

## DEGRADING OF PHD'S THROUGH THE INTRODUCTION OF DOCTORAL SCHOOLS

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### Introduction

Academia is a hierarchical society. Starting as a student at the bottom of the stairs you do not even know where it might end. Passing the exams you collect points until you are awarded your degree. When I started my study in psychology at the university of Amsterdam in 1970 the titles were a little different. At the end of the first year I got my 'propaedeuse' and a few years later I became a 'kandidaat' in psychology. At the end of the study I was awarded the academic title of 'doctorandus'. In other European countries this is about equal to the licentiat, or magister and in the Bologna system it translates into the master degree (and the kandidaat into bachelor).

It was explained to me that the meaning of the doctorandus title was literally: 'one who has to complete his doctorate'. Most graduates, however, were happy to accept this title as the end point of their academic career. Only for those who aspire a career in academia it pays off to gather more and higher titles. My father, who had a doctorate in physics based on a study on thermodynamics, used to tell me he never used his titles, except when dealing with officials who possibly could be impressed.

Originally I did not have any ambitions to try and get a doctorate. However, when I got a job as a researcher at the University of Maastricht, with the assignment to develop and test a measure for medical problem solving skills, it appeared natural to turn this research into a PhD project. At that time that meant I just had to find a professor who was willing to act as 'promotor' (supervisor in Dutch). The responsibilities of a supervisor were primarily to guarantee a scientific standard. In meetings with the supervisor you would discuss your plans and submit drafts reporting on your study. You could get some suggestions on literature and the research design. However, how you dealt with your research basically remained your own responsibility until the supervisor told you your work was about ready for a PhD defence.

The rules and regulations for awarding the doctors degree vary slightly between different universities in Holland. In all cases a committee consisting of at least five professors will have to approve a manuscript submitted by the candidate. When the verdict of the majority of the committee is positive the official defence session is a formality in the sense that the outcome is already decided.

When I started with my PhD project there were no time constraints. A PhD Study would take as long as it needed. As it happened I abandoned the project after three years accepting a tenure position as educational consultant at the same university. A few years later I found myself in a position to take up the research once more and I was able to have my defence about ten years after I started with the project.

Looking back at that ten years period I remember the lonely struggles. The setbacks and the loss of motivation when I was unable to see how I could ever finish the project; the satisfaction when yet another paper was published. It is this struggle I have come to cherish as an essential element of the process of becoming a doctor. This paper will argue my fear that the doctoral schools that are presently being established all over Europe take away much of this healthy struggle, leaving the PhD candidates with a simple and straightforward obligation: to complete a study programme.

## 1. Historical background

Although today the research doctorate is almost universally accepted as the standard qualification for an academic career, the academic title of doctor of philosophy (PhD) as we know it today is a comparatively new invention. The word 'doctorate' comes from the Latin 'docere', meaning "to teach." When this title was introduced in medieval times it was used to indicate a higher degree than that of the master or professor. The title doctor indicated that a person not only mastered a particular topic, he mastered it so well that he was capable to teach it to others. During the middle ages the right to award a doctorate shifted from the church to the upcoming universities. Doctoral training at a medieval university was very much like apprenticeship to a guild, taking at least seven years of work under supervision of an established authority.

Over time the usage and meaning of the doctorate has changed, and it has also been subject to regional variations.

In the 19<sup>th</sup> century research based universities emerged in France and Germany. In Germany the Humboldtian model introduced the concept of freedom of scientific research emphasizing that science should be free of political or religious control. Also in Germany the practice emerged requiring prospective lecturers to have completed a "research doctorate". However, it was not until early in the 20<sup>th</sup> century that such a practice was adopted in the UK (Wright and Cochrane, 2000).

The 19<sup>th</sup> century universities were reserved for the aristocracy. Beyond doubt the most important development in the 20<sup>th</sup> century is the massification of higher education. Popular access to higher education slowly began to increase after the First World War. Still the expense of a university education remained an obstacle, excluding the majority of working class students. It lasted until well after the end of the Second World War that there was a rapid increase in the number of students entering higher education in Europe. Universities needed to adjust their teaching methods in order to deal with mass higher education (Wiegersma, 1989). Following this development the number of students aspiring to a doctorate began to increase markedly by the end of the 20<sup>th</sup> century. A recent report by the Rathenau institute in the Netherlands indicates the increase continued well into the 21<sup>st</sup> century with the number of awarded PhD degrees almost doubling between the early nineties and 2013 (Goede et al, 2013). As a consequence it is no longer possible to sustain the highly individualized process of PhD supervision.

