HOW TO BECOME A KNOWLEDGE HOLDER: CREATING A PIECE OF SCIENTIFIC KNOWLEDGE WITH ORIGINALITY

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ABSTRACT

In this paper we discuss the meaning of newness in research in the times when new paradigms of science are emerging and the sciences have become more and more fragmentary. In the positivistic and monolithic era of social science, before Kuhn and year 1966, methodologies and methods interpreting newness were simpler. In this paper it is argued the newness is more and more in the text itself, and that the dynamics of texts comes from interrelations between the subject of the text (the researcher self) and the object of it (the research audience). Scientific knowledge becomes new when it is substantiated and connected to the prior one

Writing the research reports is political by nature but so is also its reading. While citation index makes researchers powerful, in gaining decisions whom to refer the colleagues make political choices that are bound to some political contexts they live and career. Building a theoretical frame is not a pure and objectivistic thing but many ways a path of choices that build the research field. Behind is a lot of social capital of the academia and at the same time the text shows and even builds it. Again, it is less and less the empirical facts itself that contributes to newness, but the ways to conceptualize and contextualize empirically based knowledge.

In the times when subjectivity is grown into science and pure empirical data does not work in the same way it used to be, becoming a researcher with the right to access science text publishing is not only professional but more and more narrative by nature. The credibility and trust is of a lot of worth at the society of today, not least in academia. Personality, biography and social context of a researcher are perhaps becoming more important than it used to be and that makes the issue that the impact of the researcher on has grown. Gatekeepers of science and administrational processes that they guide form criteria according to which researchers are selected and promoted further. That way individual background issues like gender and ethnicity may either grow or diminish the credibility of the individual researcher and have a lot of impact on the fact on who passes the gate of becoming a knowledge holder in the future.

In the paper we also argue that subjectivity is more and more compensated by inter-subjectivity in writing because of joint texts. In gate-keeping about who enters the knowledge holder-limit this states as well.

INTRODUCTION

"A text of juissance imposes a state of loss. It is a text that discomforts, unsettles the reader's historical, cultural, psychological assumptions" (Barthes, 1975)

Originality and insight label any scientific contribution. But what makes the contribution novel? Often study results are raised in light, which means, what is found based on empirical data and compared to earlier studies. Social sciences however not so often build their results strictly on earlier study results, at least not in the same way as do technical and medical sciences. There are not so concrete products coming out using the study results. In addition, studies based on inquiries and on quantitative

data analysis methods meet the requirements about "what is novel" other ways than do studies based on qualitative data and interpretations. Publications based on qualitative research are probably more flexible in their structure and writing. Quantitative research uses more numbers to document the novelty. In addition, results of studies are multiple. The way to raise the problems, the discussion between the problem and earlier research and the way to refer it are as important as are the results themselves. Also the text itself stimulates the reader, as we can see in citations from the articles. The creative process behind the text is of meaning as well. Citation index for instance is based on citations made out of the text by other researchers and these can concern whatever part of the article texture. The more citations, the more impact the text and the researcher(s) behind have. The more academic power they have. The text is found interesting, it has maybe "unsettled the reader's historical, cultural, psychological assumptions" (Barthes, 1975). The interaction process is not only technical and data based, but also emotional. Earlier texts must raise desires as well as be formally right to become cited.

Citations and interaction in a way show and make the novelty of the research and text. To create a new scientific piece of knowledge does not happen in a knowledge vacuum, but is substantiated and connected to other knowledge in the field.

As an overview of using scientific method, the researcher makes many steps before her product becomes novel. A research process is chronological, phased but at the same time iterative chain that cumulates learning and knowledge. It outlines the research theme into the problems which enable the study, and which can be solved by the means of research. The written research product, such as a research report, constitutes an entity, the parts of which are related to each other.

A professional researcher shows a proper scientific data gathering process and the use of scientific methods, as well as the knowing of the paradigms of science. The ontological and epistemological training is required for instance from doctoral candidates who are novices of "knowledge holders". A researcher is a part of the reality he or she studies, and the study can be evaluated also from the ethical point of view. Professional researcher studies only questions that are human, knowing that the study results do not hurt socially and culturally any human being or group of them. This is the ethical dimension of the text. Novelty of the text becomes not only from its being interesting to colleagues but also from the nature of its social consequences.

Applying the methods is a professional but also unique event in every individual research setting. Social research methods are more than tools because they are individually applied in every case. Especially qualitative methods need a lot individual judgment every time they are used. Also applying earlier theory is professional, because the theory consists of a set of concepts and relations, which combine together the multiple dimensions of the studied phenomenon. The concepts are used in abstracting the observations, and that way the study serves a theory formation and development. In university researcher training methods and theory knowledge are important parts. Like in Finland one has to learn at least 10 credits methods and philosophy of science in doctoral programs of management studies. Method and methodology skills somehow make the body of the program. In addition one has to know the history, the body of the theory in the field, show this in writing and also be able to discuss and interact using the central concepts. In doctoral classes, seminars and conferences this happens.

