

The selection of the Dissertation Problem for Ph.D. theses in Psychology and Social Anthropology/Ethnology from the Graduate Students' Perspective

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In this study doctoral students in psychology and social anthropology/ethnology were interviewed as to their selection of research problem for their Ph.D. thesis. The results showed that the processes leading to the graduate student's selection of a research problem occurred over time, and that the selection process was characterized by a mutual adaptation of interests between the Ph.D. student and the research community. Different factors appeared to have influenced the selection process at different point in the process, 'external factors' having had a greater influence on the choice process in its early stages, especially for the social anthropologists. The psychologists' selection processes appeared to have been more clearly directed by the discipline compared with that of the anthropologists.

Key words: Research problems, choice, Ph.D. theses, science studies.

Much research in disciplinary traditions such as the sociology of knowledge, science studies and the anthropology of knowledge has shown that science, in the broader sense including

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also the humanities and social science, does not constitute an isolated enclave within social reality. One way in which society as a whole influences science is through the influx into science of problems from the world outside science. Such problems are at later stages in the research process ‘washed’ through the scientific methods, concepts and theories of the discipline in question, and in this way usually reformulated as a part of their integration into science. Studies by Myers (1985, 1997) show that research grant applications and papers sent to scientific journals are edited and changed in the direction of the mainstream opinions of the discipline in question.

In the present study, the selection of a research problem for their Ph.D. thesis by doctoral students in psychology and social anthropology is analyzed and seen as one way that the world outside of science can influence the content of science. The selection process is usually stretched out in time, i.e. the selection is usually not done in one piece. It seems likely that an analogous process to that described by Myers for scientific texts occurs when Ph.D. students select a problem for their Ph.D. thesis.

Traditionally, research problems have been seen as crystallized, reified, entities appearing first in the research process. An example of this approach is Popper (1972) who characterized the research process by suggesting that it starts with a clearly formulated research problem, followed by different steps leading to its solution. After the solution is presented it will be criticized, and on the basis of this criticism, a new research problem is formulated (Allwood & Bärmark, 1999). Allwood (1997) presented results that strongly indicated that this characterization of a research problem does not conform well to the properties and functions of the research problems in the research process. From interviews with researchers in psychology and social anthropology/ethnology on their experiences with research problems in carrying out their research, it appears that research problems may be better looked upon as socially constructed ‘objects’ which form and change over time in a developing historical, social and cultural context. Here Gadamer’s (1960/1985) notion of “effective history” is of relevance since the conditions for how the researcher understands the problem gradually change over time. This implies that the problem itself also changes over time, partly as an effect of the learning that occurs within the research process. In brief, I assume that research problems change over time in the research process, for example by being gradually ‘filled-out’ and can be seen as *locally instantiated meaning representations*. These can be assumed to have different functions in different research contexts.

Three such functions were suggested by Allwood (1997) and by Allwood and Bärmark (1999). First, the research problem can serve as a focus for the researcher’s activities by

providing a direction of activities and thinking in the research process and by creating motivation. Second, the research problem facilitates communication about the research with other researchers and with society in general. For example, the research problem is an important rhetorical resource when the researcher applies for economic, as well as other types of, research support (Allwood & Bärmark, 1998), and when the researcher in other contexts attempts to legitimate his or her research activity. Finally, as noted by experienced researchers (Allwood, 1997), research problems provide a means for the socialization of students on different levels.

More specifically, a research problem involves taking a perspective on a phenomenon, and can be seen as formulated in terms of a set of concepts that derive their meaning (i.e. taken-for-granted assumptions) from larger *conceptual structures* (e.g. the researcher's sub-discipline and the researcher's everyday understanding). Research problems may differ with respect to various aspects of their formulation. For example, they can be broad or narrow, differ in the exactness with which they delimit the empirical phenomena to be studied, or in the exactness of their formulation in general (ranging from a broader 'theme', or 'topic', to a specifically directed question).¹ Furthermore, they can differ with respect to which aspects of the 'phenomenon' they deal with, for example types of empirical phenomena or theoretical concepts. Finally, problems differ with respect to the limitations and guidelines they (implicitly) impose upon, and offer for, their solution.

According to the perspective described above that graduate students' selection of research problem for their thesis problems may best be seen as a process going on over time, rather than occurring at one specific point in time, graduate students can be assumed to approach their final Ph.D. problem gradually, in steps. The selection process is not complete until the details of the selected problem are fully specified, and this may not occur until the last draft of the thesis has been written.

How far a choice made at a particular step will lead towards the final formulation supposedly varies between students. Some graduate students may chose university studies, discipline and sub-discipline all within one and the same decision, whereas others may need to make three or more decisions in order to reach the same destination. The decision process can be seen as including a choice of university discipline as well as a specific part of the discipline. On a general level, Ph.D. students' selection of a research problem for their thesis

¹ Traditionally, writers dealing with research problems have not usually distinguished clearly between research topics, themes, problems and questions. Usually these have all been called "problems". I will stick to this usage below unless the more specific meaning of the terms is intended.

can be seen as a three-way interaction between the student, the research community, and society.

It is also relevant to stress that the processes whereby Ph.D. students select their research problem may differ between different disciplines. In the Natural sciences, Ph.D. students may have little influence on the selection of the problem for their Ph.D. thesis. Hill (1995, p. 71), on the bases of data mostly drawn from over 200 chemistry Ph.D. students and 700 “employed government and industrial scientists” in Australia, concluded from his analysis “On entering the Ph.D. training the student usually has a very limited choice about what he researches. Most commonly students stay with the supervisor with whom they did an Honors Degree, a relationship originally established more on the grounds of departmental expediency than student choice” (p. 61). Ziman (1995, p. 284) drew the same conclusions about Ph.D. students’ possibilities to choose their own research problems in science “The answers to the graduate students’ question ‘what research shall I do’ is not really an advice: it is a command. Social pressure to conform to the current paradigm becomes a logistic imperative.” Welin and Persson (1996), analyzing the situation in medicine, drew a similar conclusion with respect to Ph.D. students’ dependence on their supervisors with respect to the choice of research problem for their Ph.D. thesis. The present study investigates if the situation is different in the social sciences, as exemplified by psychology (cognitive psychology and neighboring areas) and social anthropology (social anthropology and ethnology).

