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Work Requirements in Transformation, Competence for the Future

A Critical Look at the Consequences of Current Positions

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0. Abstract

Buzz words like change, transformation, and blurring of the limits to work, along with globalisation, internationalisation, and computerisation, are said to be typical of the dynamism of labour markets which is already taking shape and will accelerate even more in the future. It is said that phases involving alternation among gainful employment, advanced training, unemployment, career changes, moves to new industries, and the like, along with self-employment, volunteer work, and civic work, are characteristic of employment histories now and will be even more so in the future.

The literature usually describes these trends, which are the subject of intense discussion in Germany and elsewhere, as "natural" and rarely analyses them from the viewpoint of the people concerned. Therefore, neither the requirements to be fulfilled nor the necessary qualifications are sufficiently transparent at present. However, it does appear that in future it will be taken for granted to a certain extent that "labour entrepreneurs" are expected always to show flexibility and mobility, have high – in some cases enormous – qualifications and competence, and have marketable personality traits. In addition, such attributes for performance will also have to be acquired on one's own individual responsibility and be kept up-to-date and available at all times. It is usually not taken into consideration that the result will most likely be extremely demanding requirements for living, working, and learning which go beyond the limits of what can be expected and could be critical for health and coping with demands.

However, it cannot be assumed that such changes have no consequences for the people concerned. It is usually assumed that there will be better opportunities in the changed "world of life and work." However, it should not be forgotten that such trends can always involve considerable risks and dangers resulting from uncertainty, insecurity, feeling unable to cope, loss of control, feeling threatened, anxiety, and stress. In fact, it is precisely the evaluation and consideration of risk factors that can help approach the problems involved in the "transformation of work" with a more critical view of their consequences and with a greater emphasis on intervention. Therefore, the risk factors are discussed in comparatively greater detail.

1. Introduction

When the fundamental transformation of work (primarily far-reaching changes in major requirements and competence) is mentioned in the context to be discussed here, it should be remembered that the extent and scope of such transformation processes are by no means uniform everywhere. In some economic sectors, the processes described in the literature may involve dominant trends, while that may be much less applicable in other areas. Consequently, there seems to be a certain polarisation at the present time. Companies in high-tech sectors (particularly in the so-called New Economy, such as information technology and telecommunications) are already "desperately seeking" specialists who fulfill as many as possible of the following requirements:

- Be less than 35 years old

- Have current professional experience and in particular possess the "competence du jour," in other words have just the right abilities exactly at the time they are being sought
- Be highly qualified and motivated, contribute the currently desirable – usually new – competence, and be independent and autonomous in doing their jobs
- Have no ties and be willing to work on call or "around the clock" (e.g., Müller, 2000).

On the other hand, complaints are simultaneously made, primarily in the manufacturing sector, that "traditional skilled workers are in short supply" and "there are bottlenecks for people with dual training" (IW, 2000; Süddeutsche Zeitung of September 27, 2000), indicating that "traditional" requirements and competence are primarily involved in this case (in contrast to the "New Economy").

It is not the aim of this paper to discuss the various trends in the "transformation of work," but it should be pointed out that changes in work vary greatly according to region, industry, and sector, not just generally with regard to extent and speed, but also concerning individual profiles of requirements and qualifications. There are very few studies of those and other variables to document such changes in the world of work, so trends in the strict sense cannot be assumed.

Rather, the changes in work as currently described in the literature appear to be trends that are inadequately described, rarely broken down according to industry, sectors, groups of people who are affected, etc., and above all not quantified. That is also one of the reasons why the "requirements" and "competence" to be presented in sections 3.1 and 3.2 cannot currently be described, differentiated, distinguished, categorized, or even classified with more accuracy. By the same token, it is impossible to obtain more accurate information about the extent to which the various people are confronted with certain areas or types of "requirements" and what scope and "extent" of "competence" they consequently must possess. It is true that "key qualifications" are repeatedly mentioned, but the technical and social abilities that are required in concrete cases tend not to be specified in greater detail.

However, such changes in work and their concomitant effects, even when inadequately described, still have a value that should not be underestimated in providing insight into the *consequences* for the people concerned. That is the case when presentations in the literature of "requirements" that already exist or are surmised and the "competence" that are already demanded and expected are *contrasted* with confirmed knowledge, particularly from research on work, action, learning, motivation, and stress. Such a contrast between – to put it briefly – performance requirements and human resources, including the conditions of their origin and mobilisation, make it possible to estimate the extent to which better opportunities exist for the people concerned by the changed "world of life and work" and whether risk factors must also be anticipated (sections 4.1 and 4.2).

A method of presentation has been chosen that lists the individual factors, particularly the risk factors, to a certain extent in an "additive" way. Such an approach is close to evaluation due to the method of *contrast* as a methodological basis. The factors have not been "structured" for two reasons: First, that would require a theory-based organisation, which has not yet been achieved. In addition, the individual risk factors in some cases have very different theoretical

backgrounds, which cannot be bridged without further effort. However, according to the intended presentation here, it is sufficient to describe the risk factors themselves along with the circumstances of their creation, their effects, and the potential risks they represent, because that is the way to make the necessity to take them into account sufficiently evident. And ultimately that is exactly what is involved, because it could contribute to tackling the problems involved in the "transformation of work" with a critical view of their consequences and to including aspects of social compatibility to a greater extent, preventively where possible.

