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Probative Force of Physical Facts in Missouri Jurisprudence, The

Jerome A. Hoffman

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THE PROBATIVE FORCE OF “PHYSICAL FACTS” IN MISSOURI JURISPRUDENCE

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I. INTRODUCTION

A decade ago, I studied and reported on the probative force of "physical facts" in New Mexico jurisprudence.¹ As I broadened my base of investigation, I formed the impression that of all the opinions employing the phrase "physical facts," a disproportionate number occurred in only a few states, and substantially more occurred in Missouri than in any other state. This Article examines the Missouri cases and reappraises my former conclusions about the significance of "physical facts" rhetoric and reasoning for the jurisprudence of judicial proof.

The phrase "physical facts" has appeared in 348 Missouri appellate opinions since 1945,² which is ninety-nine cases more than the number generated by Missouri's closest competitor.³ The phrase also appeared in many Missouri appellate opinions before 1945.⁴ It appears predominantly

1. Hoffman, *The "Physical Facts Rule": To Seem Is To Be?*, 2 N.M.L. REV. 53 (1972).

2. Search of the appropriate Missouri libraries of the Lexis[©] computer research service conducted on May 17, 1982.

3. Search of all appropriate state libraries of the Lexis[©] computer research service conducted on May 17, 1982. Virginia had 249 cases. Other states with inordinate numbers of physical facts cases are Louisiana, 230; California, 215; Pennsylvania, 176; New York, 147; Illinois, 142; and Texas, 127. These figures are stated only as a matter of general interest, and no precise statistical inferences are intended.

4. *See, e.g.,* McCurry v. Thompson, 352 Mo. 1199, 181 S.W.2d 529 (1944);

in tort cases and, among tort cases, predominantly in cases arising from the allegedly negligent or wanton operation of an automobile,⁵

Laughlin v. Boatmen's Nat'l Bank, 163 S.W.2d 761 (Mo. 1942); Burneson v. Zumwalt Co., 349 Mo. 94, 159 S.W.2d 605 (1941); Walter v. Alt, 348 Mo. 53, 152 S.W.2d 135 (1941); Davis v. F.M. Stamper Co., 347 Mo. 761, 148 S.W.2d 765 (1941); Murphy v. Fred Wolferman, Inc., 347 Mo. 634, 148 S.W.2d 481 (1941); Rose v. Thompson, 346 Mo. 395, 141 S.W.2d 824 (1940); Tate v. Western Union Tel. Co., 339 Mo. 262, 96 S.W.2d 364 (1936); Gwaltney v. Kansas City S.R.R., 339 Mo. 249, 96 S.W.2d 357 (1936); Carner v. St. Louis-S.F.R.R., 338 Mo. 257, 89 S.W.2d 947 (1935); Dempsey v. Horton, 337 Mo. 379, 84 S.W.2d 621 (1935); Wise v. Chicago, R.I. & P.R.R., 335 Mo. 1168, 76 S.W.2d 118 (1934); Parrent v. Mobile & O.R.R., 334 Mo. 1202, 70 S.W.2d 1068 (1934); Hardin v. Illinois Cent. R.R., 334 Mo. 1169, 70 S.W.2d 1075 (1934); Clark v. Atchison & E. Bridge Co., 333 Mo. 721, 62 S.W.2d 1079 (1933); Parker v. St. Louis-S.F.R.R., 41 S.W.2d 386 (Mo. 1931); Clark v. Atchison & E. Bridge Co., 324 Mo. 544, 24 S.W.2d 143 (1929); Henry v. Illinois Cent. R.R., 319 Mo. 432, 3 S.W.2d 1004 (En Banc 1928); Payne v. Chicago & A.R.R., 136 Mo. 562, 38 S.W. 308 (En Banc 1896); Bowman v. Moore, 237 Mo. App. 1163, 167 S.W.2d 675 (K.C. 1942); Davidson v. Missouri Orpheum Corp., 236 Mo. App. 1025, 161 S.W.2d 707 (K.C. 1942); Tramill v. Prater, 236 Mo. App. 757, 152 S.W.2d 684 (K.C. 1941); Bauer v. Wood, 236 Mo. App. 266, 154 S.W.2d 356 (St. L. 1941); Little v. Manufacturers R.R., 145 S.W.2d 497 (Mo. App., St. L. 1940); Freed v. Mason, 137 S.W.2d 673 (Mo. App., K.C. 1940); Robards v. Kansas City Pub. Serv. Co., 233 Mo. App. 962, 125 S.W.2d 891 (K.C. 1939); Person v. City of Independence, 114 S.W.2d 175 (Mo. App., K.C. 1938); Birdsong v. Jones, 225 Mo. App. 242, 30 S.W.2d 1094 (K.C. 1930); Aldridge v. Missouri Pac. R.R., 215 Mo. App. 217, 256 S.W. 93 (K.C. 1923); Wanke v. A. Leschen & Sons Rope Co., 186 Mo. App. 30, 171 S.W. 643 (St. L. 1914); Fagg v. Missouri & N.A.R.R., 185 Mo. App. 79, 170 S.W. 912 (Spr. 1914); Yonkers v. St. Louis, I.M. & S.R.R., 182 Mo. App. 558, 168 S.W. 307 (St. L. 1914); Daniels v. Kansas City Elevated R.R., 177 Mo. App. 280, 164 S.W. 154 (K.C. 1914); Phillips v. Southwest Mo. R.R., 170 Mo. App. 416, 155 S.W. 470 (Spr. 1913); Klass v. Metropolitan St. R.R., 169 Mo. App. 617, 155 S.W. 57 (K.C. 1913); Elliot v. Metropolitan St. R.R., 157 Mo. App. 517, 138 S.W. 663 (K.C. 1911); Berry v. Metropolitan St. R.R., 156 Mo. App. 560, 137 S.W. 602 (K.C. 1911); Zalotuchin v. Metropolitan St. R.R., 127 Mo. App. 577, 106 S.W. 548 (K.C. 1907); Berger v. Chicago & A.R.R., 97 Mo. App. 127, 71 S.W. 102 (K.C. 1902).

5. See, e.g., Welch v. Hyatt, 578 S.W.2d 905 (Mo. En Banc 1979); Epple v. Western Auto Supply Co., 548 S.W.2d 535 (Mo. En Banc 1977); Commerford v. Kreitler, 462 S.W.2d 726 (Mo. 1971); Headrick v. Dowdy, 450 S.W.2d 161 (Mo. 1970); Turner v. Cowart, 450 S.W.2d 441 (Mo. 1969); Ellison v. Simmons, 447 S.W.2d 66 (Mo. 1969); Hamilton v. Slover, 440 S.W.2d 947 (Mo. 1969); Richardson v. Moreland, 435 S.W.2d 335 (Mo. 1968); Hecker v. Schwartz, 426 S.W.2d 22 (Mo. 1968); Clevenger v. Walters, 419 S.W.2d 102 (Mo. En Banc 1967); Prentzler v. Schneider, 411 S.W.2d 135 (Mo. En Banc 1966); Hewitt v. Masters, 406 S.W.2d 60 (Mo. 1966); Moore v. Eden, 405 S.W.2d 910 (Mo. 1966); Taylor v. Riddle, 384 S.W.2d 569 (Mo. 1964); Anderson v. Duckworth, 383 S.W.2d 726 (Mo. 1964); Boydston v. Burton, 379 S.W.2d 536 (Mo. 1964); Terminal

Warehouses of St. Joseph, Inc. v. Reiners, 371 S.W.2d 311 (Mo. 1963); Rollins v. Postlewait, 358 S.W.2d 828 (Mo. 1962); Carlson v. St. Louis Pub. Serv. Co., 358 S.W.2d 795 (Mo. 1962); Miller v. Watkins, 355 S.W.2d 1 (Mo. 1962); Probst v. Seyer, 353 S.W.2d 798 (Mo. 1962); Clark v. Simmons, 351 S.W.2d 1 (Mo. 1961); Stodgell v. Mounter, 344 S.W.2d 100 (Mo. 1961); Justice v. Malin, 336 S.W.2d 77 (Mo. 1960); Herr v. Ruprecht, 331 S.W.2d 642 (Mo. 1960); Pender v. Foeste, 329 S.W.2d 656 (Mo. 1959); Page v. Hamilton, 329 S.W.2d 758 (Mo. 1959); Rosenfeld v. Peters, 327 S.W.2d 264 (Mo. 1959); Waldrip v. American Buslines, Inc., 327 S.W.2d 211 (Mo. 1959); Hickerson v. Portner, 325 S.W.2d 783 (Mo. 1959); Pitts v. Garner, 321 S.W.2d 509 (Mo. 1959); Johnson v. Presley, 320 S.W.2d 518 (Mo. 1959); Allen v. Hayen, 320 S.W.2d 441 (Mo. 1959); Welcome v. Braun, 319 S.W.2d 586 (Mo. 1958); Creech v. Blackwell, 318 S.W.2d 342 (Mo. 1958); Ilgenfritz v. Quinn, 318 S.W.2d 186 (Mo. 1958); Fenneren v. Smith, 316 S.W.2d 602 (Mo. 1958); Davis v. St. Louis Pub. Serv. Co., 316 S.W.2d 494 (Mo. 1958); Loveless v. Locke Distrib. Co., 313 S.W.2d 24 (Mo. 1958); Myers v. Moffett, 312 S.W.2d 59 (Mo. 1958); Wilson v. Toliver, 305 S.W.2d 423 (Mo. 1957); Anderson v. Bell, 303 S.W.2d 93 (Mo. 1957); Teters v. Kansas City Pub. Serv. Co., 300 S.W.2d 511 (Mo. 1957); Huffman v. Mercer, 295 S.W.2d 27 (Mo. 1956); Peterson v. Tiona, 292 S.W.2d 581 (Mo. 1956); Williams v. Ricklemann, 292 S.W.2d 276 (Mo. 1956); Clemons v. Becker, 283 S.W.2d 449 (Mo. 1955); Smith v. Siercks, 277 S.W.2d 521 (Mo. 1955); Largo v. Bonadonna, 269 S.W.2d 879 (Mo. 1954); Hayes v. Coca-Cola Bottling Co., 269 S.W.2d 639 (Mo. 1954); Breshears v. Myers, 266 S.W.2d 638 (Mo. 1954); Lansford v. Southwest Lime Co., 266 S.W.2d 564 (Mo. 1954); Paydon v. Globus, 262 S.W.2d 601 (Mo. En Banc 1953); Duffy v. Rohan, 259 S.W.2d 839 (Mo. 1953); Douglas v. Twenter, 364 Mo. 71, 259 S.W.2d 353 (1953); Roush v. Alkire Truck Lines, 245 S.W.2d 8 (Mo. 1952); Thompson v. Byers Transp. Co., 362 Mo. 42, 239 S.W.2d 498 (1951); Pearson v. Kansas City Ice Co., 361 Mo. 363, 234 S.W.2d 783 (1950); Sams v. Adams Transfer & Storage Co., 234 S.W.2d 593 (Mo. 1950); Wilkins v. Stuecken, 359 Mo. 1047, 225 S.W.2d 131 (1949); Ayres v. Key, 359 Mo. 341, 221 S.W.2d 719 (1949); Mavrakos v. Mavrakos Candy Co., 356 Mo. 649, 223 S.W.2d 383 (1949); Yeaman v. Storms, 358 Mo. 774, 217 S.W.2d 495 (En Banc 1948); Hall v. Phillips Petroleum Co., 358 Mo. 313, 214 S.W.2d 438 (1948); Cooper v. Kansas City Pub. Serv. Co., 356 Mo. 482, 202 S.W.2d 42 (En Banc 1947); Sawyer v. Winterholder, 195 S.W.2d 659 (Mo. 1946); Atkinson v. Be-Mac Transp., Inc., 595 S.W.2d 26 (Mo. App., E.D. 1980); White v. Gallion, 573 S.W.2d 682 (Mo. App., St. L. 1978); Becker v. Finke, 567 S.W.2d 136 (Mo. App., St. L. 1978); Hubbard v. Lathrop, 545 S.W.2d 361 (Mo. App., K.C. 1976); Cosens v. Smith, 528 S.W.2d 772 (Mo. App., K.C. 1975); Anderson v. Sellers, 521 S.W.2d 33 (Mo. App., St. L. 1975); Yeager v. Buffington, 450 S.W.2d 464 (Mo. App., K.C. 1970); Shelton v. Bruner, 449 S.W.2d 673 (Mo. App., Spr. 1969); Long v. E.B. Koonce Mortuary, Inc., 446 S.W.2d 859 (Mo. App., St. L. 1969); Walker v. Massey, 417 S.W.2d 14 (Mo. App., Spr. 1967); Dolan v. D.A. Lubricant Co., 416 S.W.2d 40 (Mo. App., K.C. 1967); Williams v. Boone, 413 S.W.2d 36 (Mo. App., St. L. 1967); Roark v. Gunter, 404 S.W.2d 1 (Mo. App., K.C. 1966); McClung v. White, 386 S.W.2d 678 (Mo. App., K.C. 1964); Crull v. Gleb, 382 S.W.2d 17 (Mo. App., St. L. 1964); Reynolds v. Consolidated Cabs, Inc., 374 S.W.2d 955 (Mo. App., K.C. 1964); Stepp v. Rainwater, 373 S.W.2d 162 (Mo. App., K.C. 1963); Anthony v. Jennings, 368 S.W.2d 533 (Mo. App., K.C. 1963); Moore v. Glasgow, 366 S.W.2d 475 (Mo. App., Spr. 1963); Sisk v. Driggers, 364 S.W.2d 76 (Mo. App., K.C.

train,⁶ or other vehicle.⁷ Not surprisingly, the phrase "physical facts" appears also in criminal assault,⁸ rape,⁹ and homicide¹⁰ cases, which,

1962); *Wood v. Ezell*, 342 S.W.2d 503 (Mo. App., Spr. 1961); *Leavitt v. St. Louis Pub. Serv. Co.*, 340 S.W.2d 131 (Mo. App., St. L. 1960); *Fidelity & Casualty Co. v. Western Casualty & Sur. Co.*, 337 S.W.2d 566 (Mo. App., St. L. 1960); *Williams v. Kaestner*, 332 S.W.2d 21 (Mo. App., St. L. 1960); *Woods v. Dalton*, 331 S.W.2d 132 (Mo. App., St. L. 1960); *Harrellson v. Barks*, 326 S.W.2d 351 (Mo. App., Spr. 1959); *James v. Berry*, 301 S.W.2d 530 (Mo. App., Spr. 1957).

6. *See, e.g.*, *Paige v. Missouri Pac. R.R.*, 323 S.W.2d 753 (Mo. 1959); *Atkinson v. Atchison, T. & S.F. Ry.*, 316 S.W.2d 556 (Mo. 1958); *Lang v. St. Louis-S.F. Ry.*, 364 Mo. 1147, 273 S.W.2d 270 (1954); *Hackett v. Wabash R.R.*, 271 S.W.2d 573 (Mo. 1954); *Marshall v. St. Louis-S.F. Ry.*, 361 Mo. 234, 234 S.W.2d 524 (En Banc 1950); *Donald v. Missouri-Kan.-Tex. R.R.*, 231 S.W.2d 627 (Mo. 1950); *Boehrer v. Thompson*, 359 Mo. 465, 222 S.W.2d 97 (1949); *Doyel v. Thompson*, 357 Mo. 963, 211 S.W.2d 704 (1948); *Reeves v. Thompson*, 357 Mo. 847, 211 S.W.2d 23 (1948); *Shelton v. Thompson*, 353 Mo. 964, 185 S.W.2d 777 (1945); *Dodd v. Missouri-Kan.-Tex. R.R.*, 353 Mo. 799, 184 S.W.2d 454 (1945); *Wiseman v. Missouri Pac. R.R.*, 575 S.W.2d 742 (Mo. App., St. L. 1978); *Walters v. Terminal R.R. Ass'n*, 569 S.W.2d 228 (Mo. App., St. L. 1978); *Hupman v. Missouri-Kan.-Tex. R.R.*, 429 S.W.2d 343 (Mo. App., K.C. 1968); *Throckmorton v. Wabash R.R.*, 409 S.W.2d 260 (Mo. App., K.C. 1966); *Fugate v. St. Louis-S.F. Ry.*, 348 S.W.2d 718 (Mo. App., Spr. 1961).

7. *See, e.g.*, *Bounds v. Scott Constr. Co.*, 498 S.W.2d 765 (Mo. 1973) (road grader); *Day v. Union Pac. R.R.*, 276 S.W.2d 212 (Mo. 1955) (tractor-trailer); *Romandel v. Kansas City Pub. Serv. Co.*, 254 S.W.2d 585 (Mo. 1953) (streetcar); *Abernathy v. St. Louis Pub. Serv. Co.*, 362 Mo. 214, 240 S.W.2d 914 (1951) (streetcar); *Harrow v. Kansas City Pub. Serv. Co.*, 361 Mo. 42, 233 S.W.2d 644 (1950) (streetcar); *Johnson v. Kansas City Pub. Serv. Co.*, 360 Mo. 429, 228 S.W.2d 796 (1950) (streetcar); *Piehler v. Kansas City Pub. Serv. Co.*, 360 Mo. 12, 226 S.W.2d 681 (1950) (streetcar); *Pearson v. Kansas City Pub. Serv. Co.*, 359 Mo. 1185, 225 S.W.2d 742 (En Banc 1950) (streetcar); *Penn v. Columbia Asphalt Co.*, 513 S.W.2d 679 (Mo. App., K.C. 1974) (asphalt roller).

8. *See, e.g.*, *State v. Cooksey*, 499 S.W.2d 485 (Mo. 1973); *State v. Bevineau*, 460 S.W.2d 683 (Mo. 1970); *State v. Cody*, 379 S.W.2d 570 (Mo. 1964); *State v. Dunbar*, 360 Mo. 788, 230 S.W.2d 845 (1950); *State v. Campbell*, 543 S.W.2d 508 (Mo. App., St. L. 1976).

9. *See, e.g.*, *State v. Parton*, 487 S.W.2d 523 (Mo. 1972); *State v. Lee*, 404 S.W.2d 740 (Mo. 1966); *State ex rel. Wilkins v. Markway*, 353 S.W.2d 727 (Mo. 1962); *State v. McMillian*, 338 S.W.2d 838 (Mo. 1960); *State v. Swinburne*, 324 S.W.2d 746 (Mo. En Banc 1959); *State v. Baugh*, 323 S.W.2d 685 (Mo. En Banc 1959); *State v. Palmer*, 306 S.W.2d 441 (Mo. 1957); *State v. Weekly*, 223 S.W.2d 494 (Mo. 1949); *State v. Wood*, 355 Mo. 1008, 199 S.W.2d 396 (1947); *State v. Burton*, 355 Mo. 792, 198 S.W.2d 19 (1946); *State v. Phillips*, 585 S.W.2d 517 (Mo. App., S.D. 1979); *State v. Russell*, 581 S.W.2d 61 (Mo. App., S.D. 1979); *State v. Leigh*, 580 S.W.2d 536 (Mo. App., E.D. 1979); *State v. Tripp*, 558 S.W.2d 809 (Mo. App., K.C. 1977).

10. *See, e.g.*, *State v. Newberry*, 605 S.W.2d 117 (Mo. 1980); *State v. Gotthardt*, 540 S.W.2d 62 (Mo. En Banc 1976); *State v. Chamineak*, 343 S.W.2d 153

like physical tort cases, concern incidents of historical occurrence the proof of which can be measured against circumstances. The phrase has also appeared in certain kinds of real property cases, particularly in quiet title suits,¹¹ in related contests about right or title,¹² and in actions for trespassory damages to real property.¹³

In most of the cases, the phrase implies an evaluation of the visually perceptible phenomena surrounding an accident or other incident, although in one significant case,¹⁴ "physical facts" reasoning has been carried beyond the reach of the five senses. Missouri is one of only thirteen states in which appellate courts have, on occasion, written incautiously of a "physical facts rule"¹⁵ and is the second worst offender in numbers of this slip of the pen.¹⁶ Still, Missouri's courts have, with certain exceptions, not allowed the careless thinking and marginal advocacy characteristic of most invocations of physical facts to get out of hand.

The concepts comprising the jurisprudence of proof—sufficiency of evidence, inferences and presumptions, circumstantial evidence, judicial

(Mo. 1961); *State v. Thomas*, 309 S.W.2d 607 (Mo. 1958); *State v. Morris*, 307 S.W.2d 667 (Mo. 1957); *State v. Moore*, 303 S.W.2d 60 (Mo. En Banc 1957); *State v. Dill*, 282 S.W.2d 456 (Mo. 1955); *State v. Booker*, 365 Mo. 75, 276 S.W.2d 104 (En Banc 1955); *State v. Smith*, 261 S.W.2d 50 (Mo. 1953); *State v. Medlin*, 355 Mo. 564, 197 S.W.2d 626 (1946); *State v. Holland*, 354 Mo. 527, 189 S.W.2d 989 (1945); *State v. Cole*, 354 Mo. 181, 188 S.W.2d 43 (1945); *State v. King*, 564 S.W.2d 592 (Mo. App., K.C. 1978); *State v. Harley*, 543 S.W.2d 288 (Mo. App., Spr. 1976); *State v. Duncan*, 540 S.W.2d 130 (Mo. App., St. L. 1976); *State v. Ball*, 529 S.W.2d 901 (Mo. App., St. L. 1975); *State v. Davis*, 504 S.W.2d 221 (Mo. App., K.C. 1973); *State v. Tindall*, 496 S.W.2d 267 (Mo. App., K.C. 1973).

11. *See, e.g.*, *Miller v. Medley*, 281 S.W.2d 797 (Mo. 1955); *Wilson v. Sherman*, 573 S.W.2d 456 (Mo. App., Spr. 1978); *Clevenger v. Mueller*, 547 S.W.2d 173 (Mo. App., Spr. 1977).

12. *See, e.g.*, *Walters v. Tucker*, 308 S.W.2d 673 (Mo. 1957) (adverse possession); *Cantrell v. City of Caruthersville*, 359 Mo. 282, 221 S.W.2d 471 (1949) (suit to determine title); *Jordan v. Parsons*, 239 Mo. App. 766, 199 S.W.2d 881 (St. L. 1947) (suit to enjoin fencing road).

