A National Curriculum

Events since World War II have led to a searching reexamination and reappraisal of our schools. The great debate has centered around the public schools and especially around the high schools, which have been roundly, even intertemporately, condemned by some and staunchly defended by others.

Those who launch the criticisms—in this as in any other discussion—attract the most public attention. We need only mention the outspoken attacks by Albert Lynd in his Quackery in the Public Schools, Arthur Bestor in his Restoration of Learning, and Admiral H. G. Rickover in his numerous speeches and in his recent book, Education and Freedom. The archdemon responsible for our educational ills is, according to the critical refrain, John Dewey, who has a supporting cast of lesser demons, the professional educators.

But the indictment is too simply drawn. The role of the high schools has changed markedly in the last half century. At the turn of the century, the high schools were primarily college preparatory schools, which offered academic or "solid" subjects almost exclusively. Public pressure for more educational opportunity for all, as well as other factors, led to the introduction of compulsory attendance laws. The percentage of those of high-school age in school climbed rapidly, from 11 percent in 1900 to more than 80 percent today.

The ideal has been to educate everyone to the limit of his ability and to give those headed either for a profession or for a trade a common educational experience. This common educational experience has been widely held to be essential to the maintenance of our form of democracy. According to this view, it would be a mistake to segregate, as Rickover suggests, the academically talented in special "demonstration schools." The opposing contention is that the comprehensive high school meets the needs of both those who plan to go on to college and those who plan to terminate their education with high-school graduation. With proper counseling and ability grouping in a sufficiently large high school, the needs of both groups can be adequately met, or so goes the argument. This position is strongly supported by James B. Conant in his latest book, The American High School Today (reviewed on page 382). Conant thinks that the best of the comprehensive schools are satisfactory and that our educational salvation lies in creating more schools equal to the best by consolidating small high schools. Only a large school can afford to be both good and comprehensive.

The increased public interest in education is a hopeful development, but it entails a potential hazard in that popular pressures may force curricular changes too hastily. A group of educators and citizens, which recently met at Stanford University under the auspices of the Ford Foundation (Science 129, 316 (6 Feb. 1959)) concluded that the hazard would be reduced if a national curriculum were established. The group recommended that a nongovernmental and broadly representative commission be appointed to plan a curriculum. Such a national curriculum would establish standards by which local schools could judge their own performance. If it is granted that a commission should be appointed, the question remains who should the commissioners be? Which voices from the Tower of Babel should be amplified?—G.DuS.
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Meetings

Collegiate Academy of Science

Developments during the past few years have aroused an interest in science and scientists which has become national in scope. Many people believe that our country fails to secure the full benefit of many of its gifted young people because these superior students do not obtain the education requisite to reach the level for which they are qualified.

Only about six out of ten of the top five percent of high school graduates ever earn college degrees. Why is this true? The decision to continue in college depends upon several factors, one of which is motivation. Talented students do not want to do just what everyone else is doing—they want an opportunity to do something creative. Are our college science students being properly motivated? Are there opportunities for a talented college student who is a potential scientist to act like one? One organization formed to stimulate superior undergraduate students to do independent scientific research is the Collegiate Academy of Science. The collegiate academy not only offers a stimulus to increase interest in science, but also provides for the undergraduate a medium through which he can publish his results. Through its annual meeting, the organization also offers students an opportunity to prepare and read scientific papers.

The members of the Academy Conference Committee on Collegiate Academies of Science believe that such an organization is a distinct need. Students sometimes come from high schools that have active junior academies or science clubs to colleges that have no agency for encouraging and promoting their interest in science. The Collegiate Academy of Science stimulates continued interest in science and prevents much scientific talent from being lost. Therefore, the committee is of the opinion that the absence of collegiate academies in most of the state academies of science is a serious matter. It is hoped that the following information on the purposes, organization, and procedures of a collegiate academy will stimulate interest in this important group.

The purpose of a collegiate academy is to stimulate scholarship and research among the undergraduate students in the colleges and universities of the state who are interested in the sciences; to cooperate with the state academy of science and to aid in accomplishing the objectives of that organization; and to encourage and facilitate the exchange of information and ideas among students interested in the sciences. Active members are usually members of clubs affiliated with the collegiate academy. However, undergraduate students in colleges and universities of a state where there is no affiliated club may also become members. Any undergraduate science club or society of a college or university of a state may affiliate with the collegiate academy by sending an application to the executive committee (or to some designated person). Annual dues for individual members should be about $1.00. These may be the only dues collected or there may also be dues for each affiliated club. In the past, some collegiate academy groups were supported by the state academy of science, but experience has proved that self-support, made possible by annual dues, is preferable.

