LETTERS

On the proposed revision of the constitution of the APS

The amendments that have been proposed to the American Physical Society constitution (PHYSICS TODAY, June, page 105) restructure the APS by giving direct representation to divisions in the council. The proposals give greatly disproportionate representation to division-affiliated members and withdraw from the general membership important power of election. These changes would alter the society from one emphasizing new and interdisciplinary fields of physics under direct control of the general membership to one emphasizing interests of specialists and having federative character with indirect control, thereby tending to resemble the American Institute of Physics in purpose and function.

The proposals concentrate in the hands of an executive secretary elected by the council numerous administrative and decision-making powers, including decision-making power affecting the directions of growth of physics as well as the professional welfare of individual members of the society, while formidable barriers are erected to his removal by initiative of members. Precedents for such concentration of power are uncited and may be nonexistent. Change of the managing editor from an official elected by the members to one elected by the council but with no accompanying description of his powers and responsibilities tends to weaken his independence and authority in relation to other officers of the society.

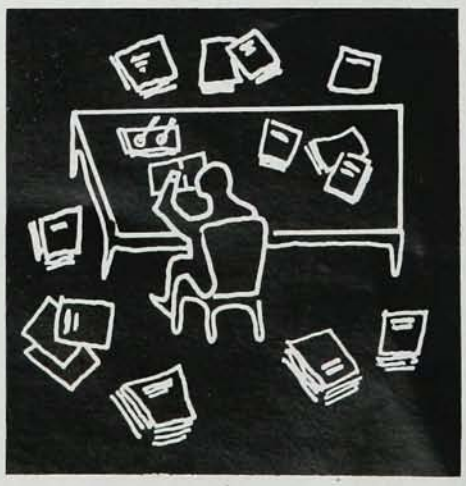
Procedures followed in informing members about the proposed amendments make no provision for public discussion of issues, public confrontation of alternatives or public disclosure of final forms of proposals before balloting, despite absence of any indicated need for haste. Retraction of proposed changes will be extremely difficult. Veto of the proposals is recommended and a symposium on the pertinent issues is suggested.

The foregoing are the essential points as viewed by the undersigned, pertaining to the balloting on the revised constitution of the APS scheduled for about 1 Oct. 1966. These points are elaborated in the following discussion of what is certainly the most substantial and significant revision of the constitution of the American Physical Society since adoption of the earliest readily available version (1926).[1]

Proposed amendments are described and advocated in an article in a recent number of PHYSICS TODAY,[2] and are given in detail in the recent *Bulletin*[3] of the society. Major issues raised by the proposed amendments are discussed here under the following headings: I. Changes and their probable effects on important interests of members, II. Timing, III. Procedures, and IV. Recommendations.