13. *See, e.g.*, *Breshears v. Union Elec. Co.*, 347 S.W.2d 233 (Mo. En Banc 1961) (flood damage); *Behm v. King Louie's Bowl, Inc.*, 350 S.W.2d 285 (Mo. App., K.C. 1961) (same).

14. *State v. Duncan*, 540 S.W.2d 130 (Mo. App., St. L. 1976). *See* Part II. B.3. *infra*.

15. *See Vaeth v. Gegg*, 486 S.W.2d 625, 628 (Mo. 1972); *Anderson v. Orscheln Bros. Truck Lines, Inc.*, 393 S.W.2d 452, 460 (Mo. 1965); *Kiburz v. Loc-Wood Boat & Motors, Inc.*, 356 S.W.2d 882, 888 (Mo. 1962); *Atkinson v. Be-Mac Transp., Inc.*, 595 S.W.2d 26, 30 (Mo. App., E.D. 1980); *State v. Duncan*, 540 S.W.2d 130, 134 (Mo. App., St. L. 1976); *State v. Davis*, 504 S.W.2d 221, 223 (Mo. App., K.C. 1973).

16. Search of all appropriate state libraries of the Lexis[®] computer research service conducted on May 17, 1982. The worst offenders are Pennsylvania, 23 cases; Missouri, 7 cases; and New Mexico, 5 cases. No other state has more than two cases.

notice, and the pseudo-rules of proof, including the so-called "physical facts rule"—can be employed to encroach on the right to trial by jury. Indeed, the entire law of proof in jury cases should be treated as corollary to that right, which must, if it is to mean anything, mean more than a right merely to have a jury empanelled as passive observers for some part of the proceedings. The carelessness, studied or unstudied, with which the law of proof is typically applied enables judges so inclined to decide cases themselves while professing fidelity to and enthusiasm for the right to trial by jury.

Counsel desiring determination by jury is helpless to prevent this usurpation, unless he is armed with a solid understanding of the rules and pseudo-rules, so seemingly value-neutral and authoritative, being invoked against his case. Counsel who can, for example, show the court that the use of physical facts reasoning urged by opposing counsel exceeds the legitimate theoretical and logical limits of the doctrine will either persuade the court to send his case to the jury or at least unmask the court's directed verdict for what it is, an unprincipled encroachment of a constitutional right. The Missouri decisions examined in this Article include several in which good advocacy, knowledge plus execution, have saved a plaintiff's case from an unjustified directed verdict.¹⁷

Although casual references to the phrase abound,¹⁸ physical facts reasoning is purposefully invoked in predictably recurrent forensic environments.

17. See, e.g., *Silvey v. Missouri Pac. R.R.*, 445 S.W.2d 354 (Mo. 1969); *Ruhl v. Missouri Pac. R.R.*, 304 S.W.2d 16 (Mo. 1957).

18. See, e.g., *State v. Parton*, 487 S.W.2d 523 (Mo. 1972); *State v. Cannon*, 486 S.W.2d 212 (Mo. 1972); *State v. Walsh*, 484 S.W.2d 641 (Mo. En Banc 1972); *State v. Starks*, 472 S.W.2d 407 (Mo. 1971); *State v. Simerly*, 463 S.W.2d 846 (Mo. 1971); *Tucker v. Central Hardware Co.*, 463 S.W.2d 537 (Mo. 1971); *Garton v. State*, 454 S.W.2d 522 (Mo. 1970); *State v. Stidham*, 449 S.W.2d 634 (Mo. 1970); *Richardson v. Moreland*, 435 S.W.2d 335 (Mo. 1968); *Jackson v. Haley*, 432 S.W.2d 281 (Mo. 1968); *Hecker v. Schwartz*, 426 S.W.2d 22 (Mo. 1968); *Bunyard v. Turley*, 425 S.W.2d 74 (Mo. 1968); *Clevenger v. Walters*, 419 S.W.2d 102 (Mo. En Banc 1967); *State v. Carey*, 411 S.W.2d 243 (Mo. 1967); *City of Monett v. Buchanan*, 411 S.W.2d 108 (Mo. 1967); *Davis v. City of Independence*, 404 S.W.2d 718 (Mo. En Banc 1966); *Mitchell v. Farmers Ins. Exch.*, 396 S.W.2d 647 (Mo. 1965); *Merriman v. Ben Gutman Truck Serv., Inc.*, 392 S.W.2d 292 (Mo. 1965); *State v. Cody*, 379 S.W.2d 570 (Mo. 1964); *Mount Olivet Baptist Church v. George*, 378 S.W.2d 549 (Mo. 1964); *Terminal Warehouses of St. Joseph, Inc. v. Reiners*, 371 S.W.2d 311 (Mo. 1963); *State v. Ramsey*, 368 S.W.2d 413 (Mo. 1963); *Carlson v. St. Louis Pub. Serv. Co.*, 358 S.W.2d 795 (Mo. 1962); *Miller v. Watkins*, 355 S.W.2d 1 (Mo. 1962); *Clark v. Simmons*, 351 S.W.2d 1 (Mo. 1961); *Breshears v. Union Elec. Co.*, 347 S.W.2d 233 (Mo. En Banc 1961); *State v. Edmonds*, 347 S.W.2d 158 (Mo. 1961); *Stodgell v. Mounter*, 344 S.W.2d 100 (Mo. 1961); *Bean v. Ross Mfg. Co.*, 344 S.W.2d 18 (Mo. En Banc 1961); *State v. Sarten*, 344 S.W.2d 1 (Mo. 1961); *State v. Chamineak*, 343 S.W.2d 153 (Mo. 1961); *Justice v. Malin*, 336 S.W.2d 77 (Mo. 1960); *Johnson v. Missouri-Kan.-Tex. R.R.*, 334 S.W.2d 41 (Mo. 1960); *Herr v. Ruprecht*, 331 S.W.2d 642 (Mo.

1960); *State v. Akers*, 328 S.W.2d 31 (Mo. 1959); *State v. Swinburne*, 324 S.W.2d 746 (Mo. En Banc 1959); *Lynn v. Kern*, 323 S.W.2d 726 (Mo. 1959); *Pitts v. Garner*, 321 S.W.2d 509 (Mo. 1959); *Giambelluca v. Missouri Pac. R.R.*, 320 S.W.2d 457 (Mo. 1959); *Allen v. Hayen*, 320 S.W.2d 441 (Mo. 1959); *Welcome v. Braun*, 319 S.W.2d 586 (Mo. 1958); *Ilgenfritz v. Quinn*, 318 S.W.2d 186 (Mo. 1958); *Creech v. Blackwell*, 318 S.W.2d 342 (Mo. 1958); *State v. Moss*, 316 S.W.2d 539 (Mo. 1958); *Davis v. St. Louis Pub. Serv. Co.*, 316 S.W.2d 494 (Mo. 1958); *Logsdon v. Duncan*, 316 S.W.2d 488 (Mo. 1958); *Goodman v. Missouri Pac. R.R.*, 312 S.W.2d 42 (Mo. 1958); *State v. Butler*, 310 S.W.2d 952 (Mo. 1958); *Mallett v. St. Louis Pub. Serv. Co.*, 308 S.W.2d 720 (Mo. 1957); *Walters v. Tucker*, 308 S.W.2d 673 (Mo. 1957); *Wilkins v. Allied Stores*, 308 S.W.2d 623 (Mo. 1958); *State v. Morris*, 307 S.W.2d 667 (Mo. 1957); *Wilson v. Toliver*, 305 S.W.2d 423 (Mo. 1957); *State v. Moore*, 303 S.W.2d 60 (Mo. En Banc 1957); *Wiser v. Missouri Pac. R.R.*, 301 S.W.2d 37 (Mo. 1957); *Teters v. Kansas City Pub. Serv. Co.*, 300 S.W.2d 511 (Mo. 1957); *Gerhard v. Terminal R.R. Ass'n*, 299 S.W.2d 866 (Mo. En Banc 1957); *Heppner v. Atchison, T. & S.F. Ry.*, 297 S.W.2d 497 (Mo. 1956); *Parker v. Ford Motor Co.*, 296 S.W.2d 35 (Mo. 1956); *Peterson v. Tiona*, 292 S.W.2d 581 (Mo. 1956); *Williams v. Ricklemann*, 292 S.W.2d 276 (Mo. 1956); *Hickey v. Kansas City S. Ry.*, 290 S.W.2d 58 (Mo. 1956); *Herrold v. Hart*, 290 S.W.2d 49 (Mo. 1956); *State v. Dill*, 282 S.W.2d 456 (Mo. 1955); *Miller v. Medley*, 281 S.W.2d 797 (Mo. 1955); *Day v. Union Pac. R.R.*, 276 S.W.2d 212 (Mo. 1955); *Jaeger v. Reynolds*, 276 S.W.2d 182 (Mo. 1955); *State v. Booker*, 365 Mo. 75, 276 S.W.2d 104 (En Banc 1955); *Peterson v. Brune*, 273 S.W.2d 278 (Mo. 1954); *Hackett v. Wabash R.R.*, 271 S.W.2d 573 (Mo. 1954); *Perkins v. Byrnes*, 364 Mo. 849, 269 S.W.2d 52 (1954); *Brandock v. Atchison, T. & S.F. Ry.*, 269 S.W.2d 93 (Mo. En Banc 1954); *Breshears v. Myers*, 266 S.W.2d 638 (Mo. 1954); *Hammond v. Crown Coach Co.*, 364 Mo. 508, 263 S.W.2d 362 (1954); *Paydon v. Globus*, 262 S.W.2d 601 (Mo. En Banc 1953); *State v. Smith*, 365 Mo. 1075, 261 S.W.2d 50 (1953); *Gaddy v. Skelly Oil Co.*, 364 Mo. 143, 259 S.W.2d 844 (1953); *Guy v. Kansas City*, 257 S.W.2d 665 (Mo. 1953); *Curry v. Thompson*, 363 Mo. 348, 247 S.W.2d 792 (1952); *Enyart v. Santa Fe Trail Transp. Co.*, 363 Mo. 346, 241 S.W.2d 268 (1951); *State v. Dupepe*, 241 S.W.2d 4 (Mo. 1951); *Pearson v. Kansas City Ice Co.*, 361 Mo. 363, 234 S.W.2d 783 (1950); *Sams v. Adams Transfer & Storage Co.*, 234 S.W.2d 593 (Mo. 1950); *State v. Dunbar*, 360 Mo. 788, 230 S.W.2d 845 (1950); *Johnson v. Kansas City Pub. Serv. Co.*, 360 Mo. 429, 228 S.W.2d 796 (1950); *Piehler v. Kansas City Pub. Serv. Co.*, 360 Mo. 12, 226 S.W.2d 681 (1950); *Pearson v. Kansas City Pub. Serv. Co.*, 359 Mo. 1185, 225 S.W.2d 742 (En Banc 1950); *Wilkins v. Stuecken*, 359 Mo. 1047, 225 S.W.2d 131 (1949); *Dodson v. Maddox*, 359 Mo. 742, 223 S.W.2d 434 (1949); *Niklas v. Metz*, 359 Mo. 601, 222 S.W.2d 795 (1949); *Boehrer v. Thompson*, 359 Mo. 465, 222 S.W.2d 97 (1949); *Ayres v. Key*, 359 Mo. 341, 221 S.W.2d 719 (1949); *Cantrell v. City of Caruthersville*, 359 Mo. 282, 221 S.W.2d 471 (1949); *Yeaman v. Storms*, 358 Mo. 774, 217 S.W.2d 495 (En Banc 1948); *Hill v. Terminal R.R. Ass'n*, 358 Mo. 597, 216 S.W.2d 487 (En Banc 1948); *Hall v. Phillips Petroleum Co.*, 358 Mo. 313, 214 S.W.2d 438 (1948); *Lance v. Van Winkle*, 358 Mo. 143, 213 S.W.2d 401 (1948); *Doyel v. Thompson*, 357 Mo. 963, 211 S.W.2d 704 (1948); *Reeves v. Thompson*, 357 Mo. 847, 211 S.W.2d 23 (1948); *State v. Medlin*, 355 Mo. 564, 197 S.W.2d 626 (1946); *Sawyer v. Winterholder*, 195 S.W.2d 569 (Mo. 1946); *State v. Holland*, 354 Mo. 527, 189 S.W.2d 989 (1945); *State v. Cole*, 354

Mo. 181, 188 S.W.2d 43 (1945); *Dodd v. Missouri-Kan.-Tex. R.R.*, 353 Mo. 799, 184 S.W.2d 454 (1945); *State v. Siraguso*, 610 S.W.2d 338 (Mo. App., W.D. 1980); *Stapleton v. Griewe*, 602 S.W.2d 810 (Mo. App., W.D. 1980); *Wilson v. Sherman*, 573 S.W.2d 456 (Mo. App., Spr. 1978); *State v. King*, 564 S.W.2d 592 (Mo. App., K.C. 1978); *MFA Mut. Ins. Co. v. Thost*, 561 S.W.2d 431 (Mo. App., St. L. 1978); *State v. Hughes*, 548 S.W.2d 270 (Mo. App., K.C. 1977); *Crawford v. Pacific W. Mobile Estates, Inc.*, 548 S.W.2d 216 (Mo. App., K.C. 1977); *Clevenger v. Mueller*, 547 S.W.2d 173 (Mo. App., St. L. 1977); *Hubbard v. Lathrop*, 545 S.W.2d 361 (Mo. App., K.C. 1976); *State v. Harley*, 543 S.W.2d 288 (Mo. App., Spr. 1976); *State v. Campbell*, 543 S.W.2d 508 (Mo. App., St. L. 1976); *State v. Taylor*, 542 S.W.2d 91 (Mo. App., St. L. 1976); *Lindquist v. Container Corp.*, 537 S.W.2d 676 (Mo. App., St. L. 1976); *State v. Watson*, 536 S.W.2d 59 (Mo. App., St. L. 1976); *State v. Proctor*, 535 S.W.2d 141 (Mo. App., St. L. 1976); *Phoenix Ins. Co. v. Chrysler Corp.*, 534 S.W.2d 474 (Mo. App., K.C. 1975); *State v. Ball*, 529 S.W.2d 901 (Mo. App., St. L. 1975); *Cosens v. Smith*, 528 S.W.2d 772 (Mo. App., K.C. 1975); *State v. Scott*, 525 S.W.2d 410 (Mo. App., K.C. 1975); *State v. Gardner*, 518 S.W.2d 670 (Mo. App., Spr. 1975); *Frazier v. Stone*, 515 S.W.2d 766 (Mo. App., Spr. 1974); *State v. Fisher*, 504 S.W.2d 281 (Mo. App., K.C. 1973); *Griggs v. A.B. Chance Co.*, 503 S.W.2d 697 (Mo. App., K.C. 1973); *Phegley v. Porter-DeWitt Constr. Co.*, 501 S.W.2d 859 (Mo. App., Spr. 1973); *State v. Obie*, 501 S.W.2d 513 (Mo. App., K.C. 1973); *State v. Tindall*, 496 S.W.2d 267 (Mo. App., K.C. 1973); *Reich v. A. Reich & Sons Gardens, Inc.*, 485 S.W.2d 133 (Mo. App., K.C. 1972); *LeBlanc v. Webster*, 483 S.W.2d 647 (Mo. App., K.C. 1972); *Walker v. Massey*, 417 S.W.2d 14 (Mo. App., Spr. 1967); *Dolan v. D.A. Lubricant Co.*, 416 S.W.2d 40 (Mo. App., K.C. 1967); *Williams v. Boone*, 413 S.W.2d 36 (Mo. App., St. L. 1967); *Throckmorton v. Wabash R.R.*, 409 S.W.2d 260 (Mo. App., K.C. 1966); *Weathers v. Falstaff Brewing Corp.*, 403 S.W.2d 663 (Mo. App., St. L. 1966); *McClung v. White*, 386 S.W.2d 678 (Mo. App., K.C. 1964); *Fennell v. Illinois Cent. R.R.*, 383 S.W.2d 301 (Mo. App., St. L. 1964); *State v. Hill*, 373 S.W.2d 666 (Mo. App., Spr. 1963); *Anthony v. Jennings*, 368 S.W.2d 533 (Mo. App., K.C. 1963); *Moore v. Glasgow*, 366 S.W.2d 475 (Mo. App., Spr. 1963); *Filger v. State Highway Comm'n*, 355 S.W.2d 425 (Mo. App., K.C. 1962); *Jones v. Fritz*, 353 S.W.2d 393 (Mo. App., Spr. 1962); *Behm v. King Louie's Bowl, Inc.*, 350 S.W.2d 285 (Mo. App., K.C. 1961); *Blind v. Saks Fifth Ave., Inc.*, 349 S.W.2d 425 (Mo. App., St. L. 1961); *Tranham v. Gillioz & Snyder Constr. Co.*, 348 S.W.2d 737 (Mo. App., Spr. 1961); *Schneiders v. Stegeman*, 344 S.W.2d 645 (Mo. App., K.C. 1961); *Snider v. King*, 344 S.W.2d 265 (Mo. App., Spr. 1961); *Aron v. Resz*, 343 S.W.2d 81 (Mo. App., K.C. 1961); *Fidelity & Casualty Co. v. Western Casualty & Sur. Co.*, 337 S.W.2d 566 (Mo. App., St. L. 1960); *State v. Marshall*, 333 S.W.2d 547 (Mo. App., K.C. 1960); *Williams v. Kaestner*, 332 S.W.2d 21 (Mo. App., St. L. 1960); *Johnson v. Weston*, 330 S.W.2d 160 (Mo. App., St. L. 1959); *Gayer v. J.C. Penney Co.*, 326 S.W.2d 413 (Mo. App., St. L. 1959); *King v. Furry*, 317 S.W.2d 690 (Mo. App., St. L. 1958); *Rauch v. McDonnell Aircraft Corp.*, 303 S.W.2d 226 (Mo. App., St. L. 1957); *Cole v. Best Motor Lines*, 303 S.W.2d 170 (Mo. App., St. L. 1957); *James v. Berry*, 301 S.W.2d 530 (Mo. App., Spr. 1957); *Clark v. Missouri Natural Gas Co.*, 241 Mo. App. 907, 245 S.W.2d 685 (Spr.), *rev'd*, 251 S.W.2d 27 (Mo. En Banc 1952); *Perringer v. Metropolitan Life Ins. Co.*, 241 Mo. App. 521, 244 S.W.2d 607 (Spr. 1951); *Christy v. Chicago, B & Q.R.R.*, 240 Mo. App. 632, 212

In arguments to courts, defendants¹⁹ invoke "physical facts" to nullify the proof on which plaintiffs must rely to survive motions for directed verdicts.²⁰ This is the principal use of physical facts reasoning, and the cases and discussion related to it comprise the greater part of this Article. It is also the use to which the unfortunate label, "physical facts rule," chiefly has been applied. In arguments to courts, plaintiffs²¹ invoke "physical facts" both in support of their own motions for directed verdicts and in opposition to such motions by defendants. For the former purpose, it is argued that the physical facts establish an overwhelming case;²² for the latter, that they establish, at least, a submissible case.²³ Both plaintiffs and defendants invoke "physical facts" in jury arguments and formerly did so in jury instructions.²⁴

II. INVOKING "PHYSICAL FACTS" TO NULLIFY A PLAINTIFF'S PROOF

This proposition is fairly well settled: if a plaintiff produces even one witness who testifies directly to each element of his case-in-chief, he has adduced proof sufficient to take his case to the jury.²⁵ Only the plaintiff who

S.W.2d 476 (K.C. 1948); *Grace v. Union Elec. Co.*, 239 Mo. App. 1210, 200 S.W.2d 364 (K.C. 1947); *Jordan v. Parsons*, 239 Mo. App. 766, 199 S.W.2d 881 (St. L. 1947); *Gaffron v. Prudential Life Ins. Co.*, 238 Mo. App. 749, 187 S.W.2d 41 (St. L. 1945).

19. Unless otherwise required by the context, the term "defendant" encompasses all opponents of proof, including, for example, a plaintiff opposing proof propounded in support of a counterclaim or an affirmative defense.

20. Unless otherwise required by the context, the term "directed verdict" includes judgments notwithstanding the verdict.

21. Unless otherwise required by the context, the term "plaintiff" encompasses all proponents of proof, including, for example, a defendant propounding proof in support of a counterclaim or an affirmative defense.

22. See Part III. *infra*.

23. See Part IV. *infra*.

24. For a discussion of "physical facts" in jury arguments, see Part V., *infra*. MO. APPROVED INSTR. No. 1.05 (1981) now specifically prohibits the giving of a "physical facts" jury instruction. *But cf. id.* No. 2.01 (jurors instructed that they will decide facts and give testimony such weight and value as they believe it is entitled to receive). For examples of cases dealing with "physical facts" jury instructions before adoption of MO. APPROVED INSTR. No. 1.05, see *Myers v. Moffett*, 312 S.W.2d 59 (Mo. 1958); *Douglas v. Twenter*, 364 Mo. 71, 259 S.W.2d 353 (1953); *Roush v. Alkire Truck Lines, Inc.*, 245 S.W.2d 8 (Mo. 1952); *Phillips v. Vrooman*, 238 S.W.2d 355 (Mo. 1951); *Mavrakos v. Mavrakos Candy Co.*, 359 Mo. 649, 223 S.W.2d 383 (1949); *Schlemmer v. McGee*, 185 S.W.2d 806 (Mo. 1945); *Roark v. Gunter*, 404 S.W.2d 1 (Mo. App., K.C. 1966); *Sisk v. Driggers*, 364 S.W.2d 76 (Mo. App., K.C. 1962).