The officers should include a president, a vice president, and a secretary. A treasurer and an editor could also be included. In some instances, a faculty member serves as treasurer. If there is a large number of affiliated clubs, it might be useful to divide the state into regions (as northeast, northwest, southeast, southwest) with a director for each region. The officers should be elected at the annual meeting from students who will be in college for one more year and should hold office for one year. The faculty sponsor (or counselor) may be appointed by the state academy of science, or he may be elected by the collegiate academy and be approved by the state academy. A collegiate academy committee composed of faculty members from several colleges may be appointed by the executive committee of the state academy of science to assist and advise the counselor. The executive committee should consist of the officers, the regional directors (if any), the faculty sponsor, and the collegiate committee (if any). The immediate past president might also be a member of the committee.

The annual meeting, which is the principal activity of the collegiate academy, should be held in conjunction with that of the state academy of science. Members should be encouraged to attend the general meetings of the senior academy. Regional meetings or other special meetings might be held at times and places determined by the executive committee. At the annual meeting, the most important part of the program is the presentation of scientific papers by student members. Interest may be stimulated by offering a small prize for the best paper. This may simply consist in having the prize-winning paper published in the senior academy journal. In some cases, certificates of merit are awarded to authors of outstanding papers while in other instances cash prizes are given. In any case, the greatest benefit to the student comes from the experience of preparing and delivering a scientific paper.

Other suggested activities for the ano-
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To the suavity customary in those who model men’s wear, our three gentlemen above add authenticity. Alan Bell (left, Ph.D., McGill University, 1937) and Charles Kibler (center, Ph.D., University of Virginia, 1939) directed the first synthesis of the Kodel polymer in the laboratories of Tennessee Eastman Company—a true linear polyester containing a chemical group not previously present in polyesters. Emmett V. Martin (right, Ph.D., University of California, 1932), now a physicist, once wrote a paper (Plant Physiol., 10, 613-636) entitled “Effect of Artificial Wind on Growth and Transpiration in Helianthus Annuus.” (That’s the common sunflower.) He led the way to the unique physical structure of the Kodel fiber.

Imported plate
Autoradiography—the locating of radioactive tracer substance through densities or tracks generated in adjacent photographic emulsion—bloomed into full flower among histologists and other life-scientists during the period 1946 to 1951. Today the talk has drifted from technique to its findings. Unable to contribute much to that conversation, we content ourselves preparing for the autoradiographers extremely high concentrations of silver halide in gelatin. These emulsions we coat in thin layers on 5μ to 10μ plain gelatin layers for mechanical support and deliver the combination on a separable sheet of cellulose ester or a glass plate.

The user removes the double layer from its film or glass base, floats it on water emulsion side down, and then lifts it up on the slide bearing his suitably stained radioactive specimen section. In a stream of cool air, he dries his preparation down and sets it aside in a light-tight box for as many hours or days as the radionuclide requires to register its image. Then he gives the whole slide its photographic processing. The overlying gelatin layer is, of course, easily permeated by the processing solutions. Finally his microscope shows him where in his specimen the radioactivity lodged.

It so happens that in Rochester we prefer to make the base of cellulose ester, while our British cousins of Kodak Limited in Harrow put the emulsion and gelatin on glass. Moreover the Rochester and Harrow emulsions differ, the autoradiographers tell us. Knowing that emulsion making encompasses almost as many subtle variables as sonata playing, we won’t argue with them. Instead we are now importing the Kodak Fine-Grain Autoradiographic Stripping Plates AR. 10 for those who prefer them to a 35mm x 5-ft roll of Kodak Autoradiographic Permeable Base Stripping Film. Both have a 5μ emulsion. “Under favourable conditions,” says Harrow of the plates, “a resolution of two microns may be obtained.”

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nual meeting are as follows: (i) a discussion of opportunities in the different fields of science, followed by a question period (one or more members of the senior academy may indicate the types of positions available, salaries, opportunities for graduate study, and other related points); (ii) scientific exhibits (both commercial exhibits and exhibits prepared by students); (iii) scientific films; (iv) field trips to local places of scientific interest; (v) a collegiate academy banquet at which the president gives an address; (vi) a social hour or cafeteria lunch together to give students from the various colleges an opportunity to become acquainted; and (vii) a business meeting for committee reports, election of officers, and so forth.

