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Guidelines for the formal procedure at the public defense of a Ph D thesis or How to be an opponent

This is based on guidelines from Chalmers University of Technology and on experience at the School of Mathematical Sciences.

A thesis defense usually attracts a large audience, consisting both of researchers in the field and of relatives and friends of the candidate.

1. The chairman, who is usually the thesis supervisor, welcomes the audience and introduces the candidate, the opponent and the members of the assessment committee.

2. The chairman turns the floor over to the candidate, asking whether he or she wants to make any comments. This gives the candidate an opportunity to correct misprints and other errors and maybe hand out an errata sheet. (A copy of the errata sheet can be sent to the opponent in advance.)

3. After these preliminaries, it is the opponent's turn to speak. He or she presents the contents of the thesis. This usually starts with a sketch of the background of the topics treated, and then the main results are described. If possible, this part should be understandable to most people in the field. To give the author a more active role, the opponent and the author often agree in advance that the author presents some part of the thesis.

   The opponent gives an assessment of the importance and value of the results obtained. The candidate should then be allowed to comment.

   After this, the opponent can go into more detail, and also ask the candidate questions, so that a discussion may arise. The opponent can comment on the technique used. Questions often go like: "Why did you use this method here, rather than that?" or "Did you consider this related question?" Errors and unclear points should be pointed out, so that the candidate can correct and explain them. Since technical questions are usually hard to answer without preparation, the opponent may well inform the author in advance about some of the questions.

Part of this discussion will necessarily be technical and difficult to understand for a large part of the audience. The opponent can comment on all aspects of the thesis, such as the organisation and presentation of the material and even the (English) language. The more dialogue there is between opponent and candidate, the better.

What is described in item 3 is the main part of the procedure. Usually it lasts for one or at most two hours. That of course means that only some points of the thesis can be treated in detail.

4. The chairman now asks for questions and/or comments from the evaluation committee and the audience. In the discussion that may follow, both the opponent and the thesis supervisor may participate.

5. The chairman thanks the opponent and the candidate and closes the session. It is then common that the opponent shakes hands with the candidate and congratulates her or him.

6. After this, the evaluation committee meets. Although the opponent and the thesis supervisor are not members of the committee, they are normally present at the meeting.

Final comments: An advantage of the Swedish system with an (active) opponent is that an external person reads the thesis rather closely. This means a certain quality control of the thesis. An opponent should not hesitate to speak his mind and criticise weak points and aspects of the thesis.

If the opponent, while reading the thesis, finds serious errors such as false theorems, he should notify the candidate or the thesis supervisor in advance. It would of course be cruel to tell the candidate about that in front of the audience. Once informed, the candidate can prepare a reply. In extreme cases, the defence could even be postponed and the thesis rewritten. Also, if the opponent does not think that the thesis is sufficient for a Ph D, he should say so in advance.