25. See, e.g., *Scherffius v. Orr*, 442 S.W.2d 120, 124 (Mo. App., Spr. 1969); C. MCCORMICK, HANDBOOK ON THE LAW OF EVIDENCE § 338, at 790 (2d ed. 1972).

must rely on circumstantial evidence has anything to fear from his opponent's motion for a directed verdict.²⁶ This is true, it is said, because even when the judge makes every other decision in the case, credibility is still for the jury to decide.²⁷

What, then, can be made of cases like *Lohmann v. Wabash Railroad*,²⁸ in which the Missouri Supreme Court held, in affirming a judgment notwithstanding the verdict for the defendant, that the testimony of the plaintiff's three witnesses was not sufficient to take an essential element of her claim to the jury? The three witnesses, none of whom was shown to have an interest in the outcome of the case, had testified that a movable grease shack maintained on the defendant railroad's right-of-way by the defendant construction company "obstructed the view to the west along the railroad track of a person approaching the track from the north, until such person was 'practically on the tracks.'" ²⁹ Unfortunately for the plaintiff, the supreme court was satisfied that it knew that the testimony of the three witnesses did "not rise to the dignity of substantial evidence that Lohmann could not have seen the approaching train until he was on the north rail."³⁰

If the court's knowledge had attained the certitude required of judicial notice applied to certainly established facts, its decision would have been justified. A court need not and should not credit testimony that it judicially knows to be false. Thus, a case relying solely on such testimony for one or more of its elements need not and should not be submitted to a jury. For example, the judge may reject testimony that August 1, 1981, fell on a Sunday without submitting it to the jury³¹ and direct a verdict against the party whose case depends on that proposition. Likewise, testimony that plaintiff's vehicle rolled uphill and collided with defendant's train may be rejected.³² The second example, like the first, requires an ordinary application of judicial notice. Courts have endowed cases of the second type with a vocabulary of their own, however, and exalted an otherwise unremarkable use of judicial notice to a level of conceptual autonomy, dubbing it the "physical facts rule."³³

Even when courts have not gone this far, they have spoken of physical facts as if they were invoking a kind of metaphysical magic. Thus, in *Lohmann*, the Missouri Supreme Court said, "[W]here physical facts speak with a force

26. See, e.g., C. MCCORMICK, *supra* note 25, § 338, at 790.

27. See, e.g., *Robinson v. St. John's Medical Center*, 508 S.W.2d 7, 11 (Mo. App., Spr. 1974); F. JAMES & G. HAZARD, *CIVIL PROCEDURE* § 7.13, at 287 (2d ed. 1977).

28. 364 Mo. 910, 269 S.W.2d 885 (1954).

29. *Id.* at 915, 269 S.W.2d at 889.

30. *Id.* at 920, 269 S.W.2d at 891-92.

31. See MO. BAR C.L.E., *SOURCES OF PROOF* § 7.3 (1977).

32. *Seiwell v. Hines*, 273 Pa. 259, 116 A. 919 (1922).

33. See, e.g., *Vaeth v. Gegg*, 486 S.W.2d 625, 628 (Mo. 1972). See notes 15 & 16 and accompanying text *supra*.

which overcomes testimony to the contrary, reasonable minds must accept and follow the physical facts and therefore cannot differ."³⁴ Having gone this far, the court was "compelled to rule that the testimony of . . . [plaintiff's three witnesses] is plainly contrary to the demonstrated physical facts" and, therefore, "cannot be accepted as substantial evidence."³⁵

Having once accepted such reasoning, it is easy, as dramatized by the *Lohmann* court, to forsake the rigorous habits of thought requisite to every proper application of judicial notice. Why was the court compelled to consider the testimony of the three witnesses a nullity? The court cited "the physical facts as established by actual measurements, tests and photographs,"³⁶ probably made by the defendants,³⁷ with respect to a movable obstruction.³⁸

The opinion does not say that the grease shack was in the same position when the measurements and tests were made as it was when the accident occurred. It does say that the photograph portrayed it "in the exact location it stood at the time of the occurrence,"³⁹ but it does not say whether this proposition was judicially or evidentially admitted by the plaintiff or whether, as is more likely, the proposition was only in evidence. Clearly, the position of the grease shack at the time of the accident was disputed in the evidence, because the position asserted by the court was circumstantially contradicted by the testimony of the three witnesses. The possibility that the measurements, tests, and photographs had, at worst, been falsified or, at best, been made too late to capture the true circumstances at the time of the accident seems to have escaped the court, probably because the incantation of "physical facts" had already worked its magic.

Occasionally, counsel are carried away by their zeal or overwhelmed by the intellectual burden imposed by the working logic of physical facts. *Fowler v. Robinson*⁴⁰ serves as a priceless example. In fleeing an automobile that seemed certain to crash into his tollbooth island, Fowler ran across the highway in front of Robinson's car and was struck. Fowler had a jury verdict and judgment under the humanitarian doctrine. On appeal, Robinson attacked the judgment on the ground that Fowler had adduced no proof that

34. 364 Mo. at 916, 269 S.W.2d at 891.

35. *Id.*

36. *Id.*

37. The court did not identify the sponsorship of the photographs, but defendants typically make arguments for nullification from photographs that they have introduced. *See, e.g.,* *Silvey v. Missouri Pac. R.R.*, 445 S.W.2d 354 (Mo. 1969); *Ruhl v. Missouri Pac. R.R.*, 304 S.W.2d 16 (Mo. 1957). *Lohmann* did put on the civil engineer who testified to sight distances, but this testimony should not have been held conclusive under the circumstances. *See, e.g.,* *Zumault v. Wabash R.R.*, 302 S.W.2d 861 (Mo. 1957). *See also* Part II.C.2.b. *infra*.

38. 364 Mo. at 912, 269 S.W.2d at 887.

39. *Id.* at 915, 269 S.W.2d at 888.

40. 465 S.W.2d 5 (Mo. App., St. L. 1971).

he was ever in a position of immediate danger, as required under the humanitarian doctrine.⁴¹

Robinson's counsel supported this contention as follows. On the witness stand, Fowler had estimated the Robinson vehicle to be approaching at a distance of 150 feet when he fled across the highway. Robinson's counsel took this estimate, which he insisted was established in the case,⁴² applied an estimate of the vehicle's speed from Robinson's testimony, calculated Fowler's progress across the highway at a running speed of 5.8 feet per second, and concluded that Fowler was safely across the road when Robinson's car passed. Robinson's counsel didn't phrase his conclusion that way, of course, but it followed with some necessity from his argument. Mercifully declining to pursue the obvious, the St. Louis Court of Appeals said merely that Fowler's testimonial estimate of distance did not establish that distance in the case.⁴³ The uncontested fact that Fowler had been hit, combined properly with calculations regarding driving and running speeds, suggested that Fowler's estimate of 150 feet was substantially mistaken, but the court correctly left that problem to the jury.

*Wardin v. Quinn*⁴⁴ affords another example of the kind of inspired misapplication of physical facts reasoning to which litigants are occasionally tempted. Mrs. Wardin prosecuted a claim for nursing services against the estate of an aunt-in-law. Her expert witnesses who testified to the value of her services themselves operated a nursing home. Because they testified to a value higher than they were charging in their own nursing home, the executor argued that their testimony was "opposed to the physical facts, and . . . not . . . substantial evidence."⁴⁵ In affirming a judgment for Mrs. Wardin, the Kansas City Court of Appeals displayed a certain flair for understatement when it said, "This contention is not sound."⁴⁶ The issue was value, an abstraction far removed from the concrete world of physical facts. There are, regrettably, not a few reported Missouri decisions in which the invocation of physical facts reasoning was, at best, marginal.⁴⁷

41. *Id.* at 8.

42. *Id.*

43. *Id.* at 8-10.

44. 324 S.W.2d 151 (Mo. App., K.C. 1959).

45. *Id.* at 154.

46. *Id.*

47. *See, e.g.,* Rollins v. Postlewait, 358 S.W.2d 828 (Mo. 1962); Counts v. Kansas City S.R.R., 340 S.W.2d 670 (Mo. 1960); Martin v. Kansas City, 340 S.W.2d 645 (Mo. 1960); State v. McMillian, 338 S.W.2d 838 (Mo. 1960); Page v. Hamilton, 329 S.W.2d 758 (Mo. 1959); Pender v. Foeste, 329 S.W.2d 656 (Mo. 1959); Garrison v. Ryno, 328 S.W.2d 557 (Mo. 1959); Rosenfeld v. Peters, 327 S.W.2d 264 (Mo. 1959); Waldrip v. American Buslines, Inc., 327 S.W.2d 211 (Mo. 1959); State v. Baugh, 323 S.W.2d 685 (Mo. En Banc 1959); Johnson v. Presley, 320 S.W.2d 518 (Mo. 1959); Fenneren v. Smith, 316 S.W.2d 602 (Mo. 1958); State v. Moss, 316 S.W.2d 539 (Mo. 1958); Loveless v. Locke Distrib. Co., 313 S.W.2d

A. *Premises and Black Letter Propositions*

After stating in the original New Mexico study that "[t]he 'physical facts rule' is not a rule at all, but merely an entanglement of two distinguishable and equally unremarkable applications of the law of judicial notice,"⁴⁸ I undertook nonetheless to restate it as a rule,⁴⁹ because of a belief that the profession could not be persuaded "to remove [it] from the working terminology of trial and appellate practice."⁵⁰ Only forty-seven appellate opinions in thirteen states, however, have spoken of a "physical facts rule."⁵¹ Thus, it might still be possible to eliminate both the term and the careless analysis it exemplifies. Before examining the Missouri cases in which "physical facts" are invoked to nullify otherwise sufficient evidence, the premises and black letter propositions advanced a decade ago concerning the probative force of physical facts should be reconsidered.

24 (Mo. 1958); *Anderson v. Bell*, 303 S.W.2d 93 (Mo. 1957); *Teters v. Kansas City Pub. Serv. Co.*, 300 S.W.2d 511 (Mo. 1957); *Parker v. Ford Motor Co.*, 296 S.W.2d 35 (Mo. 1956); *Wagner v. Missouri-Kan.-Tex. R.R.*, 275 S.W.2d 262 (Mo. 1955); *Reimers v. Frank B. Connet Lumber Co.*, 271 S.W.2d 46 (Mo. 1954); *Largo v. Bonadonna*, 269 S.W.2d 879 (Mo. 1954); *Hayes v. Coca-Cola Bottling Co.*, 365 Mo. 832, 269 S.W.2d 639 (1954); *McCrary v. Ogden*, 267 S.W.2d 670 (Mo. 1954); *Lansford v. Southwest Lime Co.*, 266 S.W.2d 564 (Mo. 1954); *Larson v. Atchison, T. & S.F. Ry.*, 364 Mo. 344, 261 S.W.2d 111 (1953); *Duffy v. Rohan*, 259 S.W.2d 839 (Mo. 1953); *Romandel v. Kansas City Pub. Serv. Co.*, 364 Mo. 442, 254 S.W.2d 585 (1953); *Enyart v. Santa Fe Trail Transp. Co.*, 363 Mo. 346, 241 S.W.2d 268 (1951); *Thompson v. Byers Transp. Co.*, 362 Mo. 42, 239 S.W.2d 498 (1951); *Clark v. McKeone*, 234 S.W.2d 574 (Mo. 1950); *Harrow v. Kansas City Pub. Serv. Co.*, 361 Mo. 42, 233 S.W.2d 644 (1950); *Piehler v. Kansas City Pub. Serv. Co.*, 360 Mo. 12, 226 S.W.2d 681 (1950); *Pearson v. Kansas City Pub. Serv. Co.*, 359 Mo. 1185, 225 S.W.2d 742 (En Banc 1950); *Steffen v. Ritter*, 360 Mo. 358, 214 S.W.2d 28 (1948); *Cooper v. Kansas City Pub. Serv. Co.*, 356 Mo. 482, 202 S.W.2d 42 (En Banc 1947); *Golden v. National Utils.*, 356 Mo. 84, 201 S.W.2d 292 (1947); *Lowry v. Mohn*, 357 Mo. 665, 195 S.W.2d 652 (1946); *Shelton v. Thompson*, 353 Mo. 964, 185 S.W.2d 777 (1945); *Anderson v. Sellers*, 521 S.W.2d 33 (Mo. App., St. L. 1975); *State v. Burnett*, 520 S.W.2d 148 (Mo. App., St. L. 1975); *State v. Davis*, 504 S.W.2d 221 (Mo. App., K.C. 1973); *State v. Maxwell*, 502 S.W.2d 382 (Mo. App., St. L. 1973); *Fowler v. Robinson*, 465 S.W.2d 5 (Mo. App., St. L. 1971); *Yeager v. Buffington*, 450 S.W.2d 464 (Mo. App., K.C. 1970); *Stepp v. Rainwater*, 373 S.W.2d 162 (Mo. App., K.C. 1963); *Wood v. Ezell*, 342 S.W.2d 503 (Mo. App., Spr. 1961); *LeNeve v. Rankin*, 341 S.W.2d 358 (Mo. App., K.C. 1960); *Cole v. Best Motor Lines*, 303 S.W.2d 170 (Mo. App., St. L. 1957); *Gurwell v. Jefferson City Lines*, 239 Mo. App. 1005, 192 S.W.2d 683 (K.C. 1946).

48. Hoffman, *supra* note 1, at 54.

49. *Id.* at 55-56.

50. *Id.* at 55.

51. Search of all appropriate state libraries of the Lexis[©] computer research service conducted on May 17, 1982.

The first premise is that the physical facts rule does not embody an independent or discrete legal principle, but is merely a jumble of catchily characterized manifestations of the law of judicial notice. Ideally, the term will appear, if at all, in only one more opinion of the Missouri Supreme Court—the opinion which declares that there is no such thing as a physical facts rule.⁵²

Second, the phrase "physical facts" embodies no independent or discrete legal principle and has no special legal or logical significance. If relevant "facts" truly are undisputed, it makes no uniformly operating logical difference whether they are "physical" or not. Any fact that is truly undisputed and about which a court may judicially notice some attribute or function can be applied to nullify contrary testimony that would otherwise constitute sufficient evidence. Such facts are often types easily characterized as "physical facts." Unfortunately, this characterization occasionally makes a psychological difference of fatal significance to the party opposing a motion for a directed verdict. "Rarely is the thing which we refer to as a 'physical fact' itself actually in court. It is there by description only: description by oral testimony, description by diagram, description by photograph, etc."⁵³ And yet, "[o]nce the magic words are invoked, it often happens that no one (including the party who invoked the words) is further able to perceive that there is not a 'physical fact' to be seen in the courtroom."⁵⁴

There are also two black letter propositions to be restated. First is the proposition appropriate to what will be termed the "attribute cases." Testimony in these cases is a nullity when it asserts that a thing or being of established identity in the case has an attribute that it is judicially known not to have.⁵⁵ Second is the proposition appropriate to what will be called the "function cases." Testimony in these cases is a nullity when it asserts a proposition of fact contradictory to that required by the application of a judicially known relational principle (the function) to another proposition of fact established in the case.⁵⁶

The logic in attribute and function cases is vulnerable to error at two points. If the court accepts as established in the case some proposition of fact that could itself have been rejected by a properly functioning jury, e.g., the defendants' photograph in *Lohmann*, or if the court acknowledges an attribute or applies a function not a proper subject of judicial notice, the losing party has been deprived of his constitutional right to a jury determination.⁵⁷

52. The court has already said as much in one special context. See *Ruhl v. Missouri Pac. R.R.*, 304 S.W.2d 16, 18 (Mo. 1957); Part II.C.2.b. *infra*.

53. Hoffman, *supra* note 1, at 53.

54. *Id.* at 69-70.

55. See Part II.B. *infra*.

56. See Part II.C. *infra*.

57. MO. CONST. art. 1, § 22(a); *id.* art. 11, § 4.

A proposition of fact is not "established," as the term is used throughout this Article, until a jury has found it to be true or unless a jury must, by judicial fiat, accept it as true. In attribute cases, the identity of a thing is established in the case by judicial fiat if it has been judicially noticed,⁵⁸ has been judicially admitted, is undisputed in the evidence, or is made so certain by the evidence that the court could legally direct a verdict on the issue of its identity. In function cases, the proposition of fact properly may be established in the case by judicial fiat only if it has been judicially noticed or judicially admitted.

B. Attribute Cases—The "Physical Facts" Syllogism

Testimony in the attribute cases is a nullity when it asserts, either directly or indirectly, that a thing or being of established identity in the case has an attribute that it is judicially known not to have. This section will examine cases illustrating physical facts reasoning applied to attributes of things and to attributes of beings, particularly human beings, give special attention to *State v. Duncan*,⁵⁹ a theory-testing case par excellence, and consider briefly the attribute of reaction time and its place in the scheme.

1. Attributes of Things

Seiwell v. Hines,⁶⁰ a Pennsylvania case, affords an example that recurs in the judicial lore. In attempting to explain why his automobile had been struck by the defendant's passing train, Seiwell testified that "the suction of the moving train drew the automobile against the locomotive."⁶¹ The Pennsylvania Supreme Court held that no such capability could be attributed to a moving train. Relying on an exposition of common knowledge rather than on a demonstration of scientific principles of physics, the court observed that "[e]very day trains at high speed pass stations with baggage trucks and other objects standing on the platforms, in close proximity to the tracks, and they are not disturbed by the moving train."⁶² The court concluded, "It is inconceivable that any such thing could have occurred, as such a happenstance is opposed to all natural laws and common experience."⁶³ The defendant's train was the thing the identity of which was established in the case without contradiction. Seiwell's case depended on the proposition that what had struck him was the defendant's train, and the defendant did not contest that proposition directly or circumstantially.

58. This alternative is included to hold open the theoretical possibility that the minor premise of the physical facts syllogism might be established by judicial notice.

59. 540 S.W.2d 130 (Mo. App., St. L. 1976).

60. 273 Pa. 259, 116 A. 919 (1922).

61. *Id.* at 260, 116 A. at 919.

62. *Id.* at 260-61, 116 A. at 919.

63. *Id.* at 260, 116 A. at 919.

Cameron v. Goree,⁶⁴ an Oregon case, is equally dramatic. In that case, Cameron had a jury verdict and judgment on testimony that tended by necessary inference to show that just before the accident, Goree's car, a 1941 Chevrolet, was travelling at a speed of 204 to 318 miles per hour. The Oregon Supreme Court reversed, stating, "We think that people of average intelligence know that automobiles such as the one which the appellant drove cannot travel 200 miles per hour."⁶⁵ The testimony was nullified because it attributed to the 1941 Chevrolet, a thing of established identity in the case, a capability that it was judicially known to lack. The identity of Goree's vehicle can properly be regarded as established in the case because there is no suggestion in the report that it was ever in dispute and it is the kind of fact that the parties to the usual case would concede.⁶⁶

The Missouri reports contain a precedent very similar to *Cameron*. In *Ewen v. Spence*,⁶⁷ Ewen, whose tractor and combine had been struck when he turned left across a highway in front of Spence's oncoming automobile, sued Spence under the humanitarian doctrine. Spence testified that he was only fifty to seventy-five feet from the intersection when Ewen turned in front of him. Ewen testified that Spence was about one-fourth of a mile away when Ewen turned. Employing Ewen's other testimony about the width of the highway and the speed of the tractor, the Springfield Court of Appeals calculated that Spence's car "would have to have been proceeding at the rate of about, less than, *three hundred miles* per hour, and this does not take into account the effect of braking for at least one hundred and six feet."⁶⁸ The court reversed a judgment for Ewen and remanded for further proceedings not inconsistent with its opinion.

Read as a physical facts opinion, *Ewen* can be faulted for its inattention to the requirement that a subsidiary proposition of fact on which nullification reasoning is to be based must be established in the case. The identity of Spence's vehicle was established; its identity was not contested. In order to nullify Ewen's testimony about distance, however, the court arguably took Ewen's testimony about the speed of his tractor as established in the case, even while acknowledging the general teaching of numerous authorities that "plaintiff is not to be too strictly bound or judged by exact figures as to time, speed, or distance, when such is a matter of estimate."⁶⁹ To believe Ewen's testimonial estimate about speed in order to nullify his inconsistent testimonial estimate about distance smacks of arbitrary selectivity.

Perhaps *Ewen* is most usefully viewed as combining the "physical facts" reasoning of an attribute case with the "inconsistent statements" reason-

64. 182 Or. 581, 189 P.2d 596 (1948).

65. *Id.* at 599, 189 P.2d at 603.

66. Hoffman, *supra* note 1, at 58.

67. 405 S.W.2d 521 (Mo. App., Spr. 1966).

68. *Id.* at 523.

69. *Id.* at 524.

ing of another line of cases.⁷⁰ The court's judicial knowledge that a speed of 300 miles per hour could not be attributed to Spence's car spotlighted an inconsistency in Ewen's testimony so irreconcilable that it indicated "a lack of knowledge in respect to the facts testified to"⁷¹ and required the conclusion that none of his testimony was "probative evidence sufficient to sustain the verdict."⁷² Every argument about inconsistent statements might best be left to the jury, but that broad question is beyond the scope of this Article. Perhaps the court properly excepted physically irreconcilable statements in the context of an attribute case from a general rule committing the resolution of testimonial inconsistencies to the jury.

2. Attributes of Beings

*Kiburz v. Loc-Wood Boat & Motors*⁷³ is an attribute case in which the being established in the case was a human actor and the attribute was the capability to do a certain act or to accomplish a certain result. Kiburz, who had fallen off his water skis, was run over and killed by Loc-Wood's large excursion boat, the Tuscumbia. His administrator sued for wrongful death, alleging that Loc-Wood's pilot had failed to maintain a proper lookout. An eyewitness testified that "in an effort to attract attention and avoid being struck by the Tuscumbia, Kiburz was treading water with his skis on and with the upper half of his body from the waist up out of the water."⁷⁴

Although, as the Missouri Supreme Court noted, there was other substantial evidence to support the administrator's theory,⁷⁵ Loc-Wood's attorney focused on this testimony, arguing that it was "inherently incredible and should have been stricken and disregarded under the incontrovertible physical facts rule"⁷⁶ and that it "ascribed to Kiburz 'super-natural power.'"⁷⁷ The court declined Loc-Wood's invitation to judicially notice the line between natural attribute and supernatural power, stating that the evidence was otherwise sufficient and that "[t]he testimony attacked . . . [was] not essential in any respect to the making of a submissible case for the plaintiff, but would go only to the credibility . . . [of the witness's] testimony."⁷⁸

Anderson v. Orscheln Brothers Trucklines, Inc.,⁷⁹ a case factually similar to *Kiburz*, is an attribute case but not strictly a physical facts case, even though

70. See generally *Fowler v. Robinson*, 465 S.W.2d 5, 8-9 (Mo. App., St. L. 1971).

71. 405 S.W.2d at 525.

