

# Cajon Pass Operations, 1946-1956

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# Agenda

- Introduction to Cajon Pass
- Stations and Locations
- Freight Trains
- Passenger Trains
- Motive Power and Helpers
- Operations and Signals
- Railfans and Publications

# Cajon Pass – Introduction

- Santa Fe's mainline into Los Angeles basin
- On First District of the Los Angeles Division
- West of Barstow, east of San Bernardino
- Pass between the San Bernardino Mountains & San Gabriel Mountains
- Tracks shared with Union Pacific trains
- Helpers used from San Bernardino east to Summit, from Victorville west to Summit
- Very popular location for railfan photos

# The Glory of Postwar Cajon Pass

- Mix of Santa Fe, Union Pacific, and rare detours of Southern Pacific
  - Good variety of paint schemes on each railroad
- Mix of big steam & beautiful early diesels
- Mountains, steep grades, sharp curves, helpers working hard, tunnels, bridges
- Famous passenger trains, many freights
- Busy operations at classic Summit station
- Flyover, rocky cliffs, industries at Victorville

# Pre-1946 History of the Pass

- Single-track rail line completed in 1885
- Union Pacific trackage rights began in 1905, from Daggett to Riverside Jct.
- Double tracking began at both ends in 1910
- Longer, easier uphill track from Cajon to Summit completed in 1913, with two tunnels
- Double track completed in 1924, with left-hand running west of flyover by Victorville
- 1938 flooding caused relocation at Cajon

# Grades on Cajon Pass

- Slight upgrade Barstow west to Victorville
- 1.6% upgrade Victorville west to Summit
- 3.0% steep downgrade on original line from Summit west to Cajon
- 2.2% upgrade on longer 1913 line from Cajon east to Summit
- 2.2% downgrade Cajon west to San Bdnno

# Left-Hand Running

- All trains ran left-handed between San Bernardino and Frost (west of Victorville)
- Reason: Easier upgrade from Cajon to Summit on newer 1913 track (2.2%)
  - This was the left-hand track going east
- But downhill grade from Summit west to Cajon was steep & dangerous (3.0%)
- Trains changed to/from right-hand running via the Frost Flyover just west of Victorville

# Typical Operations

- EB freights had helper(s) SB to Summit
  - Some EB psgr had helper, or power move from LA
- EB steam freights stopped at Keenbrook
  - Front and rear steam locos uncoupled, got water
  - Only stopped at Cajon for water in rare cases
- WB freights had helper(s) Victorville to Summit
- WB freights set retainers at Summit
  - Swing brakemen rode cars down (fewer in 1949+)
  - Stopped at Cajon and Devore to cool wheels unless they had enough units with dynamic brakes



# San Bernardino

- Junction of 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Districts (LA Div.)
- Large shops and yards
  - Main locomotive and car shops for Coast Lines
  - “A Yard” between depot and shops
  - “B Yard” for reefer precooling plant, stock pens
  - Citrus crops shipped east from here
  - Roundhouse for Santa Fe locos
  - 2- Stall UP engine house on SW side of A Yard
  - Helpers added for eastward climb up the Pass
  - Redlands Loop branch line

# SB “A Yard” and “B Yard”

- A Yard was for WB ATSF freights
  - WB ATSF freights from Barstow terminated here
  - WB ATSF freights to LA departed from here
  - WB UP freights were switched briefly in A Yard or used mainline to bypass yard
- B Yard was for EB ATSF freights
  - EB ATSF freights from LA terminated here
  - EB reefers were precooled and/or iced here
  - EB ATSF freights to Barstow departed from here
  - EB UP freights got helpers here

# San Bernardino to Cajon

- Highland Jct. – for Redlands Loop route
  - Downhill stop to turn off retainers
- Ono – Army base in WW2 (“Camp Ono”), Western Stove bomb plant, Culligan plant, passing sidings
- Verdemont – Route 66 crosses under tracks
- Devore – sidings, downhill stop to cool wheels
- Keenbrook – EB siding, steam loco water stop
- “Blue Cut” – crossing the San Andreas Fault
- Cajon – sidings, downhill stop to cool wheels, optional water uphill, tracks divide here