For expository purposes, the decision process of choosing a Ph.D. problem will be divided into four steps. The first step includes the choice of going to university and ends with the student’s selection of an academic discipline. The second step ends with the student’s selection of topic for his or her B.A. essay. The third step ends with the choice of a topic for the Ph.D. thesis and the fourth step ends when the topic is fully specified in all its details. The main focus of the present article is on the third step, the selection of a Ph.D. topic. The other steps will be given more of a cursory attention, the first two steps mainly in order to build up a context for the third step.

At least for some Ph.D. students, the main attraction of writing a Ph.D. thesis may not be the opportunity it provides for indulging in a specific problem, but the possibility it provides for doing research as such. Data from a questionnaire answered by new Ph.D.s at the social science faculty at Göteborg University, Sweden, presented by Haglund (1998), certainly suggest that the activity of research as such is attractive for graduate students (n=115, response rate 82.1%). The answers to a question that focused on the attraction of Ph.D. studies for the respondent when he or she applied to such studies showed that 98% of the respondents

gave a rating of 4 or 5 on a scale 1-5 (1 = Not important at all, 5 = Very important) for the item “Free, creative work”. Moreover, 96% did the same for “Interesting work-tasks”, 90 % for “Possibilities for personal development” and 89% for “Possibilities to direct your life-situation”. In contrast, “Do good for society” (66%), “Social contacts” (45%), “Gain high respectability” (28%), “Security” (27%) and “High income” (24%), were less highly rated answers.

In the present study an attempt was made to characterize the decision process in which the thesis problem is chosen. On a general level it seems reasonable to think that the outcome of the decision making process is a product of the graduate students’ opportunistic handling of possibilities offered by the environment. Thus, the outcome is contingent both on the interests of the graduate student and the possibilities encountered by the student. Previous research indicates that graduate students at the start of their Ph.D. studies often have a fairly low level of understanding of the properties of the academic system (department, scientific community). He or she has to act somewhat “in the dark”, so to speak. In the above mentioned questionnaire sent out to new Ph.D.s at the social science faculty at Göteborg University, Sweden, 59 % answered that they were ‘not at all’ or ‘not very well’ informed about the organization and the postgraduate studies when they started, 26% considered themselves ‘rather well informed’ and 15% considered themselves ‘very well informed’ (Haglund, 1998).

It is also of interest that choosing the problem for one’s Ph.D. thesis is not without difficulties, as shown by the result of a questionnaire sent out to 2700 graduate students in the social sciences (72 % response rate) by The Swedish National Audit Office (RRV) during the spring of 1995. In 1995 about 10% of the doctoral students accepted to the Ph.D. program in the years -89, -90, -91 and -92 had not yet started to work on their thesis (RRV, 1996). Moreover, a study carried out at a psychology department in Sweden (Larsson & Frischer, 1997) showed that 9 to 10 of the 15 Ph.D. students *who interrupted* their studies after, on average, 7-8 years, had not set a problem for their thesis. In this context a study by Lindén (1999) is also of interest. Lindén analyzed 444 narratives gathered from Ph.D. supervisors written on the theme “a situation involving some kind of complication that they [had] experienced either as supervisors or as doctoral students.” (p. 351). The results showed that when the supervisor perspective was taken, the problem presented in the narrative had to do with the nature of the research task only in 5 % of the cases. Thus, difficulties in connection with choosing a research problem for the Ph.D. thesis may not be much noted by Ph.D. supervisors.

Previous research has also investigated how important the department's research orientation (as an instantiation of the scientific community) is seen by the graduate student for the Ph.D. topic finally settled on. In the questionnaire sent out to 2700 graduate students in the social sciences during the spring of 1995 (RRV 1996, section 2.3.2), it was concluded, "The departments only direct the topic for the theses to a very small degree". The basis for this conclusion was that 45% of the respondents agreed with the statement "the department has not directed the topic for the thesis at all", 26% agreed with the statement "the department has only directed the topic for the thesis to a small extent" and, finally, only 7% agreed with the statement "the department has directed the topic for the thesis to a high degree". At the same time 48% reported having chosen a topic that was '*strongly*' or '*closely*' related to the research going on at the department while 49% reported having chosen a topic that was related to the research going on at the department only '*to a certain degree*' or '*not at all*'.

Results from Haglund's (1998) questionnaire pointed in the same direction. For example, 51% of the respondents answered "Not at all" to the question "To what extent did the department direct the choice of your Ph.D. topic?"; 26 % answered "To a small degree", 15 % "To some degree" and only 6 % answered "To a large extent". 65% of the respondents agreed with the statement "The department did not direct the choice of topic for my Ph.D. theses". The respondents were also asked if their thesis was part of a larger research project at the department. Only 10% answered "Yes, completely" to this question, whereas 22% answered "Yes, partly" and 68% answered "No". The question "Was your Ph.D. theses written within the same research area as your supervisor was doing research in?" was answered "Yes, completely" by 11%, "Yes, more or less" by 23%, "Yes, to a certain degree" by 41% and "No, it had no relation" by 25 % of the informants.