72. *Id.*

73. 356 S.W.2d 882 (Mo. 1962).

74. *Id.* at 888.

75. *Id.* at 889.

76. *Id.* at 888.

77. *Id.* at 889.

78. *Id.*

79. 393 S.W.2d 452 (Mo. 1965).

the physical facts rule was invoked, because judicial notice was not invoked to nullify the testimony under attack. Instead, the defendant adduced the testimony of seven witnesses to show that it was physically impossible for Anderson to have vaulted up onto a loading platform in the manner in which he had testified. Each of the seven testified that he had tried it and failed. The Missouri Supreme Court affirmed the judgment on a jury verdict for the plaintiff, saying, "The seven witnesses did not establish physical impossibility as a matter of law. The jury was privileged to disbelieve their testimony. The 'physical facts' rule has no application where the credibility of witnesses is involved."⁸⁰ Had Anderson's testimony implied that he had *flown* up to the loading platform, the court might have nullified it by an appropriate application of judicial notice. Because he actually testified only to some reasonably athletic clambering,⁸¹ the court properly declined to notice that he could not do it, even if it were proved that others could not.⁸²

3. *State v. Duncan*

*State v. Duncan*⁸³ is a precedent on the frontier between attribute cases and function cases. It carries physical facts reasoning beyond the reach of the five senses into a probative environment of facts available to human cognition only with the aid of science. Beyond that, it affords an instructive opportunity to observe physical facts reasoning in the substantive environment of criminal litigation, a prosecution and conviction of second degree murder.

Duncan appealed his second degree murder conviction for the shotgun slaying of a victim otherwise unidentified in the decision. Davenport testified that Duncan, who was carrying a shotgun and was accompanied by Hemphill, had run from her house into the street and had fired two shots at the window of a parked car. She "stated unequivocally that Hemphill did not have the shotgun."⁸⁴ Her testimony was buttressed by the testimony of an expert witness, who testified, by way of expert inference from computer data

80. *Id.* at 460.

81. *Id.* at 455-56.

82. In *Ogden v. Toth*, 542 S.W.2d 17 (Mo. App., St. L. 1976), defendant Toth argued that his pulling on a rope attached to a partially severed treetop could not proximately have caused the treetop to fall on and injure plaintiff Ogden because "it was physically impossible for one man to pull down the upper portion of this tree when [according to undisputed testimony] four men could not budge it earlier." *Id.* at 21. The St. Louis Court of Appeals held the evidence of proximate cause sufficient, however, saying, "[T]here was testimony showing that the trunk had been loosened by cutting it at the base, and this explains why it was possible for one man to pull it down then when four men could not do so earlier." *Id.* The court did not suggest the result would have been otherwise had intervening events not afforded this explanation.

83. 540 S.W.2d 130 (Mo. App., St. L. 1976).

84. *Id.* at 133.

derived from a gunshot residue test, that Duncan probably had recently handled or discharged a firearm.⁸⁵

Duncan's attorney sought to turn the gunshot residue evidence to his client's advantage. The St. Louis Court of Appeals remarked on the "novel posture" of Duncan's contention, observing that "[t]ypically, a defendant asserts that positive results in his own gunshot residue tests are inadmissible because NAA [neutron activation analysis] lacks reliability."⁸⁶ Here, however, Hemphill's gunshot residue test had also been positive, and Duncan's attorney argued "that NAA results are not only admissible but so conclusive that positive results on both defendant and another person will negate eyewitness testimony that defendant alone fired the gun."⁸⁷ Thus confronted by "the so-called 'physical facts' rule,"⁸⁸ the court perceived two questions: "First, is NAA an incontrovertible fact? Second, does it directly contradict the eyewitness testimony?"⁸⁹

The court used its answer to the second question as an escape and never came satisfactorily to grips with the first. The court held that "the 'fact' that Hemphill had handled and/or discharged a gun within the previous several days does not directly contradict Ms. Davenport's testimony that defendant alone fired two shots at the victim and that Hemphill did not have a shotgun at that time."⁹⁰ When the expert testified that "within a reasonable degree of scientific certainty this person (Hemphill) had recently handled and discharged a firearm,"⁹¹ he "defined 'recently' as ranging from immediately to several days."⁹² Thus, "[t]he probability that he had 'recently' discharged a firearm may indicate only that he fired a weapon at some earlier time . . .

85. *Id.* at 134.

86. *Id.* Neutron activation analysis uses a high neutron flux nuclear reactor to determine the presence of antimony and barium in discharge residue taken from a suspect's hands. The residue sample is placed in the reactor and bombarded with neutrons, causing the chemical elements in the sample to become radioactive. While radioactive, the characteristics of each element except lead are distinct and identifiable. Homicide investigators maintain that neutron activation analysis is not conclusive and, further, that no conclusive gunshot residue test is available. Gunpowder is not the only source of antimony and barium compounds; positive reaction to neutron activation analysis can be expected for any person who has handled such compounds, regardless of their source. Conversely, the test has, on occasion, shown negative results for subjects known to have fired weapons. T. COOKE, CIVIL AND CRIMINAL IDENTIFICATION 24-30 (1970); interviews by Melinda Joy Howes with Captain Shirley Fields and Homicide Investigator Wayne Murphy of the Tuscaloosa City Police Department.

87. 540 S.W.2d at 134.

88. *Id.*

89. *Id.* at 135.

90. *Id.*

91. *Id.*

92. *Id.*

[T]he 'physical facts' rule could not have been invoked by this court to disregard Ms. Davenport's testimony."⁹³

Because the court found no contradiction, its response to the question of the incontrovertibility vel non of NAA is dictum. The court concluded, "Assuming without deciding that the expert's testimony was not impeached, NAA results could have come within the rule as 'facts' established by physics."⁹⁴ This simple statement evokes many differentiable though interwoven responses, which will be examined as if they were discrete.

a. *Duncan* as a Borderline Attribute Case

To eliminate the question of contradiction vel non, Davenport's testimony will be modified to testimony simply that Hemphill had not discharged a firearm. Her assertion can be tested by a syllogism⁹⁵ incorporating as its major premise the following generalization: a person who has recently discharged a firearm will have about his person certain concentrations of barium and antimony residues. An essential element of attribute cases is a thing or being of established identity in the case. In *Duncan*, the being was a member of a restrictively defined category of persons, i.e., those bearing certain concentrations of barium and antimony residues on their hair, skin, and clothing. That Hemphill was a member of the category could be taken as established in the case, because the prosecution asserted that he was and *Duncan* adopted the assertion.

What of relevance can be attributed to a person within the category? Here, it is not a capacity or incapacity to be attributed; it is certain past conduct. A person in this category, according to the proffered reasoning, will have recently discharged a firearm. If that proposition can be judicially noticed, it will support proof-nullifying physical facts reasoning as follows: Hemphill was a person in this category; therefore, he had recently discharged a firearm. Because Davenport's testimony contradicted this conclusion, it must be nullified as contrary to physical facts. Thus viewed, *Duncan* appears to be a subtle attribute case, subtle at least in part because the physical facts essential to the reasoning process are beyond the reach of the senses.

b. *Duncan* as a Borderline Function Case

A later section will examine the forensic reconstruction of accidents from established propositions of subsequent fact.⁹⁶ The reasoning there will follow not the pattern of the syllogism, as illustrated in the previous section, but the pattern of question and hypothesis: What combination of antecedent positions and forces could have produced the results found at this accident scene? *Duncan* can be approached in this way. What will explain the traces of barium

93. *Id.*

94. *Id.* (dictum).

95. See Hoffman, *supra* note 1, at 56-57.

96. See Part II.C. *infra*.

and antimony residues found on Hemphill's person? Accidents are a subset of a larger category known collectively as incidents. An accident is an incident characterized by a certain perceived intention. Thus, just as a highway intersection can be examined as an accident scene, so the external surfaces of Hemphill's person, hair, skin, and clothing can be examined as an incident scene.

If all accident scenes were identical, a generalization could eventually be drawn about antecedent positions and forces. Each accident scene, however, is unique. Many present confusingly complicated pictures with many relevant and, sometimes, apparently contra-indicative features. Thus, there can be no generalization from a class of previous "identical" accidents to the one in litigation. Instead, nonunique features, features that have recurred with sufficient frequency to support generalizations, are identified. The fragmentary generalizations appropriate to these features are combined to explain the concurrence of features that comprise the scene. Where a selection among generalizations and/or a recombination of fragmentary generalizations is required, an inference is drawn. Thus, generalization and inference are seen not as discrete collateral mental processes, but as simple and compound forms, respectively, of the same process.

In *Duncan*, the simple form suffices. The external surfaces of Hemphill's person comprise, according to this analysis, a simple incident scene, the only relevant feature of which is the presence of certain concentrations of barium and antimony residues. A recurrent, single-feature incident scene resembles a thing or being of established identity and classification in at least one respect: comprehensive generalizations can be made about both. And yet, because of the tendency to distinguish things from occurrences, the simple incident scene will seem more closely related to complicated incident scenes, about which comprehensive generalization is not possible, than to things and beings. Small wonder that the distinction between attribute and function blurs at the border.

c. *Duncan* as Bringing Microphenomena Within "Physical Facts" Reasoning

The court in *Duncan* said that "NAA results could have come within the [physical facts] rule as 'facts' established by physics."⁹⁷ This statement presents, for the first time, the novel and particularized proposition that "physical facts" means "facts established by physics" or, at least, that "facts established by physics" comprise a subcategory of "physical facts." This proposition is apparently tailored to accommodate microphenomena, i.e., physical facts the presence or occurrence of which cannot be perceived by the senses, but which can only be inferred from other physical facts that are so perceptible. The likelihood that Hemphill had "recently handled or discharged a firearm"⁹⁸ depended on "the levels of barium and antimony

97. 540 S.W.2d at 135.

98. *Id.*

in the [gunshot residue] sample,"⁹⁹ but the five senses cannot perceive levels of barium and antimony or even that barium and antimony are present at all.¹⁰⁰ Thus, even at this first step, the jury had to rely on the science of physics as interpreted by an expert witness to report the presence of phenomena that were imperceptible to the senses and to reason from those "physical facts" to the conclusion that certain concentrations of barium and antimony residues were present in the test sample. This Missouri precedent carries physical facts reasoning beyond the senses into an environment of "facts" humanly cognizable only with the aid of science.

d. *Duncan* as a Case in Which Judicial Notice Was Not Justified

The court in *Duncan* said that the results of neutron activation analysis might "come within the rule as 'facts' established by physics."¹⁰¹ In what sense could this be so? For the purpose of this discussion, *Duncan* will be treated as an attribute case. Testimony is a nullity in an attribute case when it asserts, either directly or indirectly, that a thing or being of established identity in the case has an attribute that it is judicially known not to have, or, conversely, as in *Duncan*, does not have an attribute that it is known to have. A proposition of fact is not "established" until a jury has found it to be true or unless a jury must, by judicial fiat, accept it as true. To come within the "rule" that testimony is nullified by contradictory physical facts, some proposition in the chain of circumstantial reasoning must be judicially noticeable.

Where is the judicially noticeable proposition in *Duncan*? The identity of Hemphill as a member of the class of persons bearing certain concentrations of barium and antimony residues could not be judicially noticed. His membership in that special subclass of human beings had to be established by admission or by overwhelming proof. No principle of physics assures, for example, that a Hemphill always comes accompanied by traces of chemicals not found about the persons of people generally. That Hemphill's identity as a class member could not be judicially noticed did not, however, preclude valid physical facts reasoning. His identity was the minor premise of the attribute syllogism, and that premise, according to the terms of the formula, need only be established by admission or overwhelming proof. *Duncan* admitted it by adopting it as a premise of his own attack on Davenport's testimony.

According to the terms of the formula, the major premise of the attribute syllogism must be judicially noticeable. In *Duncan*, the major premise that any member of the class described will recently have discharged a firearm was not judicially noticeable. No such generalization lies within the ex-

99. *Id.*

100. A witness might, conceivably, smell gunshot residue on a subject, or more precisely, smell an odor like that recalled from a former occasion on which a firearm was discharged.

101. 540 S.W.2d at 135.

perience of either jury or judge. A court may judicially notice propositions of scientific fact about which there is no legitimate disagreement among scientists of requisite expertise, but it may not judicially notice that a certain relationship always exists when scientists themselves are not certain that it does. This uncertainty seemed present in *Duncan*, wherein "the expert witness testified, ' . . . within a reasonable degree of scientific certainty this person (Hemphill) had recently handled and discharged a firearm.' " ¹⁰² A jury might well be persuaded that a reasonable degree of scientific certainty is certainty enough for it. Likewise, the parties might be persuaded to admit the relationship. In either case, the fact would, in some sense, have been established by physics, but not in the special sense required by the logic of physical facts reasoning.

4. Reaction Time

When no quicker or slower reaction time is asserted, a court will attribute to a human actor a reaction time of three-fourths second.¹⁰³ This attribution is not typically invoked to nullify testimonial assertions about reaction time, but rather to fill an incidental testimonial gap. Thus, reaction time is an attribute that does not figure typically in attribute cases, but rather in function cases, in which it serves as a fragmentary generalization in the reconstruction of accidents.¹⁰⁴ If pressed, however, a court might nullify testimony asserting a reaction time that deviated too extremely from the judicially noticeable three-fourths of a second.

C. Function Cases—The "Physical Facts" Equation

Testimony is a nullity in a function case when it asserts a proposition of fact contradicting that required by the application of a judicially known relational principle to another proposition of fact established in the case. This established proposition of fact becomes the given term in an equation of which the relational principle is the function. If the equation's solution, the proposition of fact required by the application of the judicially known relational principle, contradicts the testimony being tested, the testimony is nullified. The physical facts equation is invoked principally in forensic reconstructions of incidents or in forensic determinations of visibility.¹⁰⁵

102. *Id.* (emphasis added).

103. *See, e.g.*, *Vaeth v. Gegg*, 486 S.W.2d 625, 627-28 (Mo. 1972); *Osborn v. McBride*, 400 S.W.2d 185, 189 (Mo. 1966); *Hickerson v. Portner*, 325 S.W.2d 783, 786 (Mo. 1959); *Allen v. Hayen*, 320 S.W.2d 441, 449 (Mo. 1959); *Davis v. St. Louis Pub. Serv. Co.*, 316 S.W.2d 494, 498 (Mo. 1958); *Wiseman v. Missouri Pac. R.R.*, 575 S.W.2d 742, 749 (Mo. App., St. L. 1978); *Fowler v. Robinson*, 465 S.W.2d 5, 10 (Mo. App., St. L. 1971); *Shelton v. Bruner*, 449 S.W.2d 673, 677 n.4 (Mo. App., Spr. 1969); *Johnson v. Weston*, 330 S.W.2d 160, 163 (Mo. App., St. L. 1959).

104. *See* Part II.C.1.a. *infra*.

105. Determinations of visibility figure largely in reconstructions of certain kinds of accidents, but they implicate analytical problems of sufficient distinctiveness to justify separate and coordinate treatment. *See* Part II.C.2. *infra*.

1. Forensic Reconstruction of Incidents

Most cases of this kind concern the reconstruction of vehicular accidents from propositions about the location, extensity, and intensity of skidmarks and gouges; the location, nature, and severity of damage to vehicles; the postaccident positions of vehicles; the location, kind, and quantity of impact debris; and speeds and distances. The miscellaneous cases filling out the category include prosecutions for violent crimes.

a. Reconstruction of Vehicular Accidents

Propositions about skidmarks, damage, postaccident positions, debris, speeds, and distances are, if established to the requisite certainty, the given terms or, in composite, the given term of the physical facts equation. They cannot themselves be judicially noticed; nothing requires their presence in any certain configuration at any particular accident scene. Thus, they must be established by judicial admissions or by overwhelming proof. In some kinds of cases, failure to establish the given term is the typical reason for a court's refusal to nullify testimony contradicting the equation's solution for the unknown term. The unknown term of the equation is the reconstruction of positions and forces, in whole or in part, existing at the instant before the accident. The unknown term cannot be supplied without the requisite certainty of both the given term and the function.

Stated in its simplest theoretical form, the function is a generalization about the relationship between sequential states of affairs, i.e., between the given and unknown terms of the physical facts equation. In practical application to the reconstruction of accidents, particularly vehicular accidents, in which "frequently . . . unlooked-for results attend the meeting of interacting forces,"¹⁰⁶ the function is a combination of noncomprehensive generalizations about the relationship between the circumstances found at the scene and the pre-accident positions and forces that could produce those circumstances. When this combination is accomplished by common sense, nonmathematical reasoning, it is said that an inference has been drawn. Thus, for the purpose of practical forensics, the function is an inference about the relationship between the given and unknown terms of the physical facts equation.

Courts typically call the function a "principle of science,"¹⁰⁷ a "law of nature,"¹⁰⁸ a matter of "common knowledge,"¹⁰⁹ or some variation¹¹⁰ or

106. *Steffen v. Ritter*, 214 S.W.2d 28, 29 (Mo. 1948); *Lowry v. Mohn*, 195 S.W.2d 652, 657 (Mo. 1946); *Phillips v. Stockman*, 351 S.W.2d 464, 470 (Mo. App., Spr. 1961).

107. *See, e.g., Kelly v. Terminal R.R. Ass'n*, 315 S.W.2d 699, 702 (Mo. 1958).

108. *See, e.g., Caffey v. St. Louis-S.F. Ry.*, 292 S.W.2d 611, 615 (Mo. App., Spr. 1956).

109. *See, e.g., Gilpin v. Gerbes Supermarket, Inc.*, 446 S.W.2d 615, 618 (Mo. En Banc 1969); *Lohmann v. Wabash R.R.*, 364 Mo. 910, 919, 269 S.W.2d 885, 891 (1954).

110. *See, e.g., State v. Cooksey*, 499 S.W.2d 485, 488 (Mo. 1973) ("inconsistent with the experience of mankind"); *Gilpin v. Gerbes Supermarket, Inc.*, 446

combination¹¹¹ of these. When the reasoning process is a matter of common sense, courts are likely to invoke "common knowledge" to justify judicial notice of the function. As the reasoning process tends toward scientific precision, courts are likely to invoke "laws of nature" or "principles of science" to justify judicial notice of the function.

In some kinds of cases, courts accept the given term of the physical facts equation as established in the case, but refuse to nullify testimony contradicting the equation's solution, the unknown term, because judicial notice of the function cannot be justified. This is more likely to happen in cases in which judicial examination of the interacting forces reveals too many contributory variables to be integrated by common knowledge, yet too few to support a certain conclusion built on scientific principles.

i. Accident Cases in Which a Plaintiff's Proof Was Nullified
by the "Physical Facts" Equation

Courts generally will not reconstruct accidents as a matter of law. The Missouri Supreme Court and the Springfield Court of Appeals have both said, "So frequently do unlooked-for results attend the meeting of interacting forces that courts should not indulge in arbitrary deductions from physical law and fact except when they appear to be so clear and irrefutable that no room is left for the entertainment, by reasonable minds, of any other." ¹¹² Deductions seldom appear so clear and irrefutable that they justify judicial notice, but in a few Missouri cases, some of debatable wisdom, a plaintiff's proof has been nullified by application of the physical facts equation.

A proposition of fact regarding the location of damage to a vehicle has been successfully invoked to nullify testimony asserting certain relative orientations of vehicles at impact. In *Neil v. Mayer*,¹¹³ the St. Louis Court of Appeals reversed a verdict and judgment for Neil, because the case had been submitted erroneously under the "rear end collision doctrine."¹¹⁴ There was no substantial evidence, in the court's view, that Neil's taxicab had been struck in the rear by Mayer's automobile. Neil testified that his cab had been struck "from the back"¹¹⁵ and "from the rear,"¹¹⁶ but taking his testimony

S.W.2d 615, 618 (Mo. En Banc 1969) ("established physical facts or laws"); *State v. Duncan*, 540 S.W.2d 130, 134 (Mo. App., St. L. 1976) ("unquestioned laws of nature").

111. See, e.g., *Gilpin v. Gerbes Supermarket, Inc.*, 446 S.W.2d 615, 618 (Mo. En Banc 1969); *State v. Duncan*, 540 S.W.2d 130, 134 (Mo. App., St. L. 1976).

112. *Steffen v. Ritter*, 214 S.W.2d 28, 29 (Mo. 1948); *Lowry v. Mohn*, 195 S.W.2d 652, 657 (Mo. 1946); *Phillips v. Stockman*, 351 S.W.2d 464, 470 (Mo. App., Spr. 1961).

113. 426 S.W.2d 711 (Mo. App., St. L. 1968).

114. *Id.* at 716.

115. *Id.* at 715.

116. *Id.*

as a whole, he might have meant only that the cab was struck from a position out of his vision behind him.

As its first stated ground for nullifying this testimony, the court said that "a witness may qualify his testimony in such a way as to render it of no probative value."¹¹⁷ Also, photographs, "introduced by both plaintiff and defendant"¹¹⁸ and identified by a plaintiff's witness,¹¹⁹ "showed damage to the side of the left rear fender back of the left rear wheel of the taxicab,"¹²⁰ but none to the rear end. As an additional ground for nullifying Neil's testimony, the court said that it was "entirely inconsistent with the undisputed photographic evidence that there was no physical damage to the rear end of the taxicab but only to the left side near the rear."¹²¹

If the photographic evidence was truly undisputed, the proposition about location of damage portrayed by the photographs was properly deemed established in the case. Assuming away the court's first ground of decision, however, the photographs were indirectly disputed by Neil's testimony that Mayer's car had struck his cab from the rear.¹²² Indirect contradiction should suffice: A rule requiring direct contradiction too often would trap the unwary into sacrifices of their right to jury determination. A jury may choose the photographs over inconsistent oral testimony, but the court should not do so as a matter of law. Thus, the decision in *Neil* arguably was mistaken, unless Neil had admitted directly that the photographs portrayed accurately the location of the damage to his cab, while continuing to assert a kind of collision inconsistent with such damage. That, apparently, was the court's view, which leads back to the first of its alternative grounds and diminishes considerably the decision's value as a physical facts precedent.