Changes and probable effects

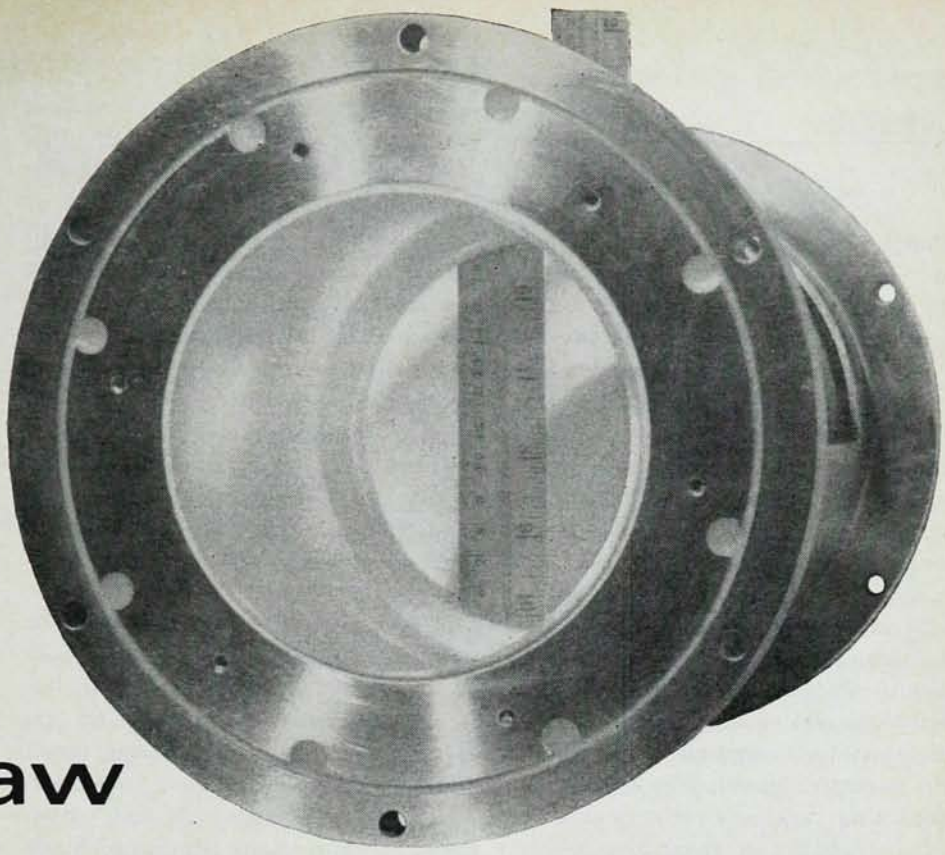
Divisional structure. (1) It is proposed that the council will henceforth consist of equal numbers of divisional councilors and of councilors-at-large, although we are told that only 20% of the 23 000 members are affiliated with divisions.[2] Disproportionate voting power in the council for division-affiliated members can only strengthen the forces that impel the physics community into becoming a collection of specialists. Specialization is a fact and an acknowledged necessity. It is accompanied, however,



by a narrowing of interests, a sharpening of competitiveness among specialties and individuals, and an enhanced parochialism of outlook. Such tendencies, unbalanced by attention to interests shared generally by physicists, could slow the growth of new fields of physics, diminish the attractiveness and influence that physics derives from the larger perspectives it affords, and weaken the humanistic outlook characteristic of many of the greatest scientists, thereby altering the character of the subject and of its future recruits. No discussion is given of these problems nor of the impact on them of the proposed changes. No feature of the proposals acts to strengthen interests which are common to physicists generally. The increasingly complex and important affairs of the society could become an important bond of common interest. But this is unlikely to occur if the influence of the general membership on the society is weakened, as indeed appears to be the case (see section on relocation of control, below).

(2) An avowed purpose[2] of the powers given to divisions in the council is to counteract the tendency of specialists to spin off from the society. The historical tendency of those with strong interest in special areas of physics is indeed to form separate societies. There are now six member societies aside from the APS, affiliated with the American Institute of Physics. The wisdom of counteracting that tendency and of the means adopted to accomplish it have not been publicly discussed but surely warrant careful consideration.

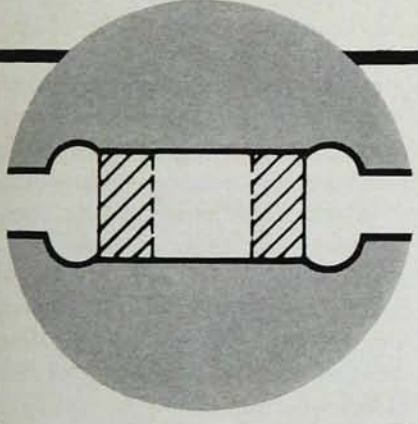
Teachers, students of physics and physicists generally may have a strong preference for a society that regards all of physics as its domain of interest and would prefer to retain and if possible strengthen the generalist outlook of the society, even if it means losing some of the specialists. The latter would have strong motivation for retaining membership in APS, even if they created their own societies, as a means of remaining in