Researcher as a Self: Writing and Research

The heritage of postmodern thinking is in the questioning of subject and object position in research. It is argued that there are power aspects behind any text and that they are always rooted in a historic context (Foucault,

1991, Burrell, 1988). The researcher as a self meets impossible obligations in trying to be objective. The text she or he writes is contextual, and hides power aspects. The researcher as a self is powerless and swims in the stream of history even if not wants. This is a bit similar to the ideas of psychoanalysis. People are driven by their unconscious motives and desires. As Elliott However, there are approaches that state the place of subject and study the interrelations between the self and society, in new ways. Anthony Elliot argues that the nature of unconscious is a constitutive and creative source of human subjectivity and criticizes the way post-modernism rejects human consciousness and endeavour in his critical reading of psychoanalytic theory and social theory (1999, 2):

"The problem of human subjectivity, not as some pre-given substance but rather as a reflexively constituted project, has emerged as a fundamental issue in social theory at the turn of the twenty-first century. The post-modern celebration of the 'death of the subject and arrival of a 'post-ideological condition', while fashionable for some time in certain quarters, are shown by current world events to be without the flimsiest political warrant. As several contemporary critics have argued, the postmodernistic deconstruction of subjectivity as sheer difference and heterogeneity is in many respects an ideological ruse of the late capitalist economy itself, masking the complex and contradictory ways in which men and women seek to appropriate and exert control over the conditions of their lives."

When passing the postmodern constitution of the self, and analysing the research process, the subject of research is the researcher. Thereby, "researching" means the activity of the researcher, sitting by the computer, or even with a pen and paper, with transmitting his ideas and findings by writing to the scientific audience, which presumably is interested in them. Writing is the basic activity that ends to texts. Scientific writing takes place in a different kind of context compared to, for example, writing of fiction or a letter to a friend. Nevertheless, these different examples illustrate the nature of writing itself. In research writing facts, metaphors, and stories are often woven together (Bahtin, 1988, Czarniawska 1997, Aaltio-Marjosola 1997). Use of qualitative data gathering methods creates data, which is narrative by nature. However, there is a clear difference between the ethnography and the narratives with scientific methodology background. For instance travel accounts might be near to ethnographic studies but usually not. A travel account may be an unfiltered flow of subjective observations and feelings, whereas ethnography filters the description through culture, collective structures, and historical relations. A well-known example of this is William Whyte's (1943) ethnographical report of Boston's Italian quarters. Methodological and methodical questions in culture research are examined, for example, in Van Maanen's (1988) book 'Tales of the Field: On Writing Ethnography' and Clifford and Marcus's (1986) book 'Writing Culture: The Poetics and Politics of Ethnography'. As Van Maanen (1988) has pointed out, while writing an ethnography the researcher of culture actually creates the culture of the community at hand. The culture of the particular local community becomes visible and is communicated and transmitted to the audience who reads the ethnography. The researcher as a self is more or less present in his or her text. The criteria for it being scientific does not depend on this farness: being less does not mean that the text is more objective or scientific.

Scientific writing is based on the rules followed by the academic community. It also reflects the research process, its characteristic features of which consist of the data gathering, interpretation, theoretical frame of reference, and conceptualisation. An empirical study is based on the research methods. The rules are not only routine traditions, but based on meanings. Even if being special, scientific writing can, however, be compared to other ways of writing. There is no need of mystifying

the scientific writing: writing itself is a physical activity, which is caused by the writer's hands, brains, nerve system, etc. At the same time it is an activity, which despite its apparent solitude is in fact an intense interaction between the writer and his audience. It is difficult to think any writing action without a conception of the audience. Writing is always meant for an audience, in addition to the fact that the writer uses this activity in clarifying his or her own thoughts. The context of scientific writing is different from any other forms of writing. In the activity of writing the gap between "the self and the world" is narrowed down – between the researcher and the studied phenomenon – when "the substance of the world" meets "the substance of the self"
(Niiniluoto, 1990). I argue that the dynamics of texts comes from interrelations between the subject of the text (the researcher) and the object of it (the research audience).

Writing can be based on collective efforts of subjects. The researcher groups can also act as subjects of scientific research. The writing is filtered into a text through the discussions inside the group of researchers. The structure of a book may be outlined together, after which the persons responsible for different chapters of the book start writing, but also comment on other researchers' texts, and this way the book is done both in a collective process and by the subjects of the researchers'.

At the individual researcher level, research process can be compared with incidents, in which the researcher is constructing reality. In subjectivistic thinking of the reality it is theoretically constructed and contextual by nature. Taking the view of social constructivism (Berger & Luckmann, 1966), an individual creates culture in a dialectical process, which consists both a subject and an object. Culture is created through objectivising, in which different kinds of activities, such as writing, are used in making the subjective experiences into the objective ones, which then creates new culture (Wuthnow, Hunter, Bergewen, Kurzweil 1986: 21 – 77). Dialectical process is necessary and obligatory, since the individual is tied to the world due to her or his biological existence. People make interpretations on the surroundings, i.e. "the world", to themselves. A human activity, which moulds the "objective" world into a subjectively experienced reality, is based on the need to externalise. In the objectification the individual faces the external world. In the internalisation the reality becomes individual's consciousness, and the world-structure (so to say) becomes his thought-structure, the world becomes "his world" (prev. 41). Individuals inhibit the collective and dialectical processes, in which the individual's experiences are linked into the collected experiences. In the externalisation the individual reflects his own thinking back to the surroundings. The process itself is creative and unique.

Scientific work, writing and empirical data gathering take place in the dialectical process described above. Doing research and writing, creating texts, mean not any mechanical production of new knowledge but they receive their motivation from the researcher's curiosity, desire to understand better the phenomenon he is interested in, i.e. from the need to externalise. The researcher places himself into a situation, in which he aims at understanding the piece of the world, which she is unfamiliar with, and she tries to transmit this gained knowledge back to the scientific community. Emotionality and human desire explain research motivation of the researcher self.