Propositions of fact regarding the extent of damage to one vehicle and the postcollision position of the other have been successfully invoked to nullify expert testimony that an automobile was travelling less than twenty miles per hour at impact. In *East v. McMenemy*,¹²³ the eastbound car that East's decedent was driving struck McMenemy's eastbound truck from the rear as the truck was making a left turn. According to the investigating highway patrolman, the collision occurred in the north or westbound lane of the highway.¹²⁴ It was apparently not disputed that "the truck was knocked over on its side and found on the north shoulder of the highway headed west, and the automobile the deceased was driving was demolished with parts of the engine and dashboard found in the rear part of the automobile."¹²⁵ Faced

117. *Id.* at 716.

118. *Id.* at 715.

119. *Id.* at 714.

120. *Id.*

121. *Id.* at 716.

122. *Id.* at 715.

123. 266 S.W.2d 728 (Mo. 1954).

124. *Id.* at 730.

125. *Id.* at 731.

almost certainly, under these facts, with a defense of contributory negligence against a primary negligence submission, East's counsel submitted the case under the humanitarian doctrine. The trial court directed a verdict for McMenemy at the close of East's case.

Apparently unwilling to hold that the humanitarian doctrine could not apply at all under these circumstances, the Missouri Supreme Court held instead that East had adduced no evidence from which it could be found that "there was any time for the respondent, with the means at hand, to avert the impending accident."¹²⁶ East's expert witness had testified that the car took 2.85 seconds to lay down the sixty-five-foot skidmarks reported by the investigating patrolman, but this necessitated the conclusion, which the expert apparently stated, that the car was going no more than 15.9 miles per hour when it struck the truck.¹²⁷ Referring to the postcollision position of the truck and condition of the car, the court nullified this expert testimony as "contrary to physical facts and in conflict with common observations and experiences of men."¹²⁸ Although the supreme court agreed with the trial judge that no submissible case of humanitarian negligence had been made, it reversed and remanded "so appellant [East] may plead specific negligence, if she is so advised."¹²⁹ East probably was not so advised. The postcollision condition of the car and position of the truck are propositions of a kind often conceded without dispute. If they were so conceded here, *East* was correctly decided, notwithstanding the indirect contradiction afforded by the expert's testimony.

Propositions of fact regarding speeds and distances have been invoked successfully to nullify a plaintiff's testimony that a train was a certain distance from a crossing at a certain time. In *Marshall v. St. Louis-San Francisco Railway*,¹³⁰ the Missouri Supreme Court held that the trial court had properly entered judgment for the railroad notwithstanding the verdict for Marshall, because there was "no substantial evidence that plaintiff's imminent and inescapable peril (after the loss of control of his automobile) was discovered or discoverable by defendant in the exercise of ordinary care in time for it to have thereafter avoided the collision by stopping or slackening the speed of the train."¹³¹ Taking other speeds and distances testified to by Marshall as established in the case, the court demonstrated by simple mathematical calculations that the train could not have been as far from the crossing when Marshall first saw it as he had testified. Marshall "would not have been able to see the front end of an approaching train until it was within 83 ½ to 98 ½ feet of the center of the pavement at the crossing. These

126. *Id.* at 732.

127. *Id.* at 730-31.

128. *Id.* at 731.

129. *Id.* at 732.

130. 361 Mo. 234, 234 S.W.2d 524 (En Banc 1950).

131. *Id.* at 245, 234 S.W.2d at 531.

distances are less than the stopping distance of the train after notice to the engineer."¹³²

The court appeared to disregard the oft repeated rule that a party is not bound by his own estimates of speed and distance, but may avail himself of the more favorable estimates of other witnesses.¹³³ The court said only that if the testimony of the railroad's witnesses was taken to establish the relevant speeds and distances, "the situation for plaintiff is little improved."¹³⁴ In other words, there were no "more favorable" estimates, or at least none that were "more favorable" enough to make any difference. Still, to consider part one of a witness's testimony true for the purpose of nullifying part two smacks of arbitrary selectivity.

Propositions of fact regarding speeds and distances have been successfully invoked to nullify a defendant's extrajudicial statement of opinion, offered at trial by the plaintiff, that the defendant could have avoided the collision. In *Osborn v. McBride*,¹³⁵ the Missouri Supreme Court affirmed a jury verdict and judgment for defendant McBride in a right angle automobile collision case, holding that the trial court had not erred in refusing to give the jury Osborn's instruction on humanitarian negligence. In doing so, the court rather casually nullified testimony of McBride's out-of-court statement that he could have avoided the accident by swerving right instead of left, saying that the testimony was not sufficient, "in light of the physical facts as disclosed by the evidence,"¹³⁶ to make a submissible case under the humanitarian doctrine. Making calculations from the testimony of speeds and distances most favorable to Osborn¹³⁷ and from a tacitly judicially noticed reaction time of three-fourths of a second, the court satisfied itself that McBride had "at most a little less than 23 feet in which to swerve and miss plaintiff's car."¹³⁸ The court concluded that Osborn had "introduced no evidence to show that this could have been done"¹³⁹ and that there was "no basis to assume or infer that defendant could have swerved further to the right than to the left."¹⁴⁰ By taking the speeds and distances most favorable to Osborn as established in the case, the court arguably satisfied that requirement of physical facts reasoning. Beyond that, the holding probably is explained by the procedural posture of the case on appeal. This was not a case in which a jury verdict fell with the nullified testimony, but one in which judge and jury saw the merits the same way.

132. *Id.* at 243-44, 234 S.W.2d at 530.

133. *See, e.g.,* Vaeth v. Gegg, 486 S.W.2d 625, 628 (Mo. 1972); Hecker v. Schwartz, 426 S.W.2d 22, 25 (Mo. 1968); Smith v. Siercks, 277 S.W.2d 521, 525 (Mo. 1955); Fowler v. Robinson, 465 S.W.2d 5, 9 (Mo. App., St. L. 1971).

134. 361 Mo. at 244, 234 S.W.2d at 530.

135. 400 S.W.2d 185 (Mo. 1966).

136. *Id.* at 190.

137. *Id.* at 188.

138. *Id.* at 190.

139. *Id.*

140. *Id.*

ii. Accident Cases in Which a Plaintiff's Proof Was Not Nullified by the "Physical Facts" Equation

In many of these cases, the arguments for nullification were especially weak. In *Garrison v. Ryno*,¹⁴¹ for example, Garrison testified that defendant Kent had driven his car and tow onto the highway from the north without stopping as required, causing the car in which Garrison was approaching from the east to skid into an oncoming truck. On appeal from a verdict and judgment for Garrison, Kent argued that this testimony "was so contrary to physical laws and facts of common knowledge that it could not be accepted as substantial evidence."¹⁴² Applying the judicially noticeable premise "that it is a law of physics that a beam or reflection from a light will travel in a straight line"¹⁴³ to Garrison's own testimony that Garrison saw the taillights of Kent's vehicles but no headlights,¹⁴⁴ Kent argued that his car and tow must necessarily already have been facing west on the highway when Garrison first saw it, not approaching the intersection from the north as Garrison had testified.

Affirming the judgment for Garrison, the Missouri Supreme Court rejected Kent's argument, noting that Garrison had also testified that the Kent vehicles, when he first saw them, were already "veering in a southwesterly direction"¹⁴⁵ in the kind of wide-arc, no-stop turning maneuver the driver of an awkward two-vehicle unit might well employ in making a right turn upgrade onto a highway from a road "very slick" with ice and snow.¹⁴⁶ Because the jury could believe any of these factual propositions, Kent's crucial premise "that the tow-bar unit was approaching the intersection at right angles"¹⁴⁷ was, as the court correctly observed, "not an established fact."¹⁴⁸

In conclusion, the court said,

Reasonable minds might conclude that on a dark night a beam or reflection from . . . two sets of red taillights approaching an intersection at an angle, 40 or 50 feet from the intersection, might be seen from a point on the intersecting highway 400 to 500 feet distant from the intersection; that the headlights of such a vehicle might not be noticed, where the vehicle was going upgrade as it approached the intersection—that the beam of the headlights would be cast up into the air rather than down upon the road.¹⁴⁹

Kent's argument from "physical laws and facts of common knowledge" was

141. 328 S.W.2d 557 (Mo. 1959).

142. *Id.* at 560.

143. *Id.*

144. *Id.*

145. *Id.* at 559.

146. *Id.*

147. *Id.* at 561.

148. *Id.*

149. *Id.*

so well answered by the court's application of "common knowledge" that it is uncertain with what modicum of confidence Kent advanced it. If judicial repetition of the physical facts vocabulary encourages many such misapplications, it exacts a high price in misdirected professional energy for the small and illusory comfort of certainty it affords.¹⁵⁰

In many accident cases in which nullification was denied, the given term of the equation was not established in the case. *Garrison* affords an instructive example in an unusual setting. Another exemplary precedent of a less usual configuration is *Closser v. Becker*.¹⁵¹ In that case, the Missouri Supreme Court held that testimony by Closser and his witness that Closser was standing by his truck when he was hit by Becker's truck was not nullified by "established physical facts" consisting of "the uncontradicted evidence of the police officers that the only indication of any contact of the defendant's truck with plaintiff was small spots of blood and hair on the rim of the outer right rear wheel of the truck."¹⁵² This evidence, Becker apparently contended, established that Closser had fallen into Becker's passing truck.¹⁵³ "The fallacy of defendant's contention," said the court, "is that the testimony of his witnesses as to the blood and hair on the rim of the outer rear wheel is not conceded to be factually correct."¹⁵⁴ In other words, it was not established in the case.

In a large and more usual subcategory of cases, the proffered given term was testimonial estimates of speeds and distances. The courts have quite consistently said that "the 'physical facts' rule has no application where variable or doubtful estimates are made with respect to the facts."¹⁵⁵ For example, in *Vaeth v. Gegg*,¹⁵⁶ plaintiff Vaeth sought to nullify defendant-counterclaimant¹⁵⁷ Gegg's testimonial estimate of Vaeth's excessive speed by treating as established Gegg's testimonial estimate of the distance at which he first saw Vaeth's approaching vehicle and making certain calculations from that distance. The Missouri Supreme Court affirmed a verdict and judgment for Gegg on his counterclaim.

*Dawson v. Scherff*¹⁵⁸ affords another good example of the same genre. Dawson sued Scherff for crowding him into a bridge abutment as Dawson

150. For other marginal invocations of the "physical facts" vocabulary, see cases cited note 47 *supra*.

151. 308 S.W.2d 728 (Mo. 1958).

152. *Id.* at 736.

153. *Id.* at 731.

154. *Id.* at 736. For other cases featuring this fallacy, see, e.g., *Wiser v. Missouri Pac. R.R.*, 301 S.W.2d 37 (Mo. 1957); *Gurwell v. Jefferson City Lines, Inc.*, 239 Mo. App. 305, 192 S.W.2d 683 (K.C. 1946).

155. *Vaeth v. Gegg*, 486 S.W.2d 625, 628 (Mo. 1972).

156. *Id.* at 625.

157. With regard to his counterclaim, Gegg's position was that of a plaintiff. See note 21 *supra*.

158. 281 S.W.2d 825 (Mo. 1955).

attempted to overtake Scherff's truck. Scherff contended that he never drove out of his lane and that Dawson was well behind Scherff's truck when Dawson hit the abutment. In defending a judgment notwithstanding the verdict on appeal, Scherff argued from certain propositions of fact in evidence "that it was a physical impossibility for the facts to have been as plaintiff testified they were."¹⁵⁹ The Missouri Supreme Court reversed,¹⁶⁰ saying that "the mere fact that some of plaintiff's estimates of speed or of the relative positions of the vehicles at a given point cannot be reconciled with physical facts does not of itself make his case non-submissible."¹⁶¹

Of the few accident cases surmounting the hurdle posed by the requirement that the given term of the physical facts equation be established in the case, most stumble on the requirement that the function on which the equation depends be judicially noticeable. In *Lowry v. Mohn*,¹⁶² an action arising out of an automobile collision at an intersection, Mohn won a directed verdict at the close of Lowry's case. Mohn contended on appeal that "the physical facts, particularly the positions of the respective automobiles when they had come to rest after the collision, and the nature of the damage . . . conclusively demonstrate[d] that the collision was solely caused by the negligence of . . . [Lowry's driver]."¹⁶³ The Missouri Supreme Court was not persuaded to take judicial notice, saying, "[W]e do not certainly know that the contact of the moving vehicles colliding at a right angle would not have caused them to come to rest after the collision in the stated locations and positions, although the collision be considered to have occurred as stated by plaintiff's witnesses."¹⁶⁴ Reversing Mohn's directed verdict as erroneously granted, the court reasoned, "Taking into consideration all of the physical facts of which defendant has reminded us, we cannot say that the collision could not have possibly occurred in the manner as detailed by plaintiff's witnesses."¹⁶⁵

In *Phillips v. Stockman*,¹⁶⁶ the Springfield Court of Appeals similarly declined the defendants' invitation to reconstruct the accident as a matter of law. In *Jones v. Smith*,¹⁶⁷ the Missouri Supreme Court refused, in a soft alternative holding, to take judicial notice of the standard three-fourths of a second reaction time. To do so would have nullified certain occurrence testimony of Jones's witness.¹⁶⁸

159. *Id.* at 829.

160. The court, however, affirmed the alternative grant of a new trial because the jury verdict for plaintiff was against the great weight of the evidence. *Id.* at 831.

161. *Id.* at 829-30.

162. 195 S.W.2d 652 (Mo. 1946).

163. *Id.* at 656.

164. *Id.* at 657.

165. *Id.*

166. 351 S.W.2d 464 (Mo. App., Spr. 1961).

167. 372 S.W.2d 71 (Mo. 1963).

168. *Id.* at 75.

b. Miscellaneous Reconstruction of Incidents

The greater number of physical facts precedents are tort cases that use established propositions about certain physical facts to nullify testimony about other physical facts, i.e., if *A* happened, which is taken to be established, then *B* could not have happened. Some of the criminal precedents invoking physical facts reasoning are also of this kind,¹⁶⁹ but other criminal physical facts cases are of a more curious genre. In the latter cases, it was argued with regard to self-defense and even held with regard to assault with intent to kill that established propositions about physical facts may nullify testimony about intent, which scarcely fits any commonly held definition of "physical fact."

i. Self-defense

*State v. Chamineak*¹⁷⁰ will serve as an example. Chamineak was tried for second-degree murder in the shotgun killing of Hogan. Chamineak had shot Hogan in the head while Hogan sat in the right front seat of a car parked in front of the house where Chamineak lived with Hogan's former wife. Chamineak admitted that he had approached the car and Hogan from the right rear, but testified that he raised his shotgun and fired only when he heard Hogan's brother say, "'Now is your chance, Harold [Hogan],'"¹⁷¹ and saw Hogan "come up with that pistol."¹⁷² Although this and other testimony suggesting self-defense had been adduced, the trial court refused to instruct the jury on self-defense, and Chamineak was convicted.

On appeal, the state argued that "Chamineak's 'evidence of self-defense * * * is so inconsistent with the physical facts disclosed by the record that the Court was not obliged to accept it as substantial evidence.'"¹⁷³ The state referred to

all the circumstances and specifically to the fact that Chamineak approached the automobile from the rear, the fact that Harold was right-handed and was facing the windshield, the fact that no loaded gun was found in the automobile [although an unloaded one was] and none on Harold's person [although a blackjack was, and] the fact that the course of the shotgun pellets was from the back of his right ear to his left eye.¹⁷⁴

The Missouri Supreme Court held that the trial court had erred in failing to instruct on self-defense, saying,

It is not now necessary to consider the precise function of the [physical facts] rule, or to examine its rationale and limitations, or even to consider its applicability in criminal cases; its applicability is assumed

169. See, e.g., *State v. Thomas*, 309 S.W.2d 607, 609 (Mo. 1958).

170. 328 S.W.2d 10 (Mo. 1959).

171. *Id.* at 13.

172. *Id.*

173. *Id.*

174. *Id.*

even though it is doubtful that any criminal case involving self-defense has in point of fact turned alone upon the rule.¹⁷⁵

In *State v. Tindall*,¹⁷⁶ while reviewing a conviction for second-degree murder, the Kansas City Court of Appeals said, "This testimony of self-defense was refuted in almost every vital particular by the state's evidence and physical facts, but we believe, and so hold, that it was sufficient to warrant the submission of self-defense to the jury."¹⁷⁷ Similarly, in *State v. Malone*,¹⁷⁸ another second-degree murder case, the Missouri Supreme Court said, "However improbable may seem defendant's story . . . we cannot judicially say it is impossible. Its truth or falsity was for the jury to determine."¹⁷⁹

ii. Assault with Intent to Kill

Defendants have not fared as well in prosecutions for assault with intent to kill. In *State v. Cooksey*,¹⁸⁰ the most recent instance, the Missouri Supreme Court affirmed Cooksey's conviction of assault with intent to kill without malice, saying, "In the circumstances of this case, her [testimonial] denial of an intent to kill Chambers is so inconsistent with and contrary to her actions and common experience that no instruction on common assault was required."¹⁸¹ The court cited *State v. Bevineau*,¹⁸² a prosecution for assault with intent to kill with malice aforethought, in which the supreme court said, "[D]enial of intention to kill does not necessarily require an instruction for a lesser degree of the offense charged when 'the statements of defendant were so incumbered with the physical facts and conduct of defendant, so unreasonable and inconsistent with the experience of mankind * * *'"¹⁸³ The rhetoric is persuasive as a jury argument, but not as an argument for excluding the jury from full participation in the determination. The holdings of *Cooksey* and *Bevineau* arguably were unconstitutional when rendered.¹⁸⁴ Similar holdings, if rendered today, would be even more suspect.¹⁸⁵

2. Forensic Determinations of Visibility

From a tactical perspective, two types of cases occur in which propositions of fact about visibility become crucial. In one, attention focuses on the

175. *Id.*

176. 496 S.W.2d 267 (Mo. App., K.C. 1973).

177. *Id.* at 269.

178. 327 Mo. 1217, 39 S.W.2d 786 (1931).

179. *Id.* at 1227, 39 S.W.2d at 789.

180. 499 S.W.2d 485 (Mo. 1973).

181. *Id.* at 489.

182. 460 S.W.2d 683 (Mo. 1970).

183. *Id.* at 688 (quoting *State v. Nelson*, 118 Mo. 124, 23 S.W. 1088 (1893)).

184. See *In re Winship*, 397 U.S. 358 (1970); *Leland v. Oregon*, 343 U.S. 790 (1952); *Morrisette v. United States*, 342 U.S. 246 (1952).

185. See *Sandstrom v. Montana*, 442 U.S. 510 (1979); *County Court v. Allen*, 439 U.S. 815 (1979); *Leary v. United States*, 395 U.S. 6 (1969).

plaintiff's prima facie case; he contends that a visual obstruction negligently maintained by the defendant proximately caused his injury.¹⁸⁶ In response, the defendant invokes the physical facts equation to nullify the plaintiff's proof of obstructed visibility. In the other type of case, attention focuses on an affirmative defense; the defendant contends that the plaintiff was contributorily negligent as a matter of law for failing to look or for failing to see what was plainly visible.¹⁸⁷ In support, the defendant invokes the physical facts equation, arguing typically that he has established an overwhelming case on the elements of an affirmative defense for which he bears the burden of persuasion.

As far as the operation of the physical facts equation is concerned, the two kinds of cases seem interchangeable. If the defendant's version of what could have been seen is established certainly enough to nullify the plaintiff's testimony to the contrary, it is also established certainly enough to win a directed verdict on the affirmative defense of contributory negligence. Thus, for the purpose of examining the operation of the physical facts equation, the two kinds of cases will be treated together.

Some of the cases turning on propositions of fact about visibility invoke judicial notice so subtly that only thoughtful scrutiny reveals them to be function cases. A proposition of fact about visibility may be supported by unassisted oral testimony or by oral testimony assisted by photographs or drawings of various kinds, e.g., charts, diagrams, maps, plats, and sketches.

a. Unassisted Oral Testimony

Unassisted oral testimony depends for its efficacy on the generalization that the plaintiff would or could have seen before the incident exactly what the witness saw while examining the scene thereafter.¹⁸⁸ This generalization depends on the judicially noticeable proposition that light always travels in a straight line from object to eye¹⁸⁹ and on the proposition that every eye always receives and processes the same light in the same way.¹⁹⁰ Whatever scientific doubts might be raised, the generalization that all people see alike is firmly established "common knowledge" and passes typically without comment. When the plaintiff's unassisted oral testimony confronts the defendant's unassisted oral testimony, courts perceive without difficulty that the contradiction presents a jury question.

186. See Parts III.A.-B. *infra*.

187. See Part III.C. *infra*.

188. This assumes that there has been no change of circumstances at the scene, which itself poses an important subject for cross-examination.

189. See, e.g., *Garrison v. Ryno*, 328 S.W.2d 557, 560 (Mo. 1959).

190. See generally M. FINEMAN, *THE INQUISITIVE EYE* (1981); L. KAUFMAN, *PERCEPTION: THE WORLD TRANSFORMED* (1979); L. KAUFMAN, *SIGHT AND MIND: AN INTRODUCTION TO VISUAL PERCEPTION* (1974); M. LUCKIESH, *VISUAL ILLUSIONS, THEIR CAUSES, CHARACTERISTICS AND APPLICATIONS* (1922).

b. Oral Testimony Assisted by Photographs

Whether evidentiary configurations of oral testimony assisted by photographs invoke any generalization in addition to the basic one that all people see alike depends on the kind of foundation required to render photographs admissible. Typically, a witness testifies that a certain photograph is an accurate portrayal of what he saw.¹⁹¹ This testimony is the proof; the photograph serves only as an aid to expression.¹⁹² There is no need to assume that the eye would have seen what the camera saw; the witness has sworn it to be so.

