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WHAT HAPPENED TO MY PAPER?

If authors knew how many stages are involved in filing, refereeing and editing their papers, they might complain less about publishing delays.

SAMUEL A. GOUDSMIT

THE MORNING MAIL. Connie Curran examines a delivery of manuscripts and letters at the editorial offices, Brookhaven National Laboratory. —FIG. 1

MANY AUTHORS worry about their paper only after it has been sent to an editor. They want to know what is being done to it, why publishing takes so long and whether their manuscript is gathering dust on an editor's desk. Why did the editor pick a hostile referee?

Few authors know what actually goes on in an editorial office. Here, for those who are curious about it, I explain the procedures for *The Physical Review*. As with physics itself, editing and publishing procedures change with the availability of new techniques, so the following description represents only the present state of affairs. An understanding on the part of the authors may lighten the editor's burden.

Let us look at what happens when you send your paper to *The Physical Review*.

Recording

The story starts at the editorial office, located at Brookhaven National Laboratory. The morning mail arrives (figure 1). It is especially heavy on Mondays, with well over 100 pieces. Among them are about 50 new manuscripts, one of which may be yours. The rest consists of papers returned by referees and by authors, belated corrections from hasty authors, requests for permission to quote various items, correspondence from the printers, and much else. Each new paper must be entered in a log book and is given a serial number.

The new papers are sorted by sections. Though our secretaries are highly competent, they are not physicists; the sorting has to be done by knowledgeable editorial assistants, who also choose the running title, which is the part of the full title that appears on top of the pages.

Your paper next goes to the secretary assigned to the appropriate section of *The Physical Review*. She sends out an acknowledgment of receipt. She prepares a file card in the name of each author and a work sheet for editorial instructions. She sees whether all figures and tables have captions and checks other routine aspects of your manuscript. All this takes time.

Your card is placed in the "active" file and every transaction affecting your paper will be entered on it. Unfortunately, because of lack of space and personnel, the active file displays only the card of the author who is listed first in the byline. He is often a graduate student, probably named Aaron Aardvark. Thus when you phone or write us about your paper, please give us the name of the first author, if you happen to know which one of your 20 collaborators he is; also give the paper's serial number, if you know it. Some day, when we have automation, this will no longer be necessary.

These time-consuming office routines are necessary to keep track of your manuscript, its abstract, figures and tables. We must know at every moment where to find each of them.

Referee search

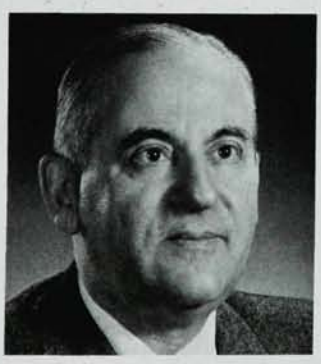
Next follows the important procedure for finding an appropriate referee for your paper. It is a widespread belief that the editorial office has a secret file containing the names of your enemies to whom we send your papers for refereeing. In doubtful cases we are accused of picking special referees who reject all papers. One author, who has published several papers in our journals, wrote: "Others share my view that the harassment which we have experienced with this paper indicates a policy of discrimination by the editors toward certain people." And another regular author, obviously not from our East coast, wrote this perplexing sentence: "It seems that being around New York or Brookhaven there is a definite advantage in publishing papers in the *Physical Review Letters*."

The actual way in which referees are chosen from among more than 2000 active physicists is much more prosaic. Our staff searches the extensive files for names of referees of

your previous papers. An editorial assistant picks out the latest and most relevant citations in your manuscript and records who refereed them. The names of these potential referees are written on the work sheet. It is obvious that this procedure takes time and that it can sometimes cause a real traffic jam at our card file; with the present influx of manuscripts, almost 500 a month, it may take four or five days before your paper finally appears on the appropriate editor's desk. Holidays cause pileups and more delay. Future automation can greatly improve this procedure.

The names of possible referees written on the worksheet are meant only as a suggestion to the editor. He may select one of them or an author of one of your references, or he may prefer another person who comes to his mind after he studies your abstract and glances at your paper. Often the editor himself consults the card file to see what the potential referee has published and who refereed his papers. The office checks that the chosen referee is "available" and mails your paper to him. He is rarely the one you guess.

In the very good old days, refereeing could be done by a handful of prominent members of the "Establishment." They were very lenient and many referee reports contained nothing but the one word "publish." Today, however, most of our 2000 referees take their task seriously, and almost all reports contain some remarks on how the paper could be improved. Tardy referees are prodded by letters and phone calls.



Samuel A. Goudsmit is editor-in-chief of the American Physical Society's publications, and, with George Trigg, joint editor of *Physical Review Letters*. Born in Holland, he took his PhD at the University of Leiden in 1927 and came to the University of Michigan in the same year. Earlier (in 1925) he had discovered, with George Uhlenbeck, the concept of electron spin.