Conceptual Work

In social sciences the object of research is a phenomenon, which is similar to the researcher himself/herself by nature. At the background there is a person/persons, groups, or a set of rules that make the identities of the groups and individuals. It is possible to get information about the research object by classifying, organising and storing experiences and observations. The data received on the research object is related to the prior

knowledge, and proving this relation makes the research knowledge new with respect to the prior one.

The researcher does not draw his/her conclusions from any *tabula rasa* –situations but his/her interpretations and conclusions are related to the scientific community and the pre-understanding of the researcher himself/herself. For example, when studying the affect of the amount of salary on the work motivation, it is worth knowing that there is a long tradition of studying work motivation, to which one's own research setting can be placed. However, it is the researcher that determines the basic concepts. If the concepts are completely detached from the concepts used in the scientific community, the study will end up being pseudo-science. It is necessary that the results can be communicated to the scientific community. Due to this, for example, the years of practical experience on business management alone does not make a person an excellent researcher of management. Conceptualising the experiences and ultimately showing the practical experience in the results and overall, in the research report makes the managerial experience valuable from the viewpoint of research.

"Concepts offer categories by classifying, organising and storing experiences. They are ideas, which are formed in the process of abstraction… Concepts are like empty baskets that are filled with experience. The concept is empty if it is adopted from the academic research. It needs to be filled with a meaning by attaching personal experiences into it, which then makes the concept rich. In the same way as a child learns the concept 'dog'." (Hatch 1997: 10)

Research is conceptualises, outlines, classifies and abstracts the gathered observational data. For example in qualitative research these concept baskets may be filled with rich descriptions of the data and with the interview quotations. They often find typologies to promote new understanding.

The Researcher's Self and Novelty of the Study

Overall, the research process has several writing stages; the researcher writes drafts and revises them, and finally polishes the final outcome – a research report, a scientific article or a book. At its best the final outcome is an outlined, logical, substantiated written product, which follows the scientific rules. The earlier stages may be chaotic and iterative ones, and not so clearly detached from one another as it might seem in the final report. Research is an activity – not only writing but also speaking, discussions, participation of seminars and conferences, it means reading, using interviews, using computer programs, accessing libraries, and using virtual means.

The process of empirical research has its own dynamics. However the legitimization of the research process is needed. Being usually empirical, the data needs to be gathered through academic principles, it has to be applied to the prior knowledge, and it needs to be able to stand even an ethical appraisal. Use of known and grounded research methods is a part of legitimate research process. In conclusions the researcher abstracts, simplifies, and outlines the findings with respect to the concepts and the findings of the prior studies. Every now and again the scientific research ends up with paradoxical findings, which question the prior knowledge in a manner, which may start a completely new school and a new way of approaching and understanding a phenomenon. A well known example of this is the born of a school called 'Human Relations' in the beginning of the 20th century. This approach was created in the situation, in which the Hawthorne experiment (Pugh 1997) was used for finding out which would be the optimal light in a precise laboratory work. The experiment was based on the ideas of a so-called the School of Scientific Business Management. Surprisingly enough, it was found out that lowering the amount of light did not lower the work performance until it was too dark to carry on working. The relation between the work performance and the social situation, in which

the workers were examined by researchers and struggled in the diminishing light, turned out to be the most interesting finding of the entire study.

In social sciences the researcher is a part of the studied reality. For example, when the researcher studies the relations between the salaries and motivation he has personal experiences on salaries and their affects on his own work motivation. In some cases one may also be a member of the studied community, which raises questions of the objectivity of the study and the significance of the subjectivity. These have to be reflected in order to get the legitimization. These are also epistemological questions that concern the content of the knowledge, its sources, results and methods. They are also needed in the evaluation of the reliability of the study.

Is thinking itself, or cognitive processes themselves independent from the thinking subject? Are they similar in every case? It is difficult to imagine anything that would not be present in time and space; that would not have a quantity, etc. One can however argue that there are frames for thinking, thought categories where elements of thinking are placed into. The inhabitants of the same culture realize the space in the same manner, since the concepts are based on the communal values and they have social/communal origins. The changes which concern the present day logics and rules controlling it, indicate that the rule patterns are not just personal mental structure but depend, at least partially, on the factors that are historical and therefore social (Durkheim 1980: 34 – 35). We cannot be sure of what they are exactly but it is assumed that they do exist. It is possible to outline two different kinds of approaches. Some think that categories cannot be drawn from the experience but that they are logically primary with respect to it and conditions for the experience itself. In this case the internal structure of a human mind includes these kinds of *a priori* categories, which the thinking is based on. On the other hand, the individual constructs them herself/himself. Apriorists are rationalists who believe that the world, itself, has a logical aspect, which is reflected by the reason. Empiricists emphasise empirical data as well as the social origins of the categories.

As argued by Durkheim, human being is – as a researcher and a research object – a dual creature: on one hand an individual being, a biological organism, whose behaviour is thereby extremely limited, and on the other hand, a social being who, "in an intellectual and moral sense, represents a reality different from other nature" (Durkheim 1980: 37). Social reality, where also a man belongs to, is a part of a natural reality that can be distinguished from other reality only according to its more complex nature.

In social sciences the research situation can be outlined as a triangle from the researcher's point of view: 1) A reality that needs to be understood, 2) a scientific community, for which the research results are interpreted, and 3) the researcher.