The matter stands differently, however, if the witness testifies merely that the photograph was taken by a camera aimed in a certain direction from a certain point.¹⁹³ Here, the trier must relate what the camera has seen to what the eye would have seen looking in the same direction from the same point. Indeed, the relevance of the camera-witness testimony depends on the generalization that the plaintiff would or could have seen before the incident exactly what the camera saw while examining the scene thereafter. Considering the variety of camera lenses, and that none is similar to the lens of the human eye, this generalization is, at best, a risky subject of judicial notice.¹⁹⁴ An even greater risk is that the photograph will so overwhelm the trial participants that difficult problems about judicial notice will be passed over without consideration; a photograph imposes a persuasive illusion of truthfulness.

While the Missouri courts have generally handled physical facts cases well, their record in dealing with the visibility cases has not been consistently distinguished. *Lohmann v. Wabash Railroad*,¹⁹⁵ a decision of casebook stature,¹⁹⁶ has already been discussed with disapproval.¹⁹⁷ The vice of the decision lay in the court's ready acceptance of the photograph as a physical fact or, at least, as the true portrayal of the physical facts at the time of the collision without, so far as the opinion reveals, first ascertaining conscious-

191. See, e.g., C. MCCORMICK, *supra* note 25, § 214; 9 AM. JUR. PROOF OF FACTS 147-52 (1961); 29 AM. JUR. 2D *Evidence* §§ 785-88 (1967).

192. See, e.g., C. MCCORMICK, *supra* note 25, § 214, at 530.

193. This will seldom be the case. See, e.g., 9 AM. JUR. PROOF OF FACTS 150 (1961). *Lohmann v. Wabash R.R.*, 269 S.W.2d 885, 890 (Mo. 1954), refers to photographs "taken with the camera at different places north of the track on Eva Avenue and pointed to the west," but this cannot, in context, be taken to mean that further authentication was lacking.

194. See, e.g., S. SANSONE, MODERN PHOTOGRAPHY FOR POLICE AND FIREMEN §§ 2.23-40 (1971). For an informative treatment of the uses of photography in automobile accident litigation, see K. HUGHES & B. CANTOR, PHOTOGRAPHS IN CIVIL LITIGATION 340-489 (1973).

195. 269 S.W.2d 885 (Mo. 1954).

196. See D. KARLEN, R. MEISENHOLDER, G. NEFF & A. VESTAL, CIVIL PROCEDURE CASES AND MATERIALS 770-75 (1975).

197. See notes 28-39 and accompanying text *supra*.

ly and specifically whether the testimonial foundation on which the photograph depended was established beyond contradiction. The testimony of Lohmann's three witnesses contradicted only implicitly the testimony underlying the railroad's photograph. In this situation, courts easily forget the admonition that "[t]he 'physical facts' rule . . . has no application . . . where the credibility of witnesses is involved."¹⁹⁸ When photographs have been explicitly contradicted by testimony¹⁹⁹ or other photographs,²⁰⁰ courts have perceived without difficulty the proposition that photographs are not physical facts.

In a case in which the existence of a certain photograph was an element of a claim or defense, the photograph itself, presented in court as real evidence, would be a physical fact in the case. In any other substantive setting, however, and certainly in the usual vehicle negligence settings in which they are used, photographs are never facts, physical or otherwise. They are portrayals of propositions of fact—propositions about the situation that existed at a material time and place. Photographs without explanation establish nothing. The proposition of fact underlying each photographic portrayal must be established by testimony, to which the photograph is intended to be an aid to understanding.²⁰¹ If the testimony is subject to disbelief, the attested proposition of fact is not established in the case until the jury, by its verdict, has said so. Legally and logically, the proposition of fact cannot be bootstrapped by the photograph. Psychologically, however, it has been.

*Silvey v. Missouri Pacific Railroad*²⁰² dramatizes the danger inherent in this psychological bootstrapping. The railroad's photographs showed a clearer view down the tracks to the south than the view to which Silvey had testified. Silvey also had photographs in evidence that showed "a very considerable obscuring of the view to the south by trees."²⁰³ The Missouri Supreme Court noted that, in one set of the railroad's photographs, "the camera was 'looking' over the tops of some of the trees and brush which obscure the vision in plaintiff's photos."²⁰⁴

If Silvey's case on visibility had depended entirely on his own eyewitness testimony, the court erroneously might have held for the railroad, saying, in the words of *Lohmann*, "Giving consideration to all the physical facts as established by . . . photographs we are compelled to rule that the testimony

198. *Anderson v. Orscheln Bros. Truck Lines, Inc.*, 393 S.W.2d 452, 460 (Mo. 1965). *See also* *Davenport v. Wabash R.R.*, 435 S.W.2d 641 (Mo. En Banc 1968).

199. *See, e.g.*, *Silvey v. Missouri Pac. R.R.*, 445 S.W.2d 354, 358 (Mo. 1969); *Ruhl v. Missouri Pac. R.R.*, 304 S.W.2d 16, 18 (Mo. 1957).

200. *See, e.g.*, *Silvey v. Missouri Pac. R.R.*, 445 S.W.2d 354, 358 (Mo. 1969).

201. *See, e.g.*, C. MCCORMICK, *supra* note 25, § 214; 9 AM. JUR. PROOF OF FACTS 147-52 (1961); 29 AM. JUR. 2D *Evidence* §§ 785, 788 (1967).

202. 445 S.W.2d 354 (Mo. 1969).

203. *Id.* at 358.

204. *Id.*

of . . . [Silvey] is plainly contrary to the demonstrated physical facts,"²⁰⁵ and concluding confidently that, if Silvey had looked, "he could and would have seen the approaching train and stopped his truck, and waited for the train to pass over the crossing. . . . The . . . [trees and brush] did not obstruct . . . [Silvey's] vision of the approaching train."²⁰⁶ Silvey might have lost to the magic of "physical facts," his credible testimony nullified by photographs that did not at all portray what Silvey had actually seen, or could have seen, as he approached the crossing.

Ruhl v. Missouri Pacific Railroad,²⁰⁷ an earlier precedent, is unlike *Silvey* in that Ruhl introduced no antidotal photographs, but instructively like *Silvey* at the crucial point: Ruhl did contradict the railroad's photographs directly by oral testimony. The Missouri Supreme Court affirmed Ruhl's judgment for the wrongful death of his wife, saying, "In these circumstances what may be seen from a certain place is not 'admitted or undisputed' . . . and does not conclusively or indisputably establish the physical facts,"²⁰⁸ and concluding in words that deserve to be quoted more often than they have been: "[T]here is no rule which permits appellate courts to disturb a jury's findings because highly convincing photographic evidence may seem to overbalance the parol or other evidence to the contrary."²⁰⁹

Unlike the photographs in *Silvey* and *Ruhl*, the photographs on which the railroad relied in *Zumault v. Wabash Railroad*²¹⁰ were put in evidence by the plaintiff, but, as in those cases, the Missouri Supreme Court did not accept the photographs as conclusive, proof-nullifying portrayals of what the plaintiff must have seen as he approached the crossing just before the accident. Affirming a judgment for Zumault against the railroad's contention that he was contributorily negligent for failing "to look for or see the approaching train,"²¹¹ the court said of the photographs, "They were not taken from points on . . . [the street upon which plaintiff was traveling] and at a height so as to be fairly representative of what plaintiff could see from his automobile as he approached the crossing."²¹² Nor did the measurements of sight distances put in evidence by the railroad nullify Zumault's testimony that his view of the speeding train was obscured by weeds on the right-of-way. "Taken as they were in the winter time almost two and a half years after the accident," said the court, "the weeds and foliage conditions were not the same."²¹³ The court was perhaps particularly willing to leave the railroad to the mercy of the jury because the train, according to the testimony

205. *Lohmann v. Wabash R.R.*, 269 S.W.2d 885, 891 (Mo. 1954).

206. *Id.* at 892.

207. 304 S.W.2d 16 (Mo. 1957).

208. *Id.* at 18.

209. *Id.*

210. 302 S.W.2d 861 (Mo. 1957).

211. *Id.* at 862.

212. *Id.* at 864.

213. *Id.*

of the fireman, was going seventy to seventy-eight miles per hour within the city limits at the time of the collision.²¹⁴

*Black v. Kansas City Southern Railway*²¹⁵ seems, in its secondary holding, to fall away from the more careful jurisprudence of *Ruhl* and *Zumault*, but some good lessons still can be drawn from the opinion. The Missouri Supreme Court reversed Black's judgment for damages suffered in a crossing collision and remanded the case for a new trial, holding that the jury instruction submitting negligence in maintaining a visual obstruction had been prejudicially confusing and misleading.²¹⁶ The court further held that Black had not made a submissible case of negligence in maintaining a visual obstruction and ordered that "the issue should not be submitted as an independent ground of negligence on a retrial."²¹⁷ The factual issue on that part of the decision was whether all of the view-obscuring vegetation was on private property adjoining the railroad's right-of-way or whether at least some of it was on the right-of-way. Black's son had testified that there were trees and shrubs, some of which were 15 to 20 feet tall, on the right-of-way,²¹⁸ but the court nullified that testimony, relying apparently on six photographs in the trial record.²¹⁹

So far, the case seems dishearteningly like *Lohmann*. In *Black*, however, the court took reasonable care to say how the photographs were put in the record, what claim to objectivity and authenticity could be laid for them, and whether the party whose verdict they would defeat had considered them carefully and minimized them as best he could. Moreover, Black's son, prompted on cross-examination by one of the photographs, contradicted his earlier testimony. Whether the court's holding against submissibility was correct depends, therefore, not on whether the son's initial testimony was nullified by the physical facts equation, but whether it was effectively retracted by his later, more definite self-contradictory testimony.

When the court said, "There is no suggestion that . . . [the photographs] do not accurately portray the physical facts then existing,"²²⁰ it stated a conclusion based on a reasonably careful and explicit exposition of the record. Three of the photographs were put in evidence by Black,²²¹ and one of those showed "that along the fence on the west side of the highway right of way there . . . [was] an impenetrable growth of vegetation that completely . . . [obscured] any growth that might have existed along the Railroad right of way fence."²²² In other testimonial contexts, a plaintiff is not bound by his

214. *Id.* at 864-65.

215. 436 S.W.2d 19 (Mo. En Banc 1968).

216. *Id.* at 26-27.

217. *Id.* at 29.

218. *Id.* at 28.

219. *Id.* at 28-29.

220. *Id.* at 28.

221. *Id.*

222. *Id.*

own unfavorable testimony,²²³ but here, the plaintiff's attorney most likely will commission or choose photographs that put the most favorable face possible on his client's case, and this supposition gives some reassurance that a self-defeating photograph is authentic.

The other three photographs were, as the parties stipulated, "taken by the official photographer for the Kansas Highway Patrol about one and one-half hours after the accident happened."²²⁴ In the court's view, one of these photographs "completely . . . [refuted] the estimates given by witnesses that there were trees within 15 or 20 feet of the tracks."²²⁵ Although this decisive photograph was put in evidence by the railroad, its authenticity is suggested by its origin and by other circumstances found in the record and related by the court. If it was one of the "[n]umerous photographs . . . placed in evidence and used by all the parties at the trial,"²²⁶ then the plaintiff's use at trial of a photograph unfavorable to his theory gives some reasonable ground to suppose that, after due consideration, he had conceded its authenticity. Under appropriate circumstances, even a tacit concession of this sort might properly be deemed a judicial admission.

The initial testimony of Black's son afforded the only suggestion that the photographs did not accurately portray what could have been seen on approaching the crossing. On cross-examination, however, he stated that the Kansas Highway Patrol photographs "portrayed the right of way as he had seen it when he was there."²²⁷ The testimony of the other witnesses apparently was also consistent with the conclusion drawn by the court from the decisive photograph that "the only growth on the right of way west of the tracks . . . [was] grasses and weeds that could not possibly prevent a person on the highway seeing a train approaching from the southwest."²²⁸ Thus, in the court's implicit view, whatever ostensibly contradictory testimony there might ever have been had, at the close of the evidence, been effectively retracted.

This view of the case presents *Black* as correctly applying the principle of physical facts reasoning that a photographic portrayal is established in the case only if it is not contradicted either explicitly or implicitly. *Black* would have been a more difficult case, and arguably wrongly decided, had Black's son maintained to the end his testimony that there were tall trees on the defendant's right-of-way. Such testimony would have contradicted implicitly the photograph that showed no tall trees on the right-of-way. To require explicit contradiction would impose on a party whose verdict a photograph would

223. See, e.g., *Vaeth v. Gegg*, 486 S.W.2d 625 (Mo. 1972); *Hecker v. Schwartz*, 426 S.W.2d 22 (Mo. 1968); *Smith v. Siercks*, 277 S.W.2d 521 (Mo. 1955); *Fowler v. Robinson*, 465 S.W.2d 5 (Mo. App., St. L. 1971).

224. 436 S.W.2d at 28-29.

225. *Id.* at 29.

226. *Id.* at 28.

227. *Id.*

228. *Id.* at 29.

defeat a burden of consummate advocacy that would weigh heavily on his constitutional right to a jury determination. Not every deserving party will find counsel capable of such advocacy. Had Black's son maintained his initial testimony to the end, there would have been a strong argument that he should not have been believed, but it would, in the view most favoring the constitutional right to jury determination, have been a jury argument, not an argument to be entertained and resolved by the court.

Notwithstanding the stiff competition provided by *Lohmann, Davenport v. Wabash Railroad*²²⁹ affords perhaps the worst example in the Missouri precedents of utter disregard for the principle of physical facts reasoning, just discussed, that a photographic portrayal is not established in the case if it is contradicted, *even indirectly*. In *Davenport*, an action for the wrongful death of plaintiff's husband at defendant's dangerous crossing, the Missouri Supreme Court treated as established in the case certain photographs showing good visibility at the defendant's railroad crossing, notwithstanding the testimony of two nonparty witnesses that "the weeds north of the track were cut after the day of the accident,"²³⁰ and that "the weeds that were mowed later would obscure the view of a southbound train until a person was ' * * * up pretty close to the track.'"²³¹ The court cited *Lohmann* and agreed with the railroad that this testimony "must be disregarded because [it was] at variance with the physical facts showing that deceased's view to the north was not obscured and that the train was in plain sight as he approached the crossing."²³² The court reversed the widow's judgment and remanded with orders to enter judgment for the railroad.

The nullified testimony contradicted the photographs only indirectly. To contradict them directly, the two witnesses would have to have been confronted with the photographs and would have had to say, as did the witnesses in *Silvey*²³³ and *Ruhl*,²³⁴ that the photographs did not accurately portray the scene at the time of the accident. It is hard to imagine, however, indirect contradiction more direct in its implications for the verisimilitude of the photographs than testimony that "the weeds that were mowed later would obscure the view."²³⁵ The opinion takes no care to establish whether the weeds were cut before the photographs were taken and perhaps the record provided no certain answer. The jury, however, could have concluded justifiably, as it seemingly did, that the tall weeds had been cut before the exculpatory photographs were taken.

229. 435 S.W.2d 641 (Mo. En Banc 1968).

230. *Id.* at 645.

231. *Id.* at 646.

232. *Id.* at 647.

233. *Silvey v. Missouri Pac. R.R.*, 445 S.W.2d 354 (Mo. 1969). *See* notes 202-06 and accompanying text *supra*.

234. *Ruhl v. Missouri Pac. R.R.*, 304 S.W.2d 16 (Mo. 1957). *See* notes 207-09 and accompanying text *supra*.

235. 435 S.W.2d at 646.

What if the photographs were right? What if there never were any view-obscuring weeds at the crossing? It may well be that the testimony of these two witnesses was viewed with "disdain by persons who had been at the scene. But the jury was not at the scene. We are concerned only with what the jury might allowably 'know.' . . . We must look at the 'physical fact' from the *jury's* point of view, not from that of the witness."²³⁶ Confusion about physical facts reasoning typically is "caused by shifting one's point of view from the jury box to the scene of the event."²³⁷ No judicially known principle permits the court to disbelieve Davenport's two crucial witnesses. The jury believed them and disbelieved the witnesses who, with the aid of photographs, testified otherwise. That should have been the end of it.

What common threads run through these cases? First, the appellate decisions do not seem to show more than the usual deference for the trial courts' judgments about the probative force of photographs. Some rulings that photographs were not conclusive were affirmed on appeal,²³⁸ while another was reversed.²³⁹ On the other hand, no discovered ruling that photographs were conclusive has been reversed on appeal, while several have been affirmed.²⁴⁰ Second, there seems to be a certain visceral jurisprudence running through the decisions. Appellate courts sometimes acquire their own strongly held feeling about what actually happened in the human drama portrayed by a certain trial record under review. If an appellate court's feeling does not coincide with the jury's verdict, the court overrides the jury, employing the apparently value-neutral rhetoric of the jurisprudence of proof to make the result seem compelled by principle. It is arguably not appropriate even for intermediate appellate courts to act as centralized "superjuries." Much less is it appropriate for supreme courts to do so.

According to the prevalent theory about the proper distribution of functions in a modern, two-tiered system of appellate courts, intermediate appellate courts should review "cases which are of importance only to the individuals affected."²⁴¹ Supreme courts should review only "the cases which are of institutional importance,"²⁴² resolving inconsistencies among intermediate appellate courts and deciding controlling questions of legal prin-

236. Hoffman, *supra* note 1, at 58.

237. *Id.*

238. Van Buskirk v. Missouri-Kan.-Tex. R.R., 349 S.W.2d 68 (Mo. 1961); Ruhl v. Missouri Pac. R.R., 304 S.W.2d 16 (Mo. 1957); Zumault v. Wabash R.R., 302 S.W.2d 861 (Mo. 1957).

239. Davenport v. Wabash R.R., 435 S.W.2d 641 (Mo. En Banc 1968).

240. Lohmann v. Wabash R.R., 269 S.W.2d 885 (Mo. 1954); Donald v. Missouri-Kan.-Tex. R.R., 364 Mo. 919, 231 S.W.2d 627 (1950).

241. P. CARRINGTON, D. MEADOR & M. ROSENBERG, JUSTICE ON APPEAL 4 (1976). This power to review for correctness should be administered with restraint. See generally L. GREEN, JUDGE AND JURY (1930); Green, *Jury Trial and Mr. Justice Black*, 65 YALE L.J. 482 (1956); Wright, *The Doubtful Omniscience of Appellate Courts*, 41 MINN. L. REV. 751 (1957).

242. P. CARRINGTON, D. MEADOR & M. ROSENBERG, *supra* note 241, at 4.

ple. None of the visibility cases examined even remotely presented a question of legal principle. Each found the Missouri Supreme Court deep in the business of supplanting the factual determinations of local juries concerning issues of importance only to the individuals affected.

But all of these cases were decided before 1970. In that year and in 1976, Missouri amended the appellate jurisdictional provisions of its constitution, creating an improved scheme of appellate jurisdiction seemingly designed with the modern, two-tiered system in mind.²⁴³ Since these amendments, the Missouri courts of appeals have heard most of the physical facts arguments.²⁴⁴ They cannot avoid completely, as the supreme court now can, the invitation to review evidence that the invocation of physical facts represents. The appellate courts can, however, reduce their workloads by carefully placed decisional signals. One such signal would make it clear that jury verdicts are no longer vulnerable on appeal to physical facts arguments depending on photographs. There is already good authority for that proposition in Missouri. *Silvey* and *Zumault* afford sound holdings on which to build.²⁴⁵ Of particularly prophylactic effect is the language of *Ruhl*: "[T]here is no rule which permits appellate courts to disturb a jury's findings because highly convincing photographic evidence may seem to overbalance the parol or other evidence to the contrary."²⁴⁶

243. MO. CONST. art. 5, §§ 3, 4, 10.

244. According to a search of the appropriate Missouri libraries of the Lexis[®] computer research service conducted on May 17, 1982, just twenty-five supreme court opinions dated 1970 or later, only six of which are dated 1976 or later, have used the phrase "physical facts." Twelve of those were casual uses. Of the others, only three have required textual treatment herein. See *State v. Newlon*, 627 S.W.2d 606 (Mo. En Banc 1982) (casual use in dissent); *State v. Harris*, 620 S.W.2d 349 (Mo. En Banc 1981); *State v. Newberry*, 605 S.W.2d 117 (Mo. 1980); *Welch v. Hyatt*, 578 S.W.2d 905 (Mo. En Banc 1979); *Epple v. Western Auto Supply Co.*, 548 S.W.2d 535 (Mo. En Banc 1977); *State v. Gotthardt*, 540 S.W.2d 62 (Mo. En Banc 1976); *Saupe v. Kertz*, 523 S.W.2d 826 (Mo. En Banc 1975); *Cline v. Carthage Crushed Limestone Co.*, 504 S.W.2d 102 (Mo. 1973) (casual use); *State v. Gibson*, 502 S.W.2d 310 (Mo. 1973) (casual use); *State v. Cooksey*, 499 S.W.2d 485 (Mo. 1973); *Bounds v. Scott Constr. Co.*, 498 S.W.2d 765 (Mo. 1973); *State v. Dodson*, 490 S.W.2d 92 (Mo. 1973) (casual use); *Price v. Bangert Bros. Road Builders, Inc.*, 490 S.W.2d 53 (Mo. 1973) (casual use); *Carter v. Consolidated Cabs, Inc.*, 490 S.W.2d 39 (Mo. 1973); *State v. Parton*, 487 S.W.2d 523 (Mo. 1972) (casual use); *Vaeth v. Gegg*, 486 S.W.2d 625 (Mo. 1972); *State v. Cannon*, 486 S.W.2d 212 (Mo. 1972) (casual use); *State v. Starks*, 472 S.W.2d 407 (Mo. 1971) (casual use); *State v. Simerly*, 463 S.W.2d 846 (Mo. 1971) (casual use); *Tucker v. Central Hardware Co.*, 463 S.W.2d 537 (Mo. 1971) (casual use); *Commerford v. Kreidler*, 462 S.W.2d 726 (Mo. 1971); *State v. Bevineau*, 460 S.W.2d 683 (Mo. 1970); *Garton v. State*, 454 S.W.2d 522 (Mo. 1970) (casual use); *Headrick v. Dowdy*, 450 S.W.2d 161 (Mo. 1970); *State v. Stidham*, 449 S.W.2d 634 (Mo. 1970) (casual use).