In order to analyze the decision process involved when selecting the problem for one's Ph.D. thesis, graduate students were interviewed about their choice to study within the discipline of their Ph.D. thesis, their selection of topic for the Ph.D. thesis, and about what further developments had occurred with respect to the research problem of their thesis after the topic had been selected. One important aim was to find out whether there are any important differences between psychology and social anthropology/ethnology with respect to how research problems are selected in connection with Ph.D. students' thesis work. The main difference between social anthropology and ethnology as university research disciplines in Sweden is that ethnologists mainly conduct their fieldwork in Sweden while social anthropologists mainly conduct theirs outside of Sweden. The theoretical literature overlaps to a large extent between the two disciplines.

Method

Informants

Fifteen Ph.D. students of psychology (9 men and 6 women) and 16 Ph.D. students of social anthropology and ethnology (7 men and 9 women) were interviewed between October 1996 and December 1997. Most of the psychologists worked within the field of cognitive psychology, but 4 worked within the field of developmental psychology, 1 in health psychology, 1 in clinical-personality psychology and 1 in work psychology. Of the anthropologists/ethnologists 10 came from social anthropology and 6 from ethnology. In order to simplify the text, social anthropologists and ethnologists will, henceforth, be referred to as anthropologists. The informants came from four of the five 'old' universities in Sweden (Uppsala, Lund, Stockholm, Göteborg). Six of the psychologists and 3 anthropologists had, according to their own estimations, written 75% or more of their thesis, 6 psychologists and 6 anthropologists had written from 50% to nearly 75% of their thesis, and finally, 3 psychologists and 7 anthropologists had written from 20% to nearly 50% of their thesis. This means that most of the informants were well into their thesis work.²

Interview questions

The interview questions were constructed with the purpose of covering the informant's choice of university discipline, his or her choice of topic for the B.A. essay, different aspects of the informant's choice of topic for the Ph.D. thesis and any further modifications of the research problem that might have occurred after the Ph.D. topic was chosen. Other questions were also asked, but are not reported here due to limited space.

Results

First, the results for the phase in the decision process leading up to the choice of university discipline and topic for the B.A. essay will be described briefly. Next, the choice of topic for the Ph.D. thesis is described in more detail and, finally, any further modifications of the topic that may have occurred in the later stages of the thesis-writing project will be described.³

² The interviews were semi-structured. Fourteen of the interviews were conducted by the author, 15 interviews by Jan Bärmark (Associate professor in Theory of science, Göteborg University, Sweden) and two interviews by these two persons together. All interviews were tape recorded with consent from the informant, usually with the promise that their anonymity would be respected. The average duration of an interview was about 1 hour (range from ½ hour to 1 ½ hour). All interviews were transcribed in full.

³ In order to keep the informants' anonymity I will sometimes exchange "he" for "she" and "his" for "her", etc.

Choice of university discipline

The answer to the question “How come you got hooked on [name of informant’s discipline]” differed somewhat between psychology and anthropology. The majority of the informants seemed to have chosen the discipline in question primarily as an, on a general level, interesting university subject (11 psychologists and 13 anthropologists). However, other reasons were also mentioned. Eight psychologists and one anthropologist had studied within the discipline wanting an education leading to a profession. For three of the psychologists this clearly appeared to have been the most important reason. Five psychologists, but no anthropologist, mentioned various practical reasons that brought them to their specific discipline. For example, two informants had to change their profession since jobs in their previous occupation were scarce; for one of these informants psychology was only the second choice since he was not admitted to the educational program that had been his first choice.

In contrast, anthropology seems to have filled somewhat other needs. Three anthropologists appeared to have been aiming towards doing research early, for two anthropologists it appeared important to study anthropology in order to illuminate political questions, and four of the anthropologists mentioned that they studied anthropology in order to reach a better understanding of travel experiences that they had had. Finally, one psychologist and one anthropologist appeared to have chosen their subjects in order to reach a better understanding of their own social or psychological background.

Choice of topic for the B.A. essay

The experience of writing the B.A. essay was in many cases important for the choice of Ph.D. topic. The degree of independence from the tutor and the department in choosing a topic varied within, and between, the disciplines. The analysis, below, describes this variation and also illustrates the different forms that the decision process could take. When the informant had not written a B.A. essay, the nearest equivalent was identified and used as a focus for the discussion. Two informants from the field of psychology had very few memories of the decision process.

Four informants from the field of psychology reported that they had accepted a topic completely formulated by the supervisor. The anthropologists reported no such cases. In addition, three psychologists reported that they had selected one out of a few alternatives formulated by the supervisor within his or her research project or field of research and an additional informant had chosen a topic within the main stream of the department’s research

tradition. One informant from psychology said she had developed the topic in interaction with her supervisor. The informant wanted to write about the “mother myth” in connection with leaving off your children at kindergarten and the supervisor suggested that the topic might be extended to include the child’s perspective in the form of “separation experiences”. Finally, four psychologists stated that their supervisor had had no, or very little, influence on the selection process.

In anthropology, two informants reported that their supervisor formulated a problem that the informant then, to some degree, reformulated or further specified. Three other anthropologists reported that they had suggested a topic that the supervisor helped them to specify further. In three other cases the informant suggested the topic, but the supervisor was also said to have had an influence in that he or she had had a project or a research area within which the informant’s topic lay. The remaining eight anthropologists reported that the supervisor had been of no importance at all in the process in which the essay topic was decided. However, one of these informants noted that the supervisor had had an influence by “allowing” the topic.

Choice of topic for the Ph.D. thesis

Five types of decision processes were identified for the informants’ choice of a Ph.D. topic. In addition, a *Miscellaneous* category was used. For each category, the name of the category is given first. Next follows, within parenthesis, the number of informants coded into the category, the first number refers to psychologists and the second to anthropologists. When an interval is given, the higher number in the interval includes informants who have also been coded in other categories. Three informants were coded into two categories and one informant was coded into four categories. Finally, a description of the category is provided, usually including examples. One of the psychologists was excluded from the analysis since his answers did not make it possible to reconstruct the decision process sufficiently.