About Science and Diciplinarity

According to Niiniluoto (1999, 13), the term 'science' can, on one hand, refer to the systematic entity of the data concerning either nature, human being or society, which is based on the scientific research results, and on the other hand, it can refer to meaningful and systematic search of this kind of data. The science can be defined also as a collection of facts, theories and methods gathered in the scientific textbooks of today. Scientists can be seen as individuals who have tried to produce new elements into this collection, sometimes failing, sometimes succeeding (also Kuhn 1960)

How new knowledge is created, depends to some extent on the discipline. The in-built curiosity of the researcher producing science has always had significant roles. Emotional desires are beyond the study choices, sometimes more present, sometimes less present. For instance gender studies are often realized by women researchers. This might

reflect the fact they are underrepresented at the academia and this way they promote understanding about female roles and minority reasons in searching change. This is at least one grounded explanation. Men researchers who do not feel the blind spots do not bother as often. Feminist study field has strong inside social science dynamics. This is sometimes seen as a weakness. Female researchers are sometimes blamed to be tentative and political, promoting self-interest and being too "aggressive". This turns the attention from the most crucial point of this research field itself.

Fields of science have developed from and inside philosophy. As shown, the theological research on religion indicates that the man's first idea-systems of the world and himself, elementary kind of scientific categories, in fact have a religious origin (Durkheim 1980: 31). Knowledge is created in the complex processes through the environment and one's personal relationship with it. In the origins of religions it is shown by Durkheim, that alongside the pondering of the deity, there have always been a search of the elementary structure of the universe, in fact, philosophy and later multiple areas of science originated from religion, since at first it was religion that reserved the place of sciences and philosophy. At the 20th century, the disciplinary sciences, especially social sciences, developed independently from philosophy. Their ontological and epistem-ological characteristics are left from this connection to philosophy.

The Orientations Beyond Scientific Research

Newness of any study result also has to do with its basic orientation. There are many classifications about science. Science is classically divided into three categories: 1) Basic research, which consists of original search for new scientific knowledge without primary objectives for practical applications, 2) Applied research, which aims at a specific practical application and is often based on the results of the basic research, and 3) Development, the objective of which is to produce new or improved products via research (e.g. Niiniluoto 1999: 13 – 16). For example, technology is based on the results of basic research of physics and chemistry, it often produces applications, together with the instances using the developed applications the research institutes organise development projects, etc.

It is often difficult to draw the lines between basic and applied research, and there are shortcomings in this categorisation. The limits can be considered to be too strict, e.g. for the simple reason that refuting the prior scientific researches is an essential part of science, and on the other hand, they can be seen as too loose, since it is possible to distinguish science from so-called *pseudo-science* (systematic, intellectual apparent science, which appears to be rational but in fact is inadequate by its foundation). Consequently, one can ask what makes knowledge after all, the objectives of financiers, or perhaps the personal motives of the researcher himself. Both of these can be included in the practical research; the client may determine the research objectives, present a research schedule, and monitor the quality of the study. On the other hand, the quality and the result of the study are the researcher's responsibility, as is the case with following the ethical guidelines.

We can find at least three different kinds of research strategies. An experimental research measures the influence of one conceptual variable on the other variable. This research approach consists of testing hypotheses and the premeditated systematic variation of variable in different conditions. Survey study gathers data from a set of people in a standardised form usually by using questionnaires or standardised interviews. The data is used for describing, comparing and explaining the phenomenon at hand. Case study, on the other hand, refers to a precise and intensive examination of an individual case. The object of case study can be either an individual, a group or a community. The interest is often

targeted towards processes, and the phenomena are described.

There are scientific philosophical questions behind the research strategies. The scientific philosophical theory includes the conceptions on what are the targets, sources, results and methods of the scientific knowledge. Ontology consists of the conceptions on the object of knowledge, and asks questions about the nature of reality. What is the nature of the studied phenomenon? What is real? Epistemology includes a general theory concerning the source of knowledge, the results and the methods. What kind of relationship is there between the researcher and the research object? What kind of status do the values have in understanding the phenomenon? The more concrete conceptions about data gathering and the target phenomenon can be placed under the term 'methodology'. In addition to these, there are also human descriptive factors, as well as conceptions about the relation between knowledge and action, in other words about the application of knowledge into which the values are connected in several different manners (Kakkuri-Knuuttila 1998: 388). The paradigms of science consist of the conceptions about the ontological and epistemological assumptions of the object of knowledge, and the orientation of the study can be evaluated according to the paradigms. Newness and originality become such in the paradigmatic context.

The Paradigms Behind the Novelty

Burrel and Morgan (1989) emphasise that researchers should be aware of their background assumptions and the limitations they bring. It is important to bring forward the background assumptions, i.e. the paradigms, of the study. Paradigms and the philosophy of science are part of every doctoral student's training.

Kuhn in 1960's placed the concept of paradigm in a central position in the history and the development of science. He proposed that the development of science had followed the following route: a pre-paradigmatic phase, normal science phase, and crisis phase (Lämsä 1998: 16 – 17). During the pre-paradigmatic phase researchers have not reached a consensus about the basic assumptions of the scientific activity. A normal science is practised inside a paradigm, and it leans on the generally accepted basic assumptions. By normal science Kuhn (1960) refers to a research, which is based strictly on one or more earlier scientific achievements, and the achievement of which the scientific community will see as a foundation for its progressing. Scientific journals and more thorough textbooks are written by interpreting the accepted theories. The assumptions are not questioned (Haaparanta & Niiniluoto 1995: 78). Crisis science is created when normal science faces difficulties due to the repetitious conflicts between basic assumptions, theory and observations. In this situation the generally accepted basic assumptions are shaken, and the researchers has to start pondering the basis of the prevailing scientific worldview. Criticism enables the birth of a new paradigm.

