

More on APS and Public Issues . . .

I believe the American Physical Society should restrict its activities to science and science education. Often the physicist's only tangible product is either a journal article or the abstract of an address to the American Physical Society meetings. Alas, the production of these tangible products are the means of earning a living, and too many physicists are dependent upon the present services of the American Physical Society. If the American Physical Society were to take an official opinion on a nonscientific topic, many strong dissenters would not resign. The dissenting member would know that resigning immediately costs him the opportunity to give a contributed paper at a meeting; and since physicists are not immune to human weakness, resigning for political reasons would ultimately prejudice his chances of publishing. When earning a living and politics mix, democracy is always lost. Politicians understand this completely, and would discount official opinions of the American Physical Society on nonscientific topics accordingly.

The above does not imply that an organization of physicists interested in public affairs should not exist, but only that a politically oriented organization should not sponsor publications that often determine salaries and professional development. Indeed, it might be best to have more than one such organization, so that we are not encumbered by the usual disadvantages of one-party rule. If the political views of my acquaintances are typical, it may require more than two societies to accommodate the diversity of physicists' opinions on public affairs.

WILBUR LAKIN
Wichita State University

Once upon a time a very small nation arose in a most bounteous and beautiful part of the world. Because of all the nation's natural treasures, its people could devote much of their time to learning of all kinds. In particular, one of the branches of learning concerned itself with the construction of beautiful and intricate toys. Over the years these toys became so complex that a maker of toys had to de-

vote almost his full life to their construction to be able to build units that were even more complex and beautiful. Because the toys were so complex, it was found that only some of the most gifted people of the nation could really learn how to build toys well. This is not to say that other branches of learning did not have gifted individuals, but only that, in general, the individuals who devoted their lives to toy construction were some of the most gifted and motivated in the whole society.

Naturally the toy makers liked to meet with each other from time to time to discuss each other's work, both to gain insights into their own efforts and also to learn about and admire the beauties of the many excellent toys that were made. To facilitate these meetings and to disseminate the many articles and papers written about toy construction, the toy makers formed a society whose purpose was the advancement and diffusion of the knowledge of toy making. This society was one of the most respected and useful in all the land.

During a period of great national problems, however, a group of individuals of the society got together and essentially said that, since they were such a gifted and motivated group, their society should take it upon itself to help all the nations by speaking out on national problems. Now, of course, it is important to add that the problems that the nation faced were not related very much to toy making; but in spite of this fact, the membership of the society felt that, because they were so gifted, and because they only wanted to help, they should speak out as a group.

Subsequently, however, it was found that at the meetings of the society individuals devoted less and less of their time to toy making; instead, they argued at length and bitterly about national problems. Whenever, after many divisive and bitter arguments within these meetings, the society told the nation how to solve some national problem, the nation generally met the solution with derision or animosity instead of thanking the society.

After a number of years, during which all of toy making suffered, a

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new society was formed and after many, many years eventually gained the respect of its members and the nation.

RODGER L. GAMBLIN

*International Business Machines Corp.
Endicott, New York*

Perhaps employees of agencies of the US government could continue to be members of APS if it took stands on political issues. In that case it is debatable, at best, if they could represent—or be officers of—APS. (Which “public issue” would not also be a political one? Few, if any.)

Restrictions on information (imposed by lack of time, access or credibility) severely limit the usefulness of conclusions reached by physicists in at least some of the areas the authors of the proposed amendment must have in mind. Wild fluctuations in the conclusions reached by competent physicists on subjects of political interest appear to rule out any correlation between excellence in physics and vision in politics and raise considerable doubt about the usefulness of a possible public stand of APS as a whole on such matters.

It would appear unwise and uncalled for to jeopardize the purely scientific nature of APS and the harmony between its members by introducing politics in any form and of any denomination. Let those who must begin their own society and invite present APS members to join if they wish.

GOETZ K. OERTEL

University of Maryland

It is my opinion that the purpose of APS should not be changed. Therefore, questions of public policy to be voted on should be restricted to those having a bearing on the advancement and diffusion of the knowledge of physics. This means that it would, for instance, be all right to bring up questions on classification of scientific results. Topics not in the category mentioned could possibly be discussed within the framework of other organizations, like AAPT, the AAUP, etc., depending on the character of the question. In such cases, it serves no good purpose to duplicate such discussions in APS. (The memberships largely overlap anyhow.) In other words, let every organization stick to

its own purpose, and not try to have a word on affairs that belong in other organizations.