# Cajon up to Summit

- Cajon – tracks divide into separate routes
- “Sullivan’s Curve” on uphill (EB) track
  - Spectacular sandstone rock formations
- Pine Lodge – long crossover (until 1948), abandoned lime plant, Hwy 138 grade Xing
- “Mormon Rocks” (slanted sandstone rocks)
- Alray – uphill siding, bridge over Route 66
- Two short tunnels (“Alray tunnels”)
- Tracks come together just west of Summit

# Summit down to Cajon

- Summit – tracks separate going west
- Dell – former spur, deleted in 1947
- “Big Cut” was early “Terrace Cut”
- Gish – downhill siding curved away & back  
– Removed in 1956
- Bridge over Route 66
- “Drawbar Flat” - bump in downhill track
- Hwy 138 grade crossing at Pine Lodge
- Tracks come back together at Cajon

# Summit

- Top of the grade, sidings, helpers cut off
- Wye for turning steam helpers
- WB freights stop and set retainers for steep grade down to San Bernardino
- WB passenger trains test brakes
- “TRAIN” sign to warn of EB trains coming
- No water for steam locos
- Domestic water brought up from Victorville
- Stock pen for rare use by ranchers
- A railfan mecca, sleep in Descanso trolley

# Summit to Victorville

- Lugo – WB siding
- Hesperia – former boom town, brick hotel, passing sidings, Cushenbury Spur to cement plant built in 1956, Joshua Trees
- Thorn – EB siding
- Frost – flyover & spur, WB track crosses above EB track, run right-handed to the east of this point, left-handed to the west
- West Victorville – WB siding outside town
- “Upper Narrows” cliffs cut by Mojave River

# Victorville

- Base of helper operations on the east side of Cajon Pass (1.6% grade up to Summit)
- Water tanks, wye for turning steam helpers
- Depot, passing sidings, small yard
- Lime Rock plant, Texas Quarries granite mill, three oil distributors, team track
- Local switcher for two nearby cement plants
- Town, popular rest stop on Route 66



# Victorville to Oro Grande

- Two large cement plants
- “Leon” – EB siding, Southwestern Portland Cement Plant with Mojave Northern Railroad to limestone quarries
- Adelanto Spur to George Air Force Base – numerous spurs within the base
- “Lower Narrows,” bridges over Mojave River
- Oro Grande – sidings, Riverside Cement Plant, small town, Route 66 crosses under

# Oro Grande to Barstow

- Bryman – WB siding
- Helendale – sidings (partly offset), water
- Hodge – sidings (partly offset)
- Lenwood – offset sidings
- “Long leads” (like sidings) – west of Barstow
- Junction with mainline to Oakland, just west of Barstow yard

# Barstow

- Large division point yard, stock pens
- Roundhouse, early diesel shop
- Harvey House and depot
- WB trains split for Oakland or Los Angeles
- Trains combined going east
- Major stop for autos on Route 66
- Union Pacific (from Las Vegas) entered Santa Fe tracks at Daggett, east of Barstow

# EB Santa Fe Freight Trains - 1

- GFX – Green Fruit Expr. – SB to East
  - Often several sections of citrus in reefers
- CTX – Cal.-Texas Expr. – SB to Southwest
  - Redball traffic for Belen to KC and Texas
- NCX – No. Cal. Expr. – SB to Richmond
  - Mostly LCL freight from LA
- SWG – SF-WP-GN – SB to Northwest
  - Miscellaneous products

# EB Santa Fe Freight Trains - 2

- Train 34 – Redball – LA to Chicago
  - Priority freight
- LAF – Los Angeles Forwarder – LA to East
  - Mid-1950s – Fast piggyback train
- BCS – Box Car Special – SB to East
  - Return empty foreign boxcars
- Drag freights – SB to East
  - Return empty cars

# WB Santa Fe Freight Trains

- SCX – So. Cal. Expr. – Richmond to SB
  - General freight from the Bay Area
- GWS – GN-WP-SF – Northwest to SB
  - Lumber and other Northwest products
- Trains 33, 43, 53 – Redball – Chicago to SB
  - General freight from the East
- Train 41 – Hog Special – Belen to SB
  - Stock cars and other freight
- TDF – Texas Daily Forwarder – Texas to LA
  - General freight from Texas, “TLA” in mid-1950s