The modern era has emphasised the nature of the great stories .Development and progress label it and science is seen as going on step by step. Rationality and objectivity play an essential role in it. Whereas the post-modernism is able to see the critical situation of the modernism and proves that the world is a chaos or a skein, which is difficult to explain credibly and fundamentally, even though modernism tries to convince otherwise. Knowledge and the knowledge-based world or reality are perspective ones. The significance of language as a constructor of a reality is emphasised in post-modernism. The objectivity and the subjectivity are mingled together (Berger & Luckman 1966). Post-modernism argues that research proceeds according to a non-modernistic pattern, and it brings forward an explicated reality, which is told by "someone" and by somebody, always, and is political that way (Barthes 1994), something that is not innocent and naked. Deconstruction can be

used in demonstrating how the reality is constructed through language.

Burrell and Morgan (1989) have explicitly placed forward the paradigms of social sciences. They distinguish four separate main paradigms in the field of research trends. These paradigms are functionalism, interpretative paradigm, paradigm of radical humanism, and paradigm of radical structuralism. These four can be distinguished from one another according to the fact whether the paradigm considers the research object as an objective or a subjective one, and whether it wishes to reach a radical change or the state of balance and harmony. For example, the woman research based on the radical humanistic paradigm includes an emancipatory knowledge interest, and Marxist research can be seen as a research tradition, which has its origins in the radical structural structure and which aims at revealing and changing the structures of society. In the field of women research this would mean the hidden influence of the social and organisational structures on women's status in the society, as well as bringing this kind of subordination into light by the means of research. The functionalistic research aims at rational explanation and emphasises realism and determinism as background assumptions, and positivistic-oriented research is characteristic of it. The functionalistic research strategy in the field of women research could, for example, aim at increasing the number of female directors, whereas the interpretative paradigm could e.g. aim at understanding and interpreting the hidden discriminating mechanisms in an organisation. Being very easy to teach the paradigms have earned a lot of foot-space in academic thinking, nevertheless there is a lot of critique about them being too categoric and not easy to apply as such. According to Burrell & Morgan, most of the business managerial research is functionalistic by nature. Interpretative studies are not easy to realize even if many studies argue to represent that issue. The human perspective of research was seldom used at the 1990's, at least in management studies.

However, is related to the research paradigms and the principles of research in several different ways. Nevertheless, the questions, su**c**h as what kind of perspective of human being is the research based on and what kind of perspective does it promote, are still important especially in social sciences, which concentrates on human objects.

Explaining and Understanding in Originality Production

Explaining is the aim of positivistically orientated studies. Human arts along with the social sciences are seen as something that has been constructed step by step and that moves towards the final knowledge, struggling towards cumulating and more specified knowledge. Science is seen as a pyramid-like structure, in which new knowledge is seamlessly articulated with the old one, and in which it is extremely important to propose hypotheses from the old knowledge and to test their validity. This kind of knowledge is hypothetical-deductive by nature. It is clear with this approach that when deriving hypotheses from a prior theory the researcher has to face it as an external knowledge, the validity of which he is evaluating. The prior theory is seen as an existing entity, which needs to be known, for example, in order to avoid doing the same research all over again. According to this approach, one's own study has to be able to construct the existing pyramid upwards. Originality comes from the piece of knowledge that fits well with the whole picture.

Understanding and interpreting are essential concepts in hermeneutic research approach. In fact, these two have always had a strong status in the research process of a humanistic research. Interpretation and understanding refer to reaching the essential features of a phenomenon by trying to see the phenomenon from inside and by adopting its core issues. A researcher aims at understanding the studied phenomenon from its own perspective and seeing it as close as possible in order to find the characteristic features of the phenomenon

(Wittgenstein 1958). The objective is to find such complicated structural similarities that seem to be impossible to see from a distance. The researcher's overall conception and the rising details interact with one another all through the interpretation process. During the study the picture of the studied phenomenon becomes more and more accurate. Research is a learning process, in which the researcher uses his consciousness in order to be able to see beyond the specific details of the phenomenon and manages to reach the overall conception. Inductivism is typical of the research strategy that is based on this kind of conception of knowledge (Kakkuri-Knuuttila 1998; 393). Originality becomes tested by the researchers themselves in first hand.

Preliminary understanding is not only natural, subjective and psychological understanding of a researcher but it is also an important tool at the early stages of the hermeneutic understanding process. Subjectivity has a different kind of nature in a hermeneutic research approach as it does in the positivistic approach described above. According to Habermas (1992), discarding the subjective opinions from the scientific thinking is misleading, since at the same time the possibility for objectivity is lost, which receives its strength from subjectivity (Rauhala 1999; 86 – 91). According to a phenomenological tradition, it is believed that a man reaches objectivity in his thoughts and interpretation once the scientific reduction approaches a phenomenon as it is, '*an sich*' (Juntunen & Mehtonen 1977). Hermeneutics emphasises the study of the reality, which people themselves consider as reality, without trying to analyse the right or the wrong nature of the conceptions. The objective is to interpret and describe the reality from the research subjects' own perspectives. The nature of the theoretical frame of reference is different from the one in a positivistic approach. The purpose of the study is to join the prior knowledge concerning the studied phenomenon, however, not in a pyramid-like manner but into the discourses inside the knowledge. The objectives of the study include conceptualisation, abstracting and the understanding of the phenomenon reached through these two, and not so much the generalisation of the research results into the quantitatively defined basic set. Newness of any study is so dependent on how it fits with the understanding of the research community. Any part of the research process might be interesting – theory and methods in addition to results.