F. J. BELINFANTE
Purdue University

I am unalterably opposed to the philosophy of broadening the purpose and aims of the American Physical Society to include discussion of public issues.

I believe that the original purpose for the advancement and diffusion of the knowledge of physics should be maintained. I am therefore also opposed to the proposed amendment to the constitution of the Society.

FRED A. GROSS JR

Nuclear Defense Research Corp.

The special announcement concerning an amendment to the constitution of the American Physical Society is one of the most alarming suggestions I have ever encountered. I am surprised that 1% of the APS membership would support such a proposal. If it were to pass, it could change the character of the APS completely. Obviously it should be rejected.

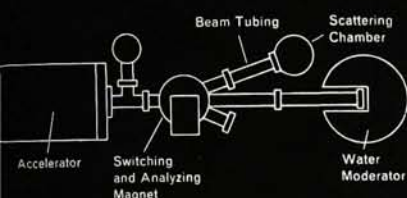
It often occurs that physicists are sensitive to public issues, and we can be proud of our colleagues who have the courage to organize opinion against unsatisfactory aspects of our society. However, it is unreasonable for a “majority of members voting on that resolution” to expect to carry the weight of the entire membership of the APS. Indeed, a clear majority of the APS membership should not carry that weight on political or other nonrelevant issues.

The APS is not a political instrument and any move to divert it from its traditional purposes should be opposed.

DAVID W. MCCALL
Bell Telephone Laboratories

I would rather receive my physics from the American Physical Society, free from political taint, and join the political group of my choice to express my feelings on “important public issues.” Political parties do not really feel it important to have the endorsement of a physicist for their activities.

Why should not the democratic nominating convention next year take a strong public stand on whether quarks really exist? The republicans



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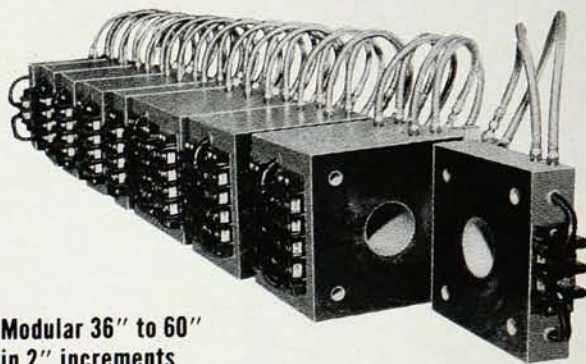
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could then adopt the opposite viewpoint, and the great American public could then express their preference in the elections as to whether we should have quarks or not. Those physicists who happen to dissent . . . well, they just would not be in tune with the great developments of our time.

HAROLD V. MCINTOSH

Instituto Politecnico Nacional, Mexico

I strongly oppose the proposal to amend the APS constitution to permit adoption of resolutions on "any matter of concern to the Society." Without further restriction, the meaning of "a matter of concern" is simply the willingness of the majority of those voting to adopt the resolution. Thus there is no assurance that such resolutions would relate in any direct way to the furtherance of the aims of the society. On the contrary, the raising of non-scientific issues—even if not adopted—could have a deeply divisive effect on the society at a time when we need unity in the face of serious declines in relative numbers of students choosing physics for study and declining sources of support for basic research in physics.

Far short of resolutions on public matters not directly related to physics, there is serious doubt in my mind whether APS should even adopt positions on matters directly affecting physics. As examples one might suppose that APS might adopt a formal position with regard to the implementation of the recommendations of the Pake Report, might propose bilateral cooperation with the USSR in high-energy or space physics, might propose public support for programs to increase the numbers and improve the quality of high-school physics teachers. I would question whether even such topics as this should be considered in terms of membership resolutions in APS. The American Institute of Physics, with its magazine *PHYSICS TODAY*, is an appropriate means for the expression of such views by physicists. Perhaps AIP should consider some means for ascertaining the statistical will of the physics community on specific issues directly related to the health of the science. But not APS.

The primary role of APS is to provide a medium of communication between physicists and to maintain the delicate balance between free commu-

nications—in print and orally—and the establishment of quality standards in that communication. Every physicist—not just the majority—must have complete confidence that the editors of our journals, the chairmen of our meeting sessions, the reviewers of our manuscripts and the councillors of our society are acting only on the basis of the highest standard of professional integrity. They must not be influenced by campaigns to try to produce a uniform opinion of physicists on the existence of quarks or time variation of the constant of gravitation.