# EB UP Freight Trains

- CN – Colton Fruit – Colton to Salt Lake
  - Mostly PFE reefers of citrus from LA Basin
- CUX – Clean Up – LA to Salt Lake
  - Manifest freight after CN, sometimes drag freight
  - Called the CU in 1946-47, CUX by 1949
- UX – Utah Manifest – LA to Salt Lake
  - Manifest freight (morning), plus empties
- UTX – Afternoon UX – mostly empties to SL
- MS – Merchandise – LA to Salt Lake
  - Expedited (MSF in 1949-51, MDSE SPL 1953+)

# WB UP Freight Trains - 1

- Note: Symbols were for blocks of cars, symbols could combine going west
- DLS – Day Live Stock – Salt Lake to LA
  - Fast stock train (hogs, cattle, sheep)
  - Also Night Live Stock in 1947, gone by 1952
- LA & MLA – Manifest Los Angeles (1947)
  - Manifest freight, LA was advance for MLA
- FWDR & Adv. FWDR – Forwarder (1947)
  - Manifest freight includes auto parts to LA



# WB UP Freight Trains - 2

- VGS – Vegas Shorts (1952), IMX (1955)
  - Drag loads for intermediate points before LA
  - 1-3 per day (IMX = Intermountain Special)
- KC & AKC – Kansas City Manifest & Advance Kansas City (1952, 1955)
  - Manifest freight from KC & advance section
  - Includes freight from Council Bluffs
- DP-ADP – Denver Pacific & Adv. DP (1955)
  - Hotshot merchandise & auto parts thru Denver
  - Combined as FAP in Salt Lake

# Local Freights of ATSF & UP

- ATSF First District Local until c.1951
  - Daily trip SB to Barstow, work cement plants
  - Opposite daily trip Barstow to SB
- ATSF Oro Grande/Hodge Turn after c.1951
  - SB to Victorville and Oro Grande cement plants, return to SB with loads
- UP Leon Turn (“Oro Grande Turn” on UP)
  - Daily trip from SB to cement plants and back
- ATSF Redlands Loop Local into 1956
- ATSF Cushenbury Turn from SB began 7-56

# Santa Fe Passenger Trains - 1

- Super Chief – Trains 17, 18
  - Twice/week; 9-29-46 alternate days; 2-29-48 daily
  - Lightweight, extra fare, all sleepers, dome in 1951
- Chief – Trains 19, 20
  - Lightweight (extra fare & all sleepers until 1954)
  - Transcon. sleepers 1946-53, to Super Chief 1954
- El Capitan – Trains 21, 22
  - Twice/week; 9-29-46 alternate days; 2-29-48 daily
  - Lightweight, all coaches, Big Dome 1954-56, Hi-Level on 7-8-56, with 17/18 off-season in 1958+

# Santa Fe Passenger Trains - 2

- Grand Canyon (Southern) – Trains 23, 24
  - HW, added some LW cars in 1947
  - Often two sections & (early 50s) WB Tour Section
  - Southern Route train ended 4-24-55 (to LA)
- Grand Canyon (Northern) – Trains 123, 124
  - Began 4-2-50, HW & LW cars, +WB Tour 1955+
- El Tovar – Trains 123, 124
  - HW with obs, ran 6-2-46 to 9-29-46 (& 1940-41)
  - Ran between LA and Grand Canyon only

# Santa Fe Passenger Trains - 3

- Scout – Trains 1, 2
  - Mostly HW cars, TTGray, ended 2-20-49 (to LA)
- California Limited – Trains 3, 4
  - HW cars, very seldom any LW cars
  - Ended 6-6-54 (to LA), resumed 4-24-55 as unnamed mail-express train, ended 4-27-58
- Fast Mail Express – Trains 7, 8
  - HW mail & express with rider combine on end
  - Two sections in 1945-47 & 1949
  - WB-only “Advance 7” section 1950s to 4-24-55

# UP Passenger Trains - 1

- Most UP trains got 200-series nos. on ATSF
- City of Los Angeles – 103, 104 (UP 103, 104)
  - Streamliner, coaches & sleepers, diff. transets
  - Initially 5 times/month; 9-30-46 3 times/week; 5-14-47 daily; was ATSF 203, 204 until 5-14-47
  - Domeliner in 1955, got transcon. sleepers 1953+
- Los Angeles Limited – 201, 202 (UP 1, 2)
  - Was 237, 238 (UP 37, 38) until 6-2-46
  - Had transcontinental sleepers since Nov. 1946
  - Mix of HW & LW cars, ended 1-10-54

