

Albert, Calvin - Pratt Inst. instructor, 43, 44

Aldrighetti, Al - GM Styling engineer, 92, 93;100 (photo)

Amateur Telescope Making - an avocation introduced in a series of articles in Scientific American, 194

Andon, Jake and Nan - GM Styling and GMDRL associates, 215 (photo)

Arbib, Richard - Pratt Inst. instructor, 59, 69, 74

Armi, C. Edson - author referenced - the Art of American Car Design, 123

Arnold, Dagmar - Pratt Inst. and GM Styling associate, 156, 210

Art Center - automobile design school (reference to), 31, 82, 85, 92, 214

AutoLine - a GM film project for expressway "auto trains," 161-162

Bekker, Greg - DSD/GMDRL off-road mobility expert, 144, 154, 186-188, 215 and front cover (photo)

Bendix (Aerospace) - GM competitor for lunar roving vehicle contracts, 179, 186-190

Bianco, Fedell - GM Styling studio head, 92, 100 (photo)

Bidwell, Joseph - Research Staff, head of Engineering Mechanics, 124, 128 (photo)

Bogarelli (family) - GM Styling plaster shop, 123, see also 122 (photo)

Boudreou, James "Dean" - Pratt Inst. dean of the art school, 39, 46

Brown, Lloyd - DSD leader on Lunar Sample Return proposal, 148; a note on, 166

Burger, William - Pratt Inst. instructor, 58

Calandro, John - GMDRL associate, 166, 187, 210

Campos, Joe - Pratt Inst. lab. tech., 40

Canzani, Victor - Pratt Inst. instructor, 77

Case Tech & Western Reserve (incidental ref.) Pete James as student, 160; Herb James as fencing coach, 208

Cataldo, Roy - Research Staff lead engineer - joystick controller for Firebird III, 125

Christiansen, Tom - GM Styling administrator, 77, 95-96

Club de Mer - 1956 Motorama show car (reference to), 103-106, 113

Conklin, Emmett - GM Research Staff test engineer, 130, 131, 137 (photo)

Connor, Donald - Susan's father, retired former president of Micromatic, 144, 146, 165

Connor, Lucile - Susan's mother, 165

Connor, Susan - girl friend, 144, 157 (see also James, Susan Connor)

Connor, Thomas - Susan's brother, 144, 157, 165

Correy (Mr.) - Edmund Scientific, head of New Products group, 201

Cumberford, Robert - GM Styling associate, 82

Deesen, Paul - Pratt Inst. and GM Styling associate, 83, 106

Defense Systems Division (DSD) - GM Division created to enter defense research market, subsequently restructured as GM Defense Research Laboratories, 144,146, 147

DeLorean, John - footnote re Bob McLean, 95

Dennis, Bill - GM Styling associate, 99,112, 115

Design - elements of: Firebird III layout, 109-110; "backward blisters," 118; committee, "remove tail fins," - Earl, "put them back on," 119-120; footnote re best appearance, 121; devoid of chrome, 123; headlight, 137 (photo); Alexander Kostellow "important stuff," 214

Design - Epilogue: Harley Earl's "Vision," 212

Design Committee - "take the fins off," 119-120; "This is not a car. This is a caricature!" 141

Dohner, Don - A. Kostellow's attribution to, as one of the co-founders of Industrial Design (as a profession), 52

Domkey, Ray - GM Styling, woodworker, 113

Double bubble car concept - automobile design class rendering (pre Firebird III), 81 (photo)

Drawing techniques - orthographic drafting (coordinating views), 54; proportions, 57; old masters techniques, 59-63

Dunham, David - astronomy: grazing occultation 191-193, 192 (graphic); meeting with 196

Earl, Harley - GM VP: Styling Staff; (see author's note; 11; stories about, 91; first encounter, 92; Firebird II - minimal "hands on," 94; with Firebird II (photo); Firebird III kick-off meeting, 103; first view of mockup, "buy-off" and "go to clay" 113-115; review and suggestions, 117; with three Firebirds, 138 (photo); near retirement, 139; in reflection, 212

Early Years (author's) - family structure, 13-14, 35 (photo); routines, 15-18; polio, 18-21; astronomy/telescope making, 22-27, 28-29, 36 (photo); rocketry, 36 (photo) and board games, 28, 101 (photo); graduation and college, 31-32

