# LETTERS

*In this issue a special section of letters commenting on Everett M. Hafner's June article, "An Institute in North Bengal," starts on page 57.*

### *Hope for Army tandem*

As physicists at the US Army Nuclear Defense Laboratory, we are deeply concerned over the story, "Army Tandem Rests in Limbo, Awaits New Marching Orders," appearing in the "State and Society" section of the July PHYSICS TODAY. The story is slanted so as to give the reader a highly distorted impression of the organization, staff and purpose of NDL. We feel that we are entitled to the opportunity to make an unofficial reply. The opinions expressed here are those of the undersigned and do not necessarily reflect official Army policy.

We regard it as highly unfortunate that PHYSICS TODAY chose to ignore communications from the Army Materiel Command which sought to state the *current* situation with regard to the NDL tandem facility. We know that many nuclear physicists are familiar with the situation at NDL and are also familiar with our exconsultant, Kemal Seth. You have, however, done us a great disservice with regard to the physics community as a whole by giving status to material which should at most have been published as opinion in a letter to the editor.

There are many non-PhD's on the staff of NDL who possess particular competence in applied research areas of especial interest to the Army and the Department of Defense. The present civilian PhD physics staff at NDL, however, numbers six—not one, as is implied in your article. These are at present supported by five military physics PhD's and six PhD's in related areas. The "transient" nature of the military personnel is such that their tour at NDL is longer than the usual postdoctoral appointment.

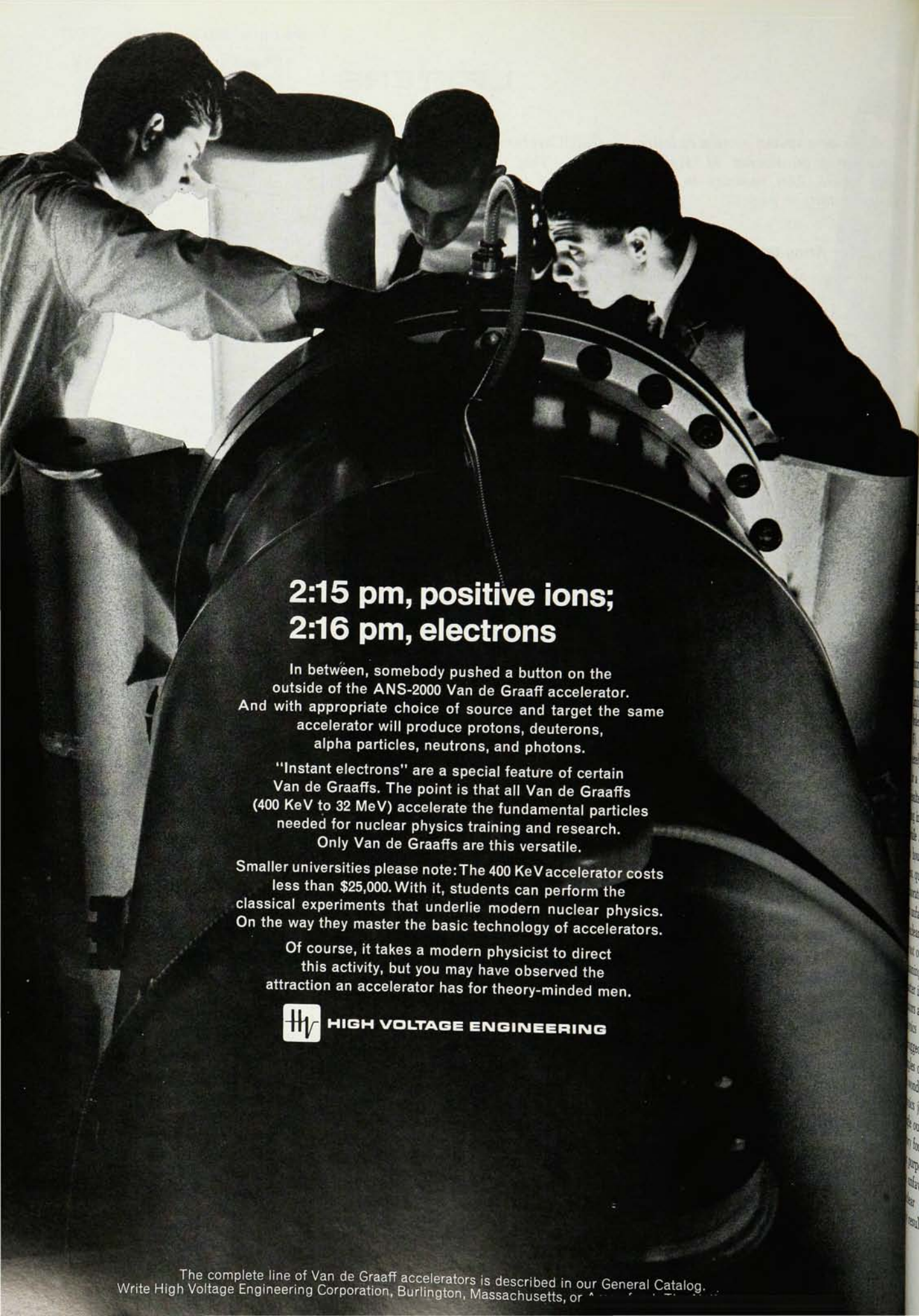
Further, it is no secret to the nuclear physics community that NDL has been actively recruiting an experienced and respected nuclear physicist to become permanent director of the tandem laboratory. An intensive search has been under way for about a year. This is not an unreasonable length of time; it is comparable, for example, to the length of time frequently spent by a university in locating a new physics department chairman and persuading the right man to take the job. Many respected nuclear physicists have assisted NDL in this search. We have not received the impression from them "that nothing will ever happen (here) and that (we) will just be an infinite sink of money."