# UP Passenger Trains - 2

- Challenger – 207, 208 (UP 7, 8)
  - HW economy train, ended 5-14-47
  - Resumed as Streamliner 1-10-54, now numbered 107, 108 (and UP 107, 108)
  - Domeliner in early 1955, into COLA 4-29-56
- Pacific Limited – 223, 224 (UP 23, 24)
  - HW train, ended 6-2-46
- Transcon – 223, 224 (UP 3, 4)
  - HW train, began 6-2-46, ended 11-10-46
  - Carried transcontinental sleepers
  - Wrecked just east of Victorville, 9-26-1946

# UP Passenger Trains - 3

- Pony Express – 237, 238 (UP 37, 38)
  - HW incl. mail, added LW sleepers in 1950
  - Began 6-2-46, ended 11-7-54
- Unnamed Train – 243, 244 (UP 43, 44)
  - Temporary HW train to help carry troops home
  - Began 6-2-46, ended 5-14-47
- Utahn – 203, 204 (UP 3, 4)
  - Mixed HW & LW, included mail & express
  - Began 5-14-47, ended 4-29-51 (for COSL)



# UP Passenger Trains - 4

- City of St. Louis – 209, 210 (UP 9, 10)
  - Streamliner, began 4-29-51 running into LA
- Mail & Express – 205, 206 (UP 5, 6)
  - HW, incl. mail, replaced Pony Express 11-7-54
- City of Las Vegas – 115, 116 (UP same)
  - Began 12-18-56 with GM Aerotrain (LW)
  - Got conventional LW cars 9-15-57

# Motive Power & Dieselization

- All steam used oil fuel, both railroads tried to dieselize the line early due to water shortages
- UP fully dieselized first, in mid-1948
  - But H20-44s were not great as helpers
- UP brought back steam helpers in June 1950
  - 4-8-2s, 2-8-2s, 2-10-2s, 4-10-2s, also for locals
- UP fully dieselized again in Oct. 1951 (TR5s)
- ATSF mostly dieselized in mid-1951 (GP7s)
- ATSF steam used in June 1952 spud rush
- Last few ATSF 4-8-4 runs in July-Aug. 1953

# Santa Fe Freight Road Power

- 2-10-2s, 2-8-2s into 1951
- FT ABBA sets into 1953
  - Some smaller sets (ABB, ABA, AB) 1947+
- F3 & F7 ABBA sets 1948, 1949 and later
- Exception: Spud Rush each June thru 1952
  - Most F-units loaned elsewhere
  - Mostly steam road power used: 2-10-2s, 2-8-2s
- GP7 sets rare 1954+, GP9 sets rare 1956+
- Local freights: 2-10-2s, 2-8-2s into 1951, then pairs of GP7s or others in helper pool

# Santa Fe Passenger Power

- 4-8-4s on secondary trains into 1953
  - And sometimes 4-8-2s in late 1940s
- E3/E6 AB (& ABB, ABA) sets into 1946
- Psgr FT ABBA sets 1946-1950
- F3 ABBA sets 1946 and later
- Alco PA ABA sets 1946, 1947 and later, on secondary trains in 1950 and later
- FM Erie-Built ABA set 1947, on secondary trains 1950 and later (PAs & Eries could mix)
- F7 ABBA & ABB sets 1949 and later

# Santa Fe Helper Power

- 2-10-2s, 2-8-2s help frts & psgr into 1952
- 4-8-4s in EB psgr power moves into 1953
- 4-8-2s, 4-6-2s, light 4-6-4s help psgr to 1951
- FT AB sets help freights in early 1950s
- GP7s help freights & psgr in 1950 and later
- H16-44 pairs help freights 1951-52
- GP9s help freights & psgr in 1956 and later

# UP Freight Road Power

- 2-8-8-0s into 1947, 4-6-6-4s into 1948
- 2-10-2s, 2-8-2s, 4-10-2s into 1948
- Alco FA ABBA sets 1947-1954
- F3 ABBA sets 1947 to 1950, rare to c.1953
- F7 ABBA sets rare 1951 to c.1953 (mix w F3s)
- GP7 sets 1953 and later
- GP9 ABB, ABBA sets 1954 and later
- Leon Turn used power from helper pool