Edmund Scientific: in reference, 27; letter of inquiry, 197 (footnote); visit 200-201

Empathic Sketching, drawing technique taught by A. Kostellow, 63-66

Evans, Maurice - contracted to manage Firebird III Motorama film and stage production: meeting with at GM Styling, 124

Ewing, James - GM Styling associate, 115, 117 (un-named in photo - foreground/ right)

F-100 - North American Aviation - inspiration for Firebird III (nose), 106

F-104 - Lockheed Starfighter - inspiration for Firebird III (lightness), 108 (photo)

Faloon, Larry - GM Design Center (formerly GM Styling) - Epilogue, 211

Firebird (I) - first GM gas turbine show car - Motorama of 1953 (author's first viewing), 88; in Arizona for film, 138 (photo, H. Earl, left of 3 Firebirds)

Firebird II: four passenger gas turbine show car, 100 (photo with H. Earl), side profile 101 (photo); in Arizona for film, 138 (photo, H. Earl, with (center of) 3 Firebirds)

Firebird III Clay model, 115-121, 117 (photos)

Firebird III Features: Skydrol hydraulic fluid, 126; urethane paint, 126; gas turbine engine, 134 (photo); elastomeric urethane bumper, 137 joystick controller, 125

Firebird III Mockup (space sketch), 112-114, H. Earl's "buy-off" for Firebird III design, 114 (photo with author); engineering mockup, 117 (photo, author near center)

Firebird III Motorama - planning of (with M. Evans), 124-125

Firebird III - the car: mechanical assembly, first drive, 128 (photo); at GM Desert Proving Grounds for Motorama filming, 133-138 (photos)

Fisher Building (Albert Kahn-Arch.) - referenced Art Deco building in GM Detroit complex, 83

Foucault, Jean - referenced inventor of pendulum & optical test, 26

French, Ralph - Pratt Inst., roommate, 96, 97, 99

Friedman, Don - DSD head of Land Operations; Detroit, 144; Santa Barbara, 147, 158; replaced by Sam Romano 190; Epilogue - Detroit, 202

Frieze Drawing Method - a drawing technique to construct accurate perspective drawings from orthographic drawings, 56 (diagram), 75, 187

Genest, Ken - Pratt Inst. student teacher - automobile design, 59, 69, 74 (later-GM Styling associate)

GM Proving Grounds - Milford, MI, 85-86

GM Tech Center - moving into, 97, 98-99

GMDRL - GM Defense Research Laboratories - in Santa Barbara, CA, 165 ...Chapter 7, extensive

Goodrich Aerostructures (formerly Rohr Industries) - Epilogue: post GM employer, 207

Grazing Occultations - amateur astronomy expeditions, 191-194, 192 (graphic), with D. Dunham, 196

Habsburg, Jerri (Stefan's wife), 140

Habsburg, Stefan - MIT and GM Styling, (associate/design partner), 93; associate also of Karl Ludvigsen (at MIT), 97; closed door meeting with R. McLean and N. James, 102; adding three tail fins to Firebird III, 108; at Styling auditorium review with H. Earl, 120; planning and filming in Arizona, 129-133, 133 (photo), 138 (photo); Jerri (wife), encephalitis, 140; Epilogue: SAE paper with R McLean 207

...Habsburg-Lothringen, Stefan Archduke of Austria (name and title), 93 (footnote)

Hafstad, Lawrence - GM VP of Research Staff (present at Motorama filming), 131

Haji, Larry - Pratt Inst. roommate, 68, 80 (photo)

Hamilton Standards - manufacturer of life support systems for space suits, 184

Harding, Mr. - high school shop teacher, 30

Harper, Charlie - GMDRL, engineer, 148, 149, 151

Hartwig, Edwin P. - NY State Department of Vocational Rehabilitation - high school counselor, re Pratt Inst., 31; letter re Styling, 87 (incidental)

Hayashi, John - Pratt Inst. and GM Styling associate, 83

Henelt, Joseph - GM Styling clay modeler (Firebird II), 93, 99, 100 (photo)

House, Mrs. - Detroit, landlady, 143

Houston, Walter Scott - S&T, writer; Stellafane judge, 199

Hrabak, Joseph - GM Styling engineer, 100 (photo)

Hula, Otto - Pratt Inst. furniture design instructor, 53-58 (teachings)