A collegiate academy publication is, next to the annual meeting, the best means for maintaining interest. This journal should be devoted largely to the publication of papers written by the collegiates. The publication may also include a column by the president, the faculty counselor, or both, in which they discuss items of interest to all of the collegiates. News from the various chapters may also be included.

The following are additional activities which have proved successful in some of the collegiate academies now in existence: (i) local meetings; (ii) regional meetings, similar to the annual meeting but on a smaller scale; (iii) meetings of the executive committee (including one such meeting held several weeks in advance of the annual convention and another at the time of the annual convention); (iv) circular letters sent occasionally to each chapter by the president or the faculty sponsor to help maintain interest; (v) requests by the faculty sponsor for senior academy members to serve as speakers for local chapter meetings during the year (several chapters in the same city or within a few miles of one another may hold occasional joint "academy night" programs at which a senior-academy member gives a talk); and (vi) field trips sponsored by the collegiate academy.

It is the hope of the committee members that this statement of ideas concerning the purpose of and suggested activities for a collegiate academy will prove helpful to many who may wish to develop such an organization.

Sister Joseph Marie Armér
Incarnate Word College
San Antonio, Texas

Amy LeVescouente
Mary Hardin-Baylor College
Belton, Texas
T. W. Johnson, Jr.
Duke University
Durham, North Carolina

Forthcoming Events

March
13-14. American Otolological Soc., Hot Springs, Va. (L. R. Boies, University Hospital, Minneapolis 14, Minn.)
13-15. Alabama Acad. of Sciences, Auburn. (H. M. Kaylor, Dept. of Physics, Birmingham-Southern College, Birmingham, Ala.)
15-20. American College of Allergists, San Francisco, Calif. (M. C. Harris, 450 Sutter St., San Francisco.)
16-19. American Assoc. of Petroleum Geologists, Soc. of Economic Paleontologists and Mineralogists, 44th annual, Dallas, Tex. (W. A. Waldschmidt, AAPG, 311 Leggett Building, Midland, Tex.)
Ill. (NACE, Southern Standard Bldg., Houston, Tex.)
16-20. Western Metal Exposition and Cong., 11th, Los Angeles, Calif. (R. T. Bayless, 7301 Euclid Ave., Cleveland 3, Ohio)
18-25. International Social Science Council, 4th general assembly (by invitation), Paris, France. (G. Levi-Strauss, Secretary-General, International Social Science Council, 19, avenue Kleber, Paris.)
19-21. Society for Research in Child Development, NIH, Bethesda, Md. (Miss N. Bayley, Laboratory of Psychology, National Inst. of Mental Health, Bethesda 14, Md.)
30-31. Third Teratology Conf., Portland, Ore. (D. L. Gunberg, Dept. of Anatomy, Univ. of Oregon Medical School, Portland.)
30-12. Bahamas Medical Conf., 7th, Nassau. (B. L. Frank, 1290 Pine Ave., W Montreal, Canada.)
31-5. International Committee of Military Medicine and Pharmacy, 21st session, Paris, France. (Comité International de Médicine et de Pharmacie Militaires, Hôtel Militaire, 79, rue Saint Laurent, Lîle, Belgium.)

(See issue of 16 January for comprehensive list)

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**Equipment**

The information reported here is obtained from manufacturers and other sources considered to be reliable, and it reflects the claims of the manufacturer or other source. Neither Science nor the writer assumes responsibility for the accuracy of the information. A coupon for use in making inquiries concerning the items listed appears on page 406.