# UP Passenger Power

- 4-8-4s, 4-8-2s on secondary, 1946-1948
- Modern 4-6-6-4s on Pony Express 1947
- E2, E3, E6 A & B units in pool into 1953, 1954
- E7 ABB sets in 1946, then in pool into 1954
- FM Erie-Built ABAs (1946-53) & Alco PA ABAs (1947-54) on secondary trains (could mix)
- Psgr F3 ABB sets 1947-1953 on sec. trains
- E8 AB sets in 1950+, E8 ABB sets in 1953+
- E9 ABB sets in 1954 and later

# UP Helper Power

- 2-10-2s, 2-8-2s, 4-8-2s, 4-10-2s help freights and psgr into 1948, and 1950-51
- 2-8-8-0s help freights into 1947 only
- FM H20-44s help frt & psgr 1947-1950
- Steam helpers return 1950-51
- TR5s (SW9 cow-calves) help both, 1951-54
- GP7s help both, 1951 and later
- GP9s help both, 1954 and later



# Typical Operating Schedule

- Most passenger trains in the same direction crossed the Pass in a “parade,” followed later by the freight trains
  - But the ATSF Fast Mail was not in the parade
- Eastbound trains:
  - Passenger trains in the afternoon and evening
  - Freight trains in the night and morning
- Westbound trains:
  - Passenger trains at night and early morning
  - Freight trains in the afternoon and evening

# EB Helper Operations

- ATSF and UP eastbound freights stop at San Bernardino B Yard, put on helper(s)
  - Passenger trains get front helper at depot
- 1<sup>st</sup> two freight helpers on rear, ahead of caboose, 3<sup>rd</sup> one on front (usually)
- Stop at Summit, cut off helpers
  - Rear helpers back with caboose up spur track behind depot, move, let caboose roll down
- Steam helpers turn on wye to return to SB
- Helpers may return as a group, or go east

# WB Helper Operations

- ATSF and UP westbound freights stop in Victorville for helper
- Freight helper on front or rear (after caboose, or before if two), often at West Victorville
- Heavy passenger trains use a front helper
- Stop at Summit to cut off helper(s)
- Steam helper turns on wye, or backs down to Victorville, or goes to SB as needed
- Victorville wye used to turn steam there

# Operating Methods

- Automatic Block Signals on Double Track
  - Signals looked two blocks ahead
- Supplemented by timetable and train orders
  - Train order operators at some stations
  - Dispatcher at San Bernardino depot
- Passenger trains were 1<sup>st</sup> class, scheduled
  - Could have multiple sections
- Freight trains all ran as extras
  - Took sidings for following passenger trains

# Signal System

- On left-handed double track, signals were mounted on cantilevers or signal bridges
  - For engineer to see from right side of loco
- Most signals were R-2 color-light (3 lights)
  - A few were H-2 searchlights (1 light, 3 colors)
- Uphill from Highland Jct to Summit:
  - Used two lights in 1927 & 1948 rule books (diff.)
  - 1953 used one light plus “G” on yellow disk
  - No need for a “stop” indication on 2.2% upgrade
  - Trains could follow closely behind others

# Special Events

- 1947 AAR Rail Stress Tests at Cajon curve
  - ATSF 2-10-4, 4-8-4, SP 4-8-4, UP 4-8-4s
- Shriner specials in summer of 1950
- SP detours over Cajon Pass in 1951, 52, 53
  - Mostly passenger, incl. 4-8-4s, cab-forwards
- Boy Scout specials in summer of 1953
- “Farewell to Steam” fan trip in Feb. 1955
- Troop trains, Freedom Train (1948), UP turbines, demonstrators (Train Masters, etc.)