245. See notes 202-06 & 210-14 and accompanying text *supra*.

246. *Ruhl v. Missouri Pac. R.R.*, 304 S.W.2d 16, 18 (Mo. 1957).

*Van Buskirk v. Missouri-Kansas-Texas Railroad*²⁴⁷ exhibits the least reverence toward photographs. Van Buskirk sued the railroad for the wrongful deaths of his wife and three children, who were struck and killed by the railroad's train at a grade crossing on a country road. Both the railroad track and the road approached the crossing through grade cuts four or five feet deep. As no one seemed to contest, "at the top of the cut and on the railroad right of way there were weeds approximately five or six feet high."²⁴⁸ Van Buskirk submitted his case on two theories, negligence in failing to warn and negligence "in maintaining weeds and foliage upon . . . [the railroad's] right of way which 'dangerously and materially obstructed' the view of Mrs. Van Buskirk of the immediate approach of the train to the crossing."²⁴⁹ Having no eyewitnesses of his own to the collision, Van Buskirk testified that "[b]etween ten feet from the rail, back to the right of way fence," a driver could see nothing.²⁵⁰ In opposition, the railroad put in evidence photographs that demonstrated the view from various points.²⁵¹

In affirming a judgment for Van Buskirk, the Missouri Supreme Court held that his testimony was "not . . . contrary to physical fact."²⁵² Concerning the railroad's photographs, the court conceded that they "tended to show that if Mrs. Van Buskirk had been looking she could have seen the approaching train,"²⁵³ but went on to add that "the photographs indicate that there was considerable obstruction to a clear view."²⁵⁴ The court concluded, "However, the photographs were 'simply evidence' which was not binding on plaintiff or jury."²⁵⁵

c. Oral Testimony Assisted by Drawings

As with oral testimony assisted by photographs, whether evidentiary configurations of oral testimony assisted by drawings invoke any generalization in addition to the basic one that all people see alike depends on the kind of foundation required to render drawings admissible.²⁵⁶ Thus, precedents considering the use of drawings are analytically interchangeable with precedents considering the use of photographs, and indeed, photographs and drawings often appear in the same cases.²⁵⁷

247. 349 S.W.2d 68 (Mo. 1961).

248. *Id.* at 69.

249. *Id.* at 70.

250. *Id.* at 71.

251. *Id.*

252. *Id.* at 72.

253. *Id.*

254. *Id.*

255. *Id.*

256. *See, e.g.,* C. MCCORMICK, *supra* note 25, § 213.

257. *See, e.g.,* Black v. Kansas City S.R.R., 436 S.W.2d 19 (Mo. En Banc 1968); Ruhl v. Missouri Pac. R.R., 304 S.W.2d 16 (Mo. 1957); Zumault v. Wabash R.R., 302 S.W.2d 861 (Mo. 1957); Lohmann v. Wabash R.R., 269 S.W.2d 885

Although, for the purpose of physical facts analysis, photographs and drawings are logically interchangeable, they may well be psychologically noninterchangeable. Once in evidence, a photograph creates its own impact. A drawing often depends for its impact on the credentials of its creator.

III. INVOKING "PHYSICAL FACTS" TO ESTABLISH AN OVERWHELMING CASE

The previous section has shown how physical facts reasoning is invoked against plaintiffs to nullify prima facie proof. This section examines how physical facts reasoning is invoked by plaintiffs to magnify prima facie proof, i.e., to support the argument that an overwhelming case has been presented. In both this section and the last, the term "plaintiff" encompasses all parties who bear the risk of nonproduction of evidence on an issue brought under scrutiny by a motion for a directed verdict or a verdict-directing instruction. For example, a defendant asserting a counterclaim or affirmative defense bears the risk of nonproduction on all issues essential thereto and is thus a plaintiff for purposes of this discussion. The term "overwhelming case" means that extraordinary state of the proofs in which a party is entitled to a directed verdict or judgment notwithstanding the verdict on his claim, counterclaim, cross-claim, third-party claim, or affirmative defense. When an overwhelming case has been made for an affirmative defense, it is often said that the affirmative defense has been established as a matter of law.²⁵⁸

Just as most arguments for overwhelmingness on other grounds have failed, so have most arguments for overwhelmingness built on physical facts reasoning. A few, however, have succeeded.

A. *Overwhelming Case-in-Chief*

In no discovered case has the force of physical facts reasoning alone won for a plaintiff a directed verdict on his case-in-chief.²⁵⁹ *Saupe v. Kertz*²⁶⁰ is illustrative. Saupe asserted physical facts—testimony and supporting drawings and photographs concerning skidmarks, gouge marks, and debris—to establish an overwhelming case that the vehicle driven by Kertz's decedent had been on the wrong side of the highway just before the collision on Saupe's wrong side of the highway. Saupe had to rely solely on this circumstantial

(Mo. 1954); *Donald v. Missouri-Kan.-Tex. R.R.*, 364 Mo. 919, 231 S.W.2d 627 (1950).

258. *Davenport v. Wabash R.R.*, 435 S.W.2d 641, 642-43, 648 (Mo. En Banc 1968); *Lohmann v. Wabash R.R.*, 364 Mo. 910, 918, 921, 269 S.W.2d 885, 890, 892 (1954).

259. *But cf. Wilkins v. Stuecken*, 359 Mo. 1047, 225 S.W.2d 131 (1949) (submission to jury of sole cause instruction held erroneous because defendant's own evidence showed defendant's negligence as a matter of law).

260. 523 S.W.2d 826 (Mo. En Banc 1975).

evidence because his own direct testimony was inadmissible under the Missouri Dead Man's Statute.²⁶¹

The Missouri Supreme Court reversed a judgment for Kertz and remanded for a new trial because of error in the instructions on contributory negligence, but rejected Saupe's argument for a directed verdict, because the physical facts did not "show conclusively that, at the time he moved his [Saupe's] truck toward the west lane, the southbound automobile was or was not still in the wrong lane. Nor, for that matter," the court continued, was "there any evidence showing where on the highway either of the two vehicles were, the distance that separated them, or their respective speeds, when the driver of one first saw, or could have seen, the other."²⁶²

Somewhere in the legal literature there may be a decision in which a plaintiff has won a directed verdict on the strength of physical facts reasoning, but it should come as no surprise if there is not. The more usual battle rages not around overwhelmingness, but around submissibility, i.e., whether the force of physical facts reasoning on circumstantial evidence entitles the plaintiff to a jury determination.²⁶³ The plaintiff ordinarily must be grateful for a ruling that he is still in court. To ask for more requires a kind of innocent overconfidence not often found.

B. *Overwhelming Proof of Counterclaim, Cross-Claim, or Third-Party Claim*

A party who occupies the position of defendant in the principal action may assert a claim against the plaintiff, a codefendant, or a third-party defendant. With respect to that claim, he is a plaintiff, and any proposition about proof or procedure that applies generally to plaintiffs applies to him as well. No illustrative overwhelming case is presented here, because none has been found. As discussed above, this is not surprising.

C. *Overwhelming Proof of Affirmative Defense*

In a surprising number of cases the force of physical facts reasoning has won for a defendant a directed verdict on his affirmative defense. Virtually all have been vehicle negligence cases in which a defendant asserted an affirmative defense of contributory negligence. In some, the court, in effect, reconstructed the accident as a matter of law; in others, the court determined visibility as a matter of law.

1. *Reconstructing Accidents as a Matter of Law*

Vehicular accidents are reconstructed from propositions about the location, extensity, and intensity of skidmarks and gouges; the location, nature, and severity of damage to vehicles; the postaccident positions of vehicles; the location, kind, and quantity of impact debris; and speeds and distances.

261. MO. REV. STAT. § 491.010 (1969).

262. 523 S.W.2d at 829.

263. See Part IV. *infra*.

In probative force, these five categories of "physical facts" rank in about the order stated, depending somewhat on whether a case turns predominantly on precollision positions or precollision forces. Rarely is any one proposition the sole determinant.

*Williams v. Cavender*²⁶⁴ presents a virtual practice manual for the reconstruction of accidents from circumstantial evidence. Williams's husband and Cavender's daughter were both killed in the head-on collision of the automobiles they were driving. There were no passengers and no eyewitnesses. The sole witness "of any real consequence"²⁶⁵ at the trial of Williams's action for wrongful death was the highway patrolman who had investigated and reported the accident. His testimony placed skidmarks, damage, and debris as he had found them at the scene. Cavender moved for a directed verdict at the close of Williams's case and, when that was denied, rested without presenting any evidence. The jury returned a verdict for Williams, and Cavender appealed from the judgment on the verdict. The Missouri Supreme Court discussed at great length the skidmarks, damage, and debris, constructing an impressive chain of circumstantial reasoning leading to the alternative conclusions that there was "no substantial evidence of negligence on Miss Cavender's part,"²⁶⁶ and that "[t]he positive evidence of the skidmark of the . . . [Williams car] convicts plaintiff's decedent of negligence directly causing or contributing to the collision, as a matter of law."²⁶⁷

The court's reasoning is a masterpiece of good jury deliberation. It is, unfortunately, not a masterpiece of good appellate review. The court probably was correct in taking as established in the case the propositions of physical fact from which it drew the inferences, because plaintiff sponsored those propositions²⁶⁸ and there was no evidence to the contrary. At two other points, however, the court's reasoning falters.

The first point concerns a proposition of fact that the court refused to accept as established. A witness who was not, in the opinion of either the trial judge or the supreme court, "of any real consequence"²⁶⁹ had testified that, as he had driven past the accident scene, "he saw to the south of the (wrecked) cars 'some tracks' that had gone off the east side of the road, back on the road, off the west side, back on again, and possibly off again on the east side."²⁷⁰ The supreme court affirmed the trial court's exclusion of this testimony, agreeing that it was "wholly immaterial to the issues and . . . not sufficiently connected up."²⁷¹ This means, however, only that the

264. 378 S.W.2d 537 (Mo. 1964).

265. *Id.* at 538.

266. *Id.* at 544.

267. *Id.*

268. *Id.* at 543.

269. *Id.* at 538.

270. *Id.* at 539.

271. *Id.*

testimony did not fit the hypothesis to which the supreme court, like the trial judge and the highway patrolman, had already committed itself. A hypothesis that cannot explain all the data may be acceptable in the factual world of jury determinations, but it is an inappropriate object of judicial notice.

The second doubt concerns the questionable conclusiveness of the inferences drawn by the supreme court as a matter of law from the propositions of fact it did accept as established in the case. Not all of the evidence given by the patrolman fit the court's hypothesis, nor apparently did some of it fit the patrolman's own hypothesis. Accepting as established the proposition "that the impact turned the . . . [Cavender car] completely around,"²⁷² the court dropped a stitch from the fabric of its explanation saying lamely, "just how we need not say."²⁷³ There was, furthermore, an inconvenient skidmark about which the court said candidly, "[N]or can we explain the nineteen-foot arcing skid from . . . [the Cavender] car's left front wheel."²⁷⁴ Finally, there were "certain supposed marks, streaks, etc., in some of the photographs,"²⁷⁵ which were not in evidence because "the Highway Patrolman declined to identify these as skidmarks and confined his testimony to those marks which he had located on the ground and made notes of."²⁷⁶ This should have caused the court to doubt whether the record was sufficiently complete to justify reconstruction as a matter of law. The unidentified marks may have portrayed marks on the pavement that the patrolman rejected because they didn't fit his working hypothesis about how the accident happened. In other words, the patrolman drew his own inferences as he reported the facts. In practical effect, a skeptic might suggest, the highway patrolman decided the case at the scene. All of these circumstantial doubts taken together would not vitiate a jury verdict reached despite them; they should have, however, foreclosed the exercise of judicial notice.

Williams suggests an inquiry that should soon be pursued. Courts and commentators treat standards of proof—sufficiency, preponderance, and overwhelmingness—as if they were constant, value-neutral concepts unaffected by substantive environments and tactical configurations. But are they? No physical facts case has been found in which a Missouri court has reconstructed an accident as a matter of law in favor of a plaintiff. If Cavender had sued Williams, would that case have produced such a precedent? Would the Missouri Supreme Court have reversed a jury verdict for defendant Williams as it did for plaintiff Williams? Probably not. The "principle" at work here may well be a bias in favor of the status quo; proof sufficiently overwhelming to establish a plaintiff's contributory negligence as a matter of law is not necessarily sufficiently overwhelming to establish a defendant's negligence as a matter of law. Standards of proof, far from being constant,

272. *Id.* at 542.

273. *Id.*

274. *Id.*

275. *Id.* at 540.

276. *Id.*

are probably relative to the substantive environments and tactical configurations in which they are applied.

*Foster v. Sacco*²⁷⁷ affords another example of accident reconstruction from physical facts as a matter of law. Foster sued for the wrongful death of his wife, who was killed in a head-on collision at the crest of a hill on a gravel country road. He sought to prove that Sacco had failed to keep her car on her side of the road. Foster won a verdict and judgment, notwithstanding the testimony of Sacco, the sole surviving eyewitness, that Sacco "was driving on my side of the road and just as we came to the crest of that hill this car appeared and she was coming right at me. I did my best to turn to the right . . . [but] she hit."²⁷⁸

The Kansas City Court of Appeals reversed, saying, "We are unable to reach any sure or satisfying understanding as to just how this accident happened."²⁷⁹ This state of mind should have prompted some respect for the jury's understanding of how it happened, but the court proceeded to recreate from the physical facts an understanding sufficiently sure and satisfying to rule that Foster must lose as a matter of law, because Mrs. Foster had been contributorily negligent as a matter of law. The court conceded *arguendo*, as it should have held, that the circumstantial evidence of tire tracks reasonably attributable to the Sacco car was sufficient to support a finding that Mrs. Sacco had been one foot over the imaginary center line of the road at the moment of impact.²⁸⁰ The court then determined from testimony and supporting photographs showing impact damage across the left three feet of each vehicle that Mrs. Foster had also been over the imaginary center line.²⁸¹ Foster's judgment was reversed and the cause remanded "with directions to enter a judgment for defendant Sacco"²⁸² because "plaintiff cannot make a submissible case under these facts."²⁸³ "These facts" were derived from the testimony of a deputy sheriff and a state trooper, who had made it clear, as the court acknowledged, that when they arrived, the accident scene had already been altered by auxiliary firemen, who had pulled the cars apart with a firetruck.²⁸⁴ The reader may judge for himself whether judicial notice was judiciously taken under these circumstances.

2. Visibility as a Matter of Law—The "Look-and-See" Cases

"[T]o look is to see that which is *plainly visible*,"²⁸⁵ the courts have said, "and the failure to see what is plainly visible constitutes negligence as a matter

277. 343 S.W.2d 171 (Mo. App., K.C. 1960).

278. *Id.* at 172.

279. *Id.* at 176.

280. *Id.* at 177.

281. *Id.*

282. *Id.*

283. *Id.*

284. *Id.* at 173.

285. *Baldwin v. Atchison, T. & S.F. Ry.*, 425 S.W.2d 905, 910 (Mo. 1968).

of law."²⁸⁶ The role played by photographs in establishing what was plainly visible has been discussed in a previous section.²⁸⁷ In two of the principal cases examined there, the plaintiff was held contributorily negligent as a matter of law;²⁸⁸ in three others, the defendant contended unsuccessfully that the plaintiff had been contributorily negligent as a matter of law.²⁸⁹ The other frequent strategy for establishing plain visibility applies judicially noticeable mathematical calculations to propositions about locations and distances established in the case by the plaintiff's own testimony.²⁹⁰

A term like "plainly visible" needs careful definition. It should not mean that partial obstruction is no obstruction, as it sometimes has,²⁹¹ but it must take into account the teachings of modern science about the physiology and psychology of human perception,²⁹² as well as the related commonsense reality that "a driver's view from a moving vehicle would be different from a posed situation."²⁹³ It must not hold the driver of a moving vehicle, who ordinarily must monitor a 180-degree panorama of moving phenomena filtered through changing patterns of light and shadow, to the same leisurely and exhaustive scrutiny possible for one examining a still photograph in a quiet room. Finally, it must recognize that even a physically unobstructed view may nonetheless be obscured by optical illusion. Several Missouri decisions have shown sensitivity to these considerations.

With respect to partial obstruction of visibility, *Van Buskirk v. Missouri-Kansas-Texas Railroad*²⁹⁴ and *Ruhl v. Missouri Pacific Railroad*²⁹⁵ are instructive, although not definitive. In *Van Buskirk*, the Missouri Supreme Court affirmed a verdict and judgment for the wrongful deaths of Van Buskirk's wife and children, even though the railroad's photographs "tended to show that if Mrs. Van Buskirk had been looking she could have seen the ap-

286. *James v. Berry*, 301 S.W.2d 530, 533 (Mo. App., Spr. 1957).

287. See Part II.C.2. *supra*.

288. *Davenport v. Wabash R.R.*, 435 S.W.2d 641 (Mo. 1968); *Lohmann v. Wabash R.R.*, 364 Mo. 910, 269 S.W.2d 885 (1954).

289. *Silvey v. Missouri Pac. R.R.*, 445 S.W.2d 354 (Mo. 1969); *Ruhl v. Missouri Pac. R.R.*, 304 S.W.2d 16 (Mo. 1957); *Zumault v. Wabash R.R.*, 302 S.W.2d 861 (Mo. 1957).

290. See, e.g., *Paige v. Missouri Pac. R.R.*, 323 S.W.2d 753 (Mo. 1959); *Day v. Union Pac. R.R.*, 276 S.W.2d 212 (Mo. 1955); *Donald v. Missouri-Kan.-Tex. R.R.*, 364 Mo. 919, 231 S.W.2d 627 (1950); *Wilkins v. Stuecken*, 359 Mo. 1047, 225 S.W.2d 131 (1949).

291. See, e.g., *Baldwin v. Atchison, T. & S.F. Ry.*, 425 S.W.2d 905 (Mo. 1968); *Bolen v. Rio Rancho Estates*, 81 N.M. 307, 466 P.2d 873 (Ct. App. 1970).

292. See generally M. FINEMAN, *supra* note 190; L. KAUFMAN, *PERCEPTION: THE WORLD TRANSFORMED* (1979); L. KAUFMAN, *SIGHT AND MIND: AN INTRODUCTION TO VISUAL PERCEPTION* (1974).

293. *Pitts v. Garner*, 321 S.W.2d 509, 513 (Mo. 1959).

294. 349 S.W.2d 68 (Mo. 1961).

295. 304 S.W.2d 16 (Mo. 1957).

proaching train.”²⁹⁶ What carried the day was, perhaps, that Van Buskirk’s counsel wisely contended not that one could not see a train approaching the crossing, but that the view was “dangerously and materially obstructed.”²⁹⁷ In *Ruhl*, wherein the plaintiff successfully foreclosed the affirmative defense of contributory negligence in failing to look and see, the supreme court noted, while making no distinct issue of it, that “on [the railroad’s] exhibit seven only the top third of the locomotive coming from the west is visible.”²⁹⁸

With respect to optical illusions, *Gilpin v. Gerbes Supermarket*²⁹⁹ affords a precedent that may well deserve wider recognition. Gilpin, an older woman, fell and was injured while leaving the defendant’s store. She fell when she stepped down a short ramp from the sidewalk to the street, mistakenly perceiving sidewalk, ramp, and street to be all of one level. “The ramp was of concrete like the walks above and below, all of a grayish color. . . . There were no colored stripes or other markings on the ramp or the curb.”³⁰⁰ Gilpin testified “that she looked right at the place where she was going to step, and stepped ‘right where I looked,’ but that all of the area in front of her looked just like a sidewalk on one level.”³⁰¹ The trial court entered judgment for the defendant store notwithstanding a jury verdict for Gilpin.

On appeal, the defendant argued “that plaintiff was guilty of contributory negligence as a matter of law ‘in that she saw, or in the exercise of ordinary care should have seen, the ramp.’ ”³⁰² The Missouri Supreme Court noted that “the architect who supervised this construction stated that he had no difficulty in observing the ramps,”³⁰³ but rejected the defendant’s argument, reversing the defendant’s judgment and remanding the cause for a new trial. The court conceded “as a usual rule, that a person who looks at a ramp and curb would discern their true nature,”³⁰⁴ but went on to say that “this was new construction and, as one witness described it, it was ‘just a white bunch of concrete.’ ”³⁰⁵ Virtually as an anticlimax, the court added what would seem to have been the clincher: “[T]wo ladies who visited the store the same day testified that they had substantially the same optical experience [as Mrs. Gilpin had had].”³⁰⁶ To look and see an optical illusion is not contributory negligence—at least, not as a matter of law.

296. 349 S.W.2d at 72.

297. *Id.* at 70.

298. 304 S.W.2d at 18.

299. 446 S.W.2d 615 (Mo. En Banc 1969).

300. *Id.* at 616.

301. *Id.* at 617.

302. *Id.* at 619.

303. *Id.*

304. *Id.* at 618.

305. *Id.*

306. *Id.*

IV. INVOKING "PHYSICAL FACTS" TO ESTABLISH A SUBMISSIBLE CASE

This section examines how physical facts reasoning is invoked by plaintiffs to support the argument that a submissible case has been presented. The discussion applies to all burden-bearers, including defendants asserting counterclaims, cross-claims, third-party claims, or affirmative defenses. Virtually all of the cases in this section arose from motor vehicle collisions that left no living eyewitnesses. Thus, the plaintiffs, of necessity, relied for their proof on circumstantial evidence, characterized as physical facts and composed of proof about the location, extensity, and intensity of skidmarks and gouges; the location, nature, and severity of damage to vehicles; the postaccident positions of vehicles; and the location, kind, and quantity of impact debris. In some of these cases, proof of physical facts alone was held sufficient to make a submissible case; in others, such proof was held insufficient. Although damage to vehicles and postaccident positions of vehicles have played persuasive roles in accident reconstruction, a series of Missouri precedents has established the special significance of skidmarks. Proof about debris has, typically, played the least significant role.