Topic through project-job (8-9, 2-3). In this category informants were coded who decided on the topic of their thesis through an employment offered by the thesis supervisor. A typical example from psychology is an informant who reported that she at the time did not know much about the department, but realized that economic security and a place to work were important for her Ph.D. work. Data had already been collected for two studies, which made the offer to work in the supervisor’s project and write her Ph.D. on the problems provided by the supervisor, even more attractive. Of the informants in this category, one informant in

psychology and one in anthropology reported that they were given a certain degree of freedom within the project to adapt the problem somewhat to suit their own inclinations.

Topic through previous project-work experience (2, 1). This category was used for informants who, at the time of choosing the topic for their Ph.D. thesis had already worked in a research project directed by their supervisor and who, through this work had gained experiences that led to reflections and to the idea of the topic decided on. One of the informants from psychology had encountered methodological problems in the project work, problems that she later made the starting point for her own thesis work. The informant from anthropology had, in the earlier project, carried out work on a specific type of market-place and he later hit upon the idea to write his thesis on the same type of marketplace.

Topic through B.A. essay (0-1, 5-7). This category covers informants who, while writing their B.A. essay, had become interested in the topic that, although sometimes more or less modified, later became the informant's Ph.D. topic. Usually, the informant became very interested in the phenomenon he or she had written the B.A. essay on and felt that there was a lot more research needed in that area. This interest may of course also have been present to a smaller or greater extent even before writing the B.A. essay. The preceding personal interest, due to her own situation, was especially evident in one of the anthropologists. The one psychologist in this category had written his B.A. essay on the same topic with the same supervisor who offered him employment in a research project where he would continue to work on the same research topic.

For at least two of the anthropologists it was the supervisor who encouraged them to continue with same topic as in the B.A. essay. In one further case, the B.A. essay had been purely theoretical and the supervisor demanded that the student collect empirical data if she was to continue with the same topic in her thesis. In another case (also coded above under the category *Topic through project-job*), the supervisor wrote two applications but only the one on the topic of the B.A. essay was awarded research money and therefore became the topic of the thesis.

In the case of one informant, the choice of another example of the same broad phenomenon that was written about in the B.A. essay was inspired by a pleasant personal experience involving the phenomenon, but she was unsure in which geographic region to locate her studies. She first considered a group of islands in the Atlantic, but was advised against this by a senior researcher at the department with the argument that there was not so much relevant

material to be gathered there. She then decided to do his work in a country in southern Europe instead since there was much material to be found on the phenomenon there. Her supervisor did research on the same country, she liked the idea of learning the language of the country and also felt that the country would be a nice place to spend vacations in.

Topic through work life experience (4, 0-1). The informants in this category appeared to have identified the phenomenon to become the topic of the thesis as an effect of his or her work experience. For example, one psychologist described how she had started to think about the possibility of doing research on the processes involved when people were fired from their jobs due to redundancies. She then talked to her boss about the possibility of doing research on this phenomenon. Later she found a supervisor who agreed to this topic. The anthropologist was working in a third world country and realized that she would get a chance to better understand her experiences if she wrote her thesis about the country. For at least three of the psychologists as well as for the anthropologist the supervisor was also important for the formation of the topic in that he or she provided the theoretical perspective that came to dominate, or at least to be an important part of, the thesis.

Topic through travel experience (0, 2-6). For the informants in this category a travel experience, always in a third-world or communist country, was an important starting point for their choice of Ph.D. topic. One of the informants in this category had been traveling as a backpacker in south-east Asia and already knew some Bahasa Indonesia. He felt that there were many interesting things happening in the parts of south-east Asia that he had visited and wanted to study some phenomenon in a city since he felt more at home in cities and also because it would be easier for his wife and children to live in a city. The informant did not want to study what he called “economics and social change” since he felt that there had already been a lot of research carried out in that area. He had therefore decided to focus on the national identity of the country in question. The more specific problems in his thesis had developed as he had worked with the collected data material. (This informant is also included in the *Miscellaneous* category, below). One of the other informants had gone through a very complicated decision process, described in the *Miscellaneous* category below, but his visiting a third world country had played a very important part in the process. The informant who was also coded in three other categories, including the category *Topic through work life experience* above, had had work experience in a third world country.

Miscellaneous (0, 2-4). This category was used when the informants' decision process appeared to have been affected by a number of different factors, not all covered by the other categories above. One of the informants in this category decided to write her thesis on the war that was going on in her home country at the time. Two longer case descriptions will be given from this category in order to illustrate the type of factors that might interact in the decision process. Two of the informants were coded into the category *Topic through travel experience*, above, but were also coded in this category due to the complexity of their decision process. One of these informants was described at some length in connection with the former category, the other is described next.

This informant wrote his B.A. essay about a group of people in Africa, but his supervisor advised against continuing with this topic. At the same time he had met his present wife from the same part of the continent and had decided to do work in a neighboring country that he had previously visited. This would also allow him still to be close to his girlfriend. Furthermore, it was easy to get a research visa in this country. However, he had not yet decided which population group to study. On the airplane, travelling to the country, he saw a film about the specific group he later decided to study, and decided to go and visit them. After the visit he decided to do his fieldwork among this group but had not yet decided which specific topic he would study. He tried one suggestion from his supervisor and one suggestion from another senior researcher at his department, but found that they "did not work". One reason for this was that he never managed to gain a clear understanding of his supervisor's suggestion, despite trying very hard. The problem with the other suggestion was that he was not able to locate any instances of the phenomenon that the suggestion given presumed was there. After nine months of doing fieldwork without having decided on a topic he was on the verge of leaving. At this time he met another anthropologist in the field who suggested a topic that he immediately felt was right and on which he finally wrote his thesis.