In some European countries ( Germany, Denmark) until today the older-style doctorate survives in the form of 'habilitation'. The habilitation is supposed to demonstrate independent and thorough research, experience in teaching and lecturing, and, more recently, the ability to generate funding within the area of research. It involves the writing of a second thesis or composition of a portfolio of research publications demonstrating the candidate is a leading expert in his/her subject.

However, in response to the huge increase in candidates, the standards for the normal doctorate have been adjusted. In most cases it is no longer required that the research is completely original, adding something new to our common body of knowledge. My father used to tell a story about a colleague in the van der Waals laboratory in Amsterdam who was about to complete an extensive research project on thermodynamics when someone in Japan published a similar study. As a consequence, there could be no doctorate awarded to this study and he had to start all over again.

## 2. Concerns about unfinished PhD's

In most European countries a successfully concluded PhD contributes to the income of the university. Therefore, unfinished PhD projects have become a problem. Nowadays university professors are held accountable for their production. You have to register your teaching hours and everything you do. We can no longer afford to spent time on failed projects.

As a matter of fact the growing number of PhD candidates leads to all kinds of problems. First of all, logistically, it becomes more and more difficult to answer the increasing demand for supervision. I know some professors who boast they supervise more than 30 PhD students at the same time, in different stages of their process – and this besides their own research, their teaching and their management responsibilities. However much I respect these colleagues for their efforts, at some point it must go at the cost of the quality of the supervision. At least the level of individual attention has to suffer. In other cases the load is spread out over more professors. Again, without criticizing anyone in particular, one can assume that some are more fitting as supervisor than others.

Alänge and Frischer (1998) quote a study at a department of psychology showing a success rate of 20% completed doctoral degrees in a 20-year period (1974-1995). They continue to point out that this

result is by no means exceptional for Sweden or particular for the field of psychology. In fact there are data confirming that the problem is by no means limited to Sweden. Meijer (2011) cites statistics on PhD completion in Holland indicating that of the PhD students who had started in 2000, only 7% finished their PhD within 4 years and 26% within 5 years (VSNU, 2008).

In Holland several studies recognized the problem of delays and unfinished PhD projects and tried to come up with explanations and possible suggestions to remedy the situation (Hout, 1991; Meijer, 2011). The study by Meijer identifies the dependent position of the PhD student as an important factor. Interviews with PhD students reveal a lot of tensions between the PhD student and the supervisor. It is not surprising the report concludes that the supervision process needs to be improved.

In Sweden, Alänge and Frischer (1998) propose standardization of the doctoral learning process. First the role of the supervisor and the PhD student must be defined more clearly, introducing routines for the contracting and review process. Secondly they suggest introducing a standardized review process focussing on the performance of the PhD supervisor and they even develop a tool for the evaluation of supervisor performance. Thirdly they propose a regular use of a broader group for supervision, opening up opportunities for more extensive learning.

### 3. Introduction of the doctoral school

In a way studies like those of Alänge and Frischer (1998) unintentionally opened up the way for the introduction of doctoral schools. Where these two authors as well as the Dutch study by Hout (1991) propose remedies for shortcomings in the traditional supervision process, university managers saw an opportunity to expand their administrative control and of course to get a better grip on the economical factors. Recognizing that it is silly to tell the same story 30 times to individual PhD students it makes sense to introduce a programme of courses for PhD students. As an added bonus the PhD students can learn from each other by working in groups.

The bonus for the university administrators is evidently the possibility of exercising control on the elusive process of individual PhD supervision. More and more, the doctoral degree programme takes the form of a formal curriculum. At least part of the PhD requirements is defined by participation in a course programme. The trend was recognized by SEFI in the 2007 SEFI Position on the Doctorate in Engineering: 'As the third cycle of qualification in higher education is taking shape, many universities in different countries have established a doctoral school or graduate school to organize the PhD process'. The statement emphasized the importance of individual research work. A PhD in Engineering should reflect the individual's research competencies. Consequently, qualifying as a researcher with a PhD should be the result of an individual learning process rather than curriculum-based education (SEFI, 2007).

