

the original article or its abstract. Most titles give a reasonable idea of the content of the article, whether it is theoretical or experimental, whether it is a review or it is a bibliography. If the citation would give the number of pages in the article, one really would have a reasonable amount of information about the article.

Some years ago, I started reading extensively in the geophysical and geological literature in which citations give the authors' full names, the article titles, and the number of pages in the article. I was struck by what a gold mine these more complete references were. I was led much more efficiently to the papers I needed. I also found that I remembered citations and authors much more easily than in the physics literature. This made literature searches much easier.

There is another reason that physicists develop bad habits concerning references. Many physics texts, especially introductory texts, have few references; some don't even have reading lists.² If one grows up with textbooks with inadequate references and with professors who don't routinely refer students to the literature, how can good habits develop? It should not have to be the task of journal editors to teach physicists the importance of proper references and literature searches!

All teachers should make a greater effort to encourage students to use the literature and AJP should take the lead in making references more informative.

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¹P. B. James, *Am. J. Phys.* **51**, 109 (1983).

²For example, each of three new physics-with-calculus texts, A. Hudson and R. Nelson, *University Physics* (Harcourt, Brace and Jovanovich, New York, 1982); D. E. Roller and R. Blum, *Physics* (Holden-Day, San Francisco, 1981); and P. A. Tipler, *Physics* (Worth, New York, 1982) have only about three dozen references and suggested readings (aside from citations for quotes and photographs). This is in spite of being enormous books surveying most of physics.

LETTER TO THE EDITOR

I wish to refer to a recent paper in this Journal [R. E. Crandall, *Am. J. Phys.* **50**, 1157 (1982)], in which a "Minimal apparatus for the speed-of-light measurement" is described. The author lists a number of criteria for the choice of such an apparatus, amongst which simplicity, economy, and use of visible light are central.

Allow me to draw your attention to a much simpler apparatus, which was developed by our group some years ago. This was described in *The Physics Teacher* (March 1980, page 226).

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COMMENT ON "ANOTHER LOOK AT THE UNIFORM ROPE SLIDING OVER THE EDGE OF A SMOOTH TABLE"

In a recent paper¹ Prato and Gleiser reconsidered the old problem of a uniform rope sliding off a table, with no friction; they reached the conclusion that before the end of the rope leaves the table, separation must occur at its sharp edge, unless the rope is guided around it by a duct. We wish to point out that Lainé² showed many years ago that separation must occur at a sharp edge, even if there is friction at the table; the need to guide the rope was noticed by Meriam,³ Greenwood,⁴ and Den Hartog.⁵

Furthermore, in a 1978 paper, not mentioned in Ref. 1, the authors⁶ (i) gave a simple, very brief proof that in the absence of friction separation at a sharp edge occurs; (ii) gave a proof, simpler than Lainé's, that even with friction separation at a sharp edge occurs; (iii) proved that even with friction separation at a round edge occurs; (iv) derived an expression for the most important consequence of separation: the distance of the fallen rope to the table foot; and (v) presented a long list

of textbooks that incorrectly assumed that separation does not occur.

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¹D. Prato and R. J. Gleiser, *Am. J. Phys.* **50**, 536 (1982).

²E. Lainé, *Exercices de Mécanique* (Librairie Vuibert, Paris, 1964), pp. 212–216.

³J. L. Meriam, *Mechanics* (Wiley, New York, 1959), problems 222, 223, 424, and 425.

⁴D. T. Greenwood, *Principles of Dynamics* (Prentice-Hall, Englewood Cliffs, NJ, 1965), pp. 180–181.

⁵J. P. Den Hartog, *Mechanics* (Dover, New York, 1961), p. 192.

⁶J. R. Sanmartín and M. A. Vallejo, *Am. J. Phys.* **46**, 949 (1978).

LETTERS TO THE EDITOR

In order to complete discussion on Lévy-Leblond's problem,¹ one may ask the question if the total time of flight of a vertical projectile (ascent time plus descent time) is shorter or longer in the presence of air resistance. For the answer, I would like to refer to a recent article by Lekner.² It is shown by Lekner that, for the familiar linear and quadratic drag forces, the time of flight is shortened by air resistance. For drag forces proportional to fractional powers of velocity, the flight time may either be shorter or longer depending upon the velocity of projection.

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¹J.-M. Lévy-Leblond, *Am. J. Phys.* **51**, 15 and 88 (1983).

²J. Lekner, *Math. Mag.* **55**, 26 (1982).