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The career and professional identity of young researchers
„to Ph.D dissertation”

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I. Preliminaries of research and reason for the theme chosen

This paper reformulates an ever actual question of sociology that was asked from a classic scholar. The question that a lecture was held about in 1917 by Max Weber is as follows: what is science as a vocation. Weber was speaking about the dichotomy of external and internal conditions to his audience (Weber [1995]).

He asked a concrete question: „What are the prospects of a graduate student who is resolved to dedicate himself professionally to science in university life?” (Weber) In his answer he compared the opportunities for promotion at German and American universities, mainly he was speaking about his experience. With regard to internal conditions there was no concrete question but a general one: „But I believe that actually you wish to hear of something else, namely, of the inward calling for science.” (Weber) With regard to this he expounded his expectations of scholars, this section of the lecture is exclusively theoretical. Weber did not connect the two dimensions of examination, but he separated them.

The dissertation reformulates Weber’s problem so that both dimensions are integrated eliminating the sharp dichotomy. In our approach the two aspects do not separate and do not unite but connect dinamically in a way that it is clear for the empirical research and remains interpretable.

Unlike Weber, in the dissertation „both sides” of the problem are approached on theoretical basis but empirically. The development of career of the young people with scientific degree is analysed by an approach, that has not been applied so far, in parallel with the development of professional identity. We assume in our work that concrete events of career and professional identity are in interrelationship–Weber’s concepts of external and internal conditions of „academic man’s vocation” – that’s why their collective examination makes it possible to recognise social phenomena related to this more profoundly and to reveal new correlations.

Research on career of young people having PhD degree is justified, beside it is timely and career following systems being elaborated, by sociological research and analysis about the career
The development of people having PhD degree has been small in number since 1993, the introduction of PhD education in Hungary, and there is only one in-depth analysis (Hrubos [2002]).

Since 1993 until today the research on career because of their timing and sampling method rather reveal earlier career phenomena connected to acquisition of degrees directed by TMB (Scientific Qualifying Commitee) (Bukodi - Harcsa - Falussy [1997]; Angelusz - Bukodi - Falussy – Tardos [1998]; Hrubos [2002]). For those who got a degree in the years directly after the introduction of PhD have special composition ¹, the research on career focusing exclusively on people with PhD degree could not filter the effects of former order of degree acquisition –or in fact its representatives– that’s why their conclusions, as results of a transitory period have to be accepted under reserve (Fábri [2002 a, b]). This research outline such careers and reveal such procedures that root in a different educational and science policy environment from the present and tightly correlates with scientific labour market environment. That’s why their conclusions cannot be adapted to the young people who got a degree in the university system.

The deficiency of career research on people having PhD degree, presumably because of difficulties in survey, is ignoring the examination of people gone abroad after getting the degree. However, according to the results of Hungarian brain drain research this group of people is significant, especially people with scientific and technical degrees so examining them, despite the difficulties in survey, is indispensable. (Csanády-Személyi [2006]).

The majority of research on career of people with PhD degree realised has been quantitative, cross-sectional ², concentrating on workplaces so far. The only qualitative work realised concentrating on the value of degree in the labour market (Fábri [2002 a]), despite its valuable results, bears the signs of the transitory period in its manner in which questions are put and conclusions.

¹ Those who requalified their the former candidate title or university doctor titles (based on MAB database) in the first years of acquiring PhD degree and people working without degree in higher education (Mosoni - Fried [2008]) because of changes in the law of higher education, so from labour market point of view in fact the representatives of the former degree acquisition order got PhD degree.
² From the comparative results of examination in the year 2006/7 until writing the dissertation there was only one publication with comparative data but does not touch the theme of dissertation (Fábri [2008]).
Considering these we can say: we do not have an all-round result of research that would eliminate structural effects of order of the former acquisition of degree and would describe processes behind development of careers thoroughly.

We know less about the development of professional identity of young people having PhD degree. In the literature works deal with mainly self-identity and social identity theoretically, works concentrating on a dimension of identity empirically especially professional identity are small in number (e.g. Holmes [2006]), there are less concentrating on scientific researcher identity (e.g. Henkel [2000]; Hunt [2006]) and there is no empirical research of that in Hungary.