If the referee requests significant changes or recommends rejection, his report is carefully studied by the editor. The report, or a portion of it, is sent to the author for his consideration. Thus is often started a lengthy correspondence involving the author, the editor and additional referees. Numerous variations on this theme occur, and each transaction is entered on the file card. There are always a few manuscripts with unforeseen complications defying the general routine and demanding more time and attention than they deserve; such "viscous" papers delay everything. It is clear that a "problem" paper consumes a lot of time of editors and staff. Perhaps a stricter rejection policy could eliminate such manuscripts and thus speed up the editorial handling of others; however, problem papers may contain important contributions to physics that deserve publication. The difficulty is often with the presentation rather than the content. We are convinced that papers are most useful to the readers after the recommended changes are made. The referee system has a beneficial effect on the quality of articles, even though the rejection rate is small.

Laundering

Your paper has been accepted. If everything went smoothly and the refereeing took less than a month, and no significant changes had to be made, it is now about six weeks since your paper arrived in the mail. The copy readers take over at this point to do the "laundering." Their task is to make your paper more easily understandable for the readers of the journal. They discover ambiguous sentences, incomplete references, unreadable and undefined symbols, unfamiliar abbreviations, newly coined words, facetious footnotes and acknowledgments, badly drawn figures and many other defects. We have an interesting collection of flaws which we read from time to time for comic relief (figure 2). Some papers look as if the author thinks that our typesetters have weekend jobs as theoretical physicists. Symbols are written with such lack of clarity that only a specialist in the author's branch of physics can decide whether it is an *i* or an iota, a *k* or a kappa, S or *s*, and so on.

Sometimes questions arise that the copy reader has to leave for the editor or the editorial assistants. Suggested

. . . has bazaar properties . . .

. . . bonified examples . . .

. . . σ grows up with energy . . .

. . . Virial's theorem . . .

. . . apparition of singularities . . .

. . . data are exhaustedly studied . . .

. . . a short digestion of our work . . .

. . . the approximate locations of the constant pressure heat capacity temperature maxima and minima of the liquid . . .

. . . the rare-earth local moment-free electron-like conduction electron exchange integral coupling . . .

. . . the no-phonon and the transverse optical momentum conserving phonon assisted creation of excitons . . .

Given then, at low enough temperatures, the two thermally anomalous solid modifications, the anomaly in the dense close-packed phase being confirmed at least qualitatively by the extensive Oxford data,[5] is the transformation of these two anomalous phases normal or anomalous.

Let the applied field direction be in a direction parallel to the x-direction.

. . . we heard of an unpublished flow experiment through orifices . . .

A similar analysis in the compressed liquid is excluded, at the present time, because of the absence of data of precision and of very close temperature interval, that is of great density, approaching that of Argonne group,[7] and to some extent also that of the Los Alamos group,[8] referring to the saturated liquid.

Whether this overestimates the average by not giving weight to the far hemisphere where the function is negative, or underestimates the average by not giving weight to the far hemisphere where the function is negative, or underestimates it by giving too much weight to the regions in the near hemisphere farthest from the gap where $d\cos\phi/dc$ is smaller is a difficult question, depending on the details of the solution.

The results on the diamond lattice are, we feel not sufficiently converged to say more than that they are not inconsistent with the above conclusion.

Such a phonon bottleneck was observed by Townes *et al.* in $Cu(NH_4)_2SO_4 \cdot 6H_2O$ and Nash.[7]