Jaguar Type E - GM Styling incident (in reference to), 141

James, Basil - author's father, 14, 35 (photos), 160 (photos), 172

James, Costandina "Kocha" - author's mother, 14, 35 photo), 160 (photo), 172, 197

James, Ginna - author's wife ('71-): Epilogue, 205, 210, LRV 25th anniversary reunion, 215 (photo)

James, Herbert - author's brother, (see) dedication, 14; 17, 27, 28, 29, 35 (photo), 49, 197, 208, 217 (photo of three brothers)

James, Mary - wife of Herb James, 32, 78

James, Norm - author; photos> early years & family, 35-36; at Pratt Inst., 80; Body Studio #3 (team), 100; PR photo, 101; "string drawing," 107; in Firebird III mockup, 114; in Research Studio, 117 (photo-foreground-left); with Firebird III, 138; in XP721 mockup, 163; at Stellafane, 198; at Lunar Rover 25th reunion, 215; with telescopes, 216; of three brothers, 217

James, Peter - brother, 14, 17, 27, 35 & 36 (photos), with family, 160 (photo); 208, 217 (photo of three brothers)

James, Robert - brother, deceased at age 1, 14

James, Susan Connor (author's wife '62-'71), 201, 203, 205

Jordan, Charles "Chuck" - GM Styling, 84 (later- GM VP of Styling)