The problems recognized in this SEFI report are still very much relevant today. When courses take time of the independent research activities a different learning process ensues with less room for self-directed learning. Going to school in order to learn something is not the same as learning it by having to do it on your own. Moreover, administrative procedures do not contribute to improvement of the supervision process, which in all relevant studies is identified as the key to increasing successful completion of the PhD process.

### 4. Effect of the doctoral schools on the level of the PhD thesis

There are quite a number of studies documenting the increase in numbers of PhD students and the high incompleteness rate. However, none of these studies discusses the quality of the PhD research. I would say it is clear that the standard has been lowered. In Denmark the time allowed for a PhD study is three years, of which half a year is to be spent on courses. Setting up a completely independent research project and reporting on the results in two and a half years is next to impossible. I am not familiar with the situation in all European countries, but so far my observations have confirmed it is very much the same everywhere. In the Netherlands the official allotted time for a PhD study is four years. However, as PhD students are to take part in the teaching of their department and they also have to attend courses there is much less time for actual research activities.

Besides the lack of time for research because of the courses, the doctoral school at Aalborg University also introduced a series of administrative procedures that require time. So all PhD students have to complete a two month plan outlining their research just after they started their project and by the end

of the first year they will have to fill in an eleven months plan, detailing their progress. Next the PhD supervisor is required to report on the PhD students' progress every half year. Whenever a deviation from the research plan is reported the supervisor and the PhD student are called to the doctoral school for explanation.

More important than the time spent on the administrative procedures is the impact on the mind-set of the PhD Students. Many tend to focus on the short-time requirements, losing sight on their long term research planning. Somehow people seem to expect that when they pass all the courses they will get their PhD in the end. A quote from an interview with the Nobel Prize winner Sydney Brenner shows that Europe again manages to follow a bad example from the USA: *'In America you've got to have credits from a large number of courses before you can do a PhD. That's very good for training a very good average scientific work professional. But that training doesn't allow people the kind of room to expand their own creativity'* (Dzeng, 2014).

## 5. Conclusion

Since the mid-nineties I have been involved in running courses for PhD students. In Delft I was asked to take over a course from a colleague with the title 'Getting started in a PhD. The course aimed to help PhD students to set up their research, take care of their time planning, and understand the relationship with their supervisor and other members of the scientific community. One afternoon was spent on the formulation of the research question. After some years it turned out that the participants appreciated this part of the course very much and I turned it into a new independent course on research design.

When the graduate school started at TU Delft in 2011 a general introduction programme covered the topics of the first course. The course on Research design was adopted into the programme of the doctoral school. Presently a colleague from the department of Philosophy still runs the course. After moving to Aalborg I have been running similar courses for PhD students as part of the programme of the doctoral school. All the time I have enjoyed running these PhD courses very much. It has been a privilege to work with this group of enthusiastic bright young people. And I guess I have been able to help some of them in their process too.

During almost 20 years of running courses and supervising PhD students I have observed that doing a PhD is still very much an individual process. I have seen people drop out because of purely private reasons and I have seen people continue their struggle for much longer than the allotted four years. The foundation of my approach to research design has been to shock people into taking responsibility for their own choices. I ask them to identify their key research variables and to formulate research questions about the relationships between those variables. Over the years most course participants appreciated this approach. One participant of the research design course in 2007 proudly sent me her thesis in 2012. There were others, however, who felt my approach did not match their research paradigm. I do agree that in particular with design based research it can be quite hard to identify key variables. Still my message is that by the end of the process the PhD student must be prepared to defend the choice of paradigm as well as other methodological choices him/her self rather than rely on the authority of the supervisor.

Let it be clear that I am not complaining about the offering of courses to PhD students. I have clearly seen some of the PhD students I supervised benefit from courses on topics outside my own area of expertise and I truly believe courses can help them to expand their horizon. Also, I cannot complain about procedures intending to protect the PhD students in their weak position. I just want to point out that the risk of too much emphasis on formal procedures is that the natural curiosity and creativity of people is impeded. I consider the PhD to be a proof of competence as a researcher. Even if other have published about the topic before a researcher can demonstrate his/her competence by presenting new data and arguing the methodological choices of their study. Supporting PhD students to take responsibility for their own research is the challenge for the supervisor.

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