The paradigmatic nature of science can be examined also with the axis "naive objectivism" and "radical relativism". The starting point of the naive objectivism is that there is no methodological difference between natural sciences and social sciences. This approach does not see any questions in the nature of reality and its relationship with knowledge. The reality occurs as it is, the facts are gathered, explained, and prognoses may be done (Sayer 1984; 51 – 52). However, the principles of the naive objectivism can be criticised by maintaining that all the observation is theoretically emphasised. Especially in social sciences, in which the researcher and the research object live in the same concept world, the significance of the presuppositions is great in observation. The presuppositions, prior theories, and everyday experiences form our way of seeing facts. The better we are aware of the presuppositions, the better they can be distinguished from our personal observations, which helps us to get more sensitive and 'correct' conceptions on the studied phenomenon.

On the contrary to the naive objectivism, the radical relativism sees all the research knowledge as relativistic and theory-related. Popper (Sayer 1984; 53) is one of the best-known representatives of this approach. Knowledge is always limited and bounded with a paradigm as well as with the presuppositions. Even though the social sciences deal with non-material facts, it is possible to find relations between facts, and even if knowledge is always fallible, not all the knowledge is as fallible. Relativists claim that the concept of truth can, in

fact, be replaced with the practical significance. Knowledge does not have hierarchy but it can be classified. A knowledge type can be adequate for a researcher but inadequate for the entrepreneur who is the object of the study, etc. The power-related nature of the research, as well as the seeming innocence of the viewpoints, is also interesting in the relativistic way of thinking. The way the study succeeds in showing the power structures might be the original result of the study. The researcher self is quite a lot at the background, the voice of him/her is culturally bound itself.

Naive inductivism, on the other hand, is based on the thought according to which the researcher does not need to consider before making observation what kinds of observations one should be doing. It is not necessary for the researcher to formulate a research problem or substantiate the selected observations. According to this approach, the research does not consist of any choices at all. As Kakkuri-Knuuttila (1998: 393) states this is an impossible ideal for research. The justified definition of the observations is a core of every respectable empirical research. Induction does not give reliable results, and in reality there seldom are any universal generalisations. In the more developed version of induction the observational data is selected through the limited research problem. The research problem can be substantiated with the shortcomings, gaps or conflicts of the prior knowledge. Therefore, it is worth forming the problem already in the beginning of the study, although the research problem is not finally outlined and formed until later on in the research process. In naïve inductivism the researcher self and production of newness is not asked at all.

The scientific philosophical research paradigms may appear to be rather opposite and mutually exclusive. In the research practice, however, their differences are often smaller than imagined. Naturally, they do have influence on the way the research is conducted, as well as on the structure of the research report and the way of writing. However, knowing the paradigms and the principles of scientific philosophical discourse is important for everyone conducting a research.

The philosopher applies scientific methods based on understanding what makes the work scientific. For the social science researcher it is possible to create a personal conception on science, paradigms beyond and the possibility and ways of acquiring new knowledge once he decides to start his own research project. In the worst case the special scientist may find the philosophy of science as an oasis, since it is always possible to question the choices made during the study from the standpoint of strict scientific philosophical thinking. At its best the philosophy of science and the personal conception on the nature of the research and the research process will help the researcher in creating a solid foundation, on which he can build his own research process for acquiring new knowledge. The starting point of the study consists of a conceptualising, analysing, evaluating, synthesising, and communicating researcher self behind any scientific text. The researcher self is sometimes fully present in the methodology used. Like in the study by Katila and Meriläinen (2002) they studied the researchers selves at the academia, and the empowering possibilities of them at the scientific community where they both acted as female researchers. An action study makes the researcher selves sometimes very visible.

Research Process in Promotion of Originality

Choosing the research topic is an important part of the research process. It determines the frames for the study that might last even for several years. The topic needs to be interesting on the personal level, it has be researchable, and it has to go together with the researcher's personal competence or it has to serve his personal willingness to develop. For example, one of the ideas of a final thesis done in

university is that a student applies the knowledge he has obtained so far in a comprehensive manner. The research topic needs to be also defined so accurately that prevents the study from becoming a lifelong project. The research constructs an interesting theme into a firm research topic, which can be approached methodologically, and which is liable to sensitive examination and conclusions.

Proving the findings of one's own study in the finishing state of the research report is often more difficult than one would think. It shows, however, the originality at best. The critical examination of the results, evaluation of the limitations of one's own work, as well as the pointing out the possibilities for further studies is important. It is crucial that the researcher is behind her/his own study, the substantiations and the solutions. The external evaluation is also a part of the scientific research process. The feedback received from the researcher community is an essential part of the legitimate research process.

Doing research can be examined also through the levels of thinking, expression and occurrence (Näsi 1980; 5). On the level of thinking there is analysing, summarising, pondering, consideration, realisations, etc. The tools for thinking include meanings, conceptions on symbols and terms. On the level of expression the research can be done orally, in written or by using gestures, and its tools include words, pictures, numbers, etc. On the level of occurrence the reality is studied in the light of paradigms, and its tools consist of commutation, data gathering, communication, participatory observation, and other forms of data gathering.

