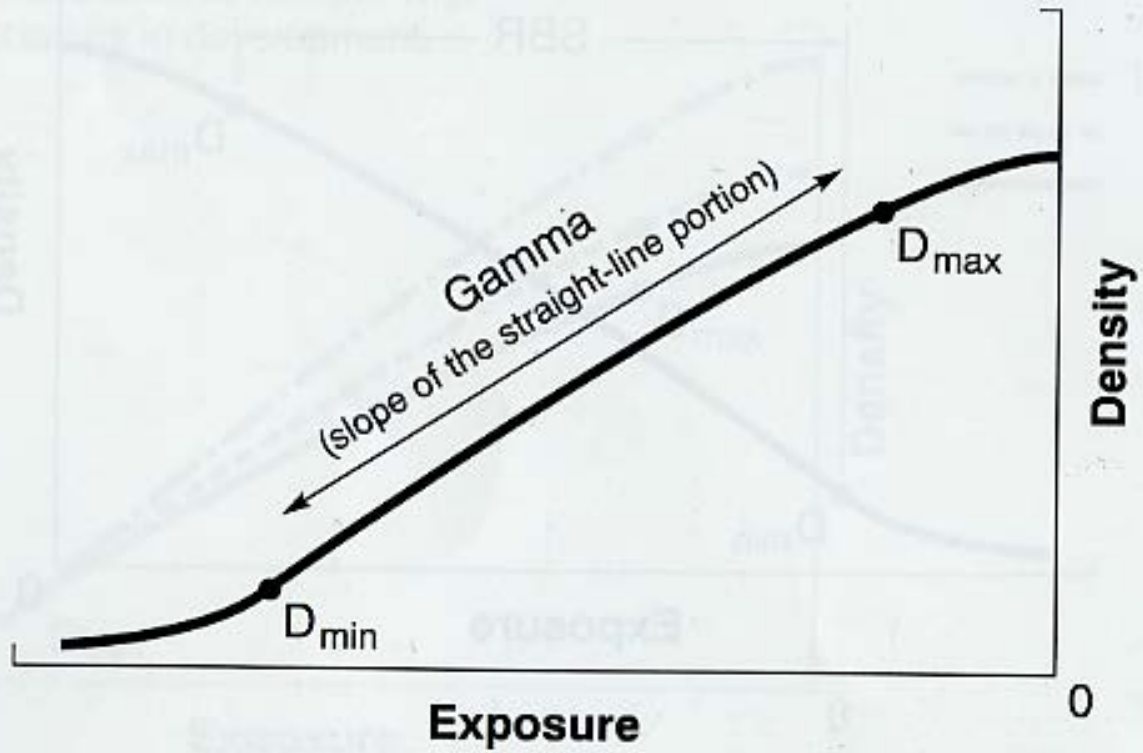
Ceiling House Ruin from "Places of Power: Sacred Sites Series"

The Zone System has everything to do with the

DENSITY OF THE NEGATIVE

You will learn some of the basics of the zone system and how to control density of the negative

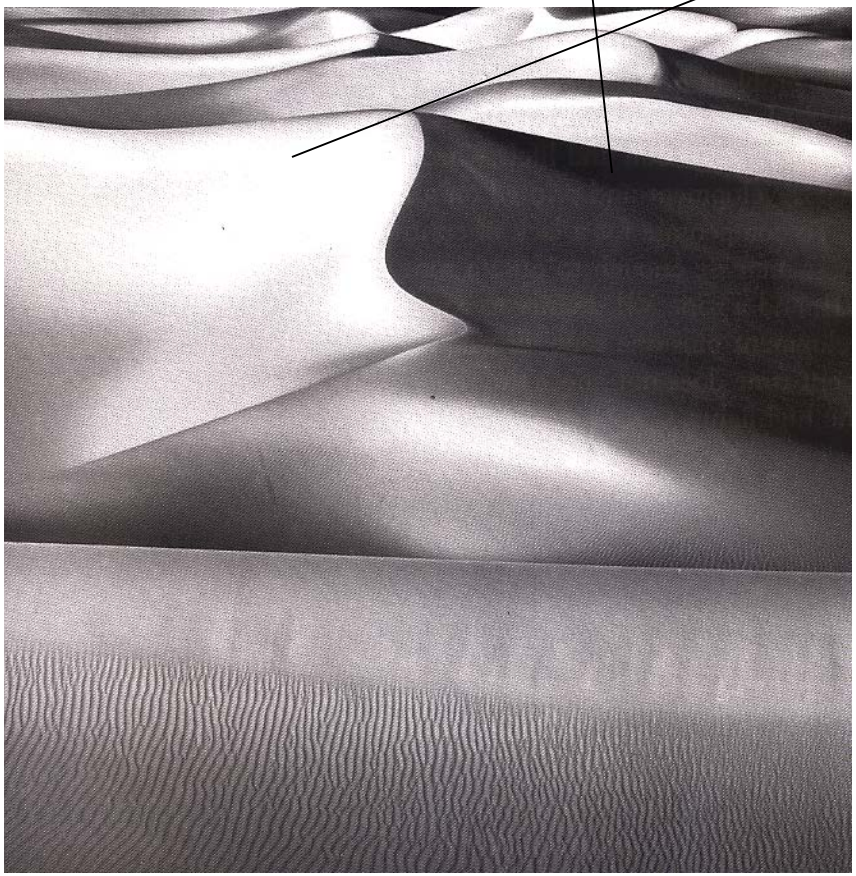
D_{max}, D_{min}, and Gamma on a Characteristic Curve



Density of Negative

- D-max = Maximum density on negative – the darkest part of the negative, thus, the whitest part of positive image of photo
- D-min = Minimum density on negative – the lightest part of negative, thus, the darkest part of positive image on photo

D-max D-min



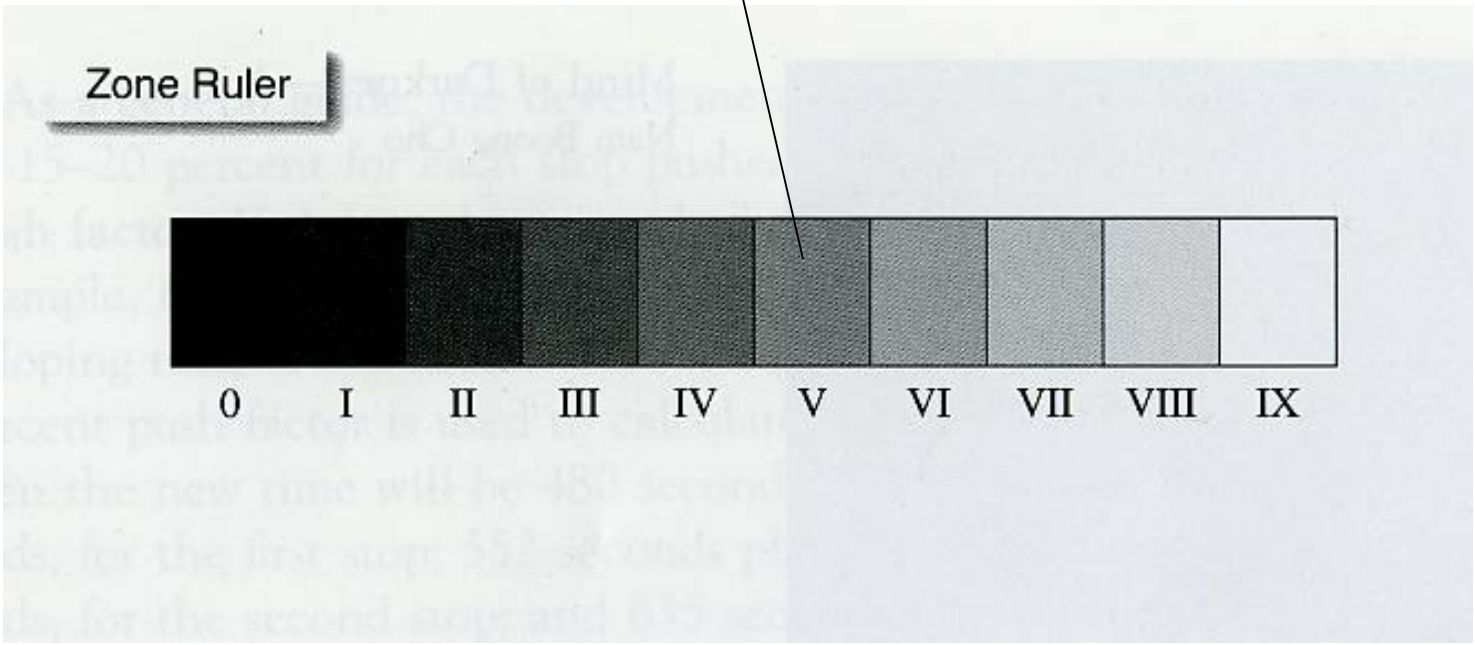
Negative

Positive

Controlling Negative Density During Exposure

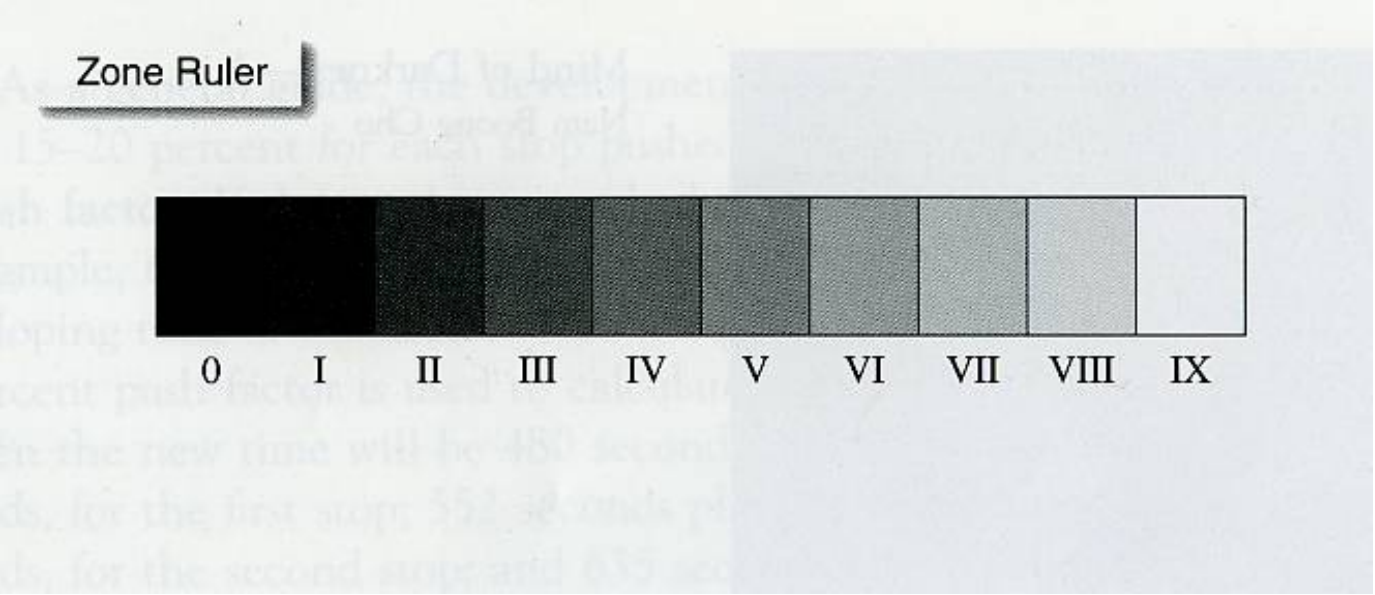
Exposure Control

- Through-the-lens meter reads at Zone V
- Zone V is **Middle Gray (18% gray)**



Exposure Control

- Your camera light meter takes the entire scene and averages it to Middle Gray and often this exposure is correct (but not always).



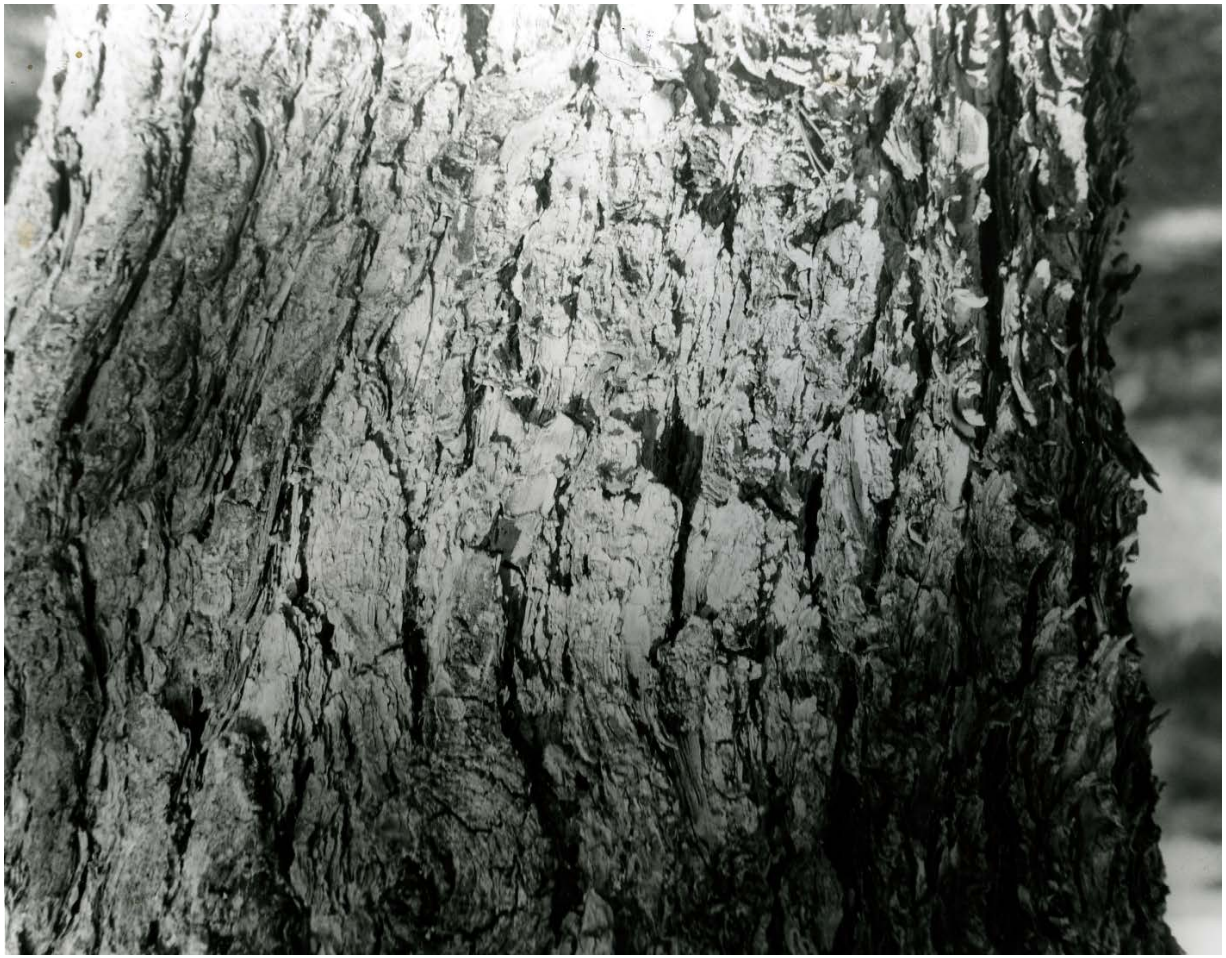
These next images were shot in different zones

The difference between them is that they were bracketed by one stop between each exposure

Zone V – shot with light meter reading in the middle (green on many cameras – middle gray)

Zone VII – two stops overexposed = denser negative (thus lighter positive)

Zone VI – one stop overexposed



Zone V – middle gray

Zone IV – one stop underexposed = less dense negative (thus darker positive)

Zone III – two stops underexposed

Greater Density

Density decreases or increases
Depending on how much light is
exposed to the film

Lesser Density

VII

VI

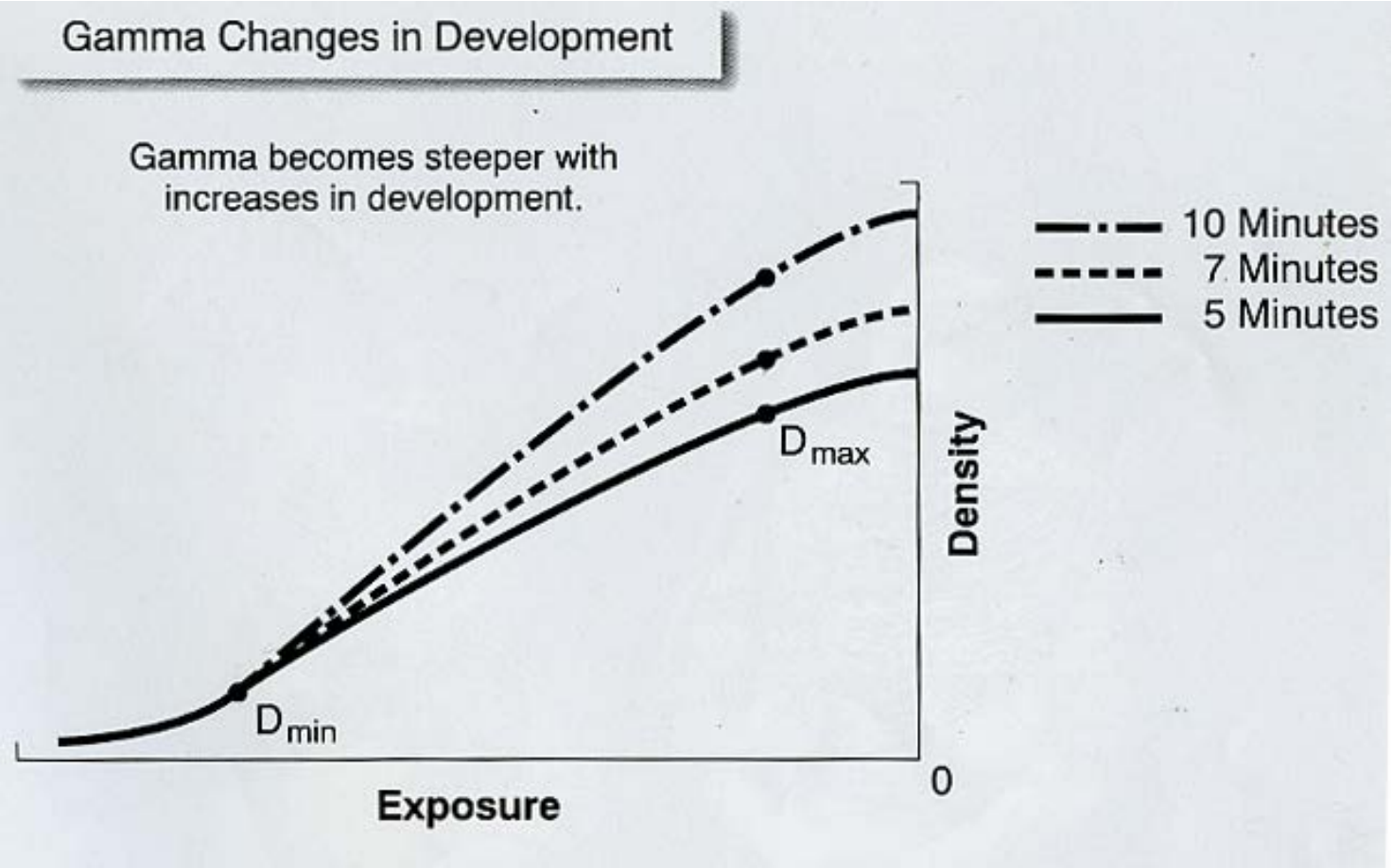
V

IV

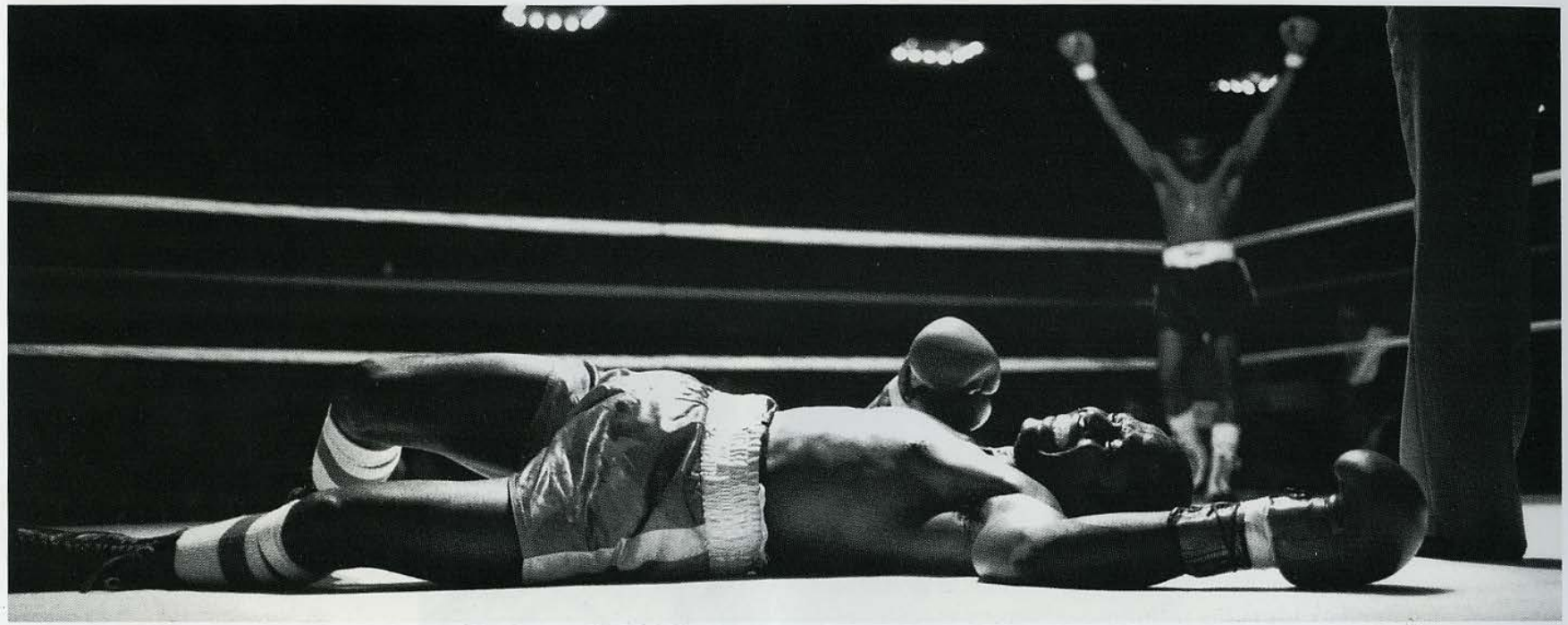
III

Controlling Negative Density During Development

Pushing and Pulling Development


Gamma Changes in Development
Gamma becomes steeper with increases in development.
10 Minutes
7 Minutes
5 Minutes
D_{max}
D_{min}
Density
0
Exposure

Push Process



Boxer Bill Graddy lies on the mat after being knocked out by Marion Starling
© Anacleto Rapping

Pull Process

Mind of Darkness—1
Nam Boong Cho

Push and Pull

- A **Pull** is under-developing the film (decreasing time)
- A **Push** is over-developing the film (increasing time)

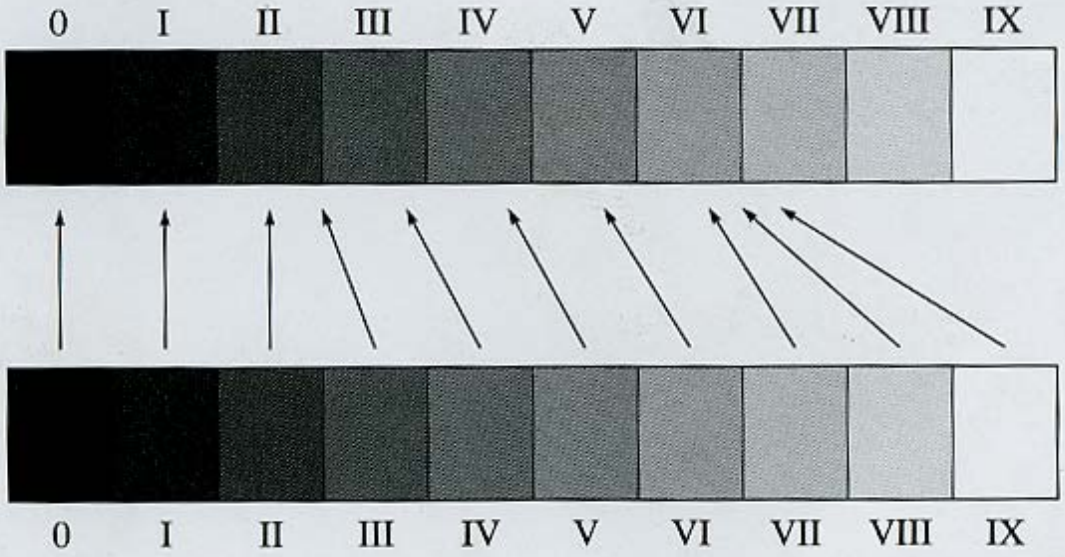
Development Control

- N = normal development time
- **Pull**: N-1 = normal development time minus one stop worth of time
- **Pull**: N-2 = normal development time minus two stops worth of time
- **Push**: N+1 = normal development time plus one stop worth of time
- **Push**: N+2 = normal development time plus two stops worth of time

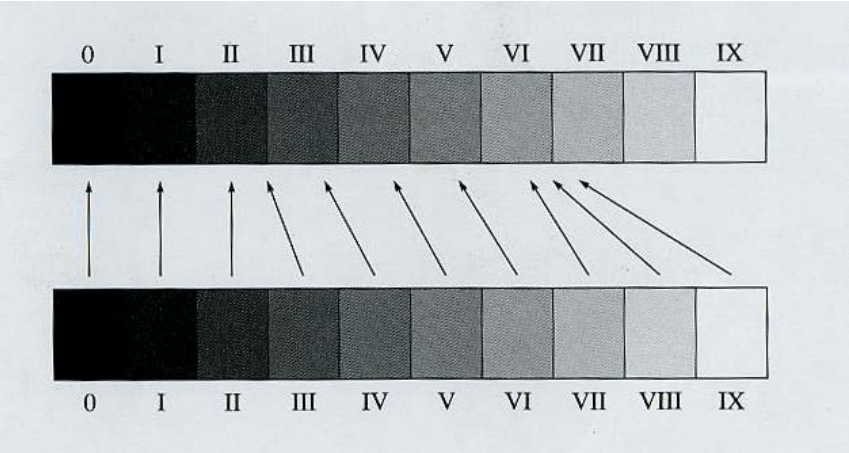
Pull Process

The Effect of N – 1 Development

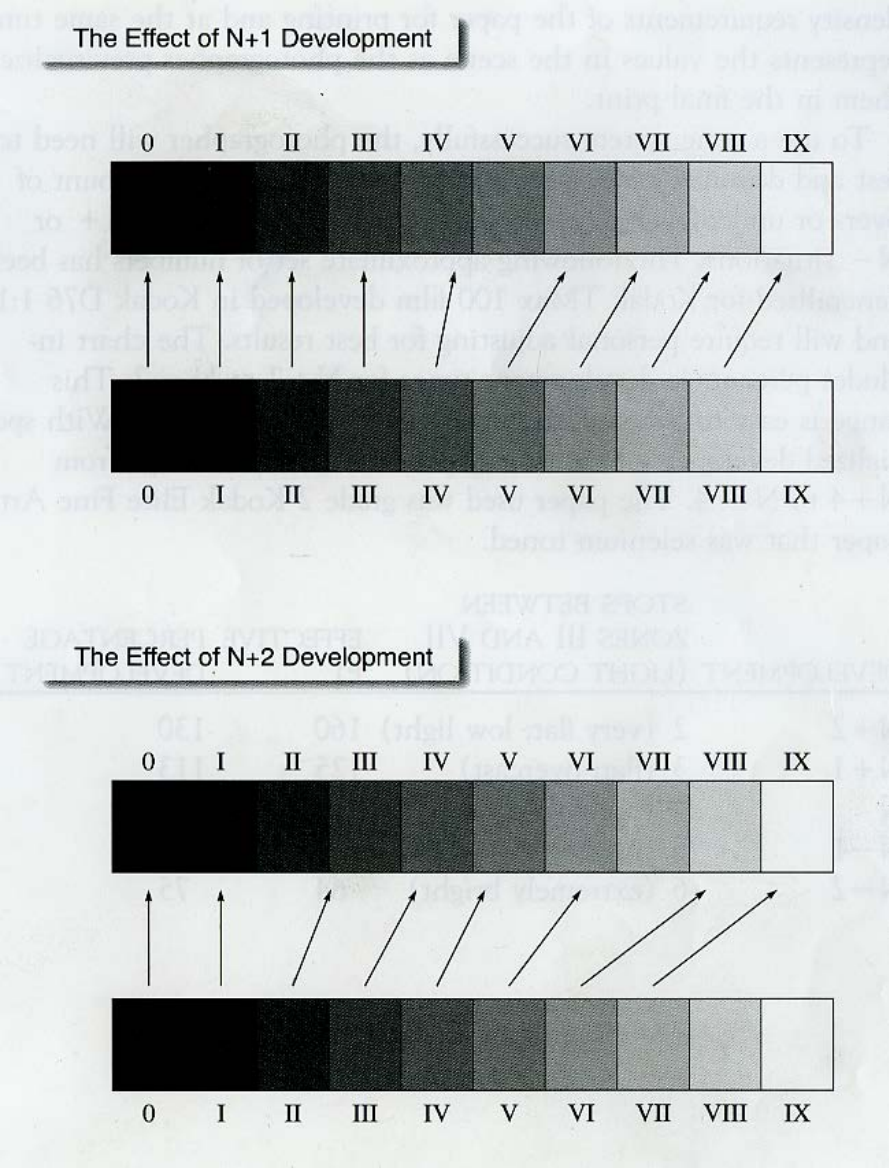
Notice that with N – 1 development, the zone VIII negative density is reduced to a density equivalent to zone VII, while the zone IV decreases by less than one zone.



Pull Process – Decreases Density thus D-max is not as dark on neg, thus not as white on positive

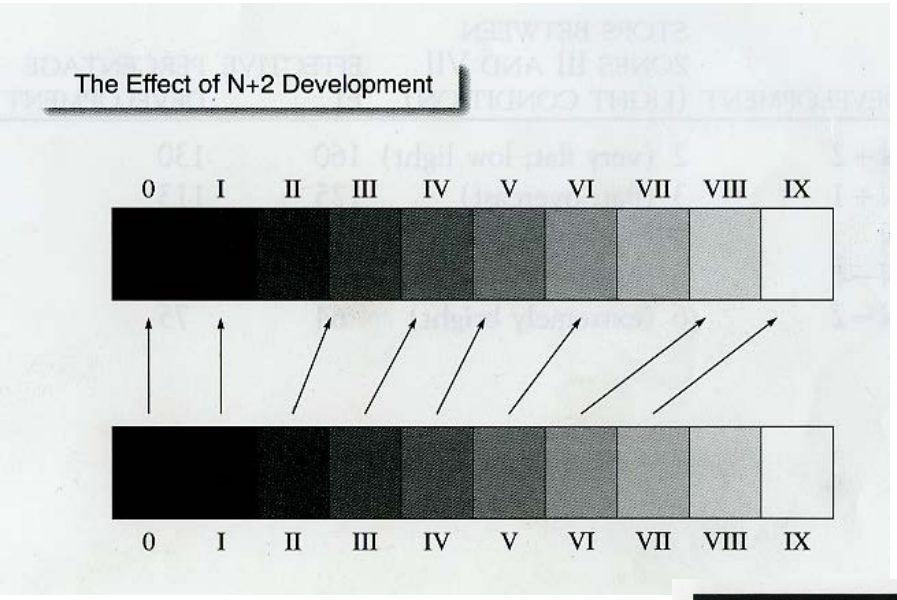


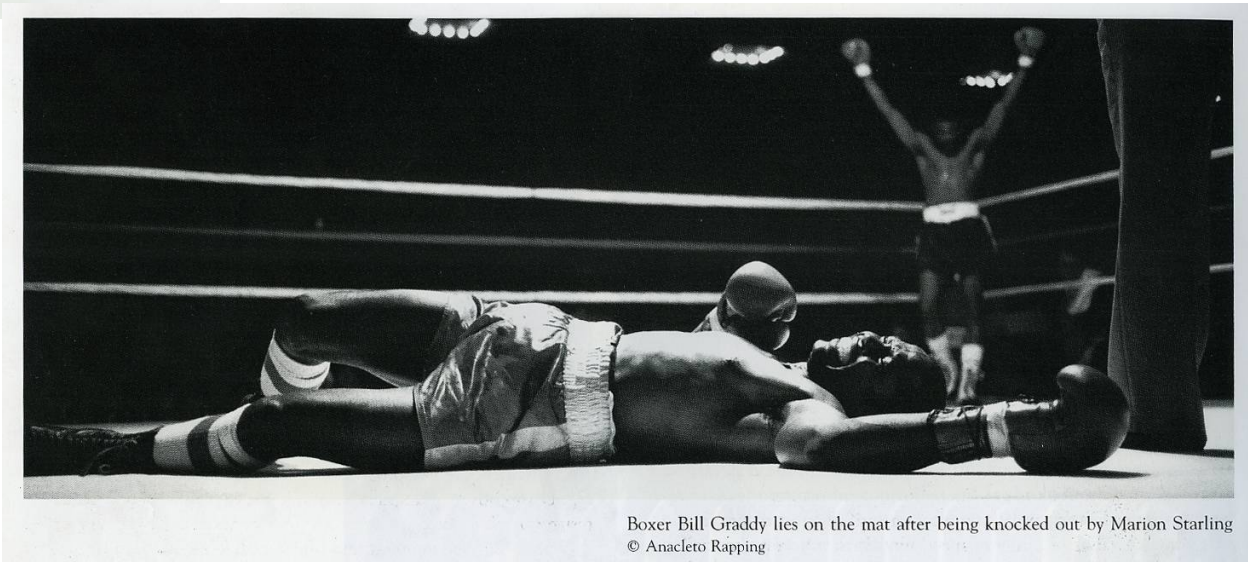
Push Process



<u>Push Process</u> - Increases Density thus D-max is darker on neg, thus whites get whiter on

positive





Boxer Bill Graddy lies on the mat after being knocked out by Marion Starling
© Anacleto Rapping

Previsualization – when to use push or pull process

DEVELOPMENT	STOPS BETWEEN ZONES III AND VII (LIGHT CONDITION)
N + 2	2 (very flat; low light)
N + 1	3 (flat; overcast)
N	4 (normal)
N − 1	5 (bright)
N − 2	6 (extremely bright)

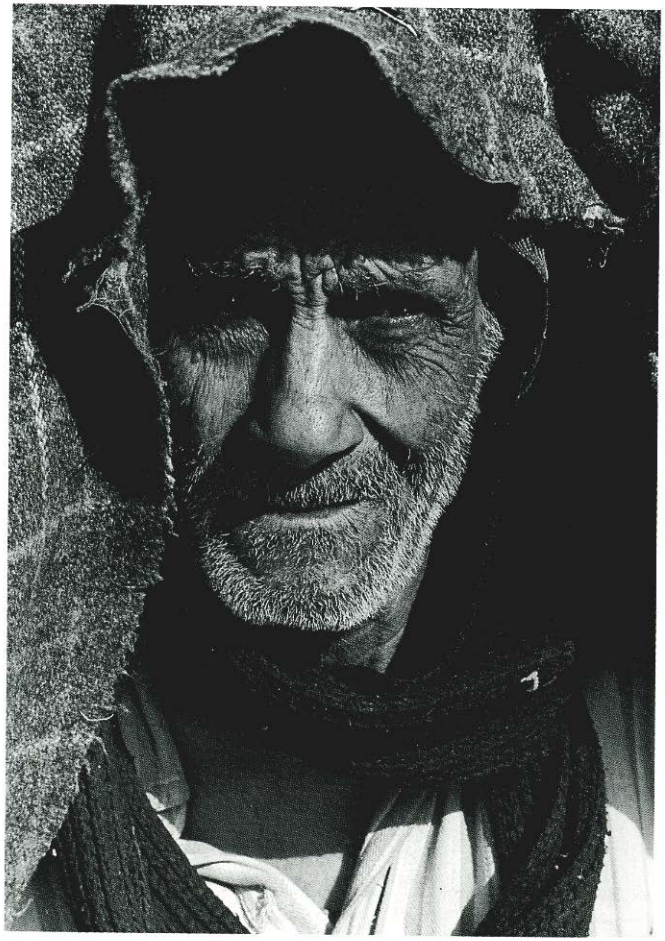
Dunes, Death Valley National Monument, California

Putting it all together

- **<u>Exposure Control</u>** - You will shoot your entire roll of film in Zone III – two stops **underexposed**
- This will make your negatives initially less dense, thus making the blacks darker on your positive image

Putting it all together

- **<u>Development Control</u>** – You will develop your film at N+2 – two stops **over-developed**
- This will increase the density of your negatives, thus making your whites whiter on your positive image



Cairo, Egypt
Paul Liebhardt