The last informant in this category had written her B.A. essay on a phenomenon in Northern Africa and wanted to continue to do work in that region but felt that it would be difficult, practically speaking, to work there as a woman without any knowledge of the language. She therefore tried to find another suitable country, which is when she hit upon a country in southern Europe and felt that there were many interesting things for her to study there. She already knew the language and the country and found its' cultural-historical background to be exciting. She wanted to find something that was "the opposite of a traditional male perspective on the country", something which she identified to be life in the countryside. One day, while at home, she finally identified her Ph.D. topic when reading about the women

movement in southern Europe in a magazine. This topic was later further developed; as an example, it was changed to being seen from a gender perspective.

Number of topics considered

In order to gain further understanding of the decision process, an analysis was made of the number of choice alternatives considered by the informants when selecting their Ph.D. topic. It is also of interest to differentiate whether the alternatives occurred sequentially, i.e., one after another, or if they occurred all at the same time.

One alternative only (8, 3). Five of the eight psychologists, but none of the three anthropologists, were coded in the category *Topic through project-job*, described above. Two of the four psychologists coded in the category *Topic through work life experience* were coded into in this category. The last psychologist had arrived at her choice through work in an earlier research project. All three anthropologists who only had one alternative were coded in the category *Topic through travel experience*, described above. For two of them the topic was fairly closely related to the topic of their B.A. essay, at least in the sense that it involved the same culture. For the last of the three informants the chosen topic involved a change from the B.A. essay, both with respect to geographic area and content.

Two alternatives (5, 7). For all five psychologists the economic and practical support received through the supervisor's project seemed to have been decisive in making a choice between the two alternatives considered. Four of them were coded into the *Topic through project-job* category, above. In two of these cases the other alternative was a topic that was based on the informant's own interest, but was vague in the sense that it was only formulated on a very general level and not specified in any detail. One of the other psychologists felt that there was no support for the other topic within the department, "there was no possibility to start working on that topic, not here, ..." In one case the informant had project money available for both topics, but the winning topic was associated with more research money and also felt more exciting. Finally, for the fifth psychologist, the topic not selected consisted of an idea of his own based on a phenomenon that he had become aware of in his work life. Not very much research had been carried out on this topic, but he felt that it would be difficult to get research money for it.

For the anthropologists with two alternatives, research money and the efforts and engagement invested in the B.A. essay appear to have been important factors in choosing

between the alternatives. In all cases there appear to have been a fairly active choice between the topics, although in a few cases, one of the alternatives does not appear to have been a very strong candidate. In at least three cases both alternatives were in the same content domain, and they were also within the same content domain as the B.A. essay they had written, e.g., “sexuality”. One of these three informants chose the winning alternative because the informant was given research money and also because it felt like a more exciting topic. The other informant made her choice because the version of the topic chosen was felt to give her better possibilities to draw the *type* of conclusions desired. The third of these informants wanted to continue writing in the same general area as in the B.A. essay but felt tired of the specific phenomenon studied within that general domain.

For at least three more anthropologists the topic chosen was fairly closely (2) or at least somewhat (1) related to what they had written about in their B.A. essay. For two of these, an advantage of the chosen alternative was reported to be that it was definitely more practical from the point of view of being able to see one’s family, but they also felt the topic chosen to be the more engaging and interesting one. In one of these cases, the informant had even rejected an offer, made by another senior researcher at the department, of being provided with research money if he carried out research on the topic in question (within the same broad content domain as the other topic) in a very distant place. He also felt that the rejected alternative had the disadvantage of it being very difficult for him to learn the language he would have had to learn in order to conduct research in the area in question. An advantage of the winning alternative was that there was a group of researchers at the department, working in the same broad geographical region, and with whom he could communicate. For the last of these three informants the rejected alternative did not appear to have been interesting for any longer period. Moreover, the chosen alternative, in contrast to the rejected one, was within the mainstream of the research being carried out at the department.

The last of the seven anthropologists entertaining two alternatives, at first had one alternative that was in the same area as her B.A. essay but in which she only felt moderately interested. At a later stage, however, through her own efforts and what appeared to be an incidental event, she found an alternative that she at once felt was both personally engaging, interesting and right for her. This alternative also received support from the department.

Three alternatives (2, 4). For the first of the two informants in psychology, the three topics occurred in a sequential order. Although the informant had arranged research money and had data and informants available the first of the three topics was rejected by the supervisor. The

reason given by the supervisor was that the topic fell outside of the discipline of psychology. He suggested that the informant, if he wanted, could try to do his Ph.D. on this topic in another academic department instead. The second topic was only very vaguely specified and, according to the informant, was not selected because he felt alienated from the approach of the supervisor and from the supervisor as a person. Next, a new supervisor appeared on the stage and offered a somewhat more specified topic as well as employment in a research project. This time the informant felt “spiritually related to the supervisor” and accepted the offer.

For the second psychologist, all three topics were active at the same time and were broadly speaking within the same content domain. One topic was rejected because it was not sufficiently interesting and the informant then chose the most interesting of the remaining two alternatives. However, it also deserves to be noted that the chosen topic appears to have been more in line with the interests of the supervisor. The supervisor also appears to have played a more definite role at a somewhat later stage by suggesting a special twist on the chosen topic.

For all four anthropologists with three alternatives, the alternatives were in the same content area, or at least in the same geographical region. Furthermore, for three of these informants the topic was in the same content area or concerned the same country as their B.A. essay. Two of these three informants reported that they selected the winning alternative due to it being associated with participation in a larger research project. The last of the three informants reported that the main reason why she considered two of the three alternatives was that they deviated somewhat from the topic of her B.A. essay (the third and winning alternative), they never really became very attractive, however.