The Meaning of Theory in the Research Process

Novelty and insightfulness label any true scientific contribution. New knowledge is new with respect to the old knowledge. It is important to prove this connection, even if the connections are manifold by nature. Theory relies on the set of assumptions, which forms a foundation for the statements that are logically connected to each other. These assumptions are paradigmatic by nature. A theory itself is an explanation, or an attempt to explain the experienced piece of world. A theory explains the studied phenomenon. For example, in the organisation theoretical research the studied phenomenon is an organisation. The organisation, on the other hand, can be defined in several different manners, such as a social structure or technology (Hatch 1997; 9 – 10). A theory is comprised of a set of concepts and relations, which bind them together when explaining the object phenomenon. A theory can also be understood as a set of laws that systemise the regularities concerning a phenomenon area (Niiniluoto 1980; 193). The concepts are used in categorising, organising and storing experiences, which are formed by abstracting the observations.

Pieces of knowledge get their meaning only as they are seen in the context of similar ideas, concepts and categories of knowledge. The development of theory is often considered to be the most important objective of the scientific research. In the beginning of the study a frame of reference is formulated, in which the researcher's own research problem is anchored to the prior research. Originally 'theory' meant watching or examining. According to Hempel (1966: 70), theories are taken in use once the earlier research has revealed a set of regularities in a phenomenon entity. Theories aim at explaining these regularities, and usually giving more accurate understanding about the phenomenon at hand. A theory offers an opportunity to communicate, organises ideas, brings forward new ideas, creates explanations and prognoses, and may point out the connection between the seemingly separate problems. In research reports the theoretical background makes it possible to understand what kind of theoretical background does the study possess, as well as its relations with sets of concepts.

Conclusions take the researcher back to his theoretical frame of reference and makes him ask what has he learned, and how is this related

to the prior knowledge concerning the same issue. At its best the research turns out to be an entity, which theoretical frame of reference, empirical examination and the conclusions all are articulated with one another, and do not remain as separate particles.

Novelty of the Research Methods

Adopting the tool kind of understanding of research methods would lead seeing their use as ending to right or wrong solutions. Their use is a more complicated question, if we study them as integral part of the research process itself. Different stages of a research can be seen chronologically. In a research report they appear often as clearly identified stages, although the research process is more an iterative and back-and-forth kind of a process. Often the research problems do not receive their final form until at the very end of the analysis when the main idea is more clearly articulated with the research report. The objectives of the research have an essential role in the problem formation. "The crucial test of the researcher's expertise is in his ability to change the more or less general research theme into detailed sub-problems of the study" (Niiniluoto 1999; 27).

Research methods belong to the study entity, and are not separate from it. Without understanding the principles of the philosophy of science they may be seen as a book of recipes or a toolbox, which they are not. Methods articulate with the entity of the research, they should be examined in the methodological perspective of the study and inside the framework of the special nature of the research object. Ultimately, the objectives of the study and the research problems determine what kinds of methods need to be used in the study and how they should be used.

No method can be used without the researcher's personal interpretation; this concerns both the qualitative and the quantitative research. Methods are not ready-made and tested tool clusters that work similarly in every study. A factor analysis gathers together information about the studied data into factors, but it is the researcher's task to name them and to understand the summarised research data. Especially in qualitative research the researcher has to gather together and use several different ways of observation, interviews, participatory observation, and historical source material depending on his or her own research object. The objective of understanding the studied phenomenon directs the use of methods. There is no one best method or approach for the study. In addition, the methods and approaches are archaeological – they concern the past and its interpretation. The data is gathered, it is analysed and interpreted afterwards.

Varto (1995) argues that own new method is always created for every new study. A method is successful when it takes over the area it studies. In research this taking over is done every time separately. A method is on an abstract viewpoint, which is merely transferred into a concrete context (Varto 1995: 95 refers to Ladriere 1959: 600). A method is an essential part of the process of creating new knowledge, and every research renews and individualises the method itself. Methodical creativity and uniqueness belong to the special nature of science, which distinguishes it from plain reporting, data gathering and mechanical reporting.

Bogdan and Taylor (1975: 1) point out that the most discussions on methods concern their assumptions and objectives, theory and perspective, instead of the technical details. For example, in the qualitative research, which is commonly used in social sciences, methods form 'an umbrella', under which several different interpretative techniques can be placed. These techniques aim to describe, translate or discharge the meanings, not frequencies, from a social phenomenon, which is an object for the study (Van Maanen 1979; 520). Computer programmes help the researcher both in a qualitative and in a quantitative research, often by outlining and simplifying the research data.

However, it is the researcher who draws the conclusions, does abstracting and puts the pieces of information into a new knowledge. The novelty of research comes from using creative ways the methods, methodological knowledge and prior theory.

The possibility for getting feedback from the research community, especially the tutor of the work, supports in the legitimate process. Colleagues, seminar presentations and opponents, as well as the possible feedback from the research objects are also important. A good research practice consists of separate feedback mechanisms, such as pre-examiners and opponent(s) of the doctoral thesis. A creative research process includes also the researcher's own active role in getting feedback for his work. Receiving feedback, and learning from it belong to the researcher's competence.

Writing the research report

A common question in writing a research report is e.g. how to refer to the reference material. Technical guidelines can be found in good textbooks. Several schools and their publication series have their own guidelines about the reference technique. The main principle is that in the text it has to indicated, which is the researcher's own thinking and which is received from someone else. The references should be specified and not, for example, merely a list of books at the end of the chapter. When referring to the other writer's text, the original author or authors are always the primary object of reference, the possible editors of the book being only the secondary one.

