

Organizing and Presenting a Technical Paper¹

At each annual meeting of the Society a number of papers are presented poorly. Not the only offenders are inexperienced graduate students and junior horticulturists. Most of us share some blame — and should do something about it!

Improved performance in presenting scientific papers cannot be legislated — unfortunately. Unless pride in profession, institution and self is strong enough to motivate excellence, not much can be done to insure competence. This paper offers some suggestions for organizing, illustrating and presenting technical papers at meetings of the Society.

The first requirement for a good paper is that the speaker must have something worth presenting. Unless he believes this himself and is truly anxious to present his material, he is not likely to have the enthusiasm needed to prepare a paper of high quality. Further, if he hopes to generate interest and enthusiasm in his audience, the material itself must be worthwhile. The purposes of the Society are not served by poor or mediocre papers presented merely in exchange for a travel-expense voucher to the meetings. This is a poor excuse for wasting his colleagues' time. Forty persons sitting through a 15-minute presentation invest a total of 10 man-hours-a-matter not to be taken lightly.

A technical paper has only one purpose and that is to inform!

Careful and detailed planning should precede actual preparation of an address. Responsibility for understanding by the audience rests almost wholly on the author's skill as an organizer, illustrator and speaker. His listeners cannot ponder his remarks or review them at their leisure. He must get his story across clearly, completely, and above all, briefly. He cannot present a complete manuscript, even a short one.



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The audience will want answers to these questions:

- 1) Why was the work done?
- 2) How was it done?
- 3) What happened?
- 4) Why did it happen?
- 5) What does it mean?

The questions can be recognized as introduction, materials and methods, results, discussion and conclusions. The emphasis should be on results and discussion with a careful screening of subject matter to satisfactorily answer all questions in no more than 13 minutes.

Generally, the illustrative material should be chosen before the outline is prepared. Only the photos, tables and graphs that are necessary to tell the story should be selected. Each should be restricted to a single point. Usually, no more than 5 slides can be used effectively in a 13-minute presentation. If the slides are complex, no more than 3 should be used.

The next step is the preparation of the detailed outline. The questions posed can serve as major headings. In a 15-minute presentation, one cannot dwell long on any one topic. Therefore, it is advisable to set time limits for each major section of the paper as a part of the outline. Time allotted to each part will vary with the speaker and the material and can be adjusted during rehearsal of the paper. The following allocations in minutes are suggested for a 15-minute paper:

Introduction	2
Materials and methods	2
Results and discussions	8
Conclusions	1

This totals only 13 minutes, but one should allow a minute for transition between talks, that is allowing the preceding speaker to reach his seat and for the chairman to make the next introduction. Another minute should be allowed for brief questions at the end of the paper.

The detailed outline of the paper is the stage for determining the fine points of organization. Here, items can be readily rearranged and evaluated for their relationship to others, keeping in mind the story to be told and putting down, step by step, the materials needed to tell it. Scheduling of each slide should be indicated.

Much of the work toward an outline will have been completed if the manuscript has been written for publication. If such is the case, great care is still needed to condense the materials to fit the allotted time.

The next step is to write the paper for oral presentation. This should be done in informal, conversational language, using short words and simple sentences, bearing in mind that the audience will have only one chance to understand the information given.

¹Editor's Note: Professor E. C. Maxie was invited by Feature Editor, Dr. P. M. Bessey, to prepare a short article on the presentation of papers at our Annual Meetings. We are pleased to bring Dr. Maxie's terse and pertinent suggestions on this timely subject to the attention of the membership.

Whether the paper should be delivered from a brief outline will depend on the author's ability as an extemporaneous speaker. The experienced speaker can use a brief outline to good advantage. It gives proof to his understanding of the material and permits an enthusiastic delivery. More important, it gives him good contact with his audience. The inexperienced speaker should avoid this approach.

Regardless of the speaker's capabilities, an absolutely essential step is **REHEARSAL**! Delivery should be practiced until the paper can be presented in no more than 13 minutes of speaking time. Rehearsal should be done in private until command of the material is established, then before a group of colleagues for their critical evaluation. With their suggestions incorporated, the rehearsal is repeated until they are satisfied and the speaker is confident in his presentation.

At the meeting, the following points are worthy of consideration:

- 1) Locate the meeting room, note the entrance and positions of the lectern, projector and screen.
- 2) Be certain that any slides being used are properly arranged. A slotted holder for slides (instead of a rubber band) can often save considerable embarrassment.
- 3) Arrive at the meeting room early enough to give the slides to the projectionist without disturbing the audience and other speakers. This is particularly important if the projectionist will need special instructions.
- 4) Identify yourself to the chairman of the session, and if possible, take a seat near the front of the room.

- 5) When introduced, acknowledge, but do not thank the chairman. Assume a relaxed stance at the lectern and launch into the presentation immediately. Memorizing the first few sentences of the paper will help inexperienced speakers in particular. By all means, avoid comedy; it wastes time, and a scientific session is a poor place for it.
- 6) Never apologize for anything concerning the paper or the performance. If it is bad, the audience will know it. To admit coming with something that requires an apology insults your audience.
- 7) Speak clearly, using a conversational tone, but with animation. Let the eyes move around the room to give the impression of speaking personally to each one in the audience.
- 8) Avoid distracting mannerisms—vocal and physical—that may draw attention away from the speech. Hands are often the worst offenders. They can be counted on not to disappear if allowed to hang naturally at your sides!
- 9) Speak to your audience at all times. If rehearsal has been adequate and the slides properly prepared, only a glance is needed to identify a particular illustration. In pointing to items on a projected image, stand to one side of the screen, face the audience as nearly as possible and speak loudly enough for everyone to hear. Think about the listener in the last row.

- 10) Keep the number of slides to a minimum. The audience can get the full story when the paper is published.
- 11) Speak neither too fast, nor too slow.
- 12) Follow the outline as rehearsed, and be prepared to stop within the allotted time. Be careful not to *ad lib* last minute thoughts. The next speaker should not be expected to sacrifice a part of his time.
- 13) Memorizing two or three of the closing sentences will often help an inexperienced speaker, even one who likes to talk, to stop in time.
- 14) Do not end by saying "thank you." This is a form of apology. A simple statement such as "Mr. Chairman, this concludes my presentation." is sufficient. If the job is worthy, the audience will be appreciative and they will show it.

Looking to the future, we should offer graduate students training in the presentation of technical papers. The graduate seminar is an excellent place for it. Students should be instructed in good techniques of organizing, illustrating and presenting technical and other papers. Their presentations should be timed and they should be required to sit down when their allotted time is up. A count should be made (and reported) of the number of "ahs" used. Finally, a faculty member should give an oral evaluation of the student's performance. This evaluation, though friendly, should be firm. When a student chooses a career in research he must expect to be evaluated many times. He and his future audiences can benefit immensely from a critical graduate seminar program.

Index To Advertisers

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