The fourth anthropologist with three alternatives first decided on the geographical area and country he wanted to write his Ph.D. thesis on. Next, he rejected one of the three topics (about the construction of a large dam in a developing country) since he had written an unfinished B.A. essay in another academic discipline about this topic and felt bored by it. The choice between the other two possibilities was based on practical considerations. The losing alternative was felt to be “exciting from a social anthropological point of view”. The winning choice, however, both made it easier for the informant’s family (including a child) to live with the informant, and was more satisfying to the informant because he preferred to live in a city rather than the countryside. The winning alternative was felt to have a drawback, however, in that it would be difficult to make people feel that the topic was socially relevant.

Four alternatives (0, 2). For both anthropologists, the four alternatives appeared and were rejected one by one, over time. Both informants chose the winning alternative as soon as they identified it as a possibility. One of these informants was the informant who did nine months of fieldwork without a topic for his thesis. The process was described above; here we shall only note that all of his alternatives, to some extent, lay within the same broad content area. The other informant was also described above. She started out with considering the topic of her B.A. essay but rejected it for practical reasons. Finally, she decided to study the women's movement in southern Europe. In none of these two cases did access to research money play any decisive role.

Supervisor's and other peoples' importance for choice of Ph.D. topic

Eight to nine of the psychologists and one to two of the anthropologists regarded their supervisors to have been very important for their choice of Ph.D. topic. These informants all received their topic through a job in their supervisor's research project. In contrast, 3 of the psychologists and 14 of the anthropologists gave answers that were coded as implying that the supervisor was not important at all for the choice of topic for their Ph.D. thesis. However, it deserves to be noted that the supervisor still often appears to have played an important role in that he or she usually supported the informant in his or her final choice of topic. Furthermore, the supervisor often contributed to the choice of theoretical framework or perspective used in the thesis. This was clearly the case for all three psychologists and also, to a greater or lesser extent, for the anthropologists. However, for the anthropologists it was more difficult to determine the extent of this influence.

Only five of the psychologists, but as many as 12-13 of the 16 anthropologists, saw other people as important for their choice of Ph.D. topic. Two psychologists mentioned the importance of previous work colleagues. Fellow Ph.D. students, an applied research group outside of the department, a researcher outside of the department, the supervisor's colleague, and a private friend were each mentioned by one psychologist. The anthropologists mainly mentioned other researchers, within (6) or outside (6) the department. Of the researchers from outside of the department, one was a guest-researcher at the informant's department, two were researchers at a sociological department, one a researcher at another anthropological department in Sweden, and two were researchers that the informant had met during his or her field-work. Finally, one of the anthropologists mentioned her husband's family.

In brief, compared with the anthropologists, the psychologists' choice of Ph.D. topic was to a much smaller extent reported to have been influenced by other people, apart from the

supervisor. As many as two-thirds of the psychologists, but only 3 out of 16 anthropologists, did not see other people as having been important for their choice of Ph.D. topic.

Other factors reported to have influenced the choice

The answers to this question were coded into different categories. If an answer had already been mentioned in connection with the answers reported above it was not included in the results reported here. One of the psychologists did not receive this question.

Interesting (5, 6). The topic was either said to be an instantiation of a broader interest of the informant, or relate to areas within the discipline that the informant was interested in.

Relates to personal concerns, or problems (2, 6). The choice of topic was stated to be motivated by the fact that it related to a personal concern of the informant. For example, one informant from a working class background wrote about a phenomenon influencing working class people, and a homosexual informant wrote about homosexuality.

Result from thesis work on the topic usable in practice (4, 4). These informants stated that it was important to them that the results of their thesis could be put to use in a wider context.

Possible to make use of earlier experience when writing the thesis (2, 2). The types of experiences mentioned were previous work experience, previous reading or previous research.

Possible to do research, as such (1, 2). These informants mentioned as an advantage of the chosen topic that it made it possible for them to do research.

Miscellaneous (3, 5). For example, one psychologist said that the choice of topic made the informant able to take control of his life (by doing something that he, and not primarily his family, wanted) and another that she felt that her supervisor did important research. Three examples from the anthropologists are: that the topic made it possible for the informant to travel, that other people had reacted positively to the informant's B.A. essay, which was on the same topic as the thesis, and that his girlfriend liked the country in which the fieldwork would be carried out.

Further development of the thesis topic

The informants were also asked to report any further changes that had occurred with respect to their thesis topic after it had been decided on. Here it should be considered that there was a slight tendency for the psychologists to have reached somewhat further in their thesis work, as compared with the anthropologists. As reported above, 12 psychologists and 9 anthropologists estimated that they had carried out 50% or more of their thesis work. All 3 psychologists and 3 of the 7 anthropologists who estimated that they had done less than 50% of their thesis work reported no changes in their topic. In addition one psychologist who decided on her topic through employment in a research project also had no changes to report.

Reduction (3, 4). Three psychologists reported that some component of the initial thesis plan had been dropped due to methodological problems. For example, one informant reported that he had not been able to achieve a sufficiently high degree of inter-judge reliability in the coding instrument he was developing.

Three of the anthropologists were also coded in other categories, reported below. One of the anthropologists reported that he had decided to drop material on a specific kind of legend since the kinds of factors that he would have needed to draw on in order to account for this material fell outside of the theoretical framework for thesis to a much too high a degree. Another anthropologist had decided not to include a chapter he had written for the thesis since it did not fit into the structure of the work. The third anthropologist reported that he had moved away from some sub-topics that he had realized others had already written much about. Finally, the last anthropologist reported that she had written less about areas within her topic that felt less exciting and that would also have forced her to read a lot of new literature. Instead she had chosen to focus on more unexplored areas.

