

LETTERS

A Matter of Notation

The June issue of *Physics Today* included a review of the book *Angular Momentum* by D. M. Brink and myself, in which exception is taken to our choice of definition for rotation matrices and use of the Racah W coefficient. As the reviewer remarks, this is a subject prone to confusion over matters of notation and convention, so it may not be inappropriate to defend our choice in these instances.

It would seem that expediency as well as idealism is necessary when adopting a notation or convention from several that are in use. It is clear that a majority of published papers still make use of the original Racah W coefficient, and until recently this was the only form for which extensive numerical tables were available. It is true the $6-j$ symbol (which differs from the W by a phase) embodies a somewhat higher degree of symmetry under permutation of its arguments, but it does not seem to me that this slight advantage outweighs the other considerations or its typographical inconvenience. (The situation is somewhat different for the $3-j$ symbol; the manipulation of this symbol occurs much more often, and is distinctly easier than that of the original Clebsch-Gordan coefficient. Even here, however, the significance of the Clebsch-Gordan coefficient as a transformation matrix element makes its use advisable sometimes, so that both quantities are used in the book.)

The objections concerning the convention adopted for rotation matrices are difficult to understand. As is well known, the rotations of a system and of the coordinate axes are equivalent, and a particular choice of representation for the rotation matrices may be interpreted as easily either way. The choice of *representation* made in the book was based on an estimate as to which was most widely used in the literature. I personally always think of a coordinate rotation when using these matrices (and indeed almost all of the applications given in the book are phrased in this way!), but of course the equivalence just mentioned allows one to adopt either point of view. The formal results cannot change.

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Page Charges

In the June 1963 issue, Henry A. Barton sets forth details, many hitherto unknown to ordinary members, of the publication charge plan in physics journals. Seemingly it is presumed that its rationale can be taken for granted.

I wish to take exception to the use of the term "honor" on page 57 in the words "honoring" and

"honored". If the shorter word "paid" were substituted, there would be no objection. Honor has nothing whatever to do with the payment of page charges, and the use of the term is quite improper because of the connotations of it.

The presumption that page charges should be levied on all authors is not proper. The Institute of Radio Engineers, with its *Proceedings* and all the publications of its Professional Groups which exceed in total volume and in depth all the publications of the Physics Societies, makes no publication charge whatever. It is thought that publication in the IRE journals without any page charges is a very material factor in the very rapid and strong growth of the IRE. Possibly, too, we should quote the words of Sylvanus P. Thompson on the flyleaf of his book *Calculus Made Easy*—"What one fool can do, another can"—Ancient Simian Proverb." Many American scientific and technical journals made their fastest and most substantial growth without page charges.

I observe that those who "honored" page charges the least were those who published in the Acoustical Society. It is considered ethical today for those who provide contract and grant funds to seek and obtain institutional advertising in the form of footnote credit and the like—and it is only right and proper for them to expect to pay for that advertising. Possibly there is a greater number of "unsponsored" papers in the *Journal of the Acoustical Society of America* than in *The Physical Review* or the *Physical Review Letters*. Certainly, if a researcher has done good work that he has supported from his own thin pocketbook, he still has the right to feel that his contribution made at considerable personal expense to himself should find an outlet in an American journal. If it does not, his work will probably be published elsewhere—in Europe.

My personal view is now and always has been that page charges are unhealthy for the growth of intellectual communication. I would like to see them removed, rather than increased. Over the years many have expressed to me their belief in the same idea—another version of freedom of the (intellectual) press.

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As was stated plainly in the article by Dr. Barton, the editorial decision to accept or not accept a research paper for publication is not affected in any way by the payment or nonpayment of the page charge. The author's institution, not the individual author, is requested to honor the page charge, but is under no obligation to do so. (Here, as in the article, the verb "honor" implies only the following common denotation listed by Webster: "To accept and pay when due.")—ED.