2. Changing trends for work

The question about competence for the future can be meaningfully posed only by assuming a fundamental change in future requirements that must be coped with, primarily at work. Without such an assumption, we would not need to inquire into competence for the future, because it would be sufficient to maintain and perhaps adapt the competence that are currently necessary.

Many authors actually portray considerable changes in the world of work, some of which are assuming societal dimensions, such as the described transition from a productive society to a society of services, information, and knowledge (cf. Brauer and Bickmann, 1994; Gassner and Kuon, 1995; Grob and Bieletzke, 1997; Haaren and Hensche, 1997; Hoffmann-Riem and Vesting, 1995).

But buzz words like change, transformation, and blurring of the limits to work, along with globalisation, internationalisation, and computerisation, are said to be typical of the dynamism of labour markets. Phases involving alternation among gainful employment, advanced training, unemployment, career changes, moves to new industries, and the like, along with self-employment, volunteer work, and civic work, are characteristic of employment histories now and will be even more so in the future (e.g., Beck, 1998; Bonss, 2000; Gorz, 1989, 1998; Mutz, 1998; Offe and Heinze, 1990; Rifkin, 1995; Sennett, 1998).

The change in work and the direction in which it is developing are primarily justified economically, with globalisation, internationalisation, deregulation, and competitiveness being the decisive and also very familiar arguments. In that context, considerable importance is attributed to outsourcing strategies, profit centre plans, and models for eliminating hierarchies at the company level, as well as group structures, project-based work forms, and flexible working hours as important tools for the organisation of work (see also Voss, 1998).

The constant demand for new knowledge also goes along with the postulate of change at work. Such knowledge is not to be provided solely through advanced training for employees (resulting in lifelong learning) but also increasingly through the transfer of knowledge. Job rotations through different companies, portfolio workers, "multi-optional freelancers" and university graduates equipped with the latest knowledge are to constantly bring state-of-the-art knowledge into companies at the right time and in the right place (cf. Sendele, 2000; Stampfli, 2000).

One main feature of changes in work is considered to be the blurring of limits (e.g. Voss, 1998, p. 479), which is said to be occurring in several dimensions, specifically:

- *"Time,"* for example part-time shift work, excessive flextime, no fixed working hours, regular informal overtime, time accounts and time corridors, work on call and on demand, and weekend work

- *"Space,"* for example telecommuting, home office work, extensive field work and work outside the office, long commutes to work, linking job requirements to prolonged periods of business travel, and frequent changes in places of assignment, for example in the case of project work

- *"Working means/technology,"* for example increased individualisation and self-organisation of the choice and specific use of information and communication technologies, for example destandardisation of the way in which subsystems are used.

- *"Social" or work organisation,* for example various changing forms of organizing project work, changing team membership and resulting frequent changes of working partners, autonomously-regulated cooperation networks and strategic alliances that change depending on the job to be done, "intrapreneurship," and cost centre strategies

- *"Work content/qualification,"* for example self-organisation and responsibility for completing tasks with unclear limits between work and leisure time, a decrease in monitoring details in favour of a looser framework for guidance such as so-called self-management, more dynamic qualifications, technical flexibility, and comprehensive willingness to be trained

- *"Meaning/motivation,"* for example individual motivation or self-motivation and independent individual assignment of meaning, self-generated enthusiasm, and self-discipline are to replace motivations and objective orientation within an activity, whose origin is linked to specific structures of company leadership, information, and work systems that are relatively longer lasting

It is easy to see that changes in the world of work are presented as more or less "natural" and are mainly considered to be economically necessary. There is generally no justification from the viewpoint of the people concerned, and even the potential opportunities and more particularly the risks for them are analysed very infrequently. When people are mentioned, for example in connection with the blurring of the limits to work, it is merely stated that they must adapt to changes in speed and the direction of impact (cf. Gubser, 2000).

3. The role of people – Stated requirements, required qualifications, and expected competence

3.1 Requirements

Generally speaking, it is assumed in the context of the changes in work that people will find both work satisfaction and meaning in constantly changing fields of endeavor, responsibilities, and team loyalties. It is thought that people should also assume personal responsibility for their working abilities and performance as a whole and that they should also fulfill more requirements that are more than merely technical and should show enthusiasm, self-confidence, and resistance to stress (e.g. Voss, 1998).

According to human resource management, the principle of "high risk, high fun, high money" should apply, particularly where executives or high-tech specialists are concerned, because the entire "new venture culture" is based on the chance to get rich quick (Sendele, 2000, item 6). "Opportunities and risks for the individual lie close together and success and failure can also quickly alternate" in this new "risk culture," to which the "new independents" are also exposed to a certain extent (e.g. Gesterkamp, 2000). However, what from the company viewpoint is frequently "praised as a challenge" (cf. Gubser, 2000, p. 57) also thoroughly deserves a critical analysis because the literal meaning of "challenge" is not only an invitation to a wealth of opportunity but also a threat that is fraught with risks.

In the framework of those developments, people are no longer to act merely as employees earning a living according to the previous model, but in future will appear in the role of "labour entrepreneurs" or "entrepreneurs of their own labour" (e.g. Pongratz and Voss, 1998). "Life and labour entrepreneurs" have already been mentioned (e.g. Gubser, 2000). It is said that individuals must ensure on their own responsibility that they can always provide the flexibility and mobility that are considered to be a self-evident requirement for them and also have the various qualifications and competence that are in demand.