Shift in emphasis (2, 9). One of the psychologists reported that one of the two areas initially planned to be included in the thesis had been given less emphasis due to methodological problems. The other psychologist reported that a shift in theoretical perspective had taken place. The shift was in the direction of the theoretical perspective that her supervisor was developing. She, herself, also found this perspective more interesting, partly because the initial perspective was already rather well developed. Furthermore, the supervisor's perspective appeared to fit the studied phenomenon better.

One anthropologist reported changes in the topic due to his research question having become more mature and because he was better able to discern the nature of his material and

the phenomena he was studying. Three of the anthropologists had shifted the emphasis of their topic due to methodological considerations. One had changed the time perspective taken since she had realized that this would improve her possibilities of getting access to relevant data within the time-frame given for her thesis work. The other informant had changed his methodological approach towards asking more indirect questions in his interviews, since he had found that asking direct questions about the topic did not deliver the desired data. The third informant had not found it possible to ask questions about the phenomenon that she had first decided to focus on due to the circumstances in the field where the data were to be collected. Yet another of the informants from anthropology had drifted from ecological and economical considerations of his topic towards more of a cultural approach. Two reasons given for this was that the shift was an effect of his analysis of the material and that he, due to practical reasons, had been forced to spend less time in the field than he had planned and that his field data, because of this, had been incomplete. He had had to compensate for this by shifting towards a more cultural perspective.

Three anthropologists, including the second last mentioned, had shifted their topic in the direction of what appeared to be pregnant and evidently 'alive' in the phenomenon studied or to what appeared to be important problems for the informants in the field.

Two of the anthropologists reported that a shift in the topic had occurred due to pragmatic reasons having to do with the mass media. One had changed her research methods to being more open and explorative after it had become obvious through mass media that the topic was very controversial. The other had included new parts and tried to deepen her approach after some of the earlier parts of her dissertation work had already become known through the press.

Expansion (6, 2). One of the six psychologists expanded her topic to include more method development work than was anticipated from the beginning due to a methodological problem encountered in the initial stage of her work. Two other psychologists had expanded their topic when they saw new possibilities during the data analysis. For one of them it was the fact that the data were analyzed on the computer that opened up the new possibilities and for the other working with the data made him realize that a broader way of looking at the data was interesting and would do more justice to the phenomenon he was studying. A fourth psychologist reported that there was no set plan from the beginning (except for the supervisor's project description). His interests, however, grew to include problems outside of the initial project plan and the supervisor accepted this. For yet another psychologist the

expansion was made because the supervisor found a new and interesting aspect that he managed to procure research money for. Finally, the last psychologist had himself managed to find research money for an expansion of his topic that he wanted to include in his thesis.

One of the two anthropologists reported that he was preparing a new grant application together with his supervisor and some other people at his department and that he had discovered new angles on his thesis topic through the work of preparing this application. The other anthropologist had had difficulties in organizing his material and had included new theoretical concepts in order to solve these difficulties. This had resulted in a contextualization of the material, and at a later stage he had found a central theoretical concept, developed by another anthropologist, that had helped him to organize the material.

Discussion

One way that society influences science is through the influx into science of problems from the world outside science. This study has investigated how this occurs through the thesis work of Ph.D. students. The purpose of the study was to analyze more specifically how Ph.D. students select a specific research problem for their thesis. The results show that the processes involved in the selection of a dissertation topic differed to some extent for the two disciplines analyzed, psychology (mostly cognitive psychology) and anthropology (social anthropology and ethnology).

The results illustrated that the processes leading to the graduate student's selection of a research problem for the Ph.D. thesis occurred over time, and that the selection process was characterized by a mutual adaptation between the Ph.D. student and the research community. In this connection a response of one of the informants from ethnology to the interviewer's question "What else do you think may have influenced your choice of topic?" is of interest, "Yes, we all the time talk about *choice of topic*, and I don't really know if one chooses a topic and then sticks to it the whole way. One chooses a topic and then one aims more and more for a target [goal], maybe, somewhere in there. Yes, it is to see the whole time [that] there are different tracks that you can choose along the way. You chose to disregard some tracks and you chose some tracks. And I think that the important process is in the attitude at the department, what it is other people say, what they experience as exciting, what you are influenced by, what you read ..."

It is not obvious at which point in time the selection process could be said to start. Furthermore, the motives can be assumed to differ at different points in time during the

selection process. At the beginning of the process the motives appear to be more general than at the final stages of the process. The reasons to study within the university discipline in which the thesis was written was, in both psychology and anthropology, said to be that the discipline was felt to be interesting. However, even at this early stage the motives given also differed somewhat between the two disciplines. Psychologists, as compared with anthropologists, more often chose their discipline because they wanted an education leading to a job, or because of practical reasons.

Earlier parts of the selection process obviously influenced later parts. Thus, the choice of a topic for the B.A. essay turned out to have consequences for the choice of the Ph.D. topic. Most often the B.A. essay was written within the same department as the Ph.D. thesis. However, psychology and anthropology differed with respect to the way the writing of the B.A. essay influenced the choice of topic for the Ph.D. thesis. There was a tendency for psychologists to establish contact with their thesis supervisor already when writing the B.A. essay, whereas the anthropologists instead more often wrote their B.A. essay on the same topic, or a topic close to it, as they selected for their Ph.D. thesis.

With respect to the immediate selection of a Ph.D. topic, research money appeared to have had an important influence, especially for the psychologists. For the anthropologists the topic of their B.A. essay appears to have been of more importance. For both groups there was, at least for some of the informants, also a clear influence from external sources. For some of the psychologists, their previous work life experiences influenced their choice of Ph.D. topic and for some of the anthropologists travel experiences appear to have been influential.