Last Fall I heard Congressman Emilio Daddario tell the AIAA that they should take action as a society on behalf of publicly supported technical programs of great concern to them (such as space) as the Congress needs such publicly expressed views of subsections of the electorate on matters of direct self-interest. Arthur Kantrowitz and other officers of the AIAA correctly resisted this suggestion, for just the reasons I have given. Professional societies organized to run journals and meetings must not run the risk of alienating *any* professionally qualified member, for the societies have monopolies on the effective means of scientific communication.

I have circulated this letter to my colleagues in JILA and the Department of Physics and Astrophysics. Ten of them agree wholeheartedly and none of them has expressed disagreement with the views of this letter.

LEWIS M. BRANSCOMB

Joint Institute for Laboratory Astrophysics, University of Colorado

The proposed amendment . . . should have the last sentence modified to read: "The adoption of any proposed resolution shall require the affirmative votes of the majority of the members of the Society." . . . rather than the presently proposed form requiring only the affirmative votes of a majority of the members voting on the resolution.

. . . If APS should now develop procedures for expressing its view as a society on issues outside the field of physics, we would be politically irresponsible to employ procedures that may be grossly unrepresentative in those instances in which the majority of the membership will not choose to vote upon, and may hardly notice, a proposed issue upon which a proclamation is sought.

Those activists who argue that such a procedure would diminish the number of pronouncements made by the society should be reminded that, in the political arena, accuracy of representation is valued more highly than frequency of emission of statements . . .

DAVID L. HILL

Southport, Conn.

. . . A way can be made to achieve the goal of physicists speaking as a group on public issues without changing the character of APS. We could amend the constitution so that statements on public policy could be published in the *Bulletin* if 1% of the membership proposed such a statement. Members of APS could thus be encouraged to signify their agreement or disagreement by mailing a ballot provided in the *Bulletin*. These votes would be forwarded to the individuals representing the 1% of the membership who proposed the statement. Should they feel the results warrant it, this group could then send the statement to the appropriate government officials noting that such-and-such physicists support it and making no mention of the society or only mentioning the percentage of society membership that this number of supporters represents.

BETSY ANCKER-JOHNSON

Boeing Scientific Research Laboratory and University of Washington

. . . I hope that the membership of the society will reject the proposed amendment.

L. I. SCHIFF

Stanford University

I heartily approve of the proposed amendment . . .

ARMAND SIEGEL

Lexington, Mass.

. . . To establish my credentials, I am an adamant "extremist" on the war in Vietnam. I have demonstrated against the administration's policy, have spoken at public meetings against it, have signed resist petitions, am faculty advisor to SDA, etc., etc. Nevertheless I believe that APS should remain pure. There should be an organization of physicists whose purpose involves only physics. We have many opportunities to make pub-

On the singular merits of the strobed analyzer

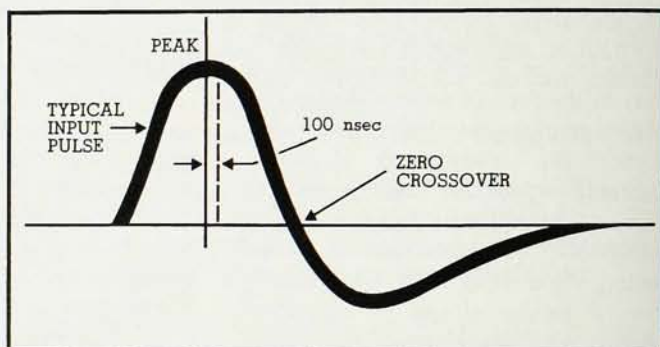
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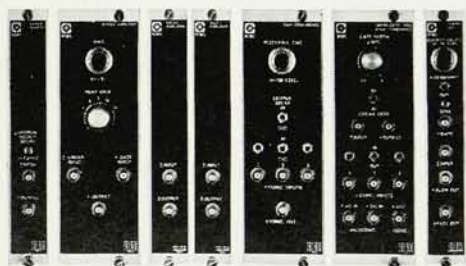
on that in a minute.) **The good things about the 27354:** 1) It has three discriminator modes (integral, window, and independent—the last named permits use of either lower- or upper-level discriminators separately). 2) There are three discriminator outputs: upper-level, lower-level (either can be used as a precise leading-edge timing pulse to a slow coincidence module), and analyzer. 3) As promised, the striking advantage of the 27354 Strobed Single-Channel Analyzer is in the ways it can be strobed.