If that discourse is used as a basis for deduction, the following can be derived and summarized as "*requirements*":

- Choice and evaluation of information from among the generally existing information overload ("data smog")
- Independent orientation in economic, political, social, and other areas, selection of various alternatives for action, and decisions with considerable "freedom of choice"
- Autonomy in planning and shaping one's own (working) life
- Self-organisation of living and working processes while orienting private life to professional life
- Career mobility, mobility in place and time, flexibility of content, and independent initiative and assertion of one's own views, interests, etc.

- Self-understanding, self-mastery, self-guidance, self-determination, and self-marketing
- Self-monitoring of one's own objectives and results
- Independent recognition of the need for training and independently taking advantage of opportunities for efficient coverage of that need; the necessity for lifelong learning
- Active labour market behaviour and competitive orientation accompanied by willingness to cooperate and communicate in changing teams, in some cases with intercultural demands
- Dealing with insecurity and uncertainty
- Dealing with disruptions, crises, and conflicts
- Independent motivation, finding meaning based on social activities and employment, including as a basis for arranging one's own satisfaction with life and work

In some cases such "requirements" are also formulated by other authors (e.g. Gubser, 2000; Meyer-Wölfing, 2000) although the actual concrete connection to work and life is not recognizable. Fundamentally this is a unique conglomerate of requirements for life and work on the one hand, as well as requirements for performance, willingness to perform, and performance and social behaviour in various areas of human activity on the other hand.

The great vagueness between "requirements" and "competence" often makes it hard to recognize what is involved in each case. That leads to considerable overlaps and to inconsistent use of terminology nearly throughout. The intensity and density of requirements that may be relevant for action by the various people cannot be recognized all that well, either.

For the purposes of intervention such as influencing events or qualifications, it is vital to systematize during the first step, because they would need to be categorised according to very different measures. That requires knowledge and understanding from sociological, work science, and in particular labour psychology analyses in fields of investigation that are prototypical and/or contain representations of problems. However, such a compilation of knowledge is currently not available.

3.2 Qualifications – Knowledge, skills, competence

3.2.1 Conceptual explanations

Requirements describe (to the extent determined from the state of the art) in qualitative and quantitative form primarily what a person must or should **"do"** for proper completion of tasks assigned by other people or himself. In contrast, "*qualification*" – to a certain extent as a counterpart to it – refers to what a person must **"be able to do"** to fulfill requirements (generally working requirements).

Because "qualification" is not a sufficiently accurate or acceptable generic term (e.g. Alaluf, 1991; Staudt and Kriegesmann, 2000 b; Ulich, 1994), the necessary prerequisites for performance of the person's duties are usually described in different terms in specialized technical contexts:

1. There are two main groups in the area of *the ability to perform*:
- The *first group* includes performance characteristics, primarily skills, abilities, and knowledge.
- The *second group* mainly consists of perception processes, ideas, and processes of memory or thinking, including setting objectives, making decisions, generating strategies, and planning.

2. A distinction is also made between two groups in the area of the *willingness to perform*:
- The *first group* then primarily comprises needs, motives, emotions, and attitude, with the latter including value orientation, convictions, interests, habits, and the like.
- The *second group* includes activation, attention, concentration, and vigilance.

However, such classification systems or systematologies play no role in the literature that concentrates on presentations of future prerequisites for people's performance. Instead, individual components are taken up and frequently described with considerable conceptual vagueness (see 3.2.2). For example, the knowledge from the first group occupies a great deal of space in the discussion, which is entirely right. However, it is treated merely as overall knowledge. No distinction is made, even between explicit and declarative knowledge, between implicit or silent knowledge, or among theoretical knowledge, knowledge about how to act, knowledge based on experience, and knowledge that guides behaviour, although it has already been possible to do so for a long time (cf. Dörner, 1988; Hacker, 1992, 1993; Hoffmann, 1993; Hoffmann and Sebald, 2000; Plath, 2000 a; Koller and Plath, 2000).

In addition to terms specifying the requirements for people's performance, *summarizing* terms are increasingly used, particularly "ability to act" and "competence to act" or simply "competence." It should also be noted in that regard that the terms are not defined clearly or distinctly and are not used consistently, either. That also applies to the current most popular term, "competence."

A distinction is made among various forms of competence, such as technical competence, methodological competence, social competence, team competence, leadership competence, success competence, etc., but the description of these forms usually falls back on the concept of ability. For example, in the description of *social skill*, six dimensions are mentioned that are presented as "abilities" (e.g. Unverzagt, 2000, p. 18), specifically:

- "The ability to perceive situations and people appropriately and to interpret signals correctly
- The ability to take initiatives and to convince others of one's own opinion
- The ability to handle conflicts appropriately according to the situation and to express and accept criticism

- The ability to establish social contacts and, where applicable, deepen them or break them off
- The ability to cooperate in a team in a way that is oriented to the task and goal
- The ability to motivate fellow employees, lead groups productively, and control team processes constructively"

The vagueness about the content of those "dimensions" should be of no interest here (cf. in that regard critical remarks by Blaschke, 1987, specifically p 146 ff.). What is involved is the fact that this is merely a regress. In that way, one could make all possible human activities subject to an ability and combine them into every possible competence (cf., e.g. Heckhausen, 1987). But what is a "competence"? It certainly cannot simply be equated with qualification. Should a "competence" be approached as an aggregate of abilities? Or is a "competence" to be understood as an individual's self-organisational ability (cf. Erpenbeck, 1997)? The latter appears quite insufficient, because duties cannot be performed and requirements cannot be met merely with the "ability to organize."