In our work we interpret the problem of identity according to the common base of divergent identity theories. We rest on the conclusion of these theories that the concept of identity beyond (self)identity, i.e. constancy, integrates the principle of change, difference and bears the interrelationship of individual and society (e.g. Bauman [2001]; Bruner [2001]; Ricoeur [1999]; Erős [2001]; Pataki [2001]; Tengelyi [1990]) It is, according to our observation, suitable for apprehending individual, social and time dynamics of the development of careers and interpreting it adequately contrary to research on careers that analyse structural determination contingently.

In the course of the work we approach the category of identity from the theory of narrative identity. Its basic conclusion: our identity is the unity of our life story, that is of the same order as the unity of a story told (Tengelyi, [1990]). If we assume that these structures correlate, then with the examination of the story told the identity of the speaker can be examined. In the literature there is a debate about the limits of it but there is an agreement between the representatives of the theory (e.g. Bruner [2001]; Ricoeur [1999]) that personal narratives entail the identity of the individual as regards from and content.

Accordingly this conception the category of professional identity is introduced to get the development of careers to know better. In the course of our work professional identity is applied partly as developing factors of careers and indicators of effects of the career events. With the help of the
results of individual interpretations of career events, as it is manifested in self-identity, it is possible to examine the interrelationship of individual and social factors of the development of careers.

Beside narrative approach we use „traditional” means in the examination of the development of careers and professional identity: we reconstuct the roots and structure of professional identity and the concrete career events with the help of analysis of memories, fact- and opinion data collected in qualitative surveys regarding past.

Despite the approach, our dissertation is not an examination of identity, but an examination of career of people having PhD degree. In its focus there are social phenomena that lie behind career events and the development of professional identity concurrently. So we examine what Weber named and separated theoretically as internal conditions but in our case we examine the structural determinants of professional identity empirically so in fact its external conditions are examined. The dissertation analyses the individual motivations and social conditions of acquiring a degree, career events of the years after the PhD degree, the decision mechanisms related to and in parallel with professional identity, its development connected with career events. Our aim is not to know individual identities, nor describing career events exactly after getting the degree but to reveal social processes and structural factors that lie behind the two things.

Taking these into account our dissertation complementing former career research with results from a new approach, narrowing down the frames of research to a young cohort having PhD degree and including people working abroad can contribute to deepen the knowledge about the first longer term of the career of people having PhD degree.

II. The frames of the work

The career or professional identity owing to the specific features of different branches of science cannot be examined within the frames of this dissertation in adequate depth. That’s why we chose a branch, biology to go into details.
The dissertation concentrates on the career of young researchers, or to be more precise, on the first longer term of researchers’ careers, regarding young ones who are less than forty years old at the moment of questioning.\(^3\)

As it was not the aim to extend the work into international research, we could consider only people with PhD degree acquired in Hungary. People who got their degree through requalifying, naturalization and people making individual preparation were excluded from the research.

Professional career is in the focus of the research, but according to the aims declared of the doctoral schools (e.g. Róna-Tas [2003]) researchers’ activity and researchers’ identity are highlighted. In the course of the work, we reckoned those who have a degree as basic population and not those who do research.

**III. The methods applied**

In the course of our empirical research we accomplished the examination of career events, the development of professional identity and the examination of their interrelationship. Not only was the individual considered but social environment also played a part. Meanwhile we are interpreting, the demands of science should be reckoned with. For this reason we were using the qualitative means of sociology: narrative, half-structured interviews, focus groups, beside publication of opinions and facts, the features of narrativums and the metacommunicative signs of the speaker were analysed.

In the course of half structured interviews we collected data about concrete questions of research concerning the development of careers and we strived to reveal personal identity and how the subject is embedded into society.

We gained information surplus from focus groups, from the members of the group by communicating and exchanging opinions with each other. The method made the examination of factual experience concerning the turning points of the careers through life-like discussion of common problems, of attitudes as well and of feelings concerning career events possible.

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\(^3\) The age limit was fixed at the age of forty according to the age limit of Hungarian and international research and project tenders for young researchers,
With the analysis of the narrative interview in the dissertation we wished to show how organization of individual identity takes place beside career events given and under the conditions of labour market, science policy given (Rosenthal [1993]; Kovács-Vajda [2002]).

In the course of the analysis we examined the structure of researchers’ identity and its development connected to career events, we identified the major factors of the development of careers, we revealed decision mechanisms at certain turning points of careers and we touched some features of scientific labour market. We determined career idealtypes (Weber [1970]) as a result so that these make the general context behind the development of individual careers suggestive and understandable, and provide, with neglecting redundant circumstances of individual cases from the point of view of the research, a dynamic summary of general features of individual cases.