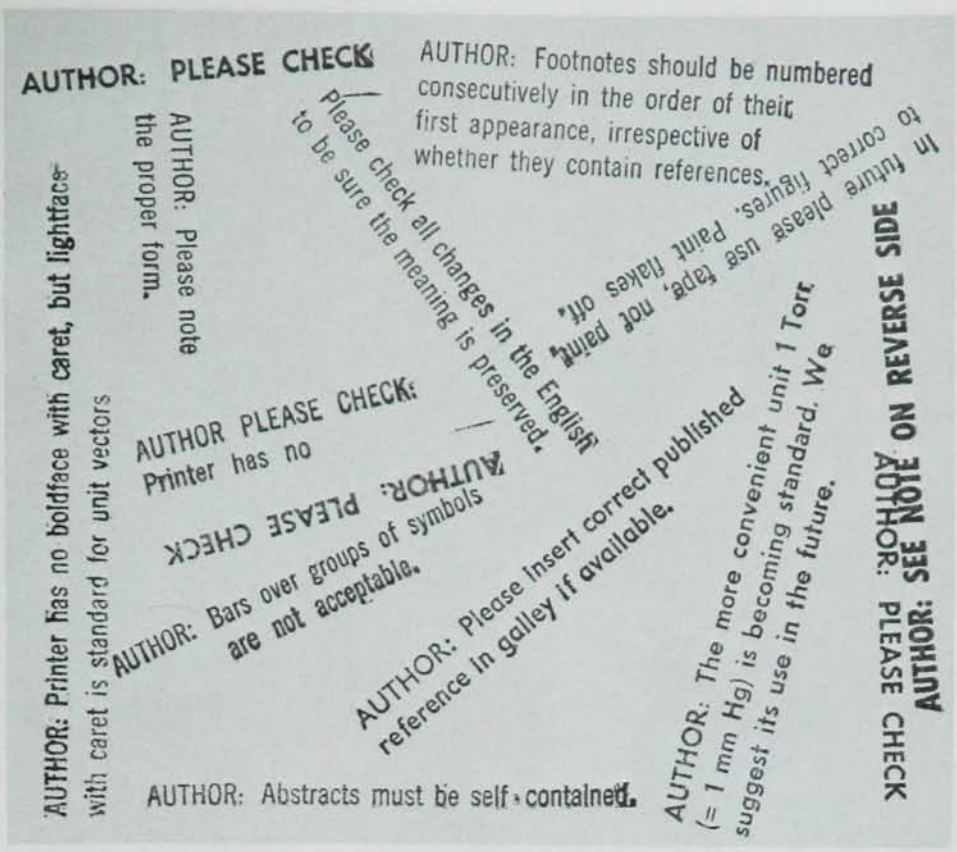
MODERN ENGLISH USAGE. These are actual examples culled from manuscripts submitted to *The Physical Review* and *Physical Review Letters*. —FIG. 2

corrections are made in the manuscript, and the author's attention is called to them by clearly displayed rubber stamps (figure 3); the one most frequently used reads "Author please check." Thus our copyreaders are kept quite busy. Their part takes about a week for a whole issue.

Now the manuscript goes back to the editor's desk and to the office for a final check. If you are lucky, this happens just before the deadline; otherwise your paper may have to wait for next month's deadline day. On that day the papers are sent to David Biesel, at the Editorial Department of the American Institute of Physics. Copies of the abstracts go to *Physical Review Letters*, where they will appear a month after deadline day, that is from two to three months after receipt of your manuscript. The staff of *The Physical Review* prepares five deadlines every month and proofreads the index issues. We run a very busy shop.

At AIP your paper is marked for the printer. Copy markers use a sort of sign language that the typesetter understands, so your formulas, symbols and units will appear just as you intended them. The printer sends you a galley proof. If you make very significant revisions your paper goes back to the editor and part of the procedure is repeated, causing long delays. The AIP staff inspects whether your corrections have been properly incorporated. The institute is responsible for the journal's production.

All this together with printing, binding and mailing takes three months, though overloading extends this time considerably. Normally your paper is read by all our subscribers about four and a half months after submission, unless necessary modifications and extra refereeing delayed it.



"AUTHOR PLEASE CHECK." Author's attention is drawn to specific parts of an edited manuscript by these rubber stamps. —FIG. 3

Personnel

I have only given the highlights of our procedures. There are many more details in the daily routine that could be described in an operations manual but not in an article. I have not discussed, for example, how procedures for Section 1 of *The Physical Review* and for *Physical Review Letters* differ from those of the other sections of *The Physical Review*. The rejection rate for *Physical Review Letters* is much larger, and so is the editorial correspondence. Speed requires frequent telephone communication with referees and authors, which is costly and often consumes more of the editors' time than correspondence would have done.

In spite of the growing volume our editorial staff is still kept at a minimum. *The Physical Review* has three editors, each one responsible for almost 1200 articles per year. We have four editorial assistants, two copy readers, five secretaries and one file clerk. A considerable part of the editorial time and attention is devoted to new procedures, such as automation of our filing system, typewriter composition, microfilm storage and others. Frequent phone calls from anxious authors also take secretaries' and editors' time. The total cost of the editorial operations for *The Physical Review* amounts to $50 per submitted article.

Is all this necessary?

Those who advocate the organized distribution of preprints will claim that our editorial operations waste a large amount of time and money. However, the editorial cost is only about 10% of the page charge. Because some clerical work will always be necessary, the financial advantages of abolishing most of the editorial routine would be very small compared to the total cost of printing the articles.

Can we save time? We have started typewriter composition for one section and, although it looks less elegant than monotype, it will probably shorten the printing time by at least one month, as well as reduce the cost. Future methods for composition and printing may cut the time even further. We have made a successful start with computer handling of our referee file. Although computer handling is still done on a very small scale it already saves editors' time, reduces embarrassing errors and improves the flow of manuscripts. There is no doubt that additional automation and expansion of our staff could speed up publication still more, though at a relatively high cost.

Finally, we could save expenses and up to six weeks in time if we eliminated refereeing, copy editing and proofreading. After all, preprints are neither refereed nor edited but are nevertheless accepted as valuable communications by many physicists. We doubt very much, however, that the physics community is willing to make its journal publication a chaotic free-for-all. □