# Brief Later History

- 1967 – SP opened their Palmdale Cutoff
  - Colton to Palmdale, close beside the ATSF route from Devore to Summit
- 1972 – ATSF line change, wider curves, lower route past old Summit, added CTC
- 1995 – ATSF merged into BNSF,
- 1996 – SP merged into UP, SB shops razed
- 2008 – Triple track completed, Keenbrook to Summit (began at SB in 2004)
  - Removed Alray tunnels

# Railfan Locations on Cajon Pass

- Mount Vernon Viaduct over SB Yard
- Follow Cajon Blvd. (old Route 66)
- Blue Cut (after weigh station gone, 1969)
- Cajon, where the tracks divide
- Sullivan's Curve, above Cajon
- Mormon Rocks by Hwy. 138
- Hill 582 west of Summit (Don Toles, 1991+)
- Summit (not so great after 1972 line change)
- Victorville area – Flyover, Upper Narrows



# Railfans on Cajon Pass

- Herb Sullivan – pre-WW2 steam photos
- Chard Walker – 1947 to 1967 photos
  - Lived & worked at Summit, wrote 3 books
- Many photographers in the 1940s-50s
  - Stan Kistler, Frank Peterson, Robert Hale, Allen Youell, Richard Kindig, Lewis Harris, Ralph Melching, Don Sims, Bill Garner, Tom Hotchkiss, Donald Duke, Fletcher Swan, Jack Whitmeyer, Dick Steinheimer, Walt Thrall, James Ady, Bob McVay, and many others

# Cajon Pass Books - 1

- Chard Walker:
  - Railroading through Cajon Pass, 1978
  - Cajon – Rail Passage to the Pacific, 1985  
(the most important book of all)
  - Cajon – A Pictorial Album, 1990
- Stan Kistler:
  - Santa Fe - Steel Rails through California, 1963  
(with Donald Duke)
  - Stan Kistler's Santa Fe in Black & White, 2009  
(with John Signor)

# Cajon Pass Books - 2

- Donald Duke:
  - Santa Fe – The Railroad Gateway to the American West, Volumes 1 & 2, 1995, 1997
  - Union Pacific in Southern California, 2005
- Robert Hale:
  - Railroad Photography: Western States, 2004  
(compiled by Donald Duke)
- Pete Youngblood:
  - Modeling Cajon, 1985

# Cajon Pass Books - 3

- John R. Signor:
  - The Los Angeles and Salt Lake Railroad Company, 1988
  - Santa Fe's Los Angeles Division, 2013
- Mark Hemphill:
  - Union Pacific Salt Lake Route, 1995
- Dick Donat:
  - Trackside around Southern California, 2010

# Cajon Pass Books - 4

- George Drury:
  - Santa Fe in the Mountains, 1995
- John and Sandy Hockaday:
  - Trails and Tales of the Cajon Pass – From Indian Footpath to Modern Highway, 2007
- Alice Eby Hall:
  - The Cajon Pass, 2009

# Cajon Pass in Magazines

- Dozens of great photo articles over the years
- Earliest: “Cajon Pass” in Trains, Oct. 1941
- Major one: “Cajon Pass Revisited” in Trains, Sep. 1974 (by Steinheimer)
- UPHS Streamliner Vol. 7, No. 1 (all Cajon)
- Chard Walker’s story in Trains, Jan-Feb 2004
- Find them at the Trains.com Magazine Index:
  - <http://trc.trains.com/magazineindex/>
- Collect them on eBay or at Railpub.com

# Postwar Cajon Pass Videos

- Railfanning Southern California in the 1950s
  - Pentrex - With action on Cajon circa 1950
  - Intros by Chard Walker, Stan Kistler, others
- Santa Fe's Pasadena Subdivision
  - Pentrex - With cab ride over Cajon Pass c.1960
  - Now on Historic Hot Spots DVD with above video
- More of the Chiefs of the Santa Fe
  - A&R Productions - With action on Cajon c.1950
- Santa Fe 3759 – Final Run over Cajon Pass
  - Pentrex - On tender and trackside in Feb. 1955

# Cajon Pass E-mails

- Join the CAJON Yahoo Group at:  
<http://groups.yahoo.com/group/CAJON/>
- In-depth discussions of Cajon Pass, especially during the steam to diesel years
- Discussion moderator: John Thompson
- Many old-timers share their memories
  - Don Richardson, Stan Kistler, Don Sheets, Bob Drenk, Dean Millard, Frank Post, etc.
- Many modelers, such as Andy Sperandeo
- Currently over 600 members



# Conclusion

- Many thanks to all the photographers and historians who have preserved the history of railroading on Cajon Pass (especially Chard Walker)
- Thanks to all the photographers whose wonderful photos I've used in this presentation, whether credited or not