IV. The results of the dissertation

(1) The Hungarian career of young biologist researchers cannot be planned in the strict sense of the word: promotional opportunities are not calculable so professional career cannot be built or formed consciously. In the first place limited possibilities accessible determine it, the career takes shape in these circumstances very often with serious compromises. Primarily because the number of those who get a PhD degree is more than the number of researcher’s position, there are no calculable ways or milestones. The regular way of development is lacking: in Hungary there is no postdoctoral or tenure structure and the Hungarian inviting applications for research are contingent-some say their judgement as well. The career of young researchers becomes more calculable if opportunities for employment abroad are considered.

(2.1) The career of the Hungarian biologist researcher can be determined during the early years at the university with choosing the topic of the thesis and the consultant who, in most cases, is the same

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4 It does not mean that in Hungary the number of researcher positions, researchers are small in absolute sense.
person with the dissertation consultant. The role of the thesis consultant and dissertation consultant is relevant both in finding a job and in the success of Hungarian inviting applications and coming home from working abroad. The professional acceptance, prestige and the Hungarian and international contact network of the consultant is partly handed down to the disciples. The change of the dissertation consultant and of the research group after getting the degree, through weakening professional contacts, lead to growing chances of changing career especially in correlation with coming home from abroad.

(2.2) In the Hungarian scientific labour market the role of disciple and former working contacts are relevant, there is no competition for the open positions but the positions are filled on acquaintance basis. This is not necessarily selection of the unfittest but there are signs of that. In later research it may be worth examining the advantages and the disadvantages of the phenomena to the theory of strength of weak ties (Granovetter [1991]) connecting primarily to its practical, innovation examinations.

(2.3) The career of biologists has strong contact determination presumably it is the joint result of the narrow field of research specialization (difficulties in changing topic), the small number of company research positions and of Hungarian research groups dealing with the identical field as well as its small size. This coincides with one of Böröcz’s statement in one of his works analysing economic manifestation of informality, i.e. in Hungary „mentality based on personal ethics and trust elaborated to unique relations” is determined by social and economic history so „wicket-door organization, mentality and social relations” are dominant. According to our assumption the importance of contacts can be smaller in the circle of representatives\(^5\) of branches of science that has research like positions. In future investigations it may be worth examining it and the organization mechanisms of the scientific elite.

\(^5\) For instance in the corporate sphere there are many researcher like, e.g. market researcher positions available for people with social science qualification.
(3) Researchers dealing with infraindividual biology contrary to sociologists neither at doctoral school, nor after getting the degree do „role accumulation” (K. Horváth [2003]), careers run concentratedly on one way. Biologists having degree do not have part-time jobs, or if they have occasionally, they do it connected to their topic or main work with their research group e.g. industrial applied research. Presumably this is the consequence of the narrow field of specialization, the special laboratory working environment and the expectation of exceeding international scientific performance.

(4.1) Certain dimensions of stations of researchers careers and the joint dynamics of satisfaction with them is worth paying attention to: motivating force of the professional environment, the characteristics of the work done and income. These factors can be seen as professional status dimensions after determining statusindexes of status inconsistency (Lenski [1954]) that was introduced by Lenski to stratification investigations.

(4.2) Based on our results, professional status inconsistency\(^6\) seems to be much bigger among Hungarian researchers than among researchers working abroad –in Western Europe or North America. In Hungary academic or university researchers are dissatisfied with their income and professional environment but they enjoy their work and satisfied with what they can do.

(4.3) The reference group of a major part of young biologists who participate in international scientific life producing international scientific performance and having Western-European or American work experience as well is constituted by research groups abroad regarding both working circumstances and standard of living. As a consequence professional status inconsistency perceived among Hungarian researchers has a strong tension intensifying effect.

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\(^6\) In the course of investigation we did not measure professional statusinconsistency, did not edit an index, for finding professional status dimensions is the result of analysing conversations. In quantitative investigations later with the help of questions about satisfaction concerning professional statusdimensions the statusindex can be edited.
(4.4) Those who begin to work abroad later in their career not as a career-starter go abroad to make professional status on a high level more consistent, so to avoid status inconsistency or stay abroad durably to keep consistency adequately high.