Questions concerning the research methods come up already at the stage of choosing the research topic. The ultimate question for the most researchers is "qualitative or quantitative research approach". However, the research problems determine the method, and therefore the methods can be chosen in the beginning only in the case, in which the researcher is especially interested in some particular method. Very often quantitative data, such as data about the development of the number of personnel in the studied company, is used as a support for the study relying on a qualitative methodology. Correspondingly, a work based on a quantitative methodology can enrich its conclusions by interpreting few interviews done in addition to questionnaire study, or the open questions in the questionnaire. Neither the research methods nor research paradigms are completely exclusive. Methods cannot replace the researcher's interpretation, whether we are dealing with a qualitative or a quantitative research methodology.

The quantity of data gathered about the research object is an important practical question. Two of the most frequently asked questions are: 'How many questionnaires has to be mailed, or how many interviewees are needed for a rich data and its interpretation'. Even though the method guidebooks offer answers to the both questions, although they are related to the objectives and the problems of the study, the actual answers depend on the case at hand. In principle, the research data is gathered when the increase in the number of informants does no longer give any new information for the researcher. In a case study methodology the number of cases has been clearly limited, and the research process moves on one case at a time, while every individual case brings new knowledge about the studied subject (Glaser, Strauss 1967). Once the research problem begins to be outlined and the research topic begins to focus, the methods and the needs they bring along into the research process usually become clearer.

The adequate use of multiple sources of literature, reference work, belongs to good research practice. There are many choices between using unethically collequal work, like using citations without correct reference. Reference work is based on sensitive understanding about what is the place of the written text in the theory context. In reference work the researcher finds the place for her findings in the outer theory universe and, in fact,

shows the novelty of the study text in comparison with other knowledge. A frequently asked question asked by the pioneer researcher (like in master thesis) is whether it is possible to write one's own thoughts in the research report. The only answer that can be given is that as a matter of fact, the research report should be based on the writer's own thoughts, and not merely on repetition and mechanical reporting of the prior knowledge. The source data consists usually of primary and secondary sources, some of which are seen as 'corner stones' of the study from the viewpoint of the development of thought, and some of which are secondary by nature, i.e. important but which do not play the leading role (on references see Eco 1989, 1985). The researcher's role is to compile the work, and even though he uses other people's studies as the source of data, the starting point for the study is to synthesise and use his own words in writing about the phenomenon and the research results, and ending to final research texts.

Writing the research reports is political by nature. While citation index makes researchers powerful, in gaining decisions whom to refer the colleagues make political choices that are bound to some political contexts they live and career. Building a theoretical frame is not a pure and objectivistic thing but many ways a path of choices that build the research field. Behind is a lot of social capital of the academia and at the same time the text shows and even builds it.

Concluding Remarks

In the times when new paradigms of science are emerging and the sciences have become more and more fragmentary also the idea about what is new in science is changing. In the, positivistic and monolithic era of social science, let us say before Kuhn and year 1966, methodologies and methods interpreting newness were simpler. In this paper it is argued the newness is more and more in the text itself, and that the dynamics of texts comes from interrelations between the subject of the text (the researcher self) and the object of it (the research audience). Scientific knowledge becomes new when it is substantiated and connected to the prior one. It brings insight and novelty by contributing to its own field of knowledge. New can mean pointing out new kinds of relations between matters and states, it can mean conceptualising a phenomenon in a new manner, or it can mean bringing a totally new phenomenon into the light. New can refer also to the refutation of a prior knowledge. It is less and less evident that the data itself contributes to the newness. Finally, it is the readers of the report and the experts who ultimately determine the nature and the position of the new knowledge inside the field.

Writing the research reports is political by nature but so is also its reading. While citation index makes researchers powerful, in gaining decisions whom to refer the colleagues make political choices that are bound to some political contexts they live and career. Building a theoretical frame is not a pure and objectivistic thing but many ways a path of choices that build the research field. Behind is a lot of social capital of the academia and at the same time the text shows and even builds it. Again, it is less and less the empiricity itself that contributes to newness, but the ways to conceptualize and contextualize empirically based knowledge.

The personal impact of the researcher on the produced text has at the same time diminished and grown. Because of the collectivism in writing the style and personality of one researcher does not show out as much as in a case of single writing. Research groups combine texts, and computer working cuts, adds and rewrites texts in a way that loses single writers.

Like in the times before Kuhn, personal impact and desire can even be seen not only natural background of writing but as a harmful and subjectivity raising issue. For instance the

relation between women researchers doing feministic research and their research area that is around gender and feminitic isssues is often explained to be originated from seeking of benefit and career. No better makes the thing that mostly the authors are women (see Lämsä et al.), and those men who enter the field might get the extra gloria of unselfishness as researchers (they study women even if they would not need that because of their career being not in the "minority", or, even that they wish to help the less powerful women), whereas "being the woman" and making women research does not give the expert gloria anyway.

In the times when subjectivity is grown into science and pure empiricity does not woek in the same way it used to be, becoming a researcher with the right to access science text publishing is not only professional but more and more narrative by nature. The credibility and trust is of a lot of worth at the society of today, not least in academia. Personality, biography and social context of a researcher are perhaps becoming more important than it used to be and that makes the issue that the impact of the researcher on has grown. Gatekeepers of science and administrational processes that they guide form criteria according to which researchers are selected and promoted further. That way individual background issues like gender and ethnicity may either grow or diminish the credibility of the individual researcher and have a lot of impact on the fact on who passes the gate of becoming a knowledge holder in the future.

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