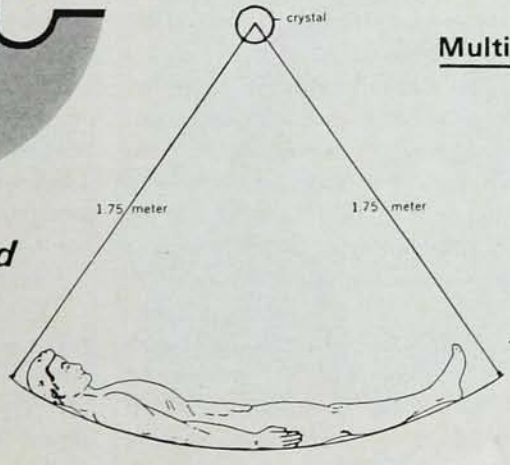
Harshaw

WHOLE BODY COUNTERS

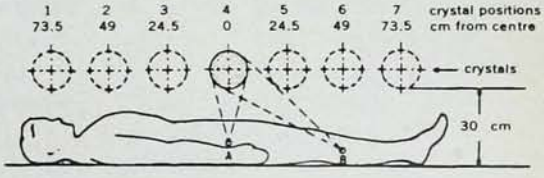
NEW "LOG TYPE" SCINTILLATION DETECTORS



Uniform cylindrical geometry for "arc" technique



Well suited to
Multipoint Data Acquisition and Processing
for Localization of Activity in the Body as reported in ANL 6839



$$C_1 = R_1X_{11} + R_2X_{12} + R_3X_{13} + R_4X_{14} + \ldots + R_7X_{17}$$
$$C_2 = R_1X_{21} + R_2X_{22} + R_3X_{23} + \ldots + R_7X_{27}$$
$$\vdots$$
$$C_7 = R_1X_{71} + R_2X_{72} + \ldots + R_7X_{77}$$

Low Background

light pipes of pure NaI shield against activity in the phototubes and external radiation.

Good Resolution

THE HARSHAW CHEMICAL COMPANY
CRYSTAL-SOLID STATE DIVISION
1945 East 97th Street • Cleveland, Ohio 44106 • Telephone 216-721-8300
Utrech, Netherlands—Harshaw-Van Der Hoorn N. V. • Frankfurt, W. Germany—Harshaw Chemie GmbH

LETTERS

(Continued)

contact with the newer areas of physics, with the interdisciplinary fields, and with the opportunities for synthesis and review, all of which will always remain the proper concern of a society whose constitution describes as its objective "the advancement and diffusion of the knowledge of physics." If this definition of purpose is to be meaningfully distinguishable from the purposes of the American Institute of Physics ("the advancement and diffusion of the knowledge of physics and its applications to human welfare"—from the AIP constitution) and of the specialist societies, then we must understand its intent to imply concern for physics as an innovating and coherent discipline rather than as an amorphous collection of specialists in already existing fields, competing for influence in the society with those having broader interests and objectives. Yet the thrust of the proposals, with the greatly disproportionate influence bestowed on the specialists, is clearly in the direction of emphasizing their role. Perhaps there are good reasons why the specialists should not travel the well defined road of the past and why they should now be cajoled into remaining in the society at the risk of transforming its character. But these reasons, if there are any, have not been spelled out for the membership.

Definition and concentration of authority. (1) The authority of the secretary is being spelled out in the bylaws for the first time to include power of decision in connection with organization of professional meetings of the society, albeit in consultation with divisional officials. Delegated to the executive secretary, with such help as he may choose, is selection of invited speakers and chairmen of sessions, which involves choice of subject-matter emphasis and recognition of professional achievements of members. No check or rein of any sort is imposed in areas not reserved to the divisions, which, ipso facto, are of primary interest to the society as a whole. That such powers can be used ineptly and even abused, to the serious detriment of physics and of individual physicists, need hardly be said. To delegate such powers without check or balance to an essentially permanent official is surely an act that warrants the most thoughtful consideration of risks and alternatives by every prudent physicist. At issue are difficult problems in delegation and control of authority in scientific and personnel matters, how they have been handled and how they might be handled for optimum benefit, which are nowhere discussed in connection with these proposals.