**Surface-Moisture and Surface-Density Gages** use a probe containing a fast-neutron source for moisture testing and a probe containing a gamma-ray source for density measurement. To perform tests, the probes are placed in contact with the surface, and the scatter of the radiation by the material is measured. Calibration curves relate scatter to moisture or density, and probes are used interchangeably with a portable scaler. The measurements sample a hemispherical volume of material of depth varying from approximately 3 to 8 in. (Nuclear-Chicago Corp., Dept. 624)

**Continuous-Tape Cartridge** is designed to accept up to 100 ft of paper or plastic punched tape for computer and similar applications. The cartridge does not require a driving belt or other external mechanism other than the tape punch or reader itself. (Brooks Research, Inc., Dept. 627)

**McLeod Vacuum Gage** reads with high sensitivity to $10^{-8}$ mm-Hg and moderate sensitivity in the $10^{-7}$ mm-Hg decade. The entire range of the instrument is covered in one quadruple scale from $2 \times 10^{-3}$ to $1 \times 10^{-1}$ mm-Hg. Error is within ±2.5 percent at the high-pressure end of the range. For safety, the mercury reservoir is set into a plaster of Paris base which in turn is encased in a metal container. (Consolidated Electrodynamics Corp., Dept. 629)

**Frequency Detector** produces an output of 0 to 500 μa d-c in response to input frequencies of 0 to 500 cy/sec. Accuracy is better than ±1 percent. Only static magnetic components are used, and the signal being measured is the sole source of power for the instrument. Plug-in design and hermetic sealing are used. Shock resistance is 100 g. (Acromag Incorporated, Dept. 631)

**Planimeter** is designed especially for integrating records produced on 4-inch-wide strip charts of the manufacturer’s recorders. Either linear or square-root totalization is available by interchange of cams. The chart feeds at the rate of 0 to 12 chart-hr/min, set by a rheostat. A pointer is positioned over the record line by means of a manually operated knob. Tallys accumulate on a five-digit manual-reset counter. Accuracy is ±1 percent of full-scale count in a 24-hr period. (Fischer and Porter Co., Dept. 634)

**Infrared Spectrophotometer** combines a replica grating and a single prism in a double-beam double-mono-chromator optical system. The instrument records automatically on a horizontal strip chart with variable abscissa and ordinate expansion. Scanning speed is variable; provision is made for repetitive scanning. Switching from double-beam to single-beam operation is conveniently accomplished. An automatic wave-member drive scans continuously from 650 to 4000 cm$^{-1}$ and preserves linear wave-member presentation. Resolution is 0.3 cm$^{-1}$ over the entire range. Wave-member accuracy is 0.5 at 670 cm$^{-1}$ and 5 at 4000 cm$^{-1}$. Photometric accuracy is 0.1 percent for any one reading, single beam. (Beckman Instruments, Inc., Dept. 619)

**Temperature Indicators** are disposable paper strips that respond to temperatures by exhibiting an irreversible color change. Strips are available for temperatures in the range 100° to 490°F. Response time is less than 1 sec; accuracy is ±1 percent. (Paper Thermometer Co., Dept. 643)

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**Motion Analyser** provides digital output of coordinates of position on a film frame. A projected image is viewed on a screen 11 in. in diameter. After positioning the crosshairs and angle screen, the operator presses a button that causes the data to be read into a card-punch or printer. Readout is in increments of 0.001 in. at the magnified image, and angle is measured to 0.1 deg. (Vanguard Instrument Corp., Dept. 646)

**Centrifuges**, available in three models, use a ball-disk drive system to obtain constancy of rotation, including wow and long-term drift, better than ±0.05 percent. Speed is continuously variable from 0 to 800 rev/min. Speed measurement, accomplished with a 600-tooth disk and a magnetic pickup, enables direct readout of arm speed accurate to ±0.01 percent. Accessories include closed television systems, high-pressure air and hydraulic systems, and servo control. Diameters of the three models are 30, 60, and 96 in. (Genisco Inc., Dept. 639)

JOSHUA STERN
National Bureau of Standards,
Washington, D.C.

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SCIENCE, VOL. 129
(Continued from page 357)

tures, explain and expound and guide their disciples. They are the salt of the earth. A student who has had more than one or two such teachers is indeed fortunate. But many professors become so involved in their researches that they find no time for effective teaching; others have really no inclination for teaching but carry on in order to have an opportunity to do research work.

This state of affairs deserves more than ever the serious consideration of those responsible for the administration of our colleges and undergraduate schools, especially in the physical and biological sciences. No matter how many papers he has authored, the chief function of a teacher is to teach. This is an art which, from the time of Socrates, no amount of learned papers has ever been able to replace.

