RECIPROCITY

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PUBLISH D. B. LARSON'S MASTERPIECE

At the coming NSA annual conference in Salt Lake City, August 25-26, 1978, the most timely task of members and supporters of New Science Advocates, Inc. will be to assure prompt publication and adequate circulation of the latest accomplishment by the author of the Reciprocal System, NOTHING BUT MOTION.

D. B. Larson has done his work again. He has completed the first volume of a new, more splendid presentation of the Reciprocal System of physics. He is busy creating and writing the remaining volumes.

We have sought and we seek a major publisher to secure the wide circulation we think the book merits. We have not yet found one. This will come with the further progression of time. Or perhaps the publisher who produces the book NOTHING BUT MOTION will become major by this act.

What is to be done? We must consider alternatives and then choose the best available.

A second alternative has been suggested by our NSA President and your Editor wishes to put before each and everyone of you for examination and more inquiry and discussion among ourselves. The suggestion has been communicated by Dr. Frank Anderson of the University of Mississippi School of Engineering in the following letter, dated May 18, 1978, to your Editor:

Professor Frank Meyer, Editor
RECIPROCITY
University of Wisconsin-Superior
146 Ross Hall
Superior, WI 54880

Dear Frank:

Greetings once again from a friend in Rebel Country. I hope this finds you well and getting along fine. Now that our semester is over and our 125th commencement is history, I am beginning to find a few moments to

think of things other than departmental. One of the things that I have been giving more attention to is the matter of getting Larson's manuscript published.

I have had no luck this year in finding a way of getting to a publisher who might consider publishing the manuscript. So I'm now interested in a different approach. Do you think we can find 100 Larson fans who would be interested in putting up $250 each to underwrite the publication costs? If you think this idea might be worth a try, I suggest the following approach. In a forthcoming issue of RECIPROCITY we would issue an appeal to Larson's supporters to make a personal sacrifice for the advancement of science by promising to contribute $250 to the publication project if a total of 100 "gamblers" can be found. If, and only if, 100 potential contributors can be found will the "gamblers" be asked to send their money to a designated agent. If the book is then published and the venture money is recovered, the donors would be allowed to reclaim their $250 or a fraction thereof. Or, if the donor is willing, the "profit" could be used to fund another publication. If the original contribution is made as a non-refundable gift to NSA as a non-profit organization, each donor could claim a tax deduction, thus making the actual contribution less than $250. I'm willing to start the ball rolling. Now we only need 99 more contributors.

Please give this idea your careful consideration and then let me know what you think. Best regards and wishes as always.

Sincerely,

(Frank)

Frank A. Anderson
Associate Dean, and
Chairman, Department of
Chemical Engineering

Your Editor promises to contribute $250 to this project, if 98 more potential contributors to try the free enterprise system are found.

Interested volunteers, please direct your tax-deductible $250 pledge to:

Dr. Frank A. Anderson
The University of Mississippi
School of Engineering
University of Mississippi 38677

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am convinced that both of your proposed formulae for calculating nearest neighbor interatomic distance in crystals show such relatively good agreement with measured values of this distance as to indicate that you are on the right track to solution of the problem of solid cohesion. In fact, unless extreme care is taken, X-ray measured values of nearest neighbor interatomic distance normally are not measured with an accuracy better than plus or minus 0.005×10^{-08} cm. I agree, however, that what your letter to the editor states had better be said.

MORE ON SOLID COHESION THEORY

June 14, 1978

To the editor of Reciprocity:

Inasmuch as the inter-atomic distance values listed under the heading "Calculations checked" in the tables on pages 14 and 15 of your Spring issue are presented as a check of the calculated values given in The Structure of the Physical Universe, the inference that will naturally be drawn from the numerous and substantial discrepancies between the values is that the author of that book must have done some very sloppy calculating. I believe that your readers should be informed that, in fact, there is no significant difference in the accuracy of the two sets of figures. The calculations by Professor Meyer and his staff were not carried out on the same basis as those in the original publication.

It was noted in that publication that at the time there was no available theoretical basis for deciding whether the value applicable to the numerator of the inter-atomic distance equation was log $(a^2b)^{1/3}$ or $(\log^2 a \log b)^{1/3}$. The second expression was found to yield results closer to the experimental values, and the published values (the ones given in the "calculated" column of the tables in Reciprocity) were calculated on this basis. Professor Meyer chose to use the first of the foregoing expressions rather than the second, and also to use a similar method of calculating the half-unit values; that is, he uses $\log 2\frac{1}{2}$, whereas the original calculations were made on the basis of $(\log 2 \log 3)^{1/2}$. Since the theory has not been developed to the point where it can be determined which of these bases of calculation is correct, no exception can be taken to either choice. It should be understood, however, that the new results are not a check of the previous calculations, as the column headings indicate; they are the results of new calculations on a different basis. Agreement between the two sets of figures cannot be expected, nor can it be said that the new calculations arrive at "better" results.

There is a substantial margin of uncertainty in the experimental values of the inter-atomic distance, and either method of applying the theoretical equation is capable of producing results which agree with most of the experimental values within the probable margin of error. The issue that I am raising therefore has no bearing on the validity of Professor Meyer's findings. He has demonstrated that the results obtained from the theoretical equation are consistent with the empirical values. The point that I am making is that my original results, which are also consistent with these empirical values, necessarily differ from those obtained by Professor Meyer and his staff. Exact agreement cannot be expected.

It will, of course, be desirable to arrive at a definitive theoretical answer to the question as to how the equation should be applied. I have been giving this matter some consideration, and I believe that some of the recent advances in our understanding of the application of the Reciprocal System of theory to other fields now point the way to a resolution of the question. Perhaps I can have a solution of the problem ready for presentation in the next issue of your publication.

D. B. Larson

Editor's note: I think that your letter to the editor will take care of the problem with Tables in the Spring, 1978 issue of RECIPROCITY. As one who has worked with X-Ray data on measured interatomic distances in solids for longer than a quarter century, I

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