It is possible that "competence" is currently best understood as approaching the interaction of ability (in the broad sense the ability to act) and motivation (in the broad sense the willingness to act) to independently expand what one knows and can do in order to independently complete tasks or solve complex problems. In that regard, motivation causes one to "remain open" and "feel responsible" for new tasks; in other words, this is the "self-declaration" of one's own responsibility (cf. Bergmann, 1989, p. 7). In that way, existing knowledge is recombined and structured according to the respective new task objectives, and any knowledge that is lacking is systematically replaced, while explicit knowledge and implicit knowledge are of different origin and therefore also require different forms of acquisition and learning, taking into account decisive performances of memory (cf. Plath, 2000 a; Koller and Plath, 2000). In the framework of that interconnection, the components of the social environment which are relevant for problem solving (such as communication, cooperation, and social support) are autonomously included in task organisation. Even personality traits of different types according to each "area of competence" are thought to be of major importance, for example whether someone is able to do what is actually necessary based on his character. However, "feeling responsible" is usually not sufficient on its own. Rather, it is decisive in the vast majority of organisations involving a division of labour whether authority has been granted fundamentally and in accordance with agreement ("organisational legitimisation and integration into the company context"). Accordingly, individual skill is based on an interplay of the ability to act, the willingness to act, and authority, with the inclusion of personality traits to be described in greater detail (e.g. Staudt and Kriegesmann, 2000 a, b).

If this understanding of "competence" is used as a basis, it is not difficult to see that the statements in the literature do not correspond to it. There is usually a regress to abilities. When that is done, abilities are generally not understood to be mental or psychophysical tendencies but rather everything that it is thought that people should be able to control. In that way there are abilities *en masse*, such as team ability, organisational ability, transfer ability, and the like. To the extent that the literature is oriented to competence rather than abilities, the same applies to it. For example, one can find planning competence, decision-making competence, leadership competence, and even meta-competence, etc.

That inevitably means that this language arrangement must be used to present the competence that (in the view of those who "know the material") are considered important now and indispensable in the future. In that regard, the individual authors describe rather unsystematically, relatively vaguely, and boldly which areas of people's performance prerequisites will be considered relevant for coming to grips with requirements in the future.

3.2.2 "Competence" that will be relevant in the future

In some cases, the "competence" that are considered important for the future are described quite differently according to type, extent, and characteristics. Three lists are presented below to illustrate the spectrum of expected "competence":

1. According to presentations and in the terminology of management literature (e.g. managermagazin, 2000; Hense-Ferch, 2000; Steffens-Duch, 2000), future executives and high-tech specialists will need the following competence in addition to the obvious technical knowledge that is required:

- "*Internationality*," for example knowledge of foreign languages, "intercultural understanding", studies abroad, and experience abroad. "Anyone who wants to motivate employees and satisfy customers in other countries must be able to fit smoothly into the world in which they live" (according to Boeker, HR Director at Bosch).

- "*Loyalty*," for example honesty in dealings with the company, commitment in the form of dedication and attachment; identification with and acceptance of the company's objectives and values; when strongly attached to the company, above all also company thinking and acting at all levels, feeling the urge to do more, "to go the extra mile"

- "*Team spirit*," for example the ability to be a team member as a particularly important performance characteristic; the ability to sensitively combine the strength to assert oneself, the ability to convince others, and submission to the team spirit

- "*Mobility*," for example personal flexibility concerning working hours, the content of work, and the place where one lives and works and the ability to solve mobility-related problems that can arise with partners, children, or other relatives, to some extent as a demonstration of one's ability in the area of "private management." Success in implementing the strategy selected to do this is considered in the company to be a benchmark for non-technical qualifications.

- "*Goal orientation*," for example fast-paced careers with swift completion of necessary training phases and excellent results as the basis for preference when personnel are selected. But career loops, for example in certain patchwork employment histories, can also be useful if the people concerned are pursuing interesting business ideas and have developed "global thinking" and "creativity" or can acquire additional qualifications, such as strategies for mastering different projects.

- "*Flexibility*," for example willingness to be initiated into different areas of responsibility, as well as to assume responsibility for them at any company location. Proving oneself in various areas of endeavor.

2. According to Geissler (2000, p. 55 f.), the following competence areas are emerging as a way to meet future requirements:

- "*Plurality competence*": "The ability to engage in reflexive distancing" and to make decisions under unclear conditions in order to maintain the ability to act. The ability to handle a high degree of uncertainty "to become productive in non-standardized situations of life and structuring one's career."

- "*Transitional competence*": The ability to organize increasingly frequent "transitions in one's career path, activities, qualifications, and social and intercultural life" in such as way "that uncertainties of the transitional situation can be identified, defined, and processed." This is said to allow meaningful closure with what is past and permit new beginnings.

- "*Social communication competence*": "A collective term for abilities related to controlling social relationships."

- "*Competence based on process structures*": "Abilities that allow the establishment of an identity and future fashioning of one's own history and career." This "means the ability to observe and evaluate one's own career and life situation and contrast them" with the changes in work and leisure.