(2) The executive secretary will be a voting member of the council, which elects him. He is a specifically designated member of all committees except the nominations committee (from which he is not excluded), chairman of the budget committee and voting member (with the possibility of being chairman not excluded) of a new, compact, and powerful executive committee, which can exercise most of the powers of the council subject only to confirmation by it. These powers of the executive secretary, strengthened by exercise over an indefinite period "to retirement," perforce make the executive secretary by far the most influential and most powerful member of the society and of every one of its committees in matters of administration, of policymaking, and of decisions about professional interests of members insofar as they are made by officers of the society.

(3) This strengthening of the secretary is in striking contrast to an apparently drastic reduction in the independence and authority of the managing editor, who will be elected by the council, with authority that remains to be defined by the council. At the same time a new seven-member publications committee is created, whose chairman will be appointed by the president, in which is vested general power to "look to the welfare of society publications and to the policies pertaining thereto."

(4) None of the commentary accompanying the proposed changes indicates the existence of any precedent among American professional societies for an executive secretary with such a formidable combination of interlocking powers although there are ample precedents[4] for executive secretaries with strictly administrative powers, for which the society may have a genuine need.

Relocation of control. (1) The membership is being asked to surrender the privileges of electing two officers who exercise discretionary power directly affecting the professional well-being of individual society members, namely, the secretary and the managing editor. Both will be elected by the council. Presumably in recognition of the magnitude of the powers assigned to the executive secretary and of the absence of specific checks and balances, W. V. Houston offers the membership assurances that the provision of a one-year term implies that the executive secretary serves "essentially at the pleasure of the council."[2, 3] Questions of possible abuse of power and of *practical* removability of an unsatisfactory executive secretary who wields the foregoing powers are undiscussed.

(2) It is claimed that the effect of a proposed increase in voting membership of the council (from 19 to 22) will be to "increase the participation of the membership in policy-making." How this or similar changes could produce such an effect, particularly in the face of the augmented, mutually reïnforcing powers of the executive secretary, is unexplained and remains obscure. Reduction of the required number of council meetings from three to two per year, specification of a quorum of one third of its members in lieu of the one half required by *Robert's Rules of Order* in the absence of a rule, and the creation of a powerful seven-man executive committee speak of themselves of the probable future role of the council.

(3) Of the new council of 22 voting members, a maximum of three will come up for election at large in any given year in contrast to the present figure of six out of a total of 19 voting members. It is obvious that *change in the voting composition* of the council within the proposed constitutional framework would be *extremely slow* even if the overwhelming majority of the membership were determined to alter it. A formidable barrier is thereby erected to control

Look into Gaertner for precision optical and measuring instruments

HOW THIN THE FILM?

If you're doing research in solid-state physics and are investigating ultra-thin films, you'll be interested in Gaertner ellipsometers.

These instruments utilize the methods of Drude, Rothen, Tronstad, and others to permit precise measurement of film thicknesses from a few angstroms to several hundred angstroms. They are also used in the study of birefringence, index of refraction, and other thin-film and surface phenomena.

You can easily convert these ellipsometers to spectrometers. Just add two of our accessories: an entrance slit to the collimator, and a Gauss eyepiece and adapter to the telescope.

There are other accessories you can install yourself without loss of alignment: a Tronstad & Nakamura biplate assembly, a Babinet-Soleil compensator, and a photo-multiplier attachment.

Full information on Gaertner ellipsometers is contained in Bulletin 203-62. Please send for your copy. It contains information on accessories and includes a bibliography.

NEW BENCH: AS LONG AS YOU'D LIKE IT

Now you can have a bench for optical and instrumentation use that's as long as you want.

Gaertner has developed a new system of modular, lathe-bed-type benches that can be six feet long, or sixty, or longer. If you'd like to join two benches at an angle, we'll manufacture a special bracket to hold them in precise alignment.