(5) The motivation system of those who begin to work abroad after getting a degree differs from those who emigrate later in their career: a major part of the career starters emigrate not to avoid status inconsistency but, because of the lack of researcher positions, to avoid brain waste phenomenon, to get a proper job suitable for their degree and ideas.

(6) Coming home from abroad is step back regarding career both in professional independence, both in working environment and income. As the professional, standard of living and income reference group of the majority of home-comers is still the research group abroad so many of them experience professional and material loss after coming home as researcher. Coming home from a researcher status often goes hand in hand with the transformation and damage of strong-minded professional identity that is built up well, rational and contains positive emotional elements.

(7) Main determinant factors of the career of young biologists:

1) Professional contact with the thesis and dissertation consultant

2) Researcher identity, professional ambitions

3) Binding to the country (through personal and family contacts)

4) Expectations connected to income/standard of living

(8) The dominance of professional identity within the whole self-identity is in contact with professional opportunities accessible: in motivating professional environment, beside proper work and

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7 'Brain waste', i.e. highly qualified people cannot get a position suitable for their degree so they fill positions that require lower qualifications.
material compensation –so less professional status inconsistency- the relevance of professional identity is bigger in the whole self-identity.

(9) Professional career and family can easily go hand in hand with. But among different career turning points, when coming home, professional identity and family commitment can conflict seriously especially in case of women. Home coming from researcher positions abroad has a personal or family motivation in every case. Researchers coming home, in many cases, cannot get a proper researcher position so they have to decide: they resign from their profession (come home as career changer) for the sake of the family or the other way round they renounce the primary interest of family for the sake of their profession (stay abroad as a researcher).

(10) The professional identity of women weakens more after founding a family or, to be more precise, having a child than that of men even when women stay abroad as a researcher.

(11) The content of professional identity of Hungarian relatively immobile researchers differs from the ones working abroad durably or the Hungarian more mobile researchers. The narrative concerning researchers living and working in Hungary is more remote from the self, more contradictory, it contains more negative often irrational elements and described with more (mixed) feelings.

(12) Career ideal types

**Finding employment automatically** –they fill a postion durably with the help of contact network of the thesis or dissertation consultant or other person in Hungarian academy, university; they „get” their job and do not compete for it; if they go abroad to work they can return to the former position after some years; relatively immobile; their reference group is constituted by Hungarian researchers; stability is important for them; their thoughts are around Hungarian career; their tone is rather
disillusioned, but they are cynical/reconciled, ironic as regards their situation; they bind to the country through family.

**Departing abroad** – Either right after getting the degree or a bit later they apply for positions abroad because of the lack of a Hungarian position and/or to accomplish their professional ambitions; mainly they become a researcher at an institution, later they can fill in position in industry as well, but always as a researcher; very mobile, their professional identity, professional ambition is determined; their reference group is world leader scientists; lively international professional environment with high standards ensuring professional development, researcher independence and financial recognition are important to them; their tone: dynamic, resolute, rational; they are independent/have no child when going abroad; either they do not want to return, or if they want to, they do it for family reasons; after coming home they try to work as a researcher, but their success is dependent on strong Hungarian professional contacts, mostly they fail or make a serious professional compromise so they can be classified as group number three or stays abroad durably.

**Deviating from research** – Right after getting the degree or later during the career – typically when coming home from abroad they give up researcher’s career because they usually cannot get a proper researcher’s job in Hungary and do not want to go abroad/ do not want to stay there; they fill in a well-paid „industrial” position with calculable promotional opportunities, after some years they become a middle manager; do not wish and cannot return to research (do not publish); their researcher identity is weakened, degraded; their reference group is well-paid employees „doing reasonable work” and made their fortune in the Hungarian labour market; their tone is calm rational or vehement, disillusioned; binding to the country; woman; they have family.
Survivor – Mixed type, their characteristics are determined researcher identity, relatively strong binding to the country and at the moment of getting the degree they do not have open researcher’s position automatically that make building their career difficult; it is characteristic of them after getting the degree that they try to survive at Hungarian researcher’s workplace with serious compromises, they wait for open academic or university positons or postdoctoral position abroad, they manage to do this latter so they go abroad as a researcher (classified as group number two); their reference group is mixed: Hungarian and international first-class researchers; their tone is often cynical, ironic.

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