3. Voss (1998) provides the most impressive presentation of what people ought to or will have to do in the future. He assumes that the "labour entrepreneur" will increasingly be used because he ensures "expanded self-monitoring of work" and therefore also allows "expanded access to human characteristics." Voss describes "competence" on the one hand in the form of abilities (here, too, a regress) and on the other hand also postulates abilities to develop competence (conceptual vagueness). That will not be discussed further here. In terms of what is discussed here, Voss (p. 483 f.) attributes great importance to the following "ability areas" in the future:

- "Abilities to continuously develop the technical and extra-technical competence required by one's job, including the ability to create appropriate conditions for them in everyday life (key words: "self-development," "learning ability," and "competence management")"

- Abilities related to strategic presentation and targeted utilisation as labour both on labour markets and within employment relationships (key words: "self-marketing," "image cultivation," "self-representation," and "profiling")

- Abilities in the area of comprehensive practical self-organisation at work and above all in the private sphere (for example in arranging the way one lives one's life overall), including the ability to take deliberate control of increasingly contingent life and career paths (key

words: “self-management,” “self-discipline,” “self-efficiency,” “life and career planning,” “actively shaping one’s own career path,” “career path competence,” and “life politics”)

- Abilities in the area of active establishment and upkeep of professional and personal networks, as well as the background of personal relationships as everyday practical, social, and emotional resources for one’s career (key words: “social networking” and “personal relations management”)

- Abilities in the area of strategic development and stabilisation of one’s personality and coping with emotional and social problems, as well as in regulating performance and processing demands (key words: “identity management,” “stabilisation of the self,” “active coping,” “resilience,” “emotion management,” and “emotion work”)

- Abilities to continuously find individual meaning and motivation, including the ability to mobilize and cultivate deep emotional and creative resources (key words: “self-motivation,” “the ability to become enthusiastic,” “finding individual meaning,” “self-commitment,” “creativity,” and “innovation”)

The cited lists of so-called competence initially suggest the following *remarks*:

- It is impossible to avoid the impression that, aside from conceptual vagueness, some things are also being conceptually “manipulated.” For example, if the effects of stress are merely a problem of competence and one can therefore counter them with “stress processing,” then the results of stress research over the past few decades are being completely ignored. Similar objections arise when purported competence in the area of independent “stabilisation of the self,” “emotion management,” and self-guided, active “shaping of one’s own career path” such as “career path competence” and the like are mentioned.

- One wonders what the underlying image of humanity is when it is assumed that within the framework of “self-management” people can “convert” basic personality characteristics, emotions, and other personality traits that are close to the self – some of which are also genetically determined – into competence and then use them autonomously for “self-marketing” as a “labour entrepreneur” at any time according to the neoliberal understanding of the economy. What kind of person would one have to imagine who could autonomously develop and keep available all of these competence, some of them considerably exaggerated?

- Finally, it must be asked whether these types of “competence" actually always involve qualifications or abilities or whether these so-called competences are even accessible for qualification and whether it is even possible to obtain such a qualification or training or advanced training oneself and to monitor oneself to verify their specific effects. These questions arise particularly with regard to “career path competence,” “strategic personality development,” “emotion management, and “self-commitment” such as dedication, attachment, and trust, as well as to deliberate rational “demand processing” when the borders of work are blurred. Naturally, one can maintain the previous style and assume that abilities

exist on all sides or simply use them as tag words, such as in the case of "dedication ability," but that does not solve the problems at issue.

4. Opportunities and risks for people

So far there has been just as little reflection on the consequences for people of such changes if they do occur as presented as there has been on the changes in work itself. With regard to people, most of the literature covers their role as employees, mainly from the viewpoint that work will become "tight" or even "disappear" (summarizing, e.g. Beck, 1998; Bonss, 2000; Offe and Heinze, 1990; Gorz, 1989, 1998; Mutz, 1998). Potential opportunities and risks have not yet been critically weighed. Although an overall impression tends to be given that changes in work primarily offer people more opportunities, it cannot be assumed that such changes will not also have negative effects on those concerned. Considerable risks and dangers must be included in the calculation, but they have barely been articulated. First, however, the opportunities.

4.1 Opportunities

Any opportunities must be evaluated with the restraint required in such cases, because there have not yet been any decisive empirical studies on the possible positive consequences for employees of changes in work, and the basis for deriving conclusions is very unclear due to the many variables to be taken into account. The following must be kept in mind:

1. The sought-after "opening" of previously rigid work structures is said to increasingly lead to the elimination of fixed requirements for the provision of services and to expansion of the leeway for action. That would create better prerequisites for greater autonomy at work and when performing, creating considerably more opportunities for human self-fulfillment (cf. Kotthoff, 1997; Moldaschl, 1998; Voss, 1998).

2. "Elimination of hierarchies," "decentralisation," "network building," etc., continue to give the impression that people will have increasing opportunities for self-determination, self-organisation, self-monitoring, personal responsibility, and the like in the "world of life and work." That could result to some extent in opportunities for independent setting of goals and strategies, as well as for independent decision-making, planning, and acting, which will be supplemented, accompanied, or supported in the "world of life" by subsidiarity and solidarity (e.g. Lampert, 2000; Vester, 1998) and in the "world of work" by social networks (e.g. Udris, 1989, Ulich, E. 1994). On the other hand, the effects on personality or the humanizing effects that are postulated with opportunities often do not occur or even turn into their opposite (cf. Moldaschil, 1998; Voss, 1998). Specifically, to the extent that personal responsibility, particularly in the "world of life," is instrumentalized in such a way that one portion of the people concerned "run the risk that they cannot absorb the shock themselves (due to a lack of resources)" (Vester, p. 63), the actual conceptual content of personal responsibility and the related intentions are lost in very questionable neoliberal patterns of interpretation (see also the criticism by Lampert 2000, which controversially discusses the neoliberal contentions – not arguments – of "demand thinking," "comprehensive welfare," and the "no-deductible mentality").