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generators, analyzers. **In fact,** when you call your Nuclear-Chicago physical science sales engineer or write to us, we may be able to tell you about something even newer than the 27354 Strobed Single-Channel Analyzer. We're working on that.



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lic statements as physicists, and we can organize groups for such purposes. I would strongly favor such organization. But as physicists we also need a purely professional society, one to which politics and questions of power are irrelevant. Let us join together, those of us who want, to put an end to madness, but let us not do this within APS.

EUGENE J. SALETAN
Northeastern University

... I believe that the members as individuals or in political and social organizations can more effectively influence political and social decision-making at the federal, state and local levels...

DUDLEY D. B. SAMOILOFF
Xerox Corporation
Ann Arbor, Mich.

... I favor outspokenness and more widespread debate on public issues, but not under the auspices of APS. If the aim were only to encourage the social awareness of physicists and concern over public issues and the implications of their work, I would not object. But I object very strongly to having APS take a stand on public issues, to the point that I would seriously consider resigning from the society if this policy were adopted, regardless of what side were supported.

THOMAS L. GILBERT
Palos Park, Illinois

Utterly ridiculous. The degeneration of APS into another political party would have calamitous repercussions. Suggest present political parties be used as vehicles; or, if not suitable, recommend creation of another political party by interested individuals, but let's not contaminate physics with politics!

KARL A. SENSE
TRW Systems

... The most serious issue is whether the minority should agree to let the majority opinion be proclaimed publicly as the opinion of the society. The proposed amendment will allow the majority view to obliterate entirely the minority opinion. The outside world, when it sees that a new resolution is passed by the society, will assume that

this view can be attached to any physicist. I, for one, would not like this to happen, and I urge the membership to defeat the proposed amendment.

E. A. LEVENTHAL
Philips Laboratories

... We do not want the society to be degraded by falling into the same category as the "hippies," "extremists" and other characters under outside influence. This opinion is not an official opinion of the US Army.

GEORGE C. WHITE JR
Pitman-Dunn Research Laboratories
Frankford Arsenal

... There is precious little time available at our meetings for review and discussion of the current issues of physics; let us not dilute our professional efforts by becoming a debating society...

RONALD I. EWING
Sandia Corporation

... It is impossible to separate the world of scientific research from the world of public affairs. Decisions made on vital public issues may seriously affect the scientific world by affecting the appropriations and manpower available for research. The profound effect of the results of scientific research on public affairs is an obvious truism. And there are many public issues that involve scientific and technical factors of such a nature that physicists may offer a more informed opinion than most other citizens. For these reasons I hope that the proposed amendment is adopted by APS.

ROBERT W. HARRIS
Sandia Corporation

We wish to voice our objection to the idea that the American Physical Society should open its meeting and publications to discussions of public policy...

R. H. WARNES and R. D. DICK
Los Alamos, N. M.

I am opposed to the amendment calling for discussion of public issues... I hasten to point out that I have been actively involved in public issues such as civil rights, fallout, the war in Vietnam, quality of environment, election campaigns, neighborhood improve-

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LETTERS

ment, etc. Thus I am no stranger to public issues of various kinds, and I would encourage other scientists to enter the arena . . . What role should APS take on public issues? I would limit consideration to those areas where its technical expertise impinges on the rest of the world and vice versa.

EUGENE W. SUCOV
*Westinghouse Electric Corporation
Pittsburgh, Pa.*

. . . A corporate body comprises individuals banded together for a common purpose; but by the fact of incorporation it assumes a character of its own . . . To change the object of the society is to change the society: The two are inseparable . . .

NEIL BREARLEY
Vancouver, B. C.

. . . Physicists can do more for society by devoting their time to that field which they are best suited by training, temperament and experience . . .

HAROLD C. ANDERSON
New Brighton, Minn.

. . . Freedom to express one's own opinions rather than to have them expressed by an organization is one of the freedoms we must not relinquish. In case this situation should develop I shall immediately resign from APS.