Kadar, Menyard - Case Tech & Western Reserve (fencing coach, re Herb James), 208

Kane, Mrs. - landlady, Brooklyn, NY; 33-34, 39

Karsh, Herb - GM Allison; Surveyor soft lander proposal team leader, 141-142

Kavanaugh, Gere - GM Styling associate, 156

- Kenny, Sister (method) - polio treatment, 19
- Kidasako, Eddie - GM Styling associate, 99
- Kolli, Robert - Pratt Inst. 2D instructor, 39, 41-43; Dept. Chairman, agreement with, 96
- Kolonkia, Sevil - friend of Susan Connor - in Detroit, 160, 164; in Santa Barbara, 165
- Kostellow, Alexander - Pratt Inst. ID Dept. Chairman and mentor, 37; interview with, 38; color class, 44-46; ID overview, 51-53; drawing techniques, 59-63; empathic sketching, 63-65, 64 (sketch); abstraction, 66; class-side manner, 66-67, 73-74; at N. James interview with W. Mitchell, T. Christiansen of GM, 77; in Detroit, 82; meeting with N. James, 87; death of, 87; author's recollection of, 214
- L-1011 Tri-Star (design of, at Lockheed) – Epilogue: Sundberg-Ferar job offer, 203
- LaSalle II (sedan) - Motorama show car; author's first GM assignment, 88
- LaSalle II (roadster) - Epilogue; revisited (in restoration), 212
- Lathers, Mike - GM Styling associate; lead AutoLine film project, 161-162
- Los Angeles Astronomical Society (LAAS) - Mt Pinos Star Party, 195; Spheremount - first public showing, 196 (photo)
- LSSM - Pre-Apollo lunar rover studies, 184-190 (drawings and photo)
- Ludvigsen, Karl - MIT, Pratt Inst. and GM Styling, 97,140
- Lunar exploration vehicles (early) - conceptual design studies, 155-156 (illustrations)
- Lunar Roving Vehicle (LRV) – Apollo: 25th anniversary reunion, 210; with G. Bekker, F. Pavlics and S. Romano, 215 (photo), see also front cover (photo of same)
- Lunar Sample Return - Detroit, 145; Santa Barbara, 149-151 (illustrations); footnote, 158
- Lunar surface /understanding of - theories discussed in Harold Urey and Tom Gold letters; “gold dust,” 148; SLRV – design for, 170-171; lessons learned - Ranger, 173-175 (photos and graphic representation), 175; lessons learned - Surveyor, 175-176
- Lunar vehicle concept - Pratt Inst. (pre GM) study for Pratt design class, 81 (illustration)
- Lunar Wheel and Drive test, 188-190 (photo and illustration)
- Mackintosh, Allan - amateur astronomy, author and editor, Stellafane judge, 199
- Madler, Niel - GM Photographic (photographer of photo on page 114) - NOTE: N. Madler was erroneously identified as the photographer in the May 2007 and Oct 2007 releases of “Of Firebirds & Moonmen.” Corrections made in Apr 2009 release, (see Chuck Ternes)
- Mathews, Eddie - GM Styling clay services, “fly on the wall,” 94
- Mc Lean, Robert F. - GM Styling, 11, 100 (photo); Firebird (I), 93; Firebird II, 94, 96; DeLorean, 95 (footnote); Firebird III, “Kick-off,” 102; briefing to H. Earl, 103-104; OK for second mockup, 109; presentation to H. Earl, Buy-off and “go to clay,” 113-115; conflict with design committee, 119; presentation to H. Earl - “put it back to the way it was,” 120; meeting with Maurice Evans, 124; Motorama filming - Arizona, 138 (photo with H. Earl); under W. Mitchell, 139, meeting with G. Bekker, F. Pavlics and N. James, 144; in XP721 mockup 163 (photo); N. James request for transfer and with Gladys McLean (wife) going-away party, 164; reference to SAE paper presented with S. Habsburg, 207
- McNamara, Mary - GMDRL secretary to Sam Romano, 203
- McNeil, Russ - amateur astronomer, 192
- McPherson, Vince - Pratt Inst. and GM Styling, associate and Detroit roommate, 96, 161
- Miller, George – author's uncle, 14
- Mitchell, William “Bill” - GM Styling - H. Earl's “right hand man,” recruiting at Pratt Inst., 77; with H. Earl, 92 (humor); with design committee on Firebird III, 119; as GM VP of Styling, 139; lengthens Stingray hood, 141
- Mitzelfeld, Thomas - Engineering Staff (responsible for Firebird III APU), 124
- Mockup - full scale wood representation: Firebird III, 112-114, 114 (photo with author); XP721 line drawings and mockup, 163; Epilogue - reflection on the Firebird III mockup, 212
- Moholy-Nage and Mies van der Rohe of the Bauhaus School of Design - A. Kostellow's brief history of Industrial Design, 52
- MOLAB - Boeing/GMDRL design for lunar mobile laboratory, 176-179 (drawings and photos)
- “Moonmen” - Bill Mitchell's negative reference to Research B Studio team and “theme” adapted for this book's title, 141
- Moore, Hal - Director of Firebird III Motorama film; Detroit, 126-127; Arizona, 129, 133 (photo)
- Motorama - a GM promotional venue of the 1950s; overview, 88-89; H. Earl's description of, 103-104
- Motorama Filming - Detroit, 126-127; Arizona, 129-130, 133-138 (photos)
- Mott, Stan - GM Styling associate, 82, 85
- MTA - MOLAB Test Article, 178-179 (incl. photos)
- Nakata, Alan “Al” - Pratt Inst. and GM Styling associate, 83, 142
- Negative space - a design and sculptural concept, 72-73; as applied in Firebird III, 110-113
- Nike surface to air missile - inspiration for Firebird III (quad fins), 105-106
- Norton, Eric - Pratt Inst. and GM Styling, roommate (Brooklyn and Detroit), 39, 80 (photos); ...and throughout Chapters 2 and 3
- Ohman, Ms. - Jamestown; nurse - applied Sister Kenny polio treatments, 19

Olsen, Carl - Pratt Inst. and GM Styling, roommate (Detroit) and with Sonia Olson (wife), 142; Epilogue, dinner with Porters, 210; at Eyes-on-design benefit, 211; post GM - Professor Emeritus CCS, re Firebird III, back cover

Panzarella, Mr. - Jamestown, influential high school teacher, 30

Patents - Firebird III (Design), 132; telescope mounting, 201; lunar rover wheel, 210

Pavlics, Ferenc - GMDRL LRV designer, 144, 148, 178 (photo), 186, 210, 215 and front cover (photo with G. Bekker and S. Romano)

Peterson, Robert "Bob" - GMDRL associate, 188-190, 210, 215 (photo, including Clair Peterson (wife) and Chris Peterson (son))

Pirkel, Jim - Pratt Inst. and GM Styling associate, 99, 124 (footnote), 142

Plaster - model making (Pratt Inst.), 53, 65-66; Firebird III tooling, 122 (photo); for telescope making, 182-183 (illustration)

Polhemus, Marlan - Pratt Inst. and Harley Earl Assoc., roommate (Detroit), 99, 142

Porter, William "Bill" - Pratt Inst. and GM Styling associate, 209; and Pat Porter (wife), 210; "milk truck analogy," 213-214