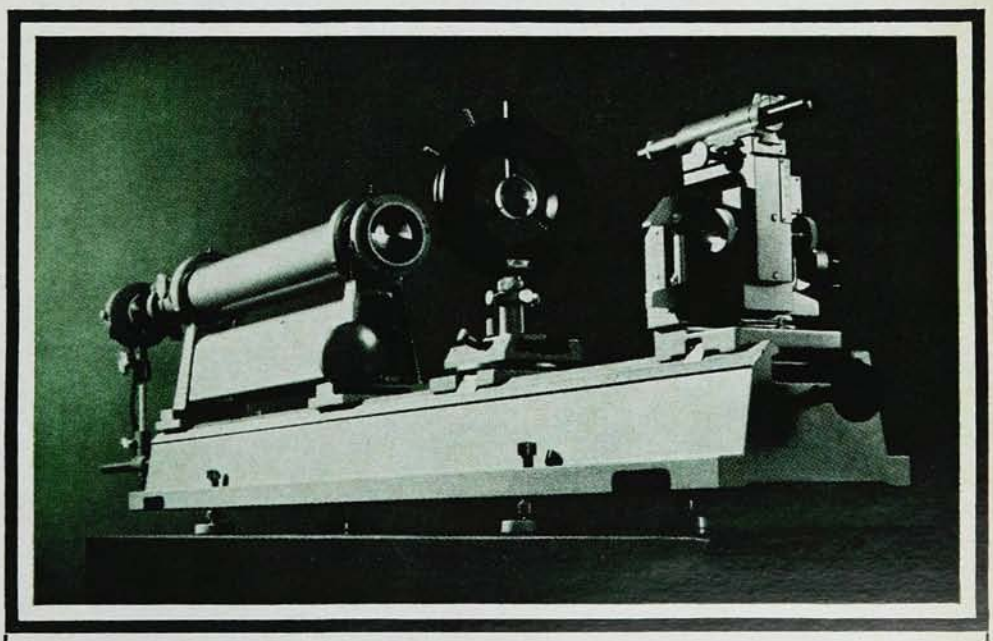
You can use this remarkable bench system for bread-board and prototype setups. Of course, you can also use it for checking lenses, mirrors, and optical systems.

Adjoining faces of these bench sections are machined for an accurate fit permitting easy traverse of carriages along the entire bench assembly. Each bench section is cast from Meehanite, a special iron alloy which is normalized for maximum dimensional stability.

A wide variety of accessory carriages provide easy interchange of components, including light sources, slits, diaphragms, collimators, telescopes, microscopes, polarizing optics, and holders of all types. Two of our carriages will be of special interest: one permits precision settings of the viewing system, probes, slits, photocells or other devices in the X, Y, and Z axes. The other is a new flat-bed carriage with tapped holes which will receive almost any type of special setup you may devise. And if that isn't enough, Gaertner will build custom equipment to meet special requirements.

For full details on the optical and instrumentation bench that can be as long as you'd like, send for Bulletin 156-59. It includes information on the many accessories we offer for bench instrumentation.

GSC-4-221



GAERTNER®

GAERTNER SCIENTIFIC CORPORATION
1234A Wrightwood Ave., Chicago, Ill. 60614
Phone: 312 281-5335 Cable: SCIENTIA

I'd like more information on the following Gaertner instruments:

☐ Ellipsometers.
Please send Bulletin 203-62.

☐ Optical and instrument benches.
Please send Bulletin 156-59.

Name _____

Title or Department _____

Company or Institution _____

Street _____

City _____ State _____ Zip _____

LETTERS

(Continued)

of the executive secetary by the electorate despite his direct control over interests of its individual members.

(4) Nomination by petition, an essential safeguard of the preferences of the electorate, cumbersome as it always has been, becomes ever more cumbersome with the increased size of the membership and with retention of the requirement that a petition for nomination requires the signatures of 1% of the members of the society. To this continually increasing difficulty of nomination by petition there is now an uncertainty (the proposals are ambiguous on this point) as to whether divisional councilors can be nominated by petition at all. No provision for such a procedure is made explicitly in the relevant section: article VII, paragraph 6.

