A Report on Aerial Photography and Pigeons

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Origins of Aerial Photography

- 1839 – Photography invented
- 1851 – Wet plate process allows shorter exposure times
- 1858 – First balloon photograph by Nadar
Turn of the Century Camera
Lifting Vehicles

- Balloons
  - Used for reconnaissance before photography
- Model rockets
- Kites
- Pigeons
View of Boston from Balloon Queen of the Air, 1860
Nadar on a Balloon
Rocket Designs by Amedee Denisse & Alfred Nobel
View of Swedish Village by Alfred Nobel’s Rocket, 1897
View of German Landscape by Alfred Maul’s Rocket, 1904
Kite Cameras by Arthur Batut & Lt. Hugh Wise
View of San Francisco from a Kite, 1906
Pigeon Camera Patented by Julius Neubronner, 1903
Reasons to Take Aerial Photographs

- Military intelligence
- Land exploitation
  - Geology, agriculture
- Property concerns
  - Map making, urban planning, real estate
- Art
Division of Vision

- Photography breaks vision
- Capture
- Interpretation
- Separated by time & space
- Can be performed by different agents
Division of Vision, cont.

- Many photographic practices profit from division, e.g.
  - Art
  - Unattended surveillance cameras
  - Aerial photography
- Separation of capture & interpretation becomes norm, e.g. vacation memories
- Interpretation unbounded, can always continue, e.g. Rodney King video
My Experiments

- I raised pigeons
- What can they do besides be admired & fed?
- Inspired by historical pigeon photos
- Is it a lost art?
- Can today’s technology match 100 year old cameras
- What do pigeons see?
The Pigeon

- Homer
- Given to me by pigeon mentor Johnny D
- Trained to carry weights for several miles
My First Attempt

- APS Camera
- Smaller than 35mm
- Cheap, around $10
- Automatic film advance
- Velcro Harness
- Cross back, around wings
Result

- Utter failure
- Awkward harness
- Camera too heavy
- Pigeons couldn’t leave ground
Next Attempt

- Use small digital camera
- Timing circuit to take photos every 10 seconds
- Elastic harness
Timing Circuit

- 555 timing circuit, from High Performance Rocketry Magazine
- Modified with trimmer to allow variable photograph interval
The Camera with Harness, Timer Circuit & Battery
The Experiment

- Two pigeons released
- 1.5 miles from home
- One carrying camera
- Companion pigeon returns in an hour
- I give up hope after a day
The Miracle

- Lost pigeon returns 3 days later
- Camera is beaten, but still works
- Pigeon is hungry but OK
Photographs from the Journey
Camera Upon Return
Next Steps

- New camera needed
- Even lighter, hopefully less than 2 oz.
- Lighter batteries
- Faster shutter speed
- More pigeon training
- Shorter trips
- Wireless video