VICTOR G. FOURMAN
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Detection of Sex-Reversed Human Beings

The finding by Barr and Bertram (1), and subsequently by others, that the nuclei of somatic cells may be used to determine genetic sex, and by Davidson and Smith (2) that polymorphonuclear leucocytes may be similarly used, has proved to be very useful in studies of sexual dysgenesis (3). By their use, many cases of gonadal dysgenesis have been shown to involve disagreements between the genetic sex and the sex of rearing. In all cases, the patients have been found because of their complaints with reference to faulty sexual development or functioning. Neither method for determining genetic sex has been used to detect completely sex-reversed individuals—that is, genetic females who have sired offspring, and genetic males who have given birth to offspring. This is not surprising. Such individuals would have no clinical complaints relative to their sexuality and thus would not be examined. Yet, as individuals with extreme forms of Klinefelter's syndrome (4), they may exist. In the following paragraphs a method for finding such individuals is proposed.

Genetic males functioning as females and mated to normal males would give rise to XX, XY, and YY offspring in the ratio of 1:2:1. Presumably the YY offspring would die in uterus; hence the expected sex ratio would be 1 female to 2 males. The small size of human families makes it unprofitable to attempt to distinguish such a ratio from the expected ratio of 1 female to 1.05 males. On the other hand, genetic females functioning as males and mated to normal females would be expected to have only XX offspring—that is, only daughters. Families with large numbers of daughters and no sons can, of course, be readily distinguished from families with both sons and daughters.

The simplicity with which genetic sex may be determined makes it feasible to investigate the genetic sex of the fathers of families with, say, at least six daughters and no sons. (The probability that a family with six children would have no sons is ~0.013, on the assumption of chance distribution and a sex ratio of 1.05.)

I have such a study under way. I would appreciate information concerning families with large numbers of daughters and no sons.

ARTHUR G. STEINBERG
Department of Biology, Western Reserve University, Cleveland, Ohio

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Chemist. Organic preferred. Doctorate with teaching experience. Salary and rank dependent on qualifications. Submit personnel data to President Ralph Prator, San Fernando Valley State College, 18111 Nordhoff, Northridge, California.

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Established and growing company offers outstanding opportunity for Ph.D. Research Chemist with training and experience in colloid science. Work will require background in natural colloid and derivatives; 3 to 4 years of industrial experience or academic research preferred.

Responsibilities: participation in development of new products for food and related fields. Position requires imagination and will permit considerable latitude in job function.

We are an expanding company with aggressive management, well-rounded research team, and seek individual with potential for long-range development. Salary commensurate with experience; attractive benefit program. Please reply in confidence to R. B. Stiel, Personnel Director, Wallerstein Company, 125 Lake Avenue, Staten Island 3, New York.

Executive Secretary, M.Sc. or Ph.D. in science; administrative ability; teaching experience; initiative; affable; willing to travel some. Full-time position implementing Junior Division program and serving as liaison of improvement of science teaching, teacher certification, science libraries, science-industry liaison in Ohio. Attractive salary. Write for application form. Box 2, 27, 3/6.

Information Scientists: To evaluate, abstract, and translate scientific information. Training in biological or medical sciences. Interest in writing and ability to read for more languages useful. Abbott Laboratories, Employment Division, North Chicago, Illinois.

UNIVERSITY OF QUEENSLAND

Applications are invited for position of Lecturer in Helminthology or Veterinary Parasitology. Applicants should have a degree or Veterinary Science and have undertaken postgraduate studies in parasitology. Salary $5280-$5280 p.a. Further particulars and application forms are obtainable from the Secretary, Associate Universities of the British Commonwealth, 26, Gordon Square, London, W.C.1 or from the University of Queensland, Brisbane, Queensland, Australia. Applications close on 28 February 1959.

Literature Searchers and Writers with experience in preparing commercial literature in organo and inorganic chemistry for higher education.y positions with technical publisher. Non-contributory profit sharing pension plan. Box 22, SCIENCE.

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Opportunity available for young physician in Professional Service Department of Medical Division. Should have ability and interest in medical writing. Clinical or laboratory experience desirable. Please send complete resume to:

Technical Employment Coordinator
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Microbiologists, M.D. or Ph.D.; minimum of 3 years research experience. Significant publications essential. Openings available in the following fields: clinical virology, epidemiology of infectious disease, biochemistry, cytology and cellular metabolism and physiology. Research is conducted on an individual and/or group basis. Positions offer suitable and secure opportunity for continued education and development. Forward replies to M. H. Edelein, Personnel Department, Upjohn Co., Box 12/13, Kalamazoo, Michigan.
RCA Electron Microscope aids Parke-Davis to develop large-scale poliomyelitis vaccine

In developing a large-scale method of poliomyelitis vaccine preparation, an RCA Electron Microscope enabled Parke-Davis virologists to positively identify isolated polio virus. From this achievement stemmed much useful information regarding the morphological and anatomical characteristics of the polio virus.