FRANCIS G. SLACK
Hobe Sound, Fla.

I do not think the American Physical Society should revise "the object and purpose of the Society to include discussion of public issues . . ."

WALTER G. PLANET
San Bernadino, Calif.

. . . If a group of physicists desires to engage in lobbying to achieve some political result, there are many ways this can be done. Direct contact with legislators is probably as effective as any. Physicists are people, and people tend to vote according to their pocketbooks. These are, for many physicists, rather well filled. Accordingly, discussion of public issues is somewhat irrelevant. Even if a political resolution were adopted by the American Physical Society, it is hard

to see how it would be less evanescent than a New Year's resolution.

JAMES H. BARTLETT
University of Alabama

Politics and pollution

Albert V. Crewe (PHYSICS TODAY, October, page 25) unfortunately shifts the burden of reducing pollution from the political or legal to the scientific sector. I think he makes a serious mistake, for this shift in emphasis subtly transforms the pollution problem from one of urgency to one that may be solved at our leisure, only after we have determined the rate at which industry may be allowed to discharge its wastes into the air and water.

"Of course we are not in danger of destroying ourselves." Here is the point: We may be in just such danger! What is called for is not scientific research, but radical national and international programs—legislation—to reduce contamination of the atmosphere (at least) to the lowest level compatible with existing technology. There is plenty of time later to relax restrictions on pollution when the problem is no longer pressing and when sufficient research has been carried out to justify such relaxation. Conversely, there is no time to await the results of tedious scientific research before introducing restrictions.

Pollution is thus a political problem. The main reason "they can't pass a law to . . ." is not scientific but political: Industry, forgetting about the many years it freely dumped its wastes into the air and water, would literally (and quite audibly) howl about the tiny fraction of its assets required for this long-neglected responsibility.

The role of the scientist is not to develop standards but to impress upon the public immediate need for tough, arbitrary standards.

MATT YOUNG
University of Waterloo, Ontario

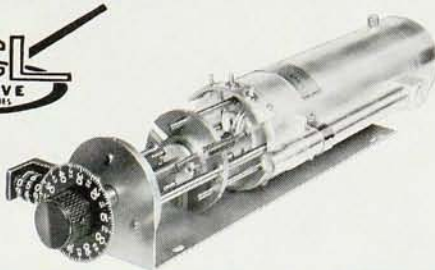
A CORRECTION: In PHYSICS TODAY, November, page 55 we would like to rectify three errors in the map of France. Lyon and Marseille should have been spelled in French for consistency. Clermont should be Clermont-Ferrand, which is located in the center of France. Saclay is misleading because it is a suburb of Paris in which the Atomic Energy Commission is located. □

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Range Tuning**

Model	Frequency Range	Min. Power Output KW
8038	150-300	1.5
8021	200-400	1.5
8026	250-500	1.5
8018	300-600	1.5
8022	400-800	1.5
8024	500-1000	1.5
8019	600-1200	1.0
8028	1000-1500	1.0
8029	1450-2000	1.0
8027	2000-3500	1.0
8030	3000-4000	1.0

Designed for maximum utility in system component or test equipment applications.

SPECIFICATIONS

Tube type: 6442	Duty Cycle: .001
Pulse Width: 1 micro-second	Isolated Filament—6.3 V @ 0.9 amps.
Modulator Required: 3 KV @ 2.5 amps.	Power Variation: 2 db max.
Dial Calibration Provision	Requires No Forced Air Cooling
N type Connectors	

MODEL 10230 PULSE MODULATOR

All solid state. Designed as companion modulator to Series "E" Pulse Oscillators. Provision for internal and external trigger input. Adjustable, monitored modulator input voltage. Sync output.



SPECIFICATIONS:

Modulator Output: 3 KV @ 2.5 amps.
Pulse Width: plug-in assemblies: .5, 1, 2, 3, 4, 5 micro-seconds.
Pulse Rep Rate: 200 Hz to 10 kHz
Duty Cycle: Up to .01
Dimensions: 9" H x 8" W x 12" D.
Weight: 31 lbs.

Write for complete catalog describing these and other MCL "Dynamic Disciplines" products.

MICROWAVE CAVITY Laboratories, Inc.



10 North Beach Avenue
La Grange, Illinois 60525
Phone: (312)—354-4350
Western Union Telex: 25-3608