It is also of interest to note that for the anthropologists the choice of a topic often appeared to have had two parts. One of these, often the first in time, concerned in which cultural region or specific geographic location the fieldwork was to be conducted in. This choice often appeared to have been, at least partly, influenced by practical considerations, such as if it would be possible or convenient for the informant's family to stay or visit at the site of the field work, if it was realistic to do field-work at the site being a single female, or how difficult the language spoken at the field-site would be to learn. The choice of site for the fieldwork can be said to have influenced the further choice of topic since not all topics are equally suitable in connection with all field sites. Similarly, the choice of fieldwork area may also have influenced the further selection process since the geographic area of the fieldwork is, as such, associated with specific ethnographic research literature.

Generally speaking, the psychologists' selection processes appear to have been more clearly directed by the discipline compared with that of the anthropologists. Different aspects of the

results evidenced this. For example, the anthropologists' choices appeared to be less directed by the availability of research money. Furthermore, their selection processes often appeared to be more complicated than that of the psychologists. The anthropologists, on average, considered more topic alternatives and other people than the supervisor were more often stated to have been important in their decision process. Thus, it appears that anthropology, at least in connection with the choice of Ph.D. students' research problem, have somewhat more open boundaries towards the surrounding society compared with psychology. This is in line with previous research by e.g., Ziman (1995) and Welin and Persson (1996) that indicate that the research discipline has a strong influence on the choice of Ph.D. topic in the Natural sciences and in medicine. This supports the conclusion that the harder the science the less it is influenced by society when it comes to Ph.D. students' choice of a research problem.

In an earlier interview study by Allwood (1997) concerning senior researchers' administration of possible research problems and research by Allwood and Bärmark (1998) on rhetoric in research grant applications, the same type of differences between cognitive psychology and social anthropology as found in the present study were seen. Research in social anthropology gave the impression of being less structured and more open to different types of influences during the actual research process. Taken together these conclusions support the notion of science (taken in the broad sense, not just including natural science) as a heterogeneous social system for understanding the world. The present study illustrates how two different scientific disciplines function under different circumstances and how they differ in the way they regulate the processes leading to research results.

It is of interest to consider to which extent the Ph.D. students had the initiative in the selection process and to which extent the process was more of an interaction between the academic discipline and the Ph.D. student. The present study has shown that the processes leading to the mapping between a Ph.D. student and a Ph.D. thesis problem are very complex. At the beginning of the process (at the time of deciding on a discipline and a topic for one's B.A. essay), the Ph.D. student acted in a context that differed from that at the end of the process when a problem for the Ph.D. thesis was decided on and later was specified more completely. Furthermore, the circumstances in the selection process were not the same for all informants, the needs the informant strived to satisfy and the offers made from (the representatives of) the discipline differed between the informants.

Three different circumstances appear to have increased the influence of the discipline (through its representatives) on the Ph.D. students' choice of a research problem. First, the fact that most informants in the beginning of the selection process did not know very much about

the academic system meant that they acted somewhat in the dark. The novice Ph.D. student's lack of insight about how academia works can be assumed to have increased the chances for the representatives of the discipline to influence the outcome of the selection process. Second, the fact that these representatives often had monetary resources, in the form of grant money, available, or at least keys to some of the social structures of academia, obviously also increased their chances of influencing the selection of a research problem for the student's Ph.D. thesis.

Third, and finally, the fact that the Ph.D. students usually, or at least often, appeared to have had a broader goal (i.e., that of getting a Ph.D. degree, which would give them a "driver's license" to do further research) than simply writing their Ph.D. thesis on the subject that interested them the most, should also have increased their willingness to compromise between their own desires and what was offered them by the representatives of the discipline. The results of the present study suggest that the Ph.D. students often arrived at a research problem for their Ph.D. thesis by acting opportunistically in a system that was partly unknown to them.

In spite of the results reported by the RRV (1996) and by Haglund (1998) that Ph.D. students did not experience that the supervisor or the department directed the choice of topic for their Ph.D. thesis to any large extent, the present results indicate that there was a substantial influence from the academic establishment on the selection process. A general tendency was that the research problems at first were vague in their formulations and that they later gradually were 'filled-out'. This tendency was especially clear in anthropology.

Furthermore, there was a tendency that 'external factors' had a greater influence on the choice process in its early stages, as compared with its later stages. In the beginning of the process, personal interests, deriving from, for example, work life and travel experiences, or already invested intellectual capital (for example in the writing of a B.A. essay) appeared to have exerted some influence, as did the personal needs of the informant (and, in anthropology, their families). In later stages of the process the demands from the discipline, for example in the form of research literature (e.g., what topics were 'hot', what methodologies were acceptable, what research areas were already too well explored) were more obvious. However, in all stages in the process of specifying the topic, the informants attempted to utilize their time and intellectual resources well in order to produce a good Ph.D. thesis that would promote their reputation in science at a reasonable cost.

The supervisor and, through him or her, the discipline (in the form of tradition and the gate keepers to the research money funds) appeared to have exerted an influence all along the way, but in different forms at different stages in the process. At first the monetary aspects, but also

the personality of the supervisor, was important, while later in the process the intellectual influence of the supervisor and other representatives of the discipline showed to have had an impact.

The extent to which the presented results generalize to other countries or continents is not clear from the present study. For example, differences in the possibility to finance one's graduate studies may exert an influence on the process wherein a Ph.D. problem is selected and on differences between disciplines in this context. Further research is needed to elucidate this question.

In brief, this study can be said to have shown a picture of science and academia as a social system for generating a specific (scientific) form of understanding that, in the initial contacts with its novice members, is willing to compromise to some extent with the individual's needs and other idiosyncrasies. However, in later stages of the socialization process the system to a higher degree demands that the individual acts according to tradition.

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