PPS—Post Polio Syndrome - affecting polio survivors, 208

Ranger - JPL hard lander program, 173-175

Reed, Rowena (Kostellow) - Pratt Inst., sculpture instructor and mentor, 59

Regner, Peter "Pete" - Pratt Inst. and GM Styling; Detroit roommate, 83

Rigby, Ivan - Pratt Inst. 3D instructor, 39-41

Rocketry (match head) - early years recreation, 27-28, 36

Rohr Industries - Epilogue reference, 204; future employer, 205-207 (later becoming Goodrich Aerostructures)

Roland and Molly (Bay) - uncle and aunt, 32, 33; 35 (photographer); visit, 200; Rolando and Louise - stage names, 33

Romano, Sam - GM DSD (Detroit), 144; GMDRL, 177 (SAE paper), 191, 204; Epilogue – 25th anniversary reunion, 210; LRV project manager, 215 and front cover (LRV photo with F. Pavlics and G. Bekker)

Rose, Mauri - GM Engineering Staff, 131; 132

RTMC - Riverside Telescope Makers Conference, 205

Russinoff, Elia - Pratt Inst., 59, 69; GM Styling associate, 77-79

Saarinen, Eero - Architect, in reference, 98

Schlack, Don - GM Styling wood worker, 113

Sculpture - 3D, 69-73

Semo, Spiro and Sanda - uncle and aunt, 14; 16

Semo, Peter and Paul - sons, 14

Shaka, Van - Jamestown (brother) Herb's friend, 22

Shinoda, Larry - GM Styling associate, 99; Stingray "long hood," 141

Siebert, John - DSD associate, 153-154, 157, 158; GMDRL, 166

Simi, Larry - GM Styling clay modeler (Firebirds II & III), 100 (photo), 115; 117 (photo - near), 119, 120

Sketching (author's message), 214

Sky and Telescope magazine (S&T) - references to, 22, 23, 194, 199, 201

Solar eclipse, partial - event, 158

Space sketch - "Rowena Reed style," 69-70, 112, 121

Spheremount - telescope mounting invention; inspiration for invention, 145-146 (illustration); concept defined, 164; prototype initiated, named and tested, 180-182 (illustration and photo); turntable set-up for 24" diameter plaster sphere, 182 (illustration); telescope design, 194 (cut-away drawing) to 196, 198 (photo); at Stellafane, 198 (photo) and text to 200; Edmund Scientific visit, 201; Epilogue – patent reference, 201; Summary, 205

Stellafane - Springfield, VT; amateur astronomy venue, 23, 191, 198 (photo at), 201, 205

Straubach, Fred - amateur astronomer, 194

String Drawing technique, 106-109, 107 (photo)

Sundberg, Carl - main partner of Sundberg-Ferar, Industrial Designers, 203-204

Sundberg-Ferar - Industrial Design firm, 84, 161, 203-204; Epilogue, 205

Surveyor - JPL soft lander program, 175-176

Surveyor Lunar Roving Vehicle (SLRV) proposal, 167-172

Swanson, Ronnie – high school classmate, 29

Takeuchi, Wayne - GM Styling associate, 92, 93, 100 (photo)

Telescope making avocation, 23-27, 28-29, 180-184 (photo and illustrations), 216 (photos)

Ternes, Chuck - GM Photographic, 129, 131, 133 and 138 (photos)

Thiele, Walter - GMDRL design engineer, 190

Torner, Charles "Chuck" - GM Styling associate, 163 (photo)

Turunen, William "Bill" - Research Staff, head of turbine lab, 124, 134 (photo)

Voight, Byron - GM Styling engineer associate, 93

Waldorf Astoria - in reference to, 97, 103, 124

Wheel and Drive test, 189 (drawing), 190 (photo)

Willard, Bert - amateur astronomer, 194, 198

Wolfe, Harry - Motorama film cinematographer, 126, 129, 133 (photo)

Wozena, Pete - GM Styling studio head, 88, 89

X-33 Program - Lockheed-Martin;
Epilogue: with Rohr as a team member
for the Thermal Protection System
(TPS), 206-207

XP500 - made using a spare Firebird II
body shell, 95 (footnote)

XP721 - Research Studio study, 162
(sketch), 163 (line drawings and
mockup photo)

XP-73 - see Firebird III

Zeisel, Eva, - Pratt Inst. ceramics
instructor, 53