3. Changes in work, changing conditions at work, and changing requirements for work mean that the people concerned have the obligation and the opportunity of lifelong or "life-accompanying" learning (see also Bergmann, 1999; Gubser, 2000). The constant presence of learning requirements and offers of opportunities to learn not only result in long-term effective habits of learning and learning experiences, but also in the development and adaptation of people's prerequisites for performance according to changing requirements. That increases the chances of remaining at work or being quickly reintegrated into work, as well as the opportunities for other forms of assertion on the labour market.

4.2 Risks

"Investigation" of the described changes in work, especially the "requirements" and "competence" that are expected in the future, to determine the negative consequences for people (particularly risks and dangers) will require turning to theoretical insights and empirical findings from precedents, because current studies are still lacking. Because precedents are known to point to similar situations in the future, there is a much more solid basis for deduction than there is for opportunities. That makes it even more surprising that, as mentioned above, risks are hardly articulated. The literature cited under 3.2.2 instead remarkably takes it for granted or even requires that people will have all possible competence and abilities to fulfill requirements of various types and extents or that they can simply acquire them at any time. The origin of such an ability to act, the development of any limiting conditions, whether it can reasonably be expected, and the consequences of exceeding it, etc. are usually not even mentioned.

Consequently, the following should be considered at the very least:

1. All applicable activities and actions of human beings which are even nominally linked to the words "*individual*" and "*self-*," such as "individual responsibility," "individual skill," "self-organisation," "self-development," "self-efficiency," "self-marketing," "self-management," " self-representation," "self-motivation," and the like (cf. the section on competence under 3.2) require very critical review. After all, according to current research, most of these "individual and independent responsibilities" have been neither theoretically appraised nor empirically explained.

   The following is well documented:

- "*Individual responsibility*" and "*self-organisation*" are shown to be advantageous with the inclusion of opportunities for independently setting objectives, making decisions, planning, and developing strategies in the framework of *defined, integral, and self-contained tasks* if the following conditions are also fulfilled: The requirement situation must be *clear* and *predictable* and subject to deliberate *influence* (cf. Hacker, 1998; Richter, 1998; Ulich, 1994). The possibility of coping with requirement situations in a way that is advantageous for performance, health, and the ability to cope with demands has been demonstrated only under those assumptions and not under any other prerequisites. The extent to which "individual responsibility" and "self-organisation" can be considered advantageous in any respect beyond those clearly delineated prerequisites must be fundamentally questioned.

- However, "*individual responsibility*" requires more than genuine opportunities for *influencing one's own activity*, such as objectively present and subjectively perceived *leeway for action* and *decision making*. In addition, it also requires the constant availability of corresponding objective and subjective resources. The extent to which these – particularly the latter – are guaranteed must be considered quite questionable (e.g. Frese and Semmer, 1991; Gebert and von Rosenstiel, 1989; Gosmann, 1998; Udris, 1990).

- In the framework of the motivation within or intrinsic to an activity, "*self-motivation*" generally leads to a drive regulation that is beneficial for performance and for coping with demands. This comes close to the simple but also "robust" effect mechanism of an intrinsic working motivation: The existence of opportunities to use abilities that are effective for performance in the completion of assigned tasks causes the use of those abilities (motivation as a cause for action or cause regulation; cf. Hacker, 1998). However, if the "self-motivation" is taken out of that connection and instead is "created" as an intra-emotional drive mobilisation that should be as available as possible with regard both to content and time, there are considerable risks of demotivation and feeling unable to cope.

2. It is considered self-evident that phases of gainful employment, advanced training, unemployment and career changes, and changing to different industries, etc. will characterize future employment histories, with the latter considered overall as "patchwork histories" in any case. That overlooks the following:

- Such an unpredictable "phase change" in one's employment history, which is not on a case-by-case basis but rather generally postulated, prevents any internal control of individual life planning oriented to long-term objectives. Instead of anticipatory life planning based on security and certainty, the described "phase change" requires a reactive coping style that for the most part is situational or oriented to the short term and therefore primarily controlled by outside forces.

- The great unpredictability or the limited ability to anticipate events in one's professional life, which can sometimes seem to be mere happenstance, usually allow only a direct reaction to external causes which is also marked by emotion. However, coping styles that are oriented to momentary situations and are reactive and subject to emotion are not very effective and are also linked to permanent insecurity and uncertainty. These are precisely the core conditions for the occurrence of feelings of being overwhelmed, anxieties, and feeling threatened, which regularly result in stress and health risks (cf. Landau and Stübler, 1992; Frieling and Sonntag, 1987; Ulich, 1994; Hacker, 1998; Richter and Hacker, 1998). People are required to handle insecurity and uncertainty, but it has not yet been determined how that is to be done.

3. The aforementioned working situation of "phase change" among gainful employment, advanced training, unemployment, various career activities, and the like offers more than opportunities to the people concerned. It can also give rise to the risk of a nearly permanent *crisis situation* that is either latent or manifest (e.g. Gubser, 2000):

- Depending on how they are affected, people must not only absorb a lack of work or the loss of an employment relationship, but also often a turning point in their career path, because they must re-evaluate their qualifications, demands for content, and career experience and frequently form new ones (e.g. Heinz, 1995).