A. "Physical Facts" Alone Sufficient

In *Thompson v. Jenkins*,³⁰⁷ the trial court had directed a verdict against Thompson on counsel's opening statement of the circumstantial evidence on which Thompson's case depended. Both Thompson's wife and Jenkins' decedent had been killed in the collision. The damage to the Thompson car started on its left side just back of the bumper, which was intact, and progressively increased toward the rear until at the center post the car was crushed to a width of only 18 inches, and its left side was buckled, causing its left rear to extend a short distance west [Jenkins' side] of the center line.³⁰⁸

The damage to the Jenkins car was "on its front, with the heavy damage at its left front end, which was mashed back."³⁰⁹ The front of the Jenkins car "extended into the east [Thompson's] lane of the highway, pointing into the [Thompson car]."³¹⁰ There were no skidmarks, but there was "debris, glass and chrome, two to four feet east of the pavement and just north and east of the [Thompson car]."³¹¹

The Missouri Supreme Court reversed and remanded for trial, saying, [W]e think a jury may reasonably infer . . . that the . . . [Jenkins car] was moving toward and into the east lane and into the . . . [Thompson car] at the instant of impact, and that the force of the impact was such as to cause the . . . [Thompson car] to buckle and

307. 330 S.W.2d 802 (Mo. 1959).

308. *Id.* at 805.

309. *Id.*

310. *Id.*

311. *Id.* at 804.

a part of its left rear end to extend into the west lane of the highway.³¹² The opinion makes a point by something it does not say. Nowhere do the words "physical facts" appear, and yet the case is typical of the kinds of circumstantial evidence often characterized as "physical facts." There are other Missouri cases relevant to a study of circumstantial evidence that do not contain the magic words.³¹³

In *Lyon v. Southard*,³¹⁴ Lyon sued Southard for the wrongful death of her husband. Because there were no surviving eyewitnesses to the collision, the accident had to be reconstructed from circumstantial evidence. The trial court entered judgment for Southard notwithstanding a jury verdict for Lyon. The Missouri Supreme Court reinstated Lyon's verdict and judgment, saying that "the physical facts found at the scene"³¹⁵ justified "a finding by a jury that Southard was driving at a high and negligent speed."³¹⁶ In addition to testimony about the postcollision positions of the vehicles and the location of debris, there was evidence that

[t]ire or skid marks evidently made by the [Southard] Chevrolet were found on the roadway beginning about 30 or 40 feet west from the crest of the hill, thence straight west for a distance of about 258 feet to the point of collision and then westerly and slightly to the north about 33 feet to the point where the cars were found.³¹⁷

Turning to the evidence about damage, the supreme court said, "Both cars were completely demolished. The [Lyon] Oldsmobile was bent into a 'rainbow shape.' From the marks on the roadway, it would appear that by the force of the impact the Chevrolet lifted the Oldsmobile off the pavement and deposited it 33 feet to the west."³¹⁸

In *Fellows v. Farmer*,³¹⁹ an action arising out of a one-car accident brought by the representative of the deceased passenger against the representative of the deceased driver, circumstantial evidence was held sufficient to submit the driver's negligence under *res ipsa loquitur*. Affirming a verdict and judgment for Fellows, the Springfield Court of Appeals said, "[F]rom the physical facts ascertained by . . . [the highway patrolman] in his investigation and by him explained upon trial with the aid of photographic exhibits,

312. *Id.* at 805-06.

313. *See, e.g.*, *Ochs v. Wilson*, 427 S.W.2d 748 (Mo. App., St. L. 1968); *Stonefield v. Flynn*, 347 S.W.2d 472 (Mo. App., St. L. 1961). Circumstantial evidence cases lacking the words "physical facts" have not been examined herein because this Article has focused on the part played by "physical facts" rhetoric in the jurisprudence of circumstantial evidence. Furthermore, those cases would not require any significant changes in the analyses offered herein.

314. 323 S.W.2d 785 (Mo. 1959).

315. *Id.* at 786.

316. *Id.* at 787.

317. *Id.*

318. *Id.*

319. 379 S.W.2d 842 (Mo. App., Spr. 1964).

the jury reasonably might have inferred and found that” the driver, “[a]pparently traveling at a high rate of speed,” had lost control in the curve approaching the bridge from the south; had gone off the road and missed the bridge; “and then had hurtled through space over the creek bed . . . a distance of approximately fifty feet to and against the vertical concrete wall or ‘wing’ extending upstream at the *north* end of the bridge, . . . and fell to rest in the [creek bed].”³²⁰

In *Lott v. Kjar*,³²¹ testimony describing the physical facts at an accident scene was implicitly sufficient to make a submissible case but not persuasive enough to win a jury verdict. Vehicles driven by Lott and Kjar collided in the westbound lanes of the highway, killing them both. Whoever was eastbound was on the wrong side of the median. Both Lott’s widow and Kjar’s administrator contended that the other driver was eastbound. There were no eyewitnesses. The physical facts comprising the accident scene tended to support the inference that Kjar was eastbound; at least, the investigating highway patrolman would have so testified had the trial court permitted. The other circumstantial evidence tended to support the inference that Lott was eastbound. The Missouri Supreme Court affirmed a judgment for Kjar’s administrator.

B. “Physical Facts” Alone Not Sufficient

In *Williams v. Cavender*,³²² the Missouri Supreme Court reversed a judgment for Williams and ordered entry of judgment for Cavender, holding alternatively that the highway patrolman’s testimony placing skidmarks, damage, postcollision positions, and debris did not make a submissible case of the deceased Cavender’s negligence.³²³

In *Helton v. Huckeba*,³²⁴ Helton adduced evidence of physical facts—location of debris, an arcing sideskidding mark to the left rear tire of the Chevrolet in which her decedent husband had been riding, and a mark or scratch arcing across the pavement to the right front wheel of the Chevrolet—not to nullify defendant Huckeba’s direct testimony that the Chevrolet had come over on his side of the road, but merely to make a submissible case that Huckeba had come over on the Chevrolet’s side of the road. The Springfield Court of Appeals held her evidence insufficient.³²⁵ In the court’s view, other circumstantial evidence—particularly the fact established by the testimony of Helton’s own witnesses and portrayed by her own photograph³²⁶ that both the Chevrolet and the Huckeba Ford were most severely damag-

320. *Id.* at 845.

321. 378 S.W.2d 480 (Mo. 1964).

322. 378 S.W.2d 537 (Mo. 1964).

323. *Id.* at 544. See notes 264-76 and accompanying text *supra*.

324. 270 S.W.2d 486 (Mo. App., Spr. 1954).

325. *Id.* at 492 (citing *Ruby v. Clark*, 357 Mo. 318, 208 S.W.2d 251 (1948), and *Schoen v. Plaza Express Co.*, 206 S.W.2d 536 (Mo. 1947)).

326. 270 S.W.2d at 489, 494-95.

ed on the right front, and the location of the vehicles after the collision established by the official highway patrol report apparently acquiesced in by the parties³²⁷—strongly corroborated Huckeba's testimony that he had tried to miss the Chevrolet to its left when it appeared suddenly in his lane. Indeed, even the location of the debris, according to the court, was best interpreted as corroborative of Huckeba's testimony.³²⁸ Although it would clearly have been wrong to nullify Huckeba's direct testimony by the facts on which Helton relied, it was also wrong to hold her circumstantial evidence insufficient.³²⁹

In several cases, testimony about physical facts plus other testimony was held sufficient.³³⁰ The term physical facts has also worked its way into a frequently stated sufficiency formula.³³¹

327. *Id.* at 491.

328. *Id.* at 495.

329. *See* *Thompson v. Jenkins*, 330 S.W.2d 802 (Mo. 1959); notes 307-13 and accompanying text *supra*.

330. *See, e.g.,* *Welch v. Hyatt*, 578 S.W.2d 905 (Mo. En Banc 1979); *Carter v. Consolidated Cabs, Inc.*, 490 S.W.2d 39 (Mo. 1973); *Commerford v. Kreitler*, 462 S.W.2d 726 (Mo. 1971); *Headrick v. Dowdy*, 450 S.W.2d 161 (Mo. 1970); *Hamilton v. Slover*, 440 S.W.2d 947 (Mo. 1969); *State v. Aston*, 412 S.W.2d 175 (Mo. 1967); *Prentzler v. Schneider*, 411 S.W.2d 135 (Mo. En Banc 1966); *Moore v. Eden*, 405 S.W.2d 910 (Mo. 1966); *Hale v. Kansas City S.R.R.*, 363 S.W.2d 542 (Mo. 1963); *State v. Morris*, 307 S.W.2d 667 (Mo. 1957); *Filkins v. Snavely*, 359 Mo. 356, 221 S.W.2d 736 (1949); *Raines v. Yost*, 539 S.W.2d 8 (Mo. App., K.C. 1976); *State v. McClain*, 531 S.W.2d 40 (Mo. App., K.C. 1975).

331. *See, e.g.,* *Epple v. Western Auto Supply Co.*, 548 S.W.2d 535 (Mo. En Banc 1977); *Vaeth v. Gegg*, 486 S.W.2d 625 (Mo. 1972); *Houghton v. Atchison, T. & S.F. Ry.*, 446 S.W.2d 406 (Mo. En Banc 1969); *Hewitt v. Masters*, 406 S.W.2d 60 (Mo. 1966); *State v. Lee*, 404 S.W.2d 740 (Mo. 1966); *Taylor v. Riddle*, 384 S.W.2d 569 (Mo. 1964); *Boydston v. Burton*, 379 S.W.2d 536 (Mo. 1964); *Probst v. Seyer*, 353 S.W.2d 798 (Mo. 1962); *State v. Markway*, 353 S.W.2d 727 (Mo. 1962); *State v. Baugh*, 323 S.W.2d 685 (Mo. En Banc 1959); *State v. Palmer*, 306 S.W.2d 441 (Mo. 1957); *Capra v. Phillips Inv. Co.*, 302 S.W.2d 924 (Mo. En Banc 1957); *State v. Eaves*, 362 Mo. 670, 243 S.W.2d 129 (1951); *State v. Weekly*, 223 S.W.2d 494 (Mo. 1949); *State v. Wood*, 355 Mo. 1008, 199 S.W.2d 396 (1947); *State v. Burton*, 355 Mo. 792, 198 S.W.2d 19 (1946); *Grant v. National Super Markets, Inc.*, 611 S.W.2d 357 (Mo. App., E.D. 1980); *State v. Phillips*, 585 S.W.2d 517 (Mo. App., S.D. 1979); *State v. Russell*, 581 S.W.2d 61 (Mo. App., S.D. 1979); *State v. Leigh*, 580 S.W.2d 536 (Mo. App., E.D. 1979); *Wiseman v. Missouri Pac. R.R.*, 575 S.W.2d 742 (Mo. App., St. L. 1978); *White v. Gallion*, 573 S.W.2d 682 (Mo. App., St. L. 1978); *Becker v. Finke*, 567 S.W.2d 136 (Mo. App., St. L. 1978); *State v. Tripp*, 558 S.W.2d 809 (Mo. App., K.C. 1977); *Frazier v. Stone*, 515 S.W.2d 766 (Mo. App., Spr. 1974); *Crull v. Gleb*, 382 S.W.2d 17 (Mo. App., St. L. 1964); *Hotchner v. Liebowits*, 341 S.W.2d 319 (Mo. App., St. L. 1960); *Johnson v. Weston*, 330 S.W.2d 160 (Mo. App., St. L. 1959); *Harrellson v. Barks*, 326 S.W.2d 351 (Mo. App., Spr. 1959); *Nolan v. Joplin Transfer & Storage Co.*, 239 Mo. App. 915, 203 S.W.2d 740 (Spr. 1947).

C. *Special Significance of Skidmarks*

Although damage to vehicles and postaccident positions of vehicles have played persuasive roles in accident reconstruction, a series of Missouri precedents has established the special significance of skidmarks. In *Berry v. Harmon*,³³² in which there was no skidmark evidence, the Missouri Supreme Court held Berry's circumstantial evidence consisting of debris and the postaccident positions of the vehicles insufficient to make a submissible case. Although this evidence seemed strongly to favor Berry, the court said, "In this case it is difficult to say just what inferences are possible from the location of the grease and debris on the east side of the pavement and shoulder"³³³ In distinguishing *Brawley v. Esterly*,³³⁴ the court said, "But in the Brawley case there were the cogent, forceful circumstances of plainly observable 'black marks' on the pavement In this case there were no telling skid marks 'at all' and no gouged-out place on the highway."³³⁵ The court similarly distinguished *Helton v. Huckeba*,³³⁶ saying, "[I]n addition to the debris and its location there were again the telling 'marks' on the pavement."³³⁷

The court also cited and described *Filkins v. Snavely*,³³⁸ saying, "But there again there was 'a freshly gouged-out place . . . and there were scratches leading back from it toward the coupe."³³⁹ In *Filkins*, wherein the coupe in which the plaintiff's decedent was riding and the truck operated by defendant were both found on the coupe's side of the highway, the Missouri Supreme Court distinguished *Schoen v. Plaza Express Company*,³⁴⁰ cited by the defendant, as follows: "[B]ut most important, there were no such markings [in *Schoen*] of the place of the collision as the gouge east of the center line in this case and the scratches leading directly from it to the broken front axle of the coupe."³⁴¹ Thus, the *Filkins* court concluded that "there was not sufficient circumstantial evidence [in *Schoen*] to show that defendant's vehicle was being operated so as to extend over the center line of the pavement; but, in this case, our conclusion is that there was."³⁴² It should also be recalled that in a later case, *Williams v. Cavender*,³⁴³ the supreme court confidently reconstructed an accident to which there were no surviving eyewitnesses prin-

332. 323 S.W.2d 691 (Mo. 1959).

333. *Id.* at 695.

334. 267 S.W.2d 655 (Mo. 1954).

335. 323 S.W.2d at 695.

336. 270 S.W.2d 486 (Mo. App., Spr. 1954). *See* notes 324-28 and accompanying text *supra*.

337. 323 S.W.2d at 695.

338. 359 Mo. 356, 221 S.W.2d 736 (1949).

339. 323 S.W.2d at 696.

340. 206 S.W.2d 536 (Mo. 1947).

341. 221 S.W.2d at 737.

342. *Id.*

343. 378 S.W.2d 537 (Mo. 1964). *See* notes 264-76 and accompanying text *supra*.

cially on the strength of the skidmarks reported by the investigating highway patrolman.

*Gurwell v. Jefferson City Lines*³⁴⁴ seems on its face to detract from the proposition that skidmarks are of special significance, but closer examination reveals otherwise and affords, as well, a reminder about the first requirement of the physical facts equation. Gurwell had testified that his pickup truck was standing still on his own side of the street when struck by defendant's bus. Defendant argued on appeal that this testimony should be nullified because at least part of the skidmarks attributable to the pickup were found on the bus' side of the street.³⁴⁵ Rejecting this argument, the Kansas City Court of Appeals said, "We cannot say that proof of the location of the skid marks, standing alone, constitutes proof of such a physical fact as to completely overcome and nullify the force of the positive eyewitness testimony of both plaintiff and . . . [plaintiff's helper]."³⁴⁶

Two points are worthy of consideration. First, this was not a case in which only circumstantial evidence was available. Had it been, the court might well have held the evidence of skidmarks sufficient to submit contributory negligence. Of more importance, however, was the circumstance that the precise location of the skidmarks was never conclusively established in the case. Two policemen did testify on defendant's behalf that at least part of the skidmarks attributable to the pickup were found on the bus' side of the street.³⁴⁷ The plaintiff's employer, however, who had examined the scene very shortly after the collision, testified that the skidmarks attributable to the pickup were entirely on the pickup's side of the street.³⁴⁸ Another witness produced by the defendant, a policeman, gave "testimony in regard to location of the skid marks [that was] confusing and contradictory, and he finally said: 'I just don't know.'" ³⁴⁹ Judicially noticeable conclusions cannot be drawn from propositions of fact so tenuously in evidence.

D. *Limited Significance of Debris*

In *Williams v. Cavender*,³⁵⁰ the Missouri Supreme Court said, "The location of the debris is not in itself conclusive."³⁵¹ This was echoed in *Thompson v. Gray*³⁵² by the Springfield Court of Appeals, which said, "[T]he location of the debris . . . was not conclusive proof of the point of impact, nor the manner in which the accident occurred."³⁵³ Moreover, it has been said that Missouri law formerly mandated that debris, in the absence of other

344. 239 Mo. App. 305, 192 S.W.2d 683 (K.C. 1946).

345. *Id.* at 314, 192 S.W.2d at 688.

346. *Id.*

347. *Id.* at 311, 192 S.W.2d at 686.

348. *Id.* at 309-10, 192 S.W.2d at 686.

349. *Id.* at 311, 192 S.W.2d at 686-87.

350. 378 S.W.2d 537 (Mo. 1964).

351. *Id.* at 543.

352. 415 S.W.2d 299 (Mo. App., Spr. 1967).

353. *Id.* at 306.

physical evidence, was not even sufficient to submit point of impact.³⁵⁴ It has also been said, however, that *Hodge v. Goffstein*³⁵⁵ "indicates that the Missouri courts will now accept physical evidence in terms of locating the center of resultant debris (as long as it is not too widespread) as substantial evidence of the cause and point of impact."³⁵⁶

V. INVOKING "PHYSICAL FACTS" IN JURY ARGUMENTS

In several reported decisions, it has appeared incidentally that counsel have invoked "physical facts" in arguments to the juries.³⁵⁷ The decisions did not turn on this point. Because physical facts reasoning may entirely deprive the jury of an issue, arguing physical facts to the jury should, a fortiori, be permitted, subject only to the usual rules about improper argument.³⁵⁸

VI. INVOKING "PHYSICAL FACTS" FOR MISCELLANEOUS PURPOSES

The very presence in Missouri's legal lexicon of a spell so invocative as "physical facts" has seemed occasionally to inspire impressionable counsel to extraordinary ingenuity.

In *McCrary v. Ogden*,³⁵⁹ the McCrarys had a judgment for the wrongful death of their minor son in a collision with Ogden's truck. One contention on appeal was that the McCrarys had not made a submissible case. As a part of this contention, the defendants attacked the competency of the McCrarys' sole eyewitness, a thirty-eight-year old "low grade moron with the mentality of a child about seven years of age."³⁶⁰ Among other things, the defendants argued "that Shirley's incompetency was demonstrated because . . . some of his testimony was contrary to physical facts and laws."³⁶¹ The Missouri Supreme Court remarked on the novelty of the defendants' argument, observing, "It should be noted that defendants do not contend that Shirley's testimony should be disregarded because it was so inconsistent and contrary to common experience and physical laws as to destroy its probative effect."³⁶² The court dismissed the defendants' physical facts argument almost offhandedly, saying, "We note that defendants did not impeach the credibility of the witness on cross-examination at the trial by develop-

354. See 13 ST. LOUIS L.J. 616 (1969).

355. 411 S.W.2d 165 (Mo. 1966).

356. 13 ST. LOUIS L.J. 616, 621 (1969).

357. See, e.g., *Finke v. United Film Serv.*, 363 S.W.2d 656 (Mo. 1962); *Lynn v. Kern*, 323 S.W.2d 726 (Mo. 1959); *Dodd v. Missouri-Kan.-Tex. R.R.*, 353 Mo. 799, 184 S.W.2d 454 (1945).

358. See note 24 *supra*.

359. 267 S.W.2d 670 (Mo. 1954).

360. *Id.* at 672.

361. *Id.* at 674.

362. *Id.*

ing the same matters which were brought out on cross-examination at the hearing before the court."³⁶³ The court held, affirming the McCrarys' judgment, that they had made a submissible case.

Counsel in *Clark v. McKeone*³⁶⁴ exhibited similar ingenuity. Clark appealed from a judgment for the defendants. Her counsel was particularly aggrieved by the testimony of the codefendant truck driver, which was, he contended, subject to "seven physical impossibilities."³⁶⁵ In the tactical posture of the case, however, "the burden was on the plaintiff to persuade and convince the jury and it . . . [was] immaterial whether there was any evidence favorable to the defendant."³⁶⁶ Thus, arguing for the nullification of the driver's testimony was pointless, but Clark's counsel pressed on undaunted. In the words of the Missouri Supreme Court, "Counsel does not ask that this court weigh the evidence but urges that if . . . [the truck driver's] evidence is excluded under the rule of physical impossibility that it at once becomes apparent that Mrs. Clark did not have a fair trial."³⁶⁷ This novel attempt was rejected, but as long as the magic words survive there will be others.

VII. CONCLUSION

Appellate courts sometimes acquire their own strongly held feeling for what actually happened in the human drama portrayed by a certain trial record under review. If this feeling does not coincide with the jury's verdict, the court overrides the jury, employing the apparently value-neutral rhetoric of the jurisprudence of proof to make the result seem compelled by principle. It is not appropriate even for intermediate courts of appeal to act as centralized "superjuries"; much less is it appropriate for supreme courts to do so.

Like many of its sister courts, the Missouri Supreme Court has, in the past, entertained too many jury issues. It may still be doing so, although certainly to a lesser extent since the constitutional amendments concerning appellate jurisdiction adopted in 1970 and 1976. Even considering their responsibility to review for correctness, the intermediate courts of appeal also have entertained and arguably continue to entertain too many jury issues. Virtually every decision cited in this Article supports the foregoing propositions. An appellate court cannot amend the constitutional and statutory schemes of which it is a part, but it can, within limits, lessen its workload by carefully placed decisional signals. One such signal would make it clear that jury verdicts are no longer vulnerable on appeal to physical facts arguments.

363. *Id.*

364. 234 S.W.2d 574 (Mo. 1950).

365. *Id.* at 576.

366. *Id.*

367. *Id.*

Trial judges perhaps should not be held accountable for their judgments about the sufficiency of evidence. Perhaps, in this era of crowded calendars and sharply conflicting values, the judiciary needs “a whole set of rules solid in sound but vague in application which a judge can wield to terminate cases that seem obvious to him.”³⁶⁸ But I don’t think so. If rationality within controlling principles is to be tempered by value judgment, whether rigorous or merciful, let the jury do it. Let the judge bind himself to the law as Ulysses to the mast. Armed with a consummate understanding of the jurisprudence of proof, including a good grasp of physical facts reasoning, competent attorneys can help him tie the knots.

368. Hoffman, *supra* note 1, at 69.