Five of the scientists at NDL have previously been associated with other accelerator laboratories. Some of these will be attached to the tandem laboratory, but it will be largely left to the discretion of the new director to fill the technical positions with personnel of his choice. We believe strongly that this is the right approach: that this is an important position which should be filled by the right man only after an intensive search, that he should have primary responsibility from the earliest date possible and that he should be permitted to select his technical staff from competent personnel as he sees fit.

We are certain that it will be possible to obtain a balanced tandem program between Army and DOD requirements and research in basic physics. Already informal exploratory discussions have been undertaken with universities in the area with regard to establishing a coöperative research effort in basic physics.

We are, of course, unhappy ourselves over the delays in the installation of the machine. It has not been "in limbo," however, for the lengthy period your article implies. Following acceptance of the machine, it was used by High Voltage Engineering Corp., at their request, for developmental studies. We expect that the nuclear physics community as a whole will benefit from these studies. The machine was not placed in storage until March 1967. Construction of the shielding facility was begun in July, and we expect to be operational by fall 1968.

The Army did not give Argonne "a flat no." The quotation from Brig.



# 2:15 pm, positive ions; 2:16 pm, electrons

In between, somebody pushed a button on the outside of the ANS-2000 Van de Graaff accelerator. And with appropriate choice of source and target the same accelerator will produce protons, deuterons, alpha particles, neutrons, and photons.

"Instant electrons" are a special feature of certain Van de Graaffs. The point is that all Van de Graaffs (400 KeV to 32 MeV) accelerate the fundamental particles needed for nuclear physics training and research. Only Van de Graaffs are this versatile.

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Of course, it takes a modern physicist to direct this activity, but you may have observed the attraction an accelerator has for theory-minded men.

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Gen. Becker is evidence that the Army gave consideration to Argonne's proposal. Argonne's proposal, incidentally, was that they trade the whole of their yet-to-be-rebuilt machine for our entire machine, not that they borrow for a brief period a part of the NDL machine.

In conclusion, we realize that in some publications the desire to use such a "cute" title might lead to publication without regard to facts. PHYSICS TODAY, however, as a semiofficial organ of the US physics community, has the responsibility to publish only unbiased, informed and accurate stories.

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The July issue of PHYSICS TODAY carried comments critical of the handling of the 15-MeV tandem facility at the US Army Nuclear Defense Laboratory at Edgewood Arsenal near Baltimore, Md. ("Army Tandem Rests in Limbo, Awaits New Marching Orders," PHYSICS TODAY, July, page 85). The title to the comments merely implied criticism of the Army for a lack of coördination, which has resulted in a tandem accelerator sitting in a warehouse in Massachusetts while a building is being constructed to house it in Maryland. Nevertheless, quotations by exconsultants to the laboratory gave what we believe to be an unfavorably distorted picture of the Nuclear Defense Laboratory itself. It is not our purpose here to defend bad planning either in this case or for that matter in cases of acquisition of accelerators at other institutions. Since the physics community has, in general, shrugged off these other cases as examples of the way things happen, we do wonder why it is felt necessary in a physics journal of wide circulation to single out the Nuclear Defense Laboratory for this type of criticism. It is our purpose here, however, to correct the unfavorable impression about the Nuclear Defense Laboratory which may result from the quotations.