- Depending on the way such life and work situations are processed or coped with, it is very possible that deficient social and professional socialisation processes will be initiated that not infrequently lead to psychosocial problems. In such cases, temporary hopelessness, loss of control, anxiety, depression, and a loss of self-esteem are the dominant symptoms that can lead to specific personality problems (see also Kieselbach and Wacker, 1987, Kieselbach and Vogt, 1992).

  In that regard, it appears that the form of *causal attribution* (assigning a cause) also plays a role. Depending on whether the attribution is *internal* (based on the "individual" person) or *external* (based on other people or environmental factors), the causes of the current situation can be seen to lie in the abilities and efforts that the person can influence himself (in other words internal) or in difficulties and events that cannot be influenced by the person (in other words external). In addition, the way in which the cause is assigned can be *current* (or temporary) or already *habitual* (set to a great extent) (Weiner, 1976; Gebert and von Rosenstiel, 1989). Accordingly, people with psychosocial symptoms are particularly at risk when they habitually consider their unfortunate situation to be caused by insufficient abilities and efforts, in other words when they have attributed it internally and negatively. It does not matter in this context whether the evaluation is correct or not.

- Under those conditions, new decisions related to one's livelihood, career, and training must constantly be made and a great deal of information from one's "world of life, work, and learning" must be absorbed and processed, although the people concerned do not always have sufficient criteria for making a choice or cannot deal "critically-constructively" with the excess information (Gubser, 2000, p. 57). The extent to which rational action or "economy of action" can be guaranteed is probably very questionable. Lampert (2000, p. 10) has plausibly explained that the "world of life" already places *excessive demands* on a large portion of people who have not been sufficiently trained in economy and law when they have to systematically compare various insurance products and make a rational decision in favor of one alternative.

4. It is said that the described changes in work lead in connection with the "blurring of limits" to an increased "*mixture of work and private life*" as well as to an "increased importance of *unclear activities and competence*" (Voss, 1998, p. 497, 480). Such a development can in no way be rated as something that must be accepted or that has no consequences:

- It has been known for a long time that it is precisely the following that can lead to stress-causing coping and behavioural styles (cf. Plath, 2000 b):

  - Unclear tasks
  - Contradictory information
  - Conflicting responsibilities

- Insufficiently clear requirement situations and the like

- A coping style that is critical for health occurs primarily in people with so-called type A behaviour (features include exaggerated drive to perform, succeed, dominate, and gain recognition; excessive self-imposed tasks; exaggerated willingness to overtax oneself; unreasonable career ambition; repression of the need to relax; and a strongly limited ability to recover). This behaviour, which was described back in the 1950s by the California cardiologists Friedman and Rosenman, has been subjected to repeated critical examination since that time (cf. the summaries in Schwenkmezger, 1994; Richter and Hacker, 1998; Siegrist, 1988, 1966). It has been shown that stress-induced type A behaviour is a considerable risk factor for cardiovascular disease.

- The risk of illness related to type A behaviour can be "conversely" (i.e. preventively) reduced when the conditions that enhance or trigger the behaviour are "neutralized" (e.g. Richter, et al., 1996). However, that means that deliberate measures must be taken to structure the aforementioned "blurring of the limits to work" when it does occur.

5. The "blurring of limits to working hours" in the presence of "excessive irregular *overtime*" (c.f. Voss, 1998 p. 480) already means that many of the people concerned considerably exceed their working hours "on their own individual responsibility," not in response to the boss's orders but rather out of fear of failure, of not being successful, or of appearing unnecessary (e.g. BauA, 1999; DGB BV, 1999; Hofacker, 1996; Sobull, 2000).

   This involves serious risks to health:

- Not infrequently the result is chronic *sleep deficit*. Such an ongoing condition of unremitting fatigue is known to lead to overexertion and exhaustion and under certain circumstances also to burnout.

- The reduction in the *ability to relax* has just as many consequences as chronic sleep deficit. That is because a limited ability to relax leads to a considerable reduction in resources over the long term. It is considered to be *the* significant predictor variable for cardiovascular morbidity and is viewed as an early sign of the cumulative effects of *stress* (e.g. Richter, Rudolf and Schmidt, 1996; Richter and Hacker, 1998).

- Work-related sleep deficits, long-term tension, overexertion, and the like are precisely the conditions that are often followed by hearing loss, tinnitus, and other psychosomatic disorders.

- For a long time now, even so-called "Attention Deficit Disorder" (ADD) has been more that just the problem of hyperactive children or relevant for information overload (Shenk, 1998) and also occurs frequently among adults with conditions of decreased vigilance or alertness and the related inability to concentrate (Gross, 1998).

6. The postulated "*competence management*" requires "individual responsibility" and "self-represented" development of the necessary technical and extra-technical abilities, as well as

the creation of the appropriate conditions for them. This type of individualisation clearly shows how extremely and to what extent responsibility has been shifted and is to be "delegated" to the individual person, specifically the "labour entrepreneur" who is to market himself. The fact that something is being forgotten in that regard – namely that the greatest possible economizing is to be done in the "world of learning" as well as the "world of living and work" and that these are to be seen only from the viewpoint of management – appears to be irrelevant.