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Photomicrograph of poliomyelitis virus (Mahoney strain) magnified 65,000 X.
Made by Dr. A. R. Taylor of Parke-Davis & Company, Detroit, Michigan.


RADIO CORPORATION of AMERICA
CAMDEN, N.J.
Letters

First Person: Immodest or Insecure?

The present writer would like to add his comment to that of Court (1) about ascribing false modesty to the use of I or we in the editorial entitled "Passive voice" [Science 125, 529 (1957)]. That editorial sought to discourage the view that I or we, used in scientific communications, is indicative of immodesty. It intimated that "the active voice is, in general, more robust and more direct" than the passive voice. The latter was said to inveigle authors into grammatical inexactness, this in turn leading to scientific inexactness.

As one concerned with teaching professional writing to graduate students in psychology, and as an advocate of the passive voice as well (2), the present writer follows closely the style manual of the American Psychological Association (3). Ever since the first scientific psychologist, Wundt, considered that the expression of feeling in language was more important than communication (4), psychologists have been concerned with both functions of language. Scientists in other fields may be interested in knowing how psychologists treat person and voice in their style manual. Presumably their treatment of the appearance of feelings, or other aspects of the personality, in scientific writing has been influenced by empirical investigations with a relatively long history.

Instead of the first person being seen as "robust and . . . direct," psychological stylists claim that "inexperienced and insecure investigators . . . think in the first person because they are so overwhelmingly concerned with what they themselves did, felt, found, or left undone" (3). Such novices were also said to have a tendency toward an excessive use of we. Psychologists, then, would seem to disagree with the editorial viewpoint expressed in Science.

It is interesting to note, however, that both the editorial and the manual presented illustrations of faulty and clumsy usages of the passive voice and their correction. Beyond this similarity there was little agreement.

Whether the active voice expresses robustness or inexperience, whether the passive voice indicates false modesty or objectivity, the remedy for an involved and clumsy usage of the passive voice seems to lie more in attitude than in rule. The passive voice can be well used, as the editorial pointed out, if the writer is maturely aware of his material and his reader as well. In such cases, as indicated in the psychological manual, the writer perceives himself chiefly as a link between the two. It is the research which is important, not the researcher. Employment of the third person would seem to emphasize the writing; utilization of the first person, the researcher, be he immodest or insecure.

Dell Lebo
Richmond Professional Institute,
Richmond, Virginia

References

The debate over the appropriateness of the active and passive voices will doubtless continue as long as we have a living language. We should like, for the time being, to close the debate with the following quotation from Richard Asher's "Why are medical journals so dull?" [Brit. Med. J., II, 502 (23 Aug. 1958)]:
". . . avoiding 'I' by impersonality and circumlocution leads to dullness and I would rather be thought conceited than dull. Articles are written to interest the reader, not to make him admire the author. Overconscientious anonymity can be overdone, as in the article by two authors which had a footnote, 'Since this article was written, unfortunately one of us has died.'"—G.DuS.

German Scientists and the Atom Bomb

Reviews of Robert Jungk's Brighter than a Thousand Suns [J. Cockcroft, Nature 182, 547 (1958); R. R. Wilson, Sci. Amer. 199, 145 (Dec. 1958); E. U. Condon, Science 128, 1619 (1958)] have not mentioned Werner Heisenberg's recorded opinion of why German scientists failed to develop nuclear weapons during World War II. Jungk's interpretation of the brief and selective quotations given on page 89 of his book, that such research was restrained by humane scruples, is not supported by a fuller reading of Heisenberg's article. An abridged translation [W. Heisenberg, Nature 160, 211 (1947)] of Heisenberg's 1946 statement in Naturwissenschaften, "Research in Germany on the technical application of atomic energy," includes the following assertions:

"We have often been asked, not only by Germans but also by Britons and Americans, why Germany made no attempt to produce atomic bombs. The simplest answer one can give to this question is this: because the project could not have succeeded under German war conditions. . . . Finally—and this is a most important fact—the undertaking could not even be initiated against the psychological background of the men re-

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