As members of a newly appointed Research Advisory Committee for the Nuclear Defense Laboratory, we have recently gone over much of the program of the laboratory. It should be perfectly obvious that this is a laboratory oriented toward nuclear defense and that it must be judged overall on how well it is accomplishing this mission. We believe that, judged on this basis, the laboratory is doing a good job. For example, its experimental work on simulated nuclear fallout is first-rate. The role of the laboratory in collecting information on which our nuclear defense decisions rest is, of course, all-important. Considering the limitation in the number of personnel assigned to the US Army Nuclear Defense Laboratory, we find it is making reasonable progress on the problems assigned to it.

The Nuclear Defense Laboratory must tie its basic research closely to its nuclear-defense programs of Department of Defense interest. Work on the 750-keV Cockcroft-Walton machine, for example, is largely concerned with neutron experiments, a field of research which the physics community has somewhat neglected in recent years. We are particularly impressed with the capabilities and enthusiasm of the younger members of the staff. Among these are young officers who have obtained higher degrees (MS and PhD). During their two-year tours of duty they help to carry on the more basic research aspects of the program in conjunction with the civilian staff, which includes eight PhD-level scientists. They bring fresh viewpoints from their universities to the laboratory and thus are a factor in keeping the laboratory abreast of new developments in radiation detection and other such matters of obvious importance to its tasks. Being in uniform on an Army post, they also receive training in military affairs. We feel that under the existing world situation it is becoming extremely important to build up a reserve of such officers. Even if this were the only function of the laboratory, it would pay many fold for its cost.

We have suggested that sharing the tandem research facility with outside groups (from universities, for example) would result in mutual benefit both to the laboratory as well as to


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these groups. The Nuclear Defense Laboratory has been seeking a director for this tandem facility for better than a year. We have recommended that the management consider for this position a young person experienced in accelerator physics and have made suggestions of people who might be approached. We urge the physics community to assist the Nuclear Defense Laboratory in this task. The researchers in this facility will have the opportunity to do nuclear research in a youthful environment with the satisfaction of knowing that they are serving their country well. Under proper direction the talented young PhD's already present will form a competent research group for the tandem accelerator.

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*Oak Ridge National Laboratory*
E. C. CRITTENDEN JR
*US Naval Postgraduate School*
D. H. BYERS
*Los Alamos Scientific Laboratory*
R. R. BORCHERS
*University of Wisconsin*

THE EDITORS REPLY: We agree heartily that PHYSICS TODAY, like any magazine, should report news accurately and responsibly. Where responsibility is concerned, we feel part of it is to report controversial stories as well as noncontroversial ones. We regret that controversial stories must occasionally embarass some who are involved.

We are pleased that neither of the preceding letters challenges any of the facts of our story except possibly in the following instances: (a) The reader might infer from our story that the Nuclear Defense Laboratory civilian PhD physics staff has only one member although, as the story says, we described a situation two years ago. The point we wished to make is that young nuclear physicists, Army or civilian, are not capable of directing so large a facility. (b) Concerning Argonne's proposal, our information from Jerry Marion as received from persons involved at Argonne was that ANL first asked for the entire machine but then later sought only the tank and column.

B. K. Barnes and his colleagues are mistaken in some of their assumptions. We did not ignore communications from the Army Materiel Command. In fact many basic details included in the story were provided by Brig. Gen. William A. Becker of AMC in a letter of 1 June; approximately one third of the article's final column provides comments from AMC personnel.

We attempted to get even more information directly from AMC. When we called the arsenal, we were allowed to talk with Lt. Col. Harold E. Shaw, whom we asked for any and all facts about the tandem. He conveyed to us only a minimum of information, all of which we put in the story. We are sorry that when we asked Shaw whether we could speak to others at the arsenal, we were not encouraged to discuss matters with the resident physicists. Their assessment of the current status of the tandem facility would have lent an added perspective to our story and given it greater depth and substance. The letter of Barnes and his colleagues gives us the opportunity to present some of the information we could not acquire earlier.

We are happy that the letter writers are optimistic and wish them luck with shielding, recruitment and operation.

—THE EDITORS

### *The original review*

The "publications explosion," as it is sometimes called, appears to lead to considerable anomalies in refereeing as I hope the following little incident will illustrate.

Towards the end of 1966 I submitted to *Reviews of Modern Physics* a paper whose title, although irrelevant at present, was "Application of Corepresentation Theory to Crystal Field Theory." The following reply was obtained after the editor had consulted his referee: "Recently we have had to be more strict in the policy of accepting only review papers rather than original research. On this basis we are unable to accept your paper . . ." I was somewhat surprised because this was the first time that a journal had rejected anything of mine for being too original; in the rat race to publish, the usual complaint heard