- This initially results in the problem of the *need for qualification*. Previously it was not possible – even for the scientific disciplines that dealt with them – to determine future needs for qualification with sufficient precision. This usually failed because the necessary *prospective determination of requirements* did not proceed satisfactorily in the individual economic sectors. Since that is the case, how should each individual be in a position to identify his own need for qualification? It should also be borne in mind that the need for qualification is not a fixed variable, but rather varies as a function of the changes in work itself. How should the individual tackle this with sufficient certainty and draw conclusions on that basis for himself? What is "required" here goes far beyond the implication of "self-organized learning" (Bergmann, 1999), although here, too, "in many companies the responsibility for one's own qualification is assigned to employees," without well-founded plans and corresponding conditions for learning (Severing, 1999, p. 243).

- Therefore, if the need for qualification can barely be determined "on one's own," it will no doubt also be difficult to do the following:

  - Recognize the requirements for learning on one's own responsibility
  - Define one's own objectives for learning that will "pay off"
  - Independently select, apply and where applicable modify effective forms and methods of learning that will be appropriate for one's age as a function of factors influencing the "learning environment"
  - Independently recognize, interpret, and overcome barriers to learning
  - Independently make progress in learning, verify one's own success at learning
  - Draw independent conclusions for further learning processes or even for more comprehensive requirements for qualification

In light of those problems, the required "competence management" for which the individual is assigned sole responsibility can lead to an unacceptably high *risk of insufficient qualification.* Such a risk must be kept to a strict minimum because under certain circumstances it is related to a waste of personal resources and can considerably hamper or even prevent the necessary "self-marketing" – now that we mention it.

5. Some consequences

The described changes and blurring of the limits to work, as well as the "phase change" among gainful employment, advanced training, unemployment, changing career activity, and the like do not always bring *opportunities* to the people concerned. They can also lead to considerable *threats* and *risks*. The following should be emphasized in summary:

1. Considerable physical and mental (including emotional) stress in the "world of life, work, and learning" must be anticipated. Moreover, for those affected, this can also lead to a lack of transparency in extremely different requirement situations and to uncertainty, insecurity, a loss of control, feeling threatened, anxiety, and the like.

2. The following direct risks merit particular attention (see e.g. Frieling and Sonntag, 1987; Plath and Richter, 1984; Richter and Hacker, 1998; Siegrist, 1988, 1996; Ulich, 1994):

   - The risk of being unable to cope with demands (for example overexertion, being overtaxed, exhaustion, burnout, and in particular stress)
   - Risk to health or risk of disease
   - Risk of the wrong qualification or loss of qualification
   - Risk of demotivation
   - Risk of dissatisfaction with life and work

   The changes in work that have been observed or are considered to be likely – some of which lead involuntarily to a "phase change" in employment histories – and the transformation of the previous roles of many employees in the direction of "individualized labour entrepreneur," etc. will not automatically be risk free according to current views. The "courage to take risks" that is again being praised at the moment is of little help, giving rise to the question of how the described problems should be handled, particularly since they are usually excluded from current scientific and political debate.

3. Primary prevention will be necessary to successfully combat the aforementioned risk of a permanent crisis situation. In other words, handling crises and conflicts on the order of magnitude that has been described must become an important fundamental component of personality formation, which would require corresponding learning processes in the framework of social and professional socialisation. Mere behavioural training that claims to provide so-called social competence will hardly prove itself when things get serious (see Gubser, 2000). In other words, when push comes to shove, people who have attended the course will not be "crisis resistant" or "able to manage conflict" and even less able to "resolve conflicts."

4. Guaranteeing the ability to act or the competence to act while excluding serious risk factors to the extent possible will probably be more complex than might appear in the usual listing of requirements for those concerned, due to the difficult conditions of the change in work and the transitions into other areas of activity, careers, or industries. Therefore, training experts and the like take the following into consideration:

- According to several authors, the "*advisory*" learning model (cf., e.g. Geissler, 2000; Preisser and Wirkner, 1999) should be offered to the affected persons throughout their lifetimes and made available when necessary. At present many different advisory or consulting organisations are on the market, but they cannot meet this need. However, it is not yet completely clear in our connection what can actually be achieved by "advisory services" of any

kind (what objectives, content, and forms are needed for which people given often-complicated living situations), particularly with regard to minimizing risks.

- Additional opportunities are seen in so-called *support structures* for advanced training or for learning support (e.g. Faulstich and Zeuner, 2000), including expanded vocational and professional advisory services by the labour offices in the sense of a "task in the service of society" (cf. Dobischat, 2000, p. 24).

- Finally, the possibility is being discussed of selecting and linking forms of so-called "socializing learning," such as "in-the-job" and "on-the-job" learning (e.g. project work and coaching) and "near-the-job" learning (for example in quality circles), as well as forms of teaching or training, such as advisory services, schooling, training, and mediation (e.g. Hof, 2000, p. 153) based on specific situations, requirements, and qualifications (cf. also Koller and Plath, 2000) to achieve greater and above all more individual effectiveness.

Generally speaking, the question of who can exercise influence and how and where they can do it through prompt intervention or influence is important now and will continue to be so in the future. People are wondering why it is that in a subcomponent of the "world of work," specifically technology, efforts were made years ago to "estimate the consequences of technology" and somewhat later to do preventively oriented "research into shaping technology," while the consequences of changes in the "world of work" itself and even the "world of life" receive so little scientific attention. However, the Work and Technology project sponsor has tried for some time to tackle one portion of the problem (cf. Work and Technology research and development program, 1989; Work and Technology: Opportunities and risks for the working world of tomorrow, 1990; as well as a series of subsequent project reports).

6. Literature

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