Timing

Provision for a secretary- and treasurer-emeritus and the ages of the incumbents suggest that the changes are being proposed at a time when the secretary and treasurer, who have long served ably and devotedly in elective office, may be contemplating retirement, and questions about their successors come naturally to the fore. Enhancement of the powers and compensation of the secretary at such a time seems a gratuitous unkindness to Karl K. Darrow (even though he may support the changes), who has served long with wit and self-effacing dedication. Why not postpone changes until successors to the long incumbent secretary, treasurer and editor win the popular approval of the society? The motivations advanced for making changes now convey no convincing sense of urgency. Nowhere is it stated that rejection of the amendments will impair the effectiveness of the society or that an emergency situation exists.

The procedures

The proposed changes are the most drastic in the history of APS and we are told that they have been under consideration for well over a year, yet there has been no published discussion of the pros and cons despite specific requests for such from the floor at the annual business meeting of the society, January 1966, confirmed by a letter[5] to the president. Since June 1966 a member of the society could contribute suggestions for changes. Whether any suggestions for changes will be accepted or rejected, however, will not be known until the revised amendments, if any, are distributed to the membership with the ballot forms; so there will be no opportunity at all for public discussion of what is finally submitted to the membership.

Recommendations

Some physicists may feel that even a radical experiment in concentration of power and major structural changes in our society, however instigated, although promulgated without opportunity for public discussion, still warrant approval if they have been recommended by eminent elected officers of APS. But have we chosen those officers for their political sagacity and experience or for their scientific accomplishments? As scientists we are unaccustomed to accepting the recommendation of authority unquestioningly. When the recommendation is in an area different from that in which the authority has established his eminence, then surely each of us is justified in making a judgment uninfluenced by that recommendation.

The increasing cost, complexity, and social impact of the activities of physicists warrant expectations of a role of increasing importance for APS in the lives of its members and in society at large. To relinquish long-held democratic prerogatives and to invite what Jefferson called "the lethargy of despotism" at such a time seems the opposite of common sense. An APS symposium on physicists' problems of self-government would provide a forum at which the membership could acquaint itself with current issues while generating a consensus for appropriate constitutional change. In any society only an informed electorate can take interest in and exercise discretion in its affairs and give meaning to what otherwise become empty gestures toward democratic consensus.

Few members of APS may care now to take an active part in the government of their society. But if they do not relish the prospect of having to tread gently before an omnipotent executive secretary and wish to reserve for themselves the possibility of exerting an influence in the future on the decisions of their society, they might be prudent to reject the proposals which will soon come before them.

References

1. *Constitution and By-Laws,* Bull. Am. Phys. Soc. **1**, 6 (1926).
2. Societies and Awards, PHYSICS TODAY **19**, no. 6, 105 (1966).
3. Bull. Am. Phys. Soc. **11**, 666 (1966).
4. *Basic Operating Policies of Trade and Professional Organizations* including Model Association By-Laws, available from Association Service Department, Chamber of Commerce of the U. S., Washington, D. C.; *Charter Constitution and By-Laws of the American Chemical Society,* Bulletin 5, Am. Chem. Soc. (1964).
5. L. Cranberg, Private Communication to J. A. Wheeler, dated 15 February 1966.

Lawrence Cranberg
University of Virginia

Developments calling for updating of APS constitution

Dear Larry:

Thanks for the friendly arrangement that lets us respond to your letter in the columns of PHYSICS TODAY. You recommend vetoing all amendments to the constitution of the American Physical Society proposed in the June issue of the *Bulletin* and going on as we always have gone on. Would that that were possible! Then the membership-elected council would not have had to struggle for the last three years with the problem of reörganization. It could leave the operation of the society in the future largely to two long-term officers, the secretary and the treasurer, with occasional advice of the council, as worked out so well in older times. Our rapidly growing society (5000 members in 1945, 11 000 in 1955, 23 000 in 1966) would then be set off still further from such other learned societies as the American Association for the Advancement of Science, the American Mathematical Society, the American Chemical Society,