language of the lens

Cinematography

Types of Lenses

- Zoom lenses (or varied focal length lenses)
- Prime lenses (or fixed focal length lenses)
- Telephoto lenses

Zoom lenses (or varied focal length lenses)

The advantage of zoom lenses over prime lenses is that you don't have to change lenses to get to a tighter or a wider composition; it saves time.

Plus, if the cameraperson is not switching lenses, they don't have to worry about carrying them or constant cleaning. This choice of lens is ideal for documentary and newsgathering since, in both situations, the operator doesn't have the luxury of pre-planning, rehearsals, and second takes.

Zoom Lens

ZEISS
Compact Zoom
28-80
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∞
30
15
10
8.0
6.0
5.0
4.5
4.0
3.5
3.0
2.7
2.5
28
30
35
40
45
50
75
80
2.9
4
5.6
8
11
16
22
1.5
1.4
1.3
1.2
1.1
1.0
.95
.90

Canon
30-300
FOCUS
ZOOM
IRIS
Canon
AJA

The disadvantage of zoom lenses is the loss in image quality. Narrative filmmakers should always use prime lenses

Prime lenses (or fixed focal length lenses)

Prime lenses (or fixed focal length lenses) can't zoom in or zoom out. Therefore, every time the filmmaker wants to get tighter on his composition, he can either

(1) physically move the camera closer to his subject.

(2) change the camera lens for one with a longer focal length and narrower field of view – the telephoto lens.

Accordingly, if the filmmaker decides for a wider composition, he can either

(1) physically move the camera away from the subject

(2) change the camera lens for one with a shorter focal length and wider field of view – the wide-angle lens.

For 35mm film and full frame digital cameras prime lenses can be categorized by focal length as follows:

- 14 to 21mm: **Ultra-Wide** — Because these lenses are usually used at very close subject distances the resulting perspective can provide a dramatic, often extreme image that can be used to selectively distort a scene's natural proportions.
- 24 to 35mm: **Wide** — these lenses capture a wider field of view than a standard lens. Because they tend to be used at shorter distances the resulting perspective can show some distortion.

- 50 mm: **Standard** — with a focal length near the 44mm image diagonal.
- 85 mm: **Portrait** — A short telephoto lens that allows a longer subject to camera distance, to produce pleasing perspective effects, while maintaining useful image framing.
- 135 mm: **Telephoto** — these lenses are used by action and sports photographers to capture faraway objects.
- 200 to 500 mm: **Super Telephoto** — these are specialized, bulky lenses for sports, action, and wildlife photography.

Zeiss-Master-Prime-Set1

Telephoto lenses

Telephoto lenses are longer than the average. In comparison to normal lenses or the human eye, telephoto can get really tight on the subject. It correlates to a zoom in with zoom lenses. The image is optically enlarged to show fine details from a subject that is far away.

Shallow depth of field is another inherent characteristic